



RESEARCH REPORT

Executive Summary:

Smart Gas Meters

Advanced Metering Infrastructure and
Automatic Meter Reading Deployments for Gas Utilities:
Global Market Analysis and Forecasts

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Section 1

EXECUTIVE SUMMARY

1.1 Smart Gas Meters: A Growing But Diverse Market

The natural gas metering market is going through a significant long-term transitional period in which it is shifting from traditional manual-read devices to more intelligent meters. These smart gas meters are expected to create efficiencies for utilities and open the door to enhanced applications that can benefit both utilities and customers alike. Healthy growth in worldwide shipments of these meters is expected, but the pace of growth will vary by region.

Shipments will ramp quickly in some Western European countries for the rest of this decade because of regulatory mandates. In the Asia Pacific region, some growing economies will also see smart gas meter shipments increase. In North America, though, the pace of growth in smart gas meters will be more subdued because advanced meters have already been deployed. Moreover, not enough strong drivers are in place for utilities to build a business case for moving more rapidly to the latest technology. These utilities are still reaping benefits from upgrades made in the last decade or so, which means they will move more cautiously.

Nonetheless, the tide is moving in favor of smart gas meters. The resulting momentum will have lasting implications for utilities, vendors, regulators, and end customers.

1.1.1 Market Drivers

Market drivers for utilities to deploy smart gas metering include:

- » **Operational cost savings:** A smart gas meter deployment offers cost savings through the reduction or elimination of manual meter reads.
- » **Reduction of field visits:** With more intelligent gas meters installed, the need to “roll a truck” to the field to inspect those meters is reduced as well.
- » **Improved billing accuracy:** Smart gas meters provide more timely and granular consumption data, so bills are accurate and up to date.
- » **Increased safety:** Meters with remote-disconnect capabilities offer a new level of safety in an emergency.
- » **Regulatory mandates:** Regulators in some geographies have made smart gas meters a priority. They have set targets for the deployment of new devices, often with the purpose of improving overall energy efficiency.
- » **Aging network infrastructure:** Aging gas distribution pipelines pose a hazard due to potential leaks. A modern advanced metering infrastructure (AMI) system with sensors and smart meters can help reduce the risk of failure by helping to isolate at-risk pipes.
- » **Improved system integrity:** Spurred by regulation, gas utilities have a need to comply with rules for maintaining system integrity, which acts as a driver for AMI systems.

- » **Increased data for determining cause of major incidents:** Smart gas meters can provide more accurate data when determining what was at fault during an explosion or similar gas-related event.
- » **Increasing consumption of natural gas:** As more people and businesses switch to using natural gas as an energy source, demand for the latest metering technologies will increase, especially in emerging markets.

1.1.2

Market Inhibitors

Market inhibitors for smart gas metering include:

