



SMART  
ENERGY  
CONSUMER  
COLLABORATIVE

## How the Smart Grid Benefits You

The smart grid is the evolution of our current electrical grid, applying new technologies to optimize the delivery of power to your home and around your community. Using sensors and other digital communications technologies, the smart grid creates the foundation necessary for adding more renewable energy, reducing carbon emissions, preventing outages, improving energy efficiency and transitioning to electric vehicles.

### The smart grid saves you money

Technology can make energy efficiency more convenient and cost effective, and smart devices today are providing data and automation that help you save money on your monthly power bills. For example, many consumers now have access to real-time energy data and can see which areas of their house may be consuming the most energy or what time of day they may be using too much energy.

In addition, this data is powering several improvements from your power company. Smart meters — a key component of the smart grid — are ensuring more accurate billing from power companies and enabling new electric rate plans, such as time-of-use or real-time pricing, that may be a better fit for your lifestyle and energy consumption.

There are also system benefits from the smart grid that might be able to save you money with no effort required on your part. For example, smart grid technologies can provide you with a more reliable and efficient power supply that allows your appliances and other electronic devices to operate at their highest efficiencies and minimizes the cost to run them.

### The smart grid improves the reliability of power

The smart grid includes several components that help power companies better deliver quality power to your home. Smart meters not only measure the amount of energy used, they also monitor the voltage being delivered. Power companies use this information to ensure their equipment is working as intended. In cases where power quality issues are detected, your power company can locate areas in need of maintenance and prevent future outages and other reliability issues.

When unforeseen events occur, such as a tree falling on a line, a lightning strike or a short circuit, smart grid technologies can sense the problem and automatically reroute power around it. This can mean the difference between a lengthy outage and a momentary one where the only sign something is happening is that lights flicker. Without a smart grid in place, the only way to do this is to send a service crew out to inspect the problem, which means that the outage will last at least until the crew arrives on site.

In addition to letting the power company know of a problem, the smart grid helps diagnose the problem before sending a service, ensuring that the crew has the right equipment to fix the problem. Without a smart grid, one crew would have to go out, inspect the problem and radio for another crew to bring the right materials and supplies. This remote diagnosis significantly reduces both the time and cost for restoring power.



### SMART GRID IN ACTION:

#### Helping consumers save money in Baltimore

When the power company BGE began installing smart meters around Baltimore in 2012, they began enrolling customers in Smart Energy Rewards, a program that allows consumers to earn bill credits for reducing their energy use during an Energy Savings Day. On especially hot days during the summer, customers would be notified the day before that an Energy Savings Day is coming up. Those who voluntarily lower their energy use from 1 to 7 p.m. the following day would receive bill credits of \$1.25 per kilowatt-hour saved compared to their normal usage. In 2019, BGE paid out almost \$9 million in credits to customers, which works out to about \$6 of bill savings per customer on each Energy Savings Day.

### SMART GRID IN ACTION:

#### Improving reliability in Chicago during winter weather

With freezing temperatures, harsh winds and massive snowfalls, Chicago is known for its inclement weather in winter months. But thanks to investments in smart grid technologies, the city today is enjoying its best-ever electric reliability. The region's power company, ComEd, began investing in the smart grid in 2012. Since then, overall reliability has improved by more than 70 percent. ComEd has also reduced the average frequency of outages by 47 percent and the average duration by 52 percent.



### The smart grid enables us to address climate change

As we look to address climate change and reduce carbon emissions, the smart grid is serving as a foundation for integrating clean energy technologies, including solar panels, batteries, wind turbines, electric vehicles (EVs) and more. Smart grid systems are needed to strategically manage diverse and geographically scattered renewable energy sources, and the smart grid ensures that this energy can be stored safely and distributed where and when it's needed.

The smart grid is also helping us prepare for the electric vehicle revolution. As millions of Americans move to cleaner EVs in the coming years, they will need to charge these vehicles with electricity at home and around their communities. This could present a problem with an older grid in need of modernization. However, the smart grid enables power companies to better prepare for and manage this new demand. The smart grid may even allow for energy stored in EV batteries to go back into the grid when needed.

## SMART GRID IN ACTION:

### Improving access to cleaner energy in Southern California

SCE is one of the nation's largest power companies, serving more than 15 million people in Southern California. The company has been a leader in the smart grid, installing its first smart meter back in 2009, and this has helped SCE also become a leader in clean energy, with a new rooftop solar installation coming online every 12 minutes in their area. To facilitate the growth of EVs, SCE is planning to install 38,000 electric car chargers — the largest deployment of EV charging equipment from a power company to date. The initiative will target apartment buildings, workplaces and shopping centers to help more people have access to EV charging.

### Why the smart grid really matters for you

The world of energy is in the middle of monumental change, and the foundation of this transformation is the smart grid. The smart grid is empowering you with new data-driven programs and services that are a better fit for your habits and home and is enabling the rapid deployment of clean energy technologies that can reduce carbon emissions. Smart grid technologies are also significantly reducing the number and length of outages. Our communities will benefit from a stimulated economy, improved national security, job creation and a sustained downward pressure on future price increases for electricity. As you can see, the smart grid is leading us to a smarter, cleaner future for all.