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The Importance of Retail Electricity Rate Forecasting

As opportunities for distributed energy generation projects continue to grow rapidly in energy markets across the US, so too does the importance of retail electricity rate forecasting. Rising retail rates boost revenue potential for distributed generation developers and operators, especially in high-demand, capacity-constrained markets.

Accurate retail rate forecasts allow distributed energy developers to quickly and confidently advance projects and portfolios related to community solar, storage, virtual power plants (VPPs), and behind-the-meter installations. When combined with a wholesale price forecast that accounts for the changing dynamics of modern power markets, retail rate forecasts also allow developers to create pricing strategies that maximize revenue, minimize risk, and satisfy consumers.

Why Should Distributed Energy Developers Care About Retail Rates?

For most community solar and community storage projects, retail electricity rates are fundamental to generating stable revenue flows, since revenues are tied to bill credits which are based on utility retail rates.

Once a community solar project is connected to the grid, participants in that project receive bill credits from their utility for their share of the project's energy. Developers then generate revenue by charging participants – who are also utility ratepayers – a fee tied to the bill credit's value, which is usually a fixed percentage of the total credit. In most markets the bill credits are tied to retail electricity rates, which are more stable, produce higher returns, and are less volatile than merchant rates.

Beyond community solar, retail rates are fundamental to the value of net metered projects, load management/peak shaving applications for behind-the-meter energy storage, and other use cases.

What Parts of Retail Electricity Charges Can Developers Recover Through Community Solar Bill Credits?

As shown in **Figure 1**, developers can fully recoup supply charges, which are included in the bill credit. And while supply charges follow wholesale pricing trends, they are more predictable for distributed generation (as opposed to merchant) projects since rates change monthly or seasonally rather

than hourly. Often, developers can recover transmission costs and, depending on the market, can sometimes recover distribution costs.
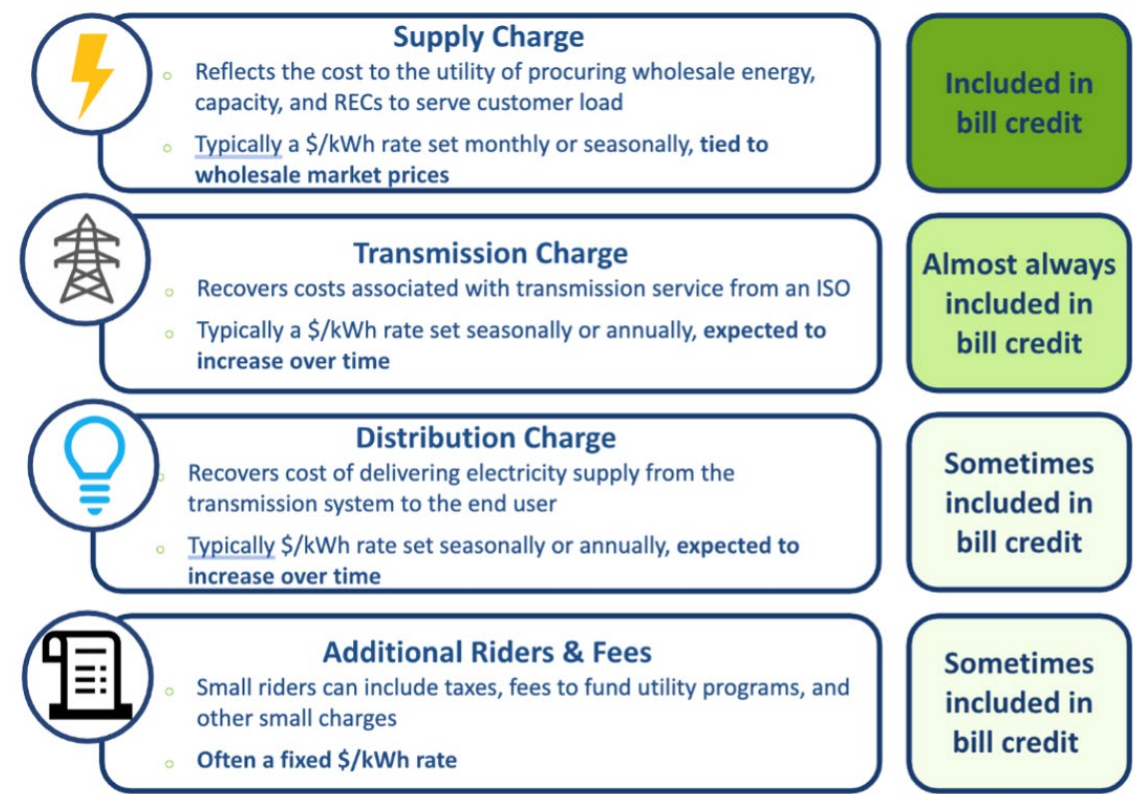

