

TO TRANSITION TO CLEAN ENERGY, UTILITIES NEED NEW BUSINESS OPERATING SYSTEMS

Utilities worldwide are responding to the pressure to accelerate the transition to clean energy by revamping their rates, services, and programs and incorporating new business models. Traditionally, utilities develop new rates, get them approved as a part of a public ratemaking process, implement them in the CIS, and then start billing customers and collecting payments; meaning that the CIS have typically served as the primary system to operate the utility business, managing customers, product pricing and revenue. This traditional approach, however, has become increasingly inadequate. To support a clean energy transition, a new business operating system is required, based on the following tenets:

DEVELOP BETTER RATES TO ACHIEVE FINANCIAL AND POLICY GOALS

The traditional rate-design approach relies heavily on statistical sampling of the customer population, in which a small percentage of customers' consumption data is used to develop new rates, which are then extrapolated to be applicable to the whole customer population. As utilities and regulators consider sophisticated rates that will support increasingly greater distributed energy resources, strong empirical evidence shows that this sampling-based approach will miss certain customer segments, resulting in sub-optimal rate designs.

The clean energy business operating system must have the capability to incorporate all customers' consumption data to develop new rates. The availability of big data technology enables utilities to go beyond the sampling-based approach. They can now evaluate the bill impact for every single customer and simulate the revenue impact of new rate designs.

SUPPORT CUSTOMER ENGAGEMENT AND RATE MARKETING

With the incorporation of clean energy, the need to more finely segment customers has increased and, as a result, the number of rate options is increasing. With the increased number of new rates, customers are often confused as to which rates are most suitable for them and, therefore, need help in choosing the right rates.



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As the success of a new rate design is predicated on how widely the rate is adopted, utilities need to invest in rate marketing. They need to segment the customers based on not only traditional dimensions such as total consumption and demographic, but also based on expected bill impacts of the new rate. In so doing, utilities can craft more targeted marketing messages depending on if the rate has a positive or negative impact on customers' bills.

SUPPORT COMPLEX RATES AND NEW BUSINESS MODELS

Traditional CIS' are often inadequate in supporting complex rates, such as real time pricing and TOU rates, or complex new business models like Community Solar/Wind, aggregation of demand flexibility, or aggregation of dispatchable distributed generation in the form of Virtual Power Plant (VPP), etc.

A clean energy business operating system must include billing and settlement capabilities that can support complex rates and business models, including those that involve multiple participants.

SUPPORT QUICK RATE IMPLEMENTATION CYCLES

We are in the early innings of the clean energy transition and are still figuring out how to operate the grid with large renewable and distributed energy resources. As such, utilities are experimenting with a variety of rates and business models and revising existing ones frequently.

The traditional CIS is too slow to support the speed of rate innovation. Therefore, many utilities are backlogged in operationalizing these new rates in their meter-to-cash processes. A clean energy business operating system must be nimble in supporting the frequency with which rates are revised and speed these rates are rolled out.

ENABLE UTILITIES TO BE TRUSTED ENERGY ADVISORS

While traditional meter-to-cash processes inspires limited inquires, clean energy customers have a plethora of new questions/needs from their utility. From finding out if new rate offerings will save them money before signing up, to the cost of implication for changing their energy consumption behaviors. What is the estimated payback period before investing in distributed energy? What is the estimate the savings for buying and owning electric vehicles?

These requests for information require a clean energy business operating system that leverages the same rate models that utilities use to bill their customers to provide cost and rate analytics for their customers. In summary, the customers need trusted energy advice during this clean energy transition.

At the core of this new business operating system is a centrally managed rate portfolio that supports all of a utility's revenue streams. The rates can be developed based on its revenue requirements; their impacts on the revenue and customers' bills can be simulated; once approved, the rates can be simply published to operate the meter-to-cash process without a prolonged re-implementation cycle; the rate portfolio can be used to generate cost and rate analyses to better engage and educate customers and market products and programs for a broad based adoption; the same rate portfolio can be used to bill customers and provide supports post sales; the rate portfolio can also be used to monitor customers' energy costs and utility revenue, billed or unbilled, on a daily basis and alert customers and the CFO with the unexpected, respectively; the rate portfolio can be used to analyze the historical and forecast the future financial performance so that the analysis results and the forecast can be used for the next round of rate designs. Finally, all of these capabilities are delivered from the cloud without the needs to manage the software and hardware.