

# What Netflix and Amazon Pricing Tell Us About Rate Design's Future



Alexa, Pull Up My Energy Service Subscription Plan!

**BY LON HUBER AND RICHARD BACHMEIER**



merica is becoming a nation of subscribers. Blue Apron, Netflix, Verizon, Amazon; the list of subscription services goes on. Even Lyft is offering a new subscription service with unlimited rides for a fixed monthly fee.

The subscription e-commerce market has grown by more than a hundred percent a year over the past five years. The largest retailers are generating more than 2.6 billion dollars in sales in 2016, up from 57 million dollars in 2011.

This growth is fueled by consumer interests in convenience, control, choice, and comfort. Subscriptions are especially surging among the twenty-five to forty-four-year-old demographic, whose annual incomes range from fifty thousand to a hundred thousand dollars. If other industries are transitioning from a pay-per-use and volumetric model to a subscription model, why should utilities not consider this option as well?

Technology unlocked this subscription revolution by providing new ways for customers to acquire products and services, particularly on e-commerce platforms. The energy sector is also affected by these innovations.

At the same time, the sector is experiencing its own share of new energy service technologies that can further unleash innovation, such as advanced meters, smart thermostats, distributed generation, and digital apps. It is now time to leverage this technology and give customers the option to access a new pricing platform for their energy needs.

Navigant and Tucson Electric Power Company teamed up to explore what this offering could look like at a high level. An in-depth whitepaper will also be released on this new offering, which Navigant is classifying as an Energy Service Subscription Plan. The acronym, ESSP.

At its most fundamental level, an Energy Service Subscription Plan is a utility service offering that enables energy customers to pay a fixed monthly bill for energy use. While similar to present day flat bill rates, an ESSP can unlock much more when combined with advanced analysis of customer interval load data and smart devices.

ESSPs, which rely on the integration of new customer-sited technologies, offer more choices and can have longer, multiyear terms for consumers. Service plans would be offered on a subscription basis and be tailored to differing customer risk and convenience preferences.

For example, customers wanting full control of their energy use might choose a premier plan with a premium price that allows the participant full latitude on the volume and timing of electric usage. Think, all-you-can-eat.

Alternatively, some customers may prefer an economy plan offering a lower monthly bill in exchange for full convenience and

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some control over usage. These lower-cost plans would provide utilities with some control over the customers' usage profile, enabling them to manage system demand to create value for the grid. If this scenario sounds familiar, you might be recalling your Netflix account, which offers three simplified options to customers.

### Plan Benefits

Energy Service Subscription Plans can be beneficial to middle- and lower-income

ratepayers by improving their access to newer, more efficient technologies and appliances. Many of these customers cannot afford to invest in newer, more efficient technologies and appliances. Nor do they have access to credit at rates that would make such investments economical for them.

According to Tucson Electric senior director Dallas Dukes, "If the utility can provide these customers with newer, more efficient equipment and technologies in return for something akin to on-bill financing in the form of an ESSP, the utility can recover its investment and participating customers can realize the increased convenience and comfort associated with these investments – a true win-win."

### Plan Criticisms

The concept of an Energy Service Subscription Plan will generate feedback. A criticism that may be leveled by energy-efficiency advocates is that a fixed monthly bill sends no direct price signals to customers to limit usage and is therefore not consistent with energy-efficiency objectives.

However, this service offering could be viewed as something

**Lon Huber** is a director currently leading Navigant's North American retail regulatory offering. He has previously led advances in time-varying rate design, RPS modernization, distributed energy resource compensation and ownership, energy storage and community solar. **Richard Bachmeier** is a manager in pricing and analytics at Tucson Electric Power Company with expertise in utility regulation, ratemaking and resource planning, power marketing and pricing, and competitive energy markets.

**FIG. 1** EXAMPLE OF ENERGY SERVICE SUBSCRIPTION PLAN

This new pricing platform can allow the bundling of different smart home services, such as home monitoring, appliance warranty/maintenance programs, or other services, to further diversify the utility's risk. This is similar to Amazon's interconnected subscription services in Prime (e.g., Prime Music, Delivery, Video, etc.).

Utility near you	Basic	Standard	Premium
Monthly price based on profile usage	\$57.99	\$99.99	\$130.99
50% renewable	X	✓	✓
100% renewable	X	X	✓
Free smart thermostat	✓	✓	✓
Smart EV charger & free public charging	+\$10	+\$10	+\$10
Control days	30	15	7
Free event overrides per year	0	5	7
LED light bulbs	2	4	6

like a risk swap, where the risk associated with volumetric usage is shifted onto the utility. Under conventional rate designs, the customer faces volumetric price risk. An ESSP allows the customer to swap this risk to the utility in exchange for a fixed subscription charge, with the utility taking on the volumetric price risk.

