Introducing the Smart Grid.

The Smart Grid is a developing network of technologies, controls, communications and transmission lines working together to help utilities—and customers—respond to our rapidly growing demand for electricity. It computerizes our current grid by giving it the tools and technologies of the Internet to make it more reliable, efficient and environmentally friendly. Even better news:

The Smart Grid is already happening—*and you're a big part of it.*

Learn more about the Smart Grid

Utility branding/info area

GET SMART

Welcome to the Smart Grid

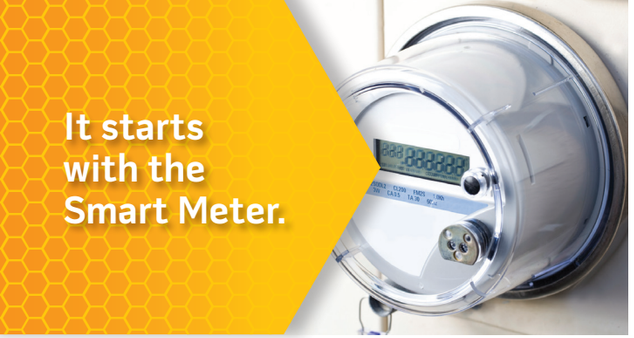
Why we need it.
What it means to you.

America is using more electricity than ever.

We need the Smart Grid to keep up.

Our current electric grid, brought to life by Thomas Edison and others more than a century ago, was originally designed when electric needs were simple and electric lights were considered miraculous. Rapidly, it became the envy of the world and the engine of America's 20th century prosperity.

But as any calendar will tell you, this is the 21st century. Since Edison, we've added more than 233 million Americans. And many of today's biggest energy gobblers—air conditioners, computers, refrigerators and big-screen TVs—hadn't even been thought about back then, let alone plugged in. Every day, we're testing the limits of our current grid. We need a better way to power our future.



It starts with the Smart Meter.

The Smart Home—and how it works.

The Smart Grid really makes electric vehicles go.

To get a greener grid, you need the Smart Grid.

Replacing your old, one-way mechanical meter, a digital smart meter makes automated transfers of information possible between your home and your utility. It's a gateway for two-way communication and power flow, two of the Smart Grid's enabling principles. A smart meter will help your utility deliver signals to allow you to manage your energy usage more efficiently. It can also provide your utility with a greater degree of information about how much electricity is being used throughout its service area.

People often confuse the terms "smart grid" and smart meters. Here's the difference: Metering is just one of hundreds of possible applications that constitute the Smart Grid. In other words, a smart meter is an enabling technology of the Smart Grid. Thanks to smart meters, you'll have more control over your energy usage and your energy bill—powerful motivation indeed for you to become an "empowered customer."

Safety first. *Smart meters exceed the safety standards of the Federal Communications Commission, the World Health Organization and National Cancer Institute.*

Inside a Smart Home, a home area network (HAN) will connect your smart appliances together—from washers and dryers to refrigerators and thermostats. Communicating through the HAN with the Smart Grid, appliances can adjust their run schedules to reduce your energy usage—and reduce electricity on the grid at critical times. More sophisticated than "on" and "off," a smart air conditioner might extend its cycle time slightly to reduce its load on the grid. You won't notice it, but thousands of air conditioners behaving the same way could significantly relieve the burden on the grid.

Naturally, energy management systems and smart appliances will always feature consumer controls to override automated settings when desired, ensuring that convenience and comfort will always be yours to command.

Plug-in electric vehicles (PEVs) are becoming increasingly popular, and that's good news. Adding more electric vehicles to the grid reduces our dependency on foreign oil and helps reduce greenhouse gas emissions, too. The Smart Grid will communicate with your PEV to ensure that it's charged with the cleanest power available. Even Smarter: Sophisticated software will assure that your PEV will always be fully charged and ready to go when you're ready to roll.

Further down the road, PEVs may get to assist the grid—a concept known as "vehicle to grid." It works this way: Think of your car as a battery or source of stored energy. Your utility can draw upon a multitude of these plugged-in energy sources throughout its service territory, using them to inject extra power into the grid to avoid potential blackouts.

Using renewable energy such as wind and solar is in everyone's best interest. It's abundant, non-polluting and carbon-free. The challenge to its full-scale implementation is this: The current grid has difficulty accommodating variable sources of power like wind and solar energy, the fastest-growing sources of renewable power on the grid. As these resources begin to supply increasing percentages of power to the grid, integrating them into grid operations will become increasingly difficult.

The Smart Grid will be able to make better use of these energy resources. It will give grid operators new tools to reduce power demand quickly when wind or solar power dips, and it will have more energy storage capabilities to absorb excess wind and solar power when it isn't needed, then to release that energy when it is. In effect, energy storage will help to smooth out the variability in wind and solar resources, making them easier to use. Which means less carbon emissions, less environmental impact, and easier breathing for all of us.

The Smart Grid and your utility.

Transformation to the Smart Grid will enable your utility to improve and enhance every aspect of electricity generation, delivery and consumption. In addition to increased reliability, the Smart Grid will be able to isolate problems and more rapidly restore service. In fact, in the case of a blackout, it will be able to identify a problem and "heal," or rectify that problem, faster than humans can react. And two-way power flow will enable the Smart Grid to use more "distributed energy resources," too, like solar panels on residential homes, thereby reducing the need to build new power plants.

Sound like a brighter, cleaner, more reliable future? *You bet it is.*

Smart Grid technologies will help the electric grid, your utility and all of us better meet the energy challenges of the 21st century.