



ADVANCED METERING INFRASTRUCTURE OVERVIEW

Advanced metering infrastructure (AMI) – an integrated system of smart meters, communications networks and data management – is key to modernizing power generation and distribution to improve the reliability, affordability and safety of electricity delivery. At its core, AMI provides enhanced data collection and analysis that unlocks many new opportunities. Electric co-ops have been installing smart meters throughout the country to replace older electric meter technology, and they are now the most common type of meter in the U.S.

AMI provides benefits to both co-ops and their members. These benefits include:

- Members gain access to detailed energy usage – in hourly or more frequent intervals – that they can use to track improvements as they invest in making their home or business more energy efficient.
- Members can receive notifications of high usage to identify potential problems.
- Members can participate in new pricing and demand response programs.
- Members can get their power on after hours through remote reconnects.
- Co-ops gain a clearer picture of the grid and can easily locate outage areas and respond more quickly.
- Co-ops can identify damaged or overloaded equipment and proactively address issues before they cause an outage.
- Co-ops can see cost savings because meter-reading expenses and personnel can be redirected to other functions.

As with any newer technology, there are challenges to transitioning to AMI. Changes may need to be made to a co-op's organizational structure, processes and skillsets. These modifications take time, and coordination can be tedious. For example, data centers and management systems will be needed to collect, store and analyze meter data; smart meters (and possibly new substation equipment) must be installed at member homes and facilities; and upgraded communications devices will likely be required to transmit the data between the meters and data centers. Additionally, ensuring data security is a critical requirement, though smart meters generally do not send personally identifying information, and the energy data can be encrypted.

Members may express concerns about potential negative health effects from the radio frequency waves that smart meters use to communicate. However, the waves emitted by smart meters are lower than those from other common household devices, like cellphones, baby monitors, microwaves and wireless routers. The meters are also typically located outside the home and operate for only a few minutes each day, further reducing possible exposure.

Despite potential challenges, the deployment of AMI is resulting in numerous benefits and opportunities. To learn more, see the additional fact sheets about how AMI works and what benefits it offers co-ops and their members.

- [How Does Advanced Metering Infrastructure Work?](#)
- [Advanced Metering Infrastructure Opportunities for Co-ops](#)

*This article was provided by Advanced Energy, a nonprofit energy consulting firm.
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