

# Smart Prepaid Utilities in the United States: Forecasts & Analysis

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*March 2017*

## 0 Executive summary

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This report examines the evolution of smart meter based prepaid electric service in the United States (US).

The early experience with this new payment option, especially among the rural electric cooperatives, suggests that there can be benefits for consumers and utilities alike. For householders, these include better control over their energy usage, reduced consumption, bill savings, and increased customer satisfaction, while utilities can experience improvements in collection and debt levels, operational efficiency, and front-line staff morale.

The potential benefits of offering a prepaid option for consumers are attracting interest from a wide range of utilities, including the investor-owned companies who serve around 70% of the nation's residential electric customers.

The purpose of this report is to illuminate the opportunity for utilities as they prepare for their prepaid pilots and service launches. The report provides a review of market developments and the status of regulation, insights into prepay program design, and consumer adoption forecasts for the next five years. It also examines the vendor landscape for smart prepayment back-office solutions.

### 0.1 Prepaid adoption forecasts

We forecast that by 2021 there will be over 84 million residential advanced meters in the US. This extensive footprint of advanced metering infrastructure (AMI) provides a strong foundation for utilities to offer a smart meter based prepayment service.

However, the investor-owned utilities (IOUs) will need to overcome regulatory hurdles before they can launch this payment option. Prepaid utility service faces considerable scrutiny from consumer advocates, who raise concerns that certain existing consumer protections for utility service must be waived to accommodate the technological advances that AMI-based prepayment leverages, such as the remote disconnection of the customer's power supply without a traditional 'last-knock' visit.

Over the past few years, the response from the public service commissions to proposals from the IOUs for AMI prepay pilots has been somewhat mixed, with some requests blocked on consumer protection grounds and others granted.

Although regulators appear increasingly open to considering prepaid service as data on the potential benefits for consumers and utilities becomes more abundant, the regulatory situation remains challenging and the outlook is to some extent uncertain.

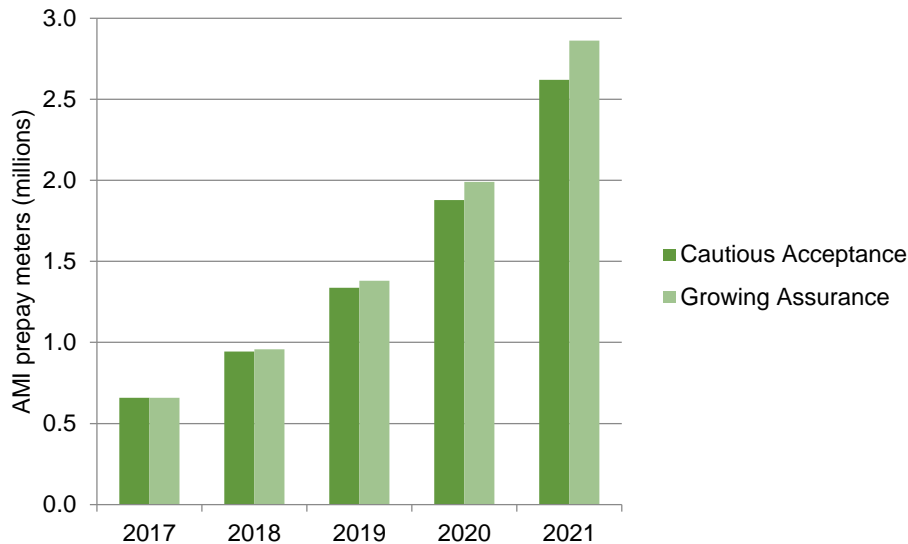
To reflect the uncertainties in how regulation might evolve, we have modelled two alternative scenarios for market development:

- **‘Cautious Acceptance’** – This scenario assumes that while many states will allow AMI prepay pilots and commercial services by 2021, some decisions will go against the regulated utilities or else be delayed beyond the forecast period. The scenario aims to reflect a continuation of the situation today, in which regulators are increasingly open-minded towards AMI prepay, but at the same time are demanding evidence-based affirmation of the potential benefits.
- **‘Growing Assurance’** – For this more optimistic scenario, we assume that going forward the majority of states will permit AMI prepay, with only a few dissenting. This scenario corresponds to a future in which the benefits of AMI prepay for utilities and consumers are well demonstrated by data from large-scale pilots and programs.

We consider the Cautious Acceptance scenario to be a realistic base-line forecast, based on a continuation of the currently observable trends. The Growing Acceptance scenario aims to provide a credible alternative view of the future, reflecting a slightly more optimistic and rapid evolution of regulation.

Under the Cautious Acceptance scenario, we forecast that there will be 2.62 million AMI meters used for prepaid electric service (‘AMI prepay meters’) at the end of 2021, rising from around 660,000 at the end of 2017. With the larger number of advanced meters that would be addressable under the Growing Assurance scenario, AMI prepay meters could reach 2.86 million at the end of the forecast period (see Figure 1).