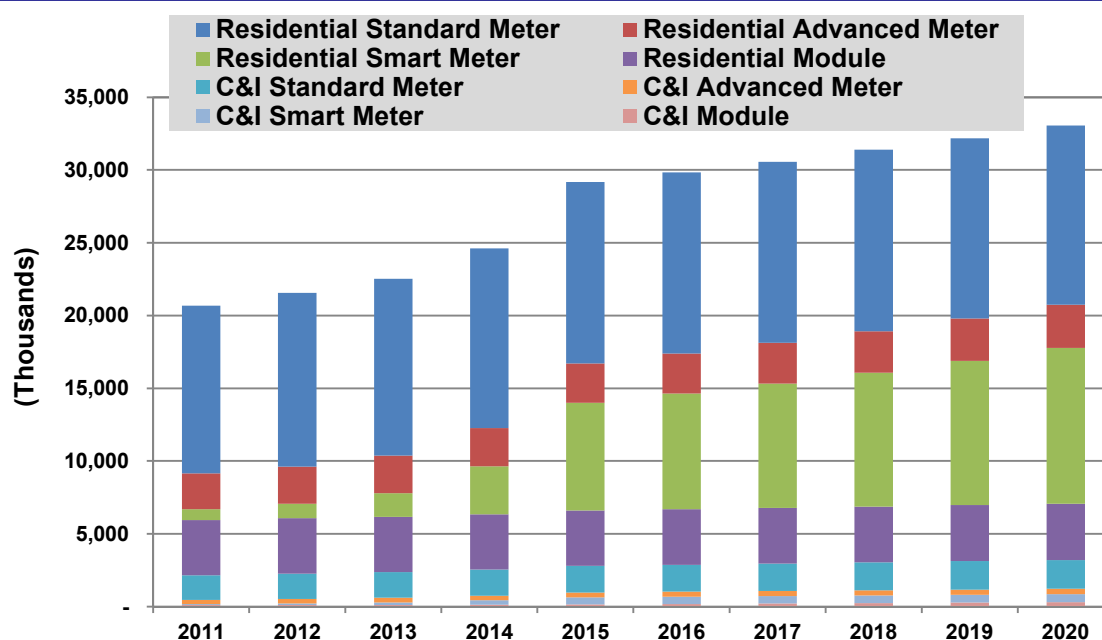
- » **Capital expenditure deployment costs:** The cost to deploy an AMI gas metering system can be daunting, especially for gas-only utilities.
- » **A business case for AMI:** Building a business case for moving from traditional meter reading to automated meter reading (AMR) is relatively straightforward, but doing so for an AMI deployment poses more of a challenge.
- » **Low natural gas prices:** Since natural gas prices are generally low – in North America in particular – there can be less of an incentive to conserve gas consumption. In addition, utilities have less incentive to promote reduced usage among their customers.
- » **Lack of government funding support:** Unlike electric utilities, gas utilities in the United States did not receive recent federal stimulus money to kick-start the market for AMI in gas. There is no expectation of new stimulus money for smart gas metering in the near term.
- » **Standards and interoperability:** Progress has been made to define standards for smart metering hardware and interoperability of that gear. Yet, many current deployments consist of proprietary equipment, which limits the market potential.
- » **Uncertainty over equipment obsolescence:** AMI gas metering is still in its early stage, and some utilities resist an investment out of concerns the equipment could become obsolete before its expected lifespan of 20 years or more.
- » **Potential security threat:** As gas metering systems become more sophisticated electronically, there is heightened concern over possible cyber-attacks.
- » **Consumer pushback:** Some activist consumers have mounted vocal and visible campaigns against smart metering technology, particularly against smart electricity meters. This sentiment could spill over to smart gas meters.
- » **Privacy concerns:** Similar to health concerns raised by some customers, there are those who have privacy concerns surrounding interval meter readings and the potential for this data to be compromised.
- » **Meter durability:** Some industry stakeholders have doubts about how durable the new and more complex meters might be in the long term.

- » **Slow-moving industry:** The gas utility industry is known for its slower pace. It is unaccustomed to rapid change, which acts as a drag on the potential for more rapid market expansion.

1.2 Gas Meter Forecasts

Annual shipments of standard, advanced, and smart gas meters and communications modules will increase sharply from 22 million worldwide in 2012 to 33 million in 2020 at a compound annual growth rate (CAGR) of 5.5%. Global shipments of residential smart gas meters alone will experience a 34.5% CAGR, fueled in large part by policy mandates in Europe that call for massive upgrades from standard meters. Other regions will move more slowly to smart gas metering. Inhibitors such as the cost of the devices and new infrastructure and the plentiful supply of natural gas will hold back major deployments.

