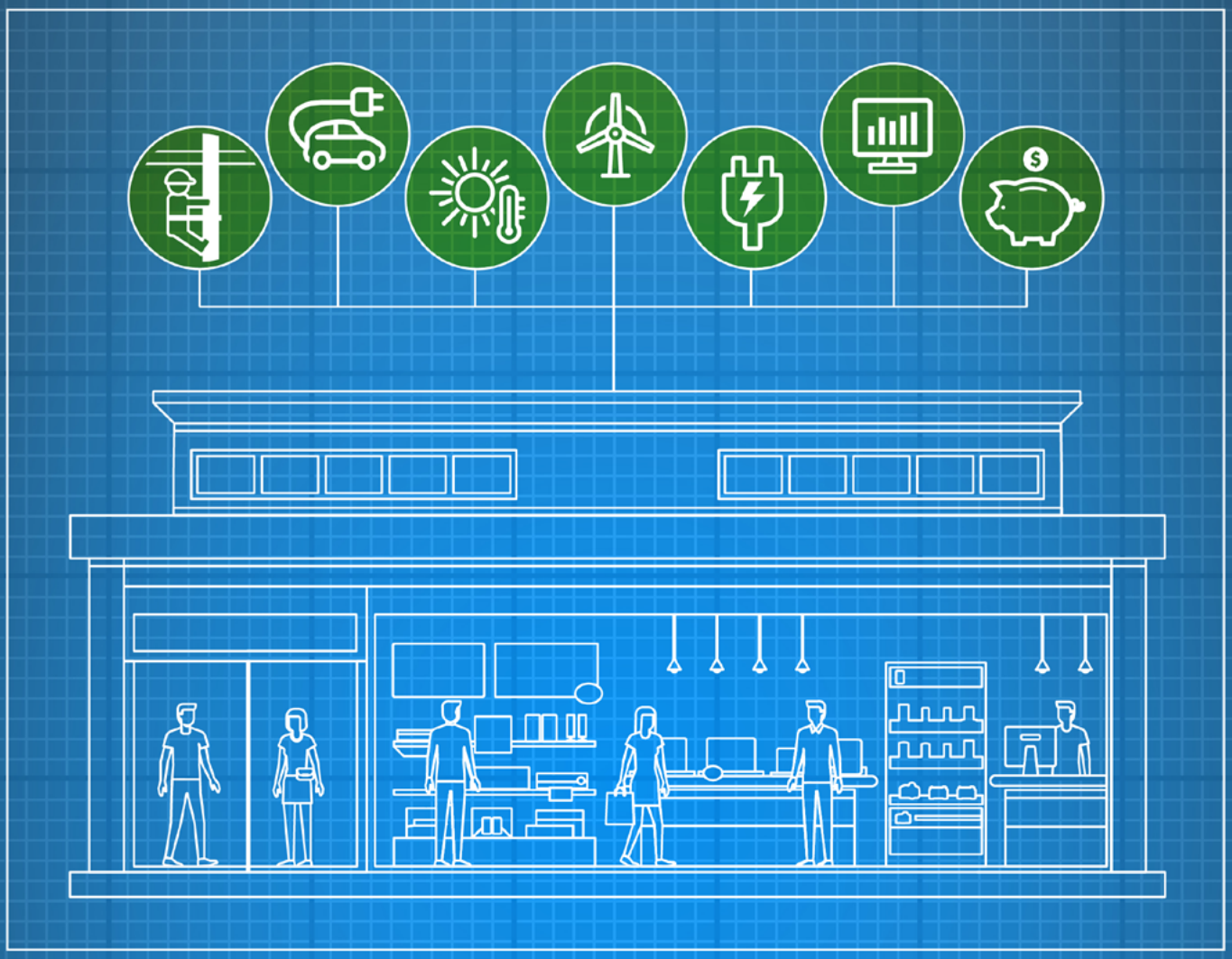

Smart Electric Power Alliance

SMART ENERGY CONSUMER COLLABORATIVE

CONSUMER PLATFORM OF THE FUTURE: INDUSTRY INSIDER PERSPECTIVES

DECEMBER 2018

AUTHORS: **Sharon Thomas**, *Senior Analyst, Research*, Smart Electric Power Alliance
Jen Szaro, *Vice President, Research and Education*, Smart Electric Power Alliance
Patty Durand, *President & CEO*, Smart Energy Consumer Collaborative

ABOUT SEPA

SEPA facilitates collaboration across the electric power industry to enable the smart deployment and integration of clean energy resources. Our focus centers on solar, storage, demand response, electric vehicles, grid management, and other complementary technologies.

Smart Electric Power Alliance

ABOUT SECC

SECC is a 501(c)(3) nonprofit organization that works to learn the wants and needs of energy consumers in North America, encourages the collaborative sharing of best practices in consumer engagement among industry stakeholders, and educates the public about the benefits of smart energy and energy technology.

SMART ENERGY CONSUMER COLLABORATIVE

ACKNOWLEDGEMENTS

SEPA would like to thank our external reviewers who provided their time and expertise to the development of this report, including Erika Diamond with EnergyHub.

We would also like to thank the following SEPA staff for their contributions and review: Sharon Allan K Kaufmann, Erika Myers, Chris Schroeder, Dave Hardin, Mike Kruger, Brenda Chew, Daisy Chung, and Tanuj Deora. We would also like to thank SECC staff for their contributions and review: Nathan Shannon and Bridget Meckley.