**Figure 1: Forecast of AMI meters used for prepaid electric service in the United States**



Source: Quindi Research

## 0.2 Vendor landscape for smart prepayment solutions

For utilities wanting to introduce AMI prepay service, there are two main options from a back-office systems perspective:

- Leverage the functionality of a **customer information system (CIS)** that can support prepaid as well as standard credit service. Many popular utility CIS vendors in the US now offer this capability, including Daffron, NISC, Oracle, PCS, and SEDC.
- Deploy an **specialized adjunct solution** to manage the AMI prepaid service alongside the existing CIS. Utilities can implement this as a standalone solution, or else fully integrate it with their postpaid CIS. Many prepaid solutions now come with pre-built adaptors to the leading CIS systems to simplify integration and accelerate time to market. The most prominent smart prepayment solutions providers in the US are Exceleton, PayGo and SmartGridCIS, while Ericsson and Siemens are also promoting solutions.

As the trend towards providing built-in CIS support for AMI prepay grows, many utilities will be able to launch prepaid service without needing an additional system. This approach is likely to be attractive particularly for smaller and mid-

sized utilities, as it helps keep program implementation costs and supplier complexity to a minimum.

However, even if using an existing CIS is an option, we recommend that utilities open a dialogue with a range of specialist prepaid solutions vendors, to assess how they might support their prepay program launch and contribute to the initiative's success. The pure-play solutions providers can offer certain more specialized features and services for AMI prepay compared to the CIS vendors, and bring invaluable know-how and experience to help utilities get the most from their prepaid programs.

Utilities with older or customized CIS may find that they have no choice but to implement an adjunct AMI prepayment solution. Even if they envisage replacing their CIS over the few years, it may make sense to deploy an adjunct solution in the interim to avoid delaying the introduction of AMI prepay.

This report includes profiles for a range of CIS vendors who support prepayment, as well as for the specialist smart prepayment solutions providers targeting the US market, to help utilities compare their capabilities as they embark on their vendor selection process.

### A.3 Exceleron Software

Year established	1999
Public / private	Private
HQ / offices	Dallas, TX
Annual revenue	Not disclosed
Employees	<50
Customers	~100 cooperative, municipal, and investor-owned utilities throughout the US
Industries	Utilities
Utility solutions	MyUsage® suite of applications
Website	<a href="http://www.exceleron.com">www.exceleron.com</a>

Exceleron is a leading provider of utility smart meter prepayment solutions in North America.

#### Service offering and approach

Exceleron's MyUsage® is a configurable and scalable suite of prepay applications that can be used as a standalone application or integrated into the utility's existing web and/or mobile applications.

- **MyUsage Prepay** – calculates the user's daily usage and enables customers to manage their accounts via smartphone app, web portal, or IVR. With MyUsage, customers can view their current balance and estimated remaining days' usage, and Exceleron's Communication Alerts Center enables end users to set up notifications via their preferred communications channels.
- **MyUsage Payments** – provides multiple payments options for consumers, including online, via mobile app, phone or in person at over half a million retail outlets. Exceleron can provide its own credit card processing or integrate with third-party payment networks as required.
- **MyUsage Assist** – allows utilities to configure debt recovery arrangements by applying a percentage of each payment towards repaying the arrears.
- **MyUsage Monitoring** – supports consumption monitoring for electricity, gas and water for both prepay and postpaid customers. AMI usage data is supplemented with historical weather data to provide a contextualized view of consumption. The data can be integrated into the utility's smartphone app or web portal, or viewed via Exceleron's own mobile app. Utilities can

leverage this module for consumption monitoring across postpaid customers as well as prepaid.

Exceleron's MyUsage is a web-based hosted solution, which is fully integrated with utilities' AMI, CIS, payment processors and other solutions. To accelerate and lower the cost of implementation, Exceleron has ready-made adapters for over 20 CIS vendors, including Oracle, SAP, Cayenta, Cogsdale, CSA and Daffron.

The vendor's implementation services draw on its experience of over 100 MyUsage deployments, and include advising on program design, CSR training, and support for consumer marketing, to help utilities get the most out of their prepay programs.

### Utility customers

Exceleron serves electric, water, and gas utilities throughout the US, including rural electric cooperatives, municipal power entities and investor-owned utilities. The vendor's customers include some of the largest municipal and cooperative utilities, such as Jacksonville Electric Authority, Memphis Light Gas & Water and Orlando Utilities Commission, and IOUs such as ComEd and Westar. While Exceleron is continuing to add customers across all segments and US regions, it identifies the IOU and municipal markets as the current main growth areas.

MyUsage supports over 300,000 active prepay customers. According to the vendor, utilities using MyUsage have recovered more than US\$20 million in bad debt and helped consumers avoid nearly US\$1 billion in service connection and late fees.