

# Smart Meters

## Description:

Advanced metering technologies (AMI) or “smart meters” are meters or a system of meters that transmit energy use information from residential or commercial customers in various time increments, or resolutions, from minutes to hours. More data transmission is a higher resolution. The higher the resolution of the data the more valuable the information is to the customer or the utility.

High resolution data from AMI meters enable utilities and third party providers to gather energy usage trends, identify outages, and implement and track energy efficiency practices all without having physically go to a site to read a meter thereby increasing efficiency and decreasing cost. The dynamic nature of the data allows for dynamic rate structures that can send pricing signals to customers to promote particular energy practices that are desirable to the utility or the public. It also allows third parties to market energy information and management services to customers if policies are in place to support such a market.

## Discussion of the Policy:

Over the last decade, smart metering technologies have dramatically increased across the country as more and more utilities have begun looking at smart metering as a way to increase efficiency and decrease cost both for their customers as well as for themselves. Smart metering has been used to facilitate demand response programs, to look at EM&V project performance, and to develop and analyze energy trends within a specific region or sector. Smart meters enable a customer to see real time energy consumption and cost in a way that might cause them to reduce their energy consumption and become more efficient. On the utility side, technology to manage resources (including central, distributed, and demand based) can make the operational side of the utility more efficient. The capability to price power on a real time basis can avoid cross-subsidization issues that are inherent with flat pricing schemes. It also provides regulators with more tools for tracking energy trends and considering a wide variety of options to meet utility system challenges.

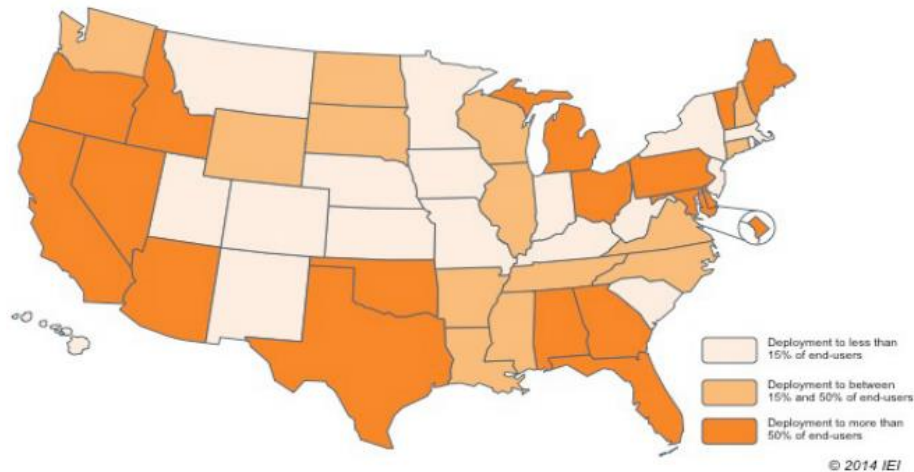
In order to fully capitalize on the cost savings of AMI technology, customer data should be presented to the customer in a clear and concise manner so that it is easy for them to understand their energy consumption and compare it to those around them. Third party organizations can facilitate this understanding but must be authorized to access customer data. It is important that states adopt policies that clarify the process and authorization for access to this data as well as ownership of the data. States and utilities should work to ensure that private customer information, such as billing information, is stripped from the energy usage data when it is shared with a third party. Policy makers should ensure customers are able to authorize access to the data without approval or authorization from the utility.

While many customers see the benefit of using a smart meter system, there is a small cohort of consumers who prefer analog metering. There are many states that allow these customers to opt-out of smart meter programs but, in order to make up for the costs associated with utilizing an analog meter, require that the customer pay a fee. There is some debate as to whether or not utilities should be allowed to charge a fee if a customer has opted-out of the program for medical reasons.

## Example State Programs:

As of July 2014, over 50 million smart meters had been deployed in the U.S.

Figure 2. Expected Smart Meter Deployments by State by 2015



Note: Figure 2 shows the extent of smart meter deployments by state by 2015 that are either completed, underway, or planned. This map does not include automatic meter reading (AMR) installations.

- ComEd's Energy Usage Data Tool- IL:  
<https://www.comed.com/business-savings/energy-tools/pages/energy-usage-data.aspx>
- Efficiency Vermont- VT:  
<https://www.encyvermont.com/>
- Simple Energy- CO:  
<http://simpleenergy.com/>

## Key Components:

- There should be a state-wide policy supportive of smart meters (not just for or by certain utilities).
- States should adopt policies on ownership of energy data and processes for permission from customers for third parties to access data.
- States should develop a customer and educational engagement campaign.
- States and Utilities should work together to ensure that there is a secure and easy way for certified third parties to access customer data (Green Button is just one way this could be done).
- There should not be an opt-out fee for customers if they do not want to participate.

## More Information:

- U.S. Energy Efficiency & Renewable Energy SEE Action:  
<http://www4.eere.energy.gov/seeaction/topic-category/energy-use-data-access>
- American Council for an Energy Efficient Economy:  
<http://aceee.org/sector/local-policy/toolkit/utility-data-access>
- Green Button:  
<http://www.greenbuttondata.org/>
- Edison Foundation Institute for Electric Innovation: Utility Scale Smart Meter Deployments:  
[http://www.edisonfoundation.net/iei/Documents/IEI\\_SmartMeterUpdate\\_0914.pdf](http://www.edisonfoundation.net/iei/Documents/IEI_SmartMeterUpdate_0914.pdf)