

Simplify your path to a smart energy grid.

Verizon Grid Wide Intelligent Energy



It's no secret. Whether it's from growing demand or extreme weather due to climate change, you know your aging utility infrastructure is vulnerable. You want to modernize, but you've heard how building an intelligent energy grid is too expensive and too complicated. Besides, you're already invested heavily in your existing infrastructure. You don't want the disruptions and even greater costs that could come from such a major overhaul. It doesn't help that your already lean staff doesn't have the capacity or expertise needed to support an intelligent energy grid.

That might have been the story yesterday, but not today. Verizon Grid Wide Utility Solutions—Intelligent Energy simplifies the path to an intelligent electric grid. It also addresses your cost and staff worries. Verizon Intelligent Energy helps you modernize your grid at your own pace. It makes it easy to use Internet of Things (IoT) technology and services to connect your operations with near real-time data. As a result, you can more easily and remotely monitor, manage and control your energy systems. And it helps put you in a better position to successfully implement demand response.

As Intelligent Energy helps you modernize your grid, it also helps you get better at doing all of the following:

- Improve efficiency and cost controls.
- Balance grid loads while enhancing customer experience and quality of service.
- Reduce service downtime with near real-time demand monitoring.
- Promote conservation efforts with more efficient operations and resource distribution.

Simplify grid modernization with control.

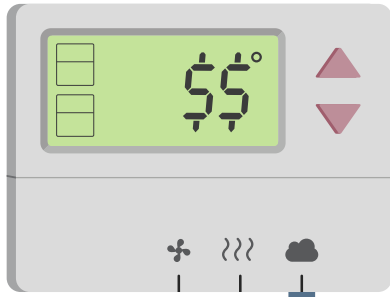
To give you a scalable smart grid modernization solution that is easy to put in play, we've combined a best-in-class application suite with our best-in-class network and cloud. We offer Intelligent Energy as a platform as a service so you don't have to overhaul your entire grid to improve services. Modernizing no longer means having to swap out all your outdated meters at once. You can target areas of biggest concern first and address the rest at your own pace.

Since we deliver Intelligent Energy through the cloud, you don't need a large upfront capital investment in network equipment and infrastructure to modernize. Our service-based model also lets you pay as you go. You can also benefit from predictable per-meter per-month pricing. All of this makes it easy to replace outdated meters with smart meters gradually as part of a long-term swap-out plan. Or you can choose to ramp up as fast as your budget allows.

Intelligent Energy is made up of multiple technologies and service options that work together to simplify and enhance your grid transformation. You get our Intelligent Energy cloud-based application. And it's powered by our Verizon 4G LTE wireless network, Private IP wide area network and proven IoT platform. Since we manage the solution for you, you don't have to hire or train an information or operational technology (IT/OT) team. Communications management and repairs are no longer a worry either. We take care of all of that for you.



Verizon Intelligent Energy relieves you of the management and capital investment worries of modernizing your grid.



Roll out your intelligent grid and programs at your own pace.

Gain greater grid insights.

Intelligent Energy gives you a smart grid environment with the visibility and control you want. It constantly collects and sends you actionable grid data to give you insight into what’s happening across your entire grid. Our analytics dashboards make the data easy to understand and act on. Since the data is all in near real-time, you can make faster and better business decisions and be more proactive. It helps you manage usage anomalies, detect outages, identify tampering and reduce energy waste. You can also better plan for future growth, as well as develop energy management programs that can help lower your costs and improve your service.

The insights, reporting and alerts that Intelligent Energy provides can make you aware of issues sooner. Intelligent Energy also gives you the ability to accurately visualize and pinpoint issues. That makes it easier to quickly dispatch crews to resolve potential problems before they become critical. As a result, you can increase your ability to keep your services up and running, as well as better conserve your energy resources. Also, when certain events or conditions occur, it can automatically send SMS and email alerts to affected customers. All of these combine to help you better inform and serve your customers.

Better manage your grid systems, operations and workforce.

Intelligent Energy is built on a distributed, intelligent software platform within a strong security framework. Its policy-based management and control capabilities help you manage your grid systems, operations and workforce more efficiently and cost-effectively.

