

Smart Grid: Modern Ingenuity

What is the Smart Grid?

For Idaho Power, the Smart Grid represents energy innovation. It's about arming customers with the information they need to be wise energy consumers. It's using new technology to retrieve data and take actions that benefit electrical grid performance. And, it is the combination of improvements that enhance customer service, power reliability, availability of renewable resources, as well as opportunities for time, energy and cost savings.

A primary goal of the Smart Grid is enabling better balance and response to constant fluctuations in energy demands. Whether changes occur due to supply issues, weather or higher demand, the Smart Grid makes adjustments so that power outages occur less frequently and for shorter periods of time.

What does the Smart Grid mean for our customers?

The nation's electrical grid is becoming outdated with little to no investment over the past 25 years. To help change this, the U.S. Department of Energy provided Idaho Power a \$47 million Smart Grid Investment Grant, which matched the company's \$47 million investment in new smart meters.

Through wired technology, smart meters provide energy usage information for our customers. Accessing data and information through a secure Web interface will enable customers to gain greater knowledge and make more informed decisions about their electricity use.

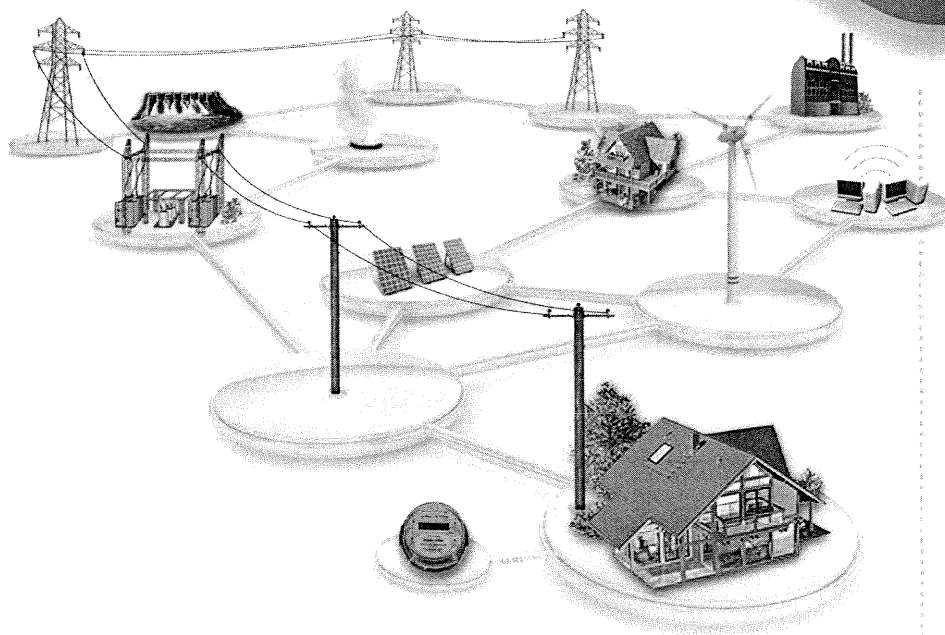
Customers also will gain advantages of power line infrastructure improvements—namely, shorter outages and faster response for over restoration.

What are the Smart Grid benefits?

Idaho Power's 12 Smart Grid projects are progressing toward the April 1, 2013 deadline to achieve the following:

- ▶ Enable customers to make more informed energy use decisions
- ▶ Reduce the time and impact of outages
- ▶ Limit effects of transmission and distribution disturbances
- ▶ Support integration of renewable energy into our resource portfolio

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Smart Grid Benefits

- ▶ Enhance Customer Service
- ▶ Improve Power Reliability
- ▶ Promote Energy Efficiency
- ▶ Integrate Renewable Resources

▶ Where do we go from here?

Idaho Power is on a three-year journey to modernize our technologies and bring our customers and our company into the Smart Grid era.

Watch our progress by visiting www.smartgrid.gov or for more information about Idaho Power's Smart Grid initiative, visit www.idahopower.com/smartgrid.

Idaho Power's 12 interdependent projects are:

1. Advanced Metering Infrastructure (AMI—smart meter exchange)
2. AMI Meter Data Management System
3. AMI Stations Communication
4. Customer Information System
5. Enterprise Data Warehouse
6. Integrations
7. Energy Use Advising Tool
8. Irrigation Load Control
9. Outage Management System
10. Transmission Situational Awareness
11. Renewable Integration Tool
12. Self-Healing Network

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Smart Grid: Frequently Asked Questions



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1. What is the Smart Grid?

The Smart Grid is an array of technologies that will modernize the nation's electric grid, which the U.S. Department of Energy says is outdated and reaching its limitations. A primary goal is to empower you, the customer, with information to efficiently manage your energy consumption.

Using two-way digital communications, the Smart Grid's technologies will help you make wise energy-use choices. At the same time, it will increase our ability to keep power flowing to your door every day—safely, reliably and efficiently.

The Smart Grid's cutting-edge technologies and automation will enhance grid reliability and stability. That means we will be better able to minimize the number of power outages, as well as their duration and impact on our customers. Additionally, we will be able to diagnose and repair power problems more quickly, and the system will be more resilient and better protected.

The Smart Grid also will help us efficiently manage the demand on our electric system, and integrate renewable resources such as wind energy.