Risk swaps like this are transacted all the time; the key point of an ESSP is that the risk of excess usage is now on the utility. The incentive to limit usage has not gone away but has been shifted to another party – one that is arguably better at managing risk than a typical customer. This now puts the utility in full alignment with energy-efficiency goals.

Subscription-style offerings often generate resistance from within the utility because of the increased volumetric risk. While perhaps understandable in a historical context, this resistance is misplaced, for four reasons:

One: Rather than overconsumption, current electric-usage trends show flat or declining energy use. Complicating matters is evidence that many utilities are experiencing decreasing usage per customer without seeing commensurate reductions in peak demands.

This situation results in the degradation of system load factors, does little to relieve the need for future generation capacity additions, and puts upward pressure on rates as utilities struggle to recover fixed costs in the face of declining sales.

Two: Utilities may be underestimating the risks posed by conventional rate design, which would fade away under a subscription model. Using conventional rate design, utilities are increasingly struggling with recovery of fixed costs in the face of declining energy sales.

A properly designed ESSP can allow utilities more stable fixed-cost recovery, thereby mitigating some of the upward rate pressure associated with fixed-cost recovery shortfalls.

Although there is some risk associated with overconsumption,

that risk is confined to fuel and capacity risk during certain times of the year. For portions of the year – such as Tucson Electric Power's shoulder season when solar PV generation is abundant relative to usage – there may be little to no fuel or capacity risk.

In fact, increased consumption during these periods may benefit the system by allowing the utility to optimize its load shape relative to its resources. For those key periods when fuel and capacity risk are present, it becomes the utility's responsibility to limit these risks.

Three: Not all customers are the same. Although some customers may use electricity in excess of the amount assumed to price a subscription plan, others will not. Given suf-

ficient diversification with participating customer demographics, the utility would likely see a portfolio effect in which, on average, subscribed customers are not using more energy than is priced into the plan.

## This service offering could be viewed as something like a risk swap, where the risk associated with volumetric usage is shifted onto the utility.

If the utility is still uncomfortable with the level of volume risk, the program could be designed with limits or guardrails on monthly kilowatt-hour usage. Take Verizon, for example, with three different plan options like Netflix, each with some form of data limitation.

Four: Offering some of the utility's customers an ESSP option gives the utility a portfolio-diversification benefit with respect to revenue recovery. Just like a personal retirement account, that employs some combination of income streams based on the prospective retiree's risk profile, an ESSP option would provide more diverse revenue streams for cost recovery.

A utility's revenue stream under conventional rate design is skewed significantly toward volumetric risk, where utilities are recovering fixed costs using volumetric rates in the face of declining usage per customer. Introducing product offerings with a fixed revenue stream into the utility's portfolio would serve to mitigate volumetric risk.

### Next Steps

Any new product offering should be something that customers are more likely to buy. Another good reason to approach an Energy

Service Subscription Plan structured offering in stages is to better understand and facilitate customer acceptance and satisfaction.

However, we suspect that customers will be open to this concept based on our own experience with Tucson Electric Power's solar subscription model and analogous offerings in restructured markets. In fact, according to one survey, about two-thirds of respondents want their utility to offer a flat or fixed-bill option.

That is why this concept is worth exploring in service territories across the United States. Proper subscription pricing will not be easy and will require advanced analytics, cross-functional coordination, and measurement and verification of customer product offerings. Yet consider the promise of a new pricing platform in terms of customer choice and access. See Figure One.

America's one hundred and eighteen million households have over two hundred million subscriptions. These are expected to grow to three hundred and fifty million in less than a decade.

Perhaps the competitive private sector is on to something. Subscriptions focus on uses of the service rather than overall consumption. Targeting customer preference and needs based on behavioral data rather than kilowatt-hour transactions empowers

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utilities to focus on increased customer choice, comfort, and convenience with a focus on high-value outcomes.

With the historical restrictions of high fuel prices and inadequate metering technology mitigated, utility companies are now able to offer this pricing platform, creating wins for all stakeholders.

These wins would include predictable bills for customers, a hundred percent alignment between the utility and energy conservation goals, access to managed distributed energy resources for low- and moderate-income households, and improved fixed-cost recovery for the utility. Soon customers will be able to play an active role in managing their usage, stating with one sentence, Alexa, pull up my Energy Service Subscription Plan! **PUF**

## AT THIS YEAR'S EXELON INNOVATION EXPO, AUGUST 16, AT THE D.C. CONVENTION CENTER, THE 'REINVENTING ENERGY IN OUR CITIES' PANEL



Exelon Utilities CEO Anne Pramaggiore, left, moderates the panel and speaks with Baltimore's Director of the Mayor's Office of Sustainable Solutions, Kendra Parlock.



Also on the panel, from left to right, Chicago Deputy Mayor Robert Rivkin, District of Columbia City Administrator Rashad Young, Philadelphia Managing Director Michael DiBerardinis.