Supply Charge
- Reflects the cost to the utility of procuring wholesale energy, capacity, and RECs to serve customer load
- Typically a $/kWh rate set monthly or seasonally, **tied to wholesale market prices**

Included in bill credit

Transmission Charge
- Recovers costs associated with transmission service from an ISO
- Typically a $/kWh rate set seasonally or annually, **expected to increase over time**

Almost always included in bill credit

Distribution Charge
- Recovers cost of delivering electricity supply from the transmission system to the end user
- Typically $/kWh rate set seasonally or annually, **expected to increase over time**

Sometimes included in bill credit

Additional Riders & Fees
- Small riders can include taxes, fees to fund utility programs, and other small charges
- Often a fixed $/kWh rate

Sometimes included in bill credit

Figure 1. Potential for cost recovery within retail electricity charges

Transmission and distribution (T&D) charges will increase over time as upgrades to grid infrastructure are needed for reliability. T&D charges also help hedge against fluctuations in the supply rate and boost overall revenues for developers relative to wholesale markets. Other incentives beyond bill credits may be available for energy project developers, depending on the program or market.

What is Retail Electricity Rate Forecasting?

At the most basic level, retail electricity rate forecasts provide anticipated outcomes for the way that future retail energy prices will move over time in a specific state or power market. The right retail rate forecasts allow distributed energy project developers and investors to optimize strategies and operations in order to maximize revenue potential, minimize risk, and satisfy consumers.

What Should a High-Quality Retail Rate Forecast Include?

A high-quality retail rate forecast should be linked to wholesale market dynamics, policy shifts, and risk factors, and should thus yield projections that more accurately capture the timing and scale of future rate changes.

Robust forecasts should offer in-depth insights into key retail electricity rate components – including supply, transmission, and distribution – tailored for specific states and/or energy markets. Additionally, a good forecast should be steeped in market fundamentals and utility- and rate-class-specific behaviors, and should combine a historical analysis of retail rate behavior with an in-depth analysis of wholesale costs including energy prices, capacity prices, and renewable energy credit (REC) curves.

What Types of Projects Do Retail Rate Forecasts Support?

Retail electricity rate forecasts are crucial components for a range of distributed energy generation projects, including community solar and storage, behind-the-meter projects and portfolio valuations, post-PPA revenue assessments, virtual power plants (VPPs), and aggregated distributed assets.

How Can Ascend's Retail Rate Forecasts Support Distributed Energy Developers?

Ascend's Market Intelligence: Retail Rates solution provides up-to-date retail rate forecasts and reports for key US energy markets, supporting development and transactions around community solar and storage, behind-the-meter projects, VPPs, and more.

Underpinned by Ascend's long-term wholesale market forecasts, Market Intelligence: Retail Rates forecasts capture utility and rate class-specific nuances in responsiveness to wholesale price signals.

In addition, Ascend offers high-resolution mapping capabilities, which allow users to view forecasts geospatially along with many other key metrics such as historical rates, distribution hosting capacity, interconnection queue, parcel data, substation and power plant locations, and transmission. Users also have access to Ascend's wholesale market information, including pricing dynamics and project revenue potential across 50,000+ nodes in the US.

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Interested in Learning More?

Having facilitated over 2,000 MW of distributed project development and transactions nationwide, Ascend's Market Intelligence: Retail Rates solution delivers in-depth views of markets, policy, and forecasts to support distributed electricity generation development and operations. Contact us to learn more.

About Ascend Analytics

Ascend Analytics is the leading provider of market intelligence and analytics solutions for the power industry. The company's offerings enable decision makers in power development and supply procurement to maximize the value of planning, operating, and managing risk for renewable, storage, and other assets. From real-time to 30-year horizons, their forecasts and insights are at the foundation of over $50 billion in project financing assessments. Ascend provides energy market stakeholders with the clarity and confidence to successfully navigate the rapidly shifting energy landscape. Visit us at ascendanalytics.com