2. Why should I care about the Smart Grid?

Increased infrastructure costs, climate change, government regulation and diminishing natural resources are impacting the energy industry. In turn, these factors impact you. If you understand how you use energy, you will be better prepared to manage any impacts and make informed decisions about your energy use. The Smart Grid will provide you with the usage information you need. It will also help us reduce the time your power is out through faster switching, communication and crew response.

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3. How will it improve my service?

The Smart Grid technologies will provide you detailed information about your energy usage. Available online anytime, this information will help you better understand how you can change your consumption to be more energy efficient. This will be information you can act on to manage your electricity bill.

Other benefits of the Smart Grid are improved ability to respond to outages, reduced outage duration and improved power reliability—all of which means better electrical service.

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4. How will Smart Grid technologies and online tools help me understand my energy use?

The smart meters we are deploying record hourly energy use, along with the traditional monthly total energy use. This data will enable customers to see online information about when they use energy and how much energy they use hourly, daily, weekly or monthly.

The data will help our customers resolve energy-use questions, and confirm the effects of conservation measures and changes in their energy-use patterns.

For customers who already have a smart meter installed, your energy-use data is available through our website and is displayed graphically to help make it easy to understand. To access your smart meter data, simply register or log in as an [Account Manager](#).

5. Will the Smart Grid and smart meters make my bills go up?

A smart meter records only your energy use, as did the old mechanical meters. And, you are charged for the amount of energy you use as recorded by your meter. You will not be charged directly for the new smart meter. The cost of the technology improvements and installation will be part of the infrastructure costs Idaho Power recovers through customer rates. Any increases approved by the Idaho Public Utilities Commission will be included on your energy bill.

Learn more about [smart meters](#), including how to read one.

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6. Does this mean Idaho Power is going to know how much energy I use?

Idaho Power has always recorded your monthly energy use to calculate your bill. We now will be able to provide more detailed information to you about your own energy usage.

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- * [Fact Sheet \(PDF\)](#)
- * [Projects Information](#)
- * [Idaho Power Smart Meters](#)
- * [Supplier Center](#)
- * [Smart Grid: Modern Ingenuity](#)

Related Information

- * [The Smart Grid: An Introduction](#)
- * [U.S. Department of Energy smartgrid.gov](#)
- * [Smart Grid Information Clearinghouse](#)

7. Are tiered rates tied to smart meters?

Tiered rates are not dependent on smart meters and apply to all customers. This rate structure is applied to your total energy consumption for a given monthly period.

8. What will this cost Idaho Power?

We had already planned several upgrade projects including the Outage Management System and Customer Information System, because they were becoming outdated. When we learned of the grant opportunity for Smart Grid, we applied for that to maximize our investment for customers.

9. What is the Smart Grid Investment Grant?

On June 25, 2009, the Obama administration announced that the U.S. Department of Energy would provide \$3.9 billion in economic stimulus funding to utilities and other organizations.

The goals of the Smart Grid Investment Grant are to:

- Accelerate modernization of the nation's electric transmission and distribution systems
- Promote investments in Smart Grid technologies, tools and techniques
- Increase flexibility, functionality, interoperability, cyber security, situational awareness and operational efficiency.

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10. Why did Idaho Power apply for a federal grant?

Idaho Power already was pursuing Advanced Metering Infrastructure (AMI) to exchange existing traditional meters with wired smart meters. It would have been a missed opportunity to not respond to this funding option given our desire to integrate the meter-exchange project with other new technologies that enable customers to make wise energy-consumption decisions.

11. What will the Department of Energy contribute in terms of funding?

The intent of the Smart Grid Investment Grant (SGIG) funding is to provide federal financial assistance for up to 50 percent of eligible project costs. Idaho Power's proposed projects totaled \$94 million, of which \$47 million is from the company's investment and \$47 million from SGIG funds.

This financial assistance is intended to enable measurable improvements through accelerated achievement of Smart Grid projects, including:

- Reliability of the electric power system
- Consumer electricity costs, bills and environmental impacts
- Clean energy development and greenhouse gas emissions
- Economic opportunities for businesses and new jobs for workers.

12. What projects did Idaho Power propose as part of this funding opportunity?

Idaho Power committed to completing 12 projects within three main categories:

- Advanced Metering Infrastructure
- Customer Systems
- Electric Infrastructure Improvements

Advanced Metering Infrastructure (AMI) meter exchanges began in 2009 and will be completed in December 2011. The company is replacing 475,000 existing traditional meters with advanced, digital wired meters. Smart meters are capable of measuring and collecting hourly interval energy-use data to support future time-variant rates.

Customer Systems projects will provide customer access to smart meter information and programs enabled by the Smart Grid. Project components will include an upgraded customer information database and an energy-use advising tool.

Electric Infrastructure Improvements are necessary to fully enable the Smart Grid. The projects planned under this category include:

- Updates to the outage management system
- Development of renewable integration tools to improve load and wind forecasting
- Self-healing network pilot project
- Implementation of a transmission situational awareness project.

13. What is the timeline for completion of the projects?

Idaho Power must complete all projects as proposed by April 1, 2013. Some projects, such as the AMI meter exchanges, may be completed sooner.

14. Where can I learn more about the Smart Grid?

The U.S. Department of Energy is a primary Smart Grid resource: <http://www.oe.energy.gov>. Other websites with helpful information include:

- [Smart Grid.gov](#)
- [American Recovery and Reinvestment Act](#)
- [Smart Grid Information Clearinghouse](#)

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