The platform brings together the following service offerings:

- Demand Response
- Smart Metering
- Meter Data Management
- Distribution Monitoring and Control

Get visibility and intelligent insight across your entire grid.

Gain more savings and efficiencies with demand response.

The ability to shift electricity use from peak load times to periods where demand is lower makes demand response a vital part of your strategies. Not only can it help you better balance supply and demand, it can help you lower costs, improve efficiency and promote conservation initiatives. Our Intelligent Energy Demand Response service option makes it easy to support a wide a variety of demand response programs, including the following:

- Time-of-use pricing
- Critical and variable peak pricing
- Real-time pricing
- Critical peak rebates

You can also use our direct-load control capabilities to intelligently cycle on and off customers’ electric motors during peak demand periods. With our load control policies you can individually or simultaneously target specific groups of devices, such as HVACs, water heaters, lighting, electric vehicles and generation systems. Policies also let you schedule multiple events and give you multiple control options, including temperature

Intelligent Energy gives you demand response, smart metering, meter data management and distribution monitoring and control.

set points and offsets, critical levels and duty cycling. To help avoid spikes you can also randomize start and end times. These all combine to give you greater options and flexibility rolling out demand response programs to your customers.

Simplify smart metering and gain more control.

Connecting smart meter networks in the past relied on private communication technology networks that were expensive and inefficient. You had to deal with fragmented solutions made up of proprietary products and services. That’s not how we do it with Intelligent Energy. Our cloud-based offering simplifies smart metering by integrating all the essential hardware and software with 4G LTE components into a single turnkey solution.

Our Intelligent Energy Smart Metering offering gives you a secure communications network and advanced metering platform that puts you in command and in control. You get a comprehensive suite of smart metering capabilities that includes remote meter provisioning, configuration, monitoring, control and management. To help your meter reading efforts and give you more control, our smart metering gives you easy access to billing and operational data. It helps you better manage service connects and disconnects. You can also perform over-the-air meter programming.

Intelligent Energy increases your capabilities and flexibility to do even more with demand response.

Intelligent Energy Smart Metering allows you to accurately pinpoint outages in near real time. This helps you speed up service restore times and improve overall customer satisfaction. You can get actionable insights into meter data on both a scheduled and on-demand basis. It makes it easy to monitor consumption and quality-of-supply information. It lets you detect events and failures in near real time. You can also take advantage of our optional Intelligent Energy Meter Data Management service to generate accurate billing-determinant feeds.

Simplify meter data management.

The data you collect from meters has to be validated and verified. This needs to be done to remove any anomalies due to quality-of-supply issues, as well as to let you account for standard customer-usage patterns. You can simplify that effort when you choose to take advantage of the Intelligent Energy Meter Data Management option. It helps you automatically validate billing information, flag inaccuracies and

estimate or edit missing or bad billing data. It also simplifies management and storage of billing data, helping you with historical use and analysis.

Enjoy better visibility across your grid.

To help you gain a clearer view into your entire grid operations, Intelligent Energy also provides a Distribution Monitoring and Control service. It gives you near real-time voltage information along with other key quality-of-supply data that helps you quickly respond to changing loads, generation issues and equipment failures. It gives you access to invaluable information that you can tie into your automated control systems, such as switches, cap banks and voltage regulators. Its monitoring capabilities also help your asset management efforts.

- Improve service reliability and quality of supply.
- Move up to proactive maintenance instead of reactive repair.
- Quickly identify issues and decrease outage time and customer impact with fault location, isolation and service restoration (FLISR).
- Optimize operations and extend lifespan of equipment and assets.
- Upgrade assets based on performance rather than time.

Why Verizon

Verizon Intelligent Energy takes the complexity and cost out of creating a smart energy grid. It gives you a fully managed solution that brings together key smart metering technologies, best-in-class Verizon cloud services and IoT technology into a single, united platform. And it's backed by the nation's largest and most reliable 4G LTE network to keep you securely connected to your smart grid data and devices. Since we manage the intelligent energy network from end to end, you can stay focused on running your business and improving customer satisfaction.

Pinpoint outages faster and speed up restore times.

Learn more.

To learn more about how Intelligent Energy from Verizon can simplify your grid modernization efforts, contact your Verizon business specialist or visit verizonenterprise.com/gridwide