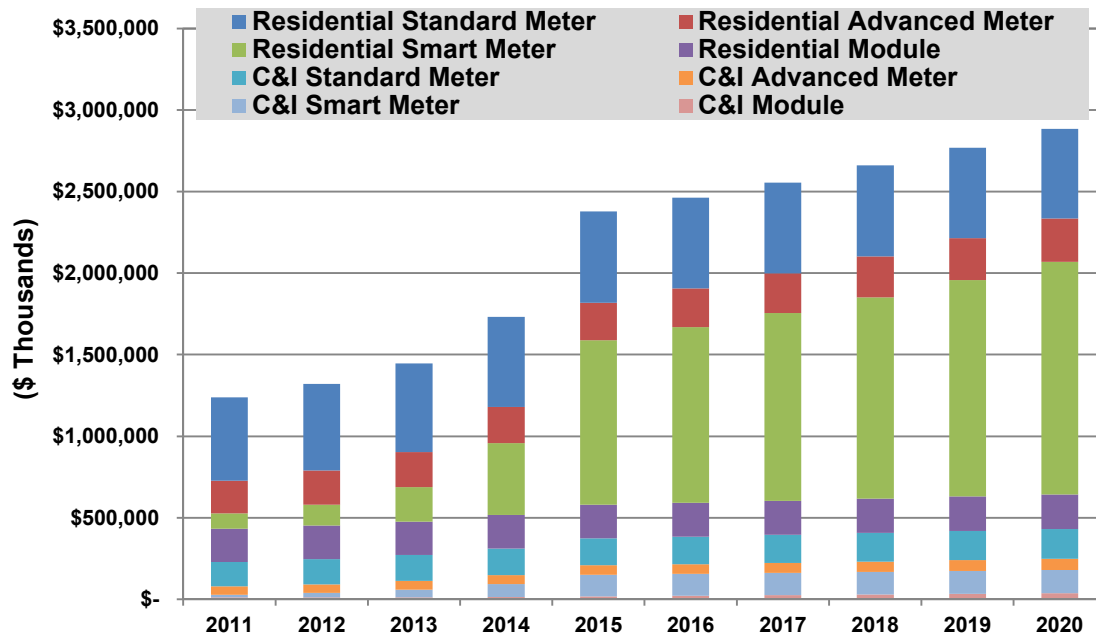
Chart 1.1 Gas Meter and Module Shipments by Type, World Markets: 2011–2020



(Source: Pike Research)

This big surge in upgrades in Europe will drive the overall revenue generated from shipments of standard, advanced, and smart gas meters and modules. Global revenue will rise from more than \$1.3 billion in 2012 to almost \$2.9 billion in 2020 at a CAGR of 10.3%.

Chart 1.2 Gas Meter and Module Revenue by Type, World Markets: 2011–2020



(Source: Pike Research)

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SCOPE OF STUDY

Pike Research has prepared this report to provide participants in the gas metering market, including meter manufacturers, communications module manufacturers, gas utilities, combination gas-electric utilities, regulators, policy executives, investors, and other interested parties and organizations, with a study of the market for smart gas meters. The main objective is to identify and evaluate the major opportunities and challenges facing the industry and to forecast likely growth. In addition, the report provides a review of major demand drivers and market barriers, technical developments and standards, and selected key industry players within the competitive landscape.

The report's purpose is not to provide an exhaustive technical assessment of the technologies and markets covered, but rather, a strategic examination from an overall business perspective. Pike Research strives to identify and examine new market segments to aid readers in the development of their business models and plans. All major global regions are included and the forecast period extends through the year 2020.

SOURCES AND METHODOLOGY

Pike Research's industry analysts utilize a variety of research sources in preparing Research Reports. The key component of Pike Research's analysis is primary research gained from phone and in-person interviews with industry leaders including executives, engineers, and marketing professionals. Analysts are diligent in ensuring that they speak with representatives from every part of the value chain, including but not limited to technology companies, utilities and other service providers, industry associations, government agencies, and the investment community.

Additional analysis includes secondary research conducted by Pike Research's analysts and its staff of research assistants. Where applicable, all secondary research sources are appropriately cited within this report.

These primary and secondary research sources, combined with the analyst's industry expertise, are synthesized into the qualitative and quantitative analysis presented in Pike Research's reports. Great care is taken in making sure that all analysis is well-supported by facts, but where the facts are unknown and assumptions must be made, analysts document their assumptions and are prepared to explain their methodology, both within the body of a report and in direct conversations with clients.

Pike Research, a part of the Navigant Consulting, Inc. Energy Practice, is a market research group whose goal is to present an objective, unbiased view of market opportunities within its coverage areas. Pike Research is not beholden to any special interests and is thus able to offer clear, actionable advice to help clients succeed in the industry, unfettered by technology hype, political agendas, or emotional factors that are inherent in cleantech markets.

NOTES

CAGR refers to compound average annual growth rate, using the formula:

$$\text{CAGR} = (\text{End Year Value} \div \text{Start Year Value})^{(1/\text{steps})} - 1.$$

CAGRs presented in the tables are for the entire timeframe in the title. Where data for fewer years are given, the CAGR is for the range presented. Where relevant, CAGRs for shorter timeframes may be given as well.

Figures are based on the best estimates available at the time of calculation. Annual revenues, shipments, and sales are based on end-of-year figures unless otherwise noted. All values are expressed in year 2012 U.S. dollars unless otherwise noted. Percentages may not add up to 100 due to rounding.

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