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EXECUTIVE SUMMARY

Across the country, a growing number of utilities and solution providers are prioritizing a customer-centric focus in their organizations. Drivers behind this trend include greater availability and affordability of digitized home devices and appliances, as well as shifting customer expectations, including their desire to connect more with businesses online and manage their lifestyles — from home and vehicle devices, to building security, energy usage, financial transactions, and procurement of goods and services — in a more digitized and coordinated fashion. Such a focus offers opportunities for continued growth, lower service costs, higher customer satisfaction and loyalty, among other benefits. As a result, many utilities and solution providers have developed consumer platforms.

This report begins by defining what a consumer platform is and how it is structured. We then discuss a component of platforms — digital portals — and how utilities are using them to enable customers to be more engaged in their energy use and management. During interviews with industry insiders, they shared what features make a customer interface successful. Providing easy access to information and comparative information on energy product and service options and recommendations were the two most frequently cited features for success. Interviewees also described the features that consumers likely want from a platform, with ease of use, personalized service, and clean/green energy cited as the top three features desired.

METHODOLOGY

SECC, SEPA, and the SECC Research Committee selected the industry leaders to be interviewed. These individuals included energy industry executives across the nation, representing utilities, energy retailers, and technology and service providers. Their responsibilities range from setting strategy to cross-organizational oversight of operations, program management, marketing and customer care. These individuals asked to remain anonymous, so the interview material presented here is summarized and paraphrased.

This report is based on a series of 16 interviews with industry insiders, conducted between July and September in 2017. These interviews each lasted around one hour and provided insights into how the interviewees see the opportunities of a more networked delivery model, the products and services their companies could provide by leveraging a broader digital ecosystem, and the hurdles they see in fully leveraging tools such as customer energy portals with multi-faceted graphical user interfaces. The scope of this paper covers utility customer offerings provided through customer portals, including energy marketplaces for purchasing Internet of Things (IoT) products and services, portals for engaging in individual or aggregated demand response programs, portals to access utility incentive programs, and, finally, utility or third party-owned customer energy data access portals.

Two case studies of how utilities have developed and/or acquired consumer digital engagement tools are discussed. The first one highlights Duke Energy's partnership with Tendril for an Energy Services Management Platform, which provides Duke customers with Home Energy Reports, personalized promotions, and action items. The Duke example also details the company's success with opt-out programs and challenges with opt-in programs. The second case study focuses on Sacramento Municipal Utility District's (SMUD) online customer portals, which include a mix of features and tools developed in-house as well as ones provided by vendors. SMUD's My Account customer portal is a tool that provides customers with access to billing, usage and cost analysis, and tips for saving money and energy. SMUD partnered with Simple Energy to create an online marketplace — the SMUD Energy Store — where customers can shop for energy-saving products, get instant rebates, and find financing options.

Industry insiders additionally identified several challenges they face with wider adoption of digital customer engagement tools, and SEPA and SECC proposed solutions and recommendations in each case. The most frequently experienced barriers were traditional regulatory rules and thinking (i.e., the expectation that regulated utilities should make investments that serve the broader population makes it harder to offer customized solutions to different customer segments). The second most frequently mentioned challenge is figuring out what consumers want given that their preferences can vary widely over a number of parameters, including demographics.

Providing meaningful energy information to consumers and connecting the dots to create a more direct link between the data and actions they can take based on this information are keys to increasing customer participation with portals and other digital engagement tools. Advanced metering infrastructure (AMI) also plays a key role in providing more granular levels of data, which is a building block for customized load programs and other services customers can use to effectively manage their energy consumption and costs.

INTRODUCTION

The electric utility is undergoing a transformation unlike any experienced in previous decades. This transformation is pushing utilities' business models and investments to be more responsive to consumer demand. Consumer engagement — building relationships with customers, communicating with them more (including through digital modes), and enabling them to be active energy consumers — is a key component of this transition.

Consumer platforms are one of many channels available to utilities to more deeply and meaningfully engage with their customers, develop new business models, and create new avenues for distributed energy resource (DER) deployment, monitoring, and management. The Smart Energy Consumer Collaborative (SECC) published a report, *Consumer Platform of the Future*, in January 2018, which offered an initial definition of what is meant by such a platform and outlined consumer expectations, along with opportunities and barriers for the industry.

As part of the *Consumer Platform of the Future* research, 16 industry insider interviews were conducted. This report summarized the thoughts, ideas, and insights of those industry experts who are currently working on consumer platforms. The interviews were conducted to both understand their views about consumer interest in potential products and services offered through a platform, as well as generate their thoughts about the future direction of their respective utility consumer platforms. The goal of this report is to share this knowledge with other industry leaders and professionals as they plan and implement their own consumer platforms.

What a Platform Is Versus a Portal

In speaking about online customer engagement tools, the terms "platform" and "portal" are sometimes used interchangeably; however, in this context, the two words define different levels and kinds of technology.

A platform is a communications and control asset that performs certain tasks that may require cloud-based communications, application programming interfaces (APIs), or specialized integration of specific functions. It is built from both hardware, such as servers, and software, including algorithms, backend software, and interoperability and product integration code.

A portal is one component of a platform. It can combine customer preference settings, energy provider and third-party programs, and provide access to different types of data. Combined with an analytics engine, it can also provide highly personalized information and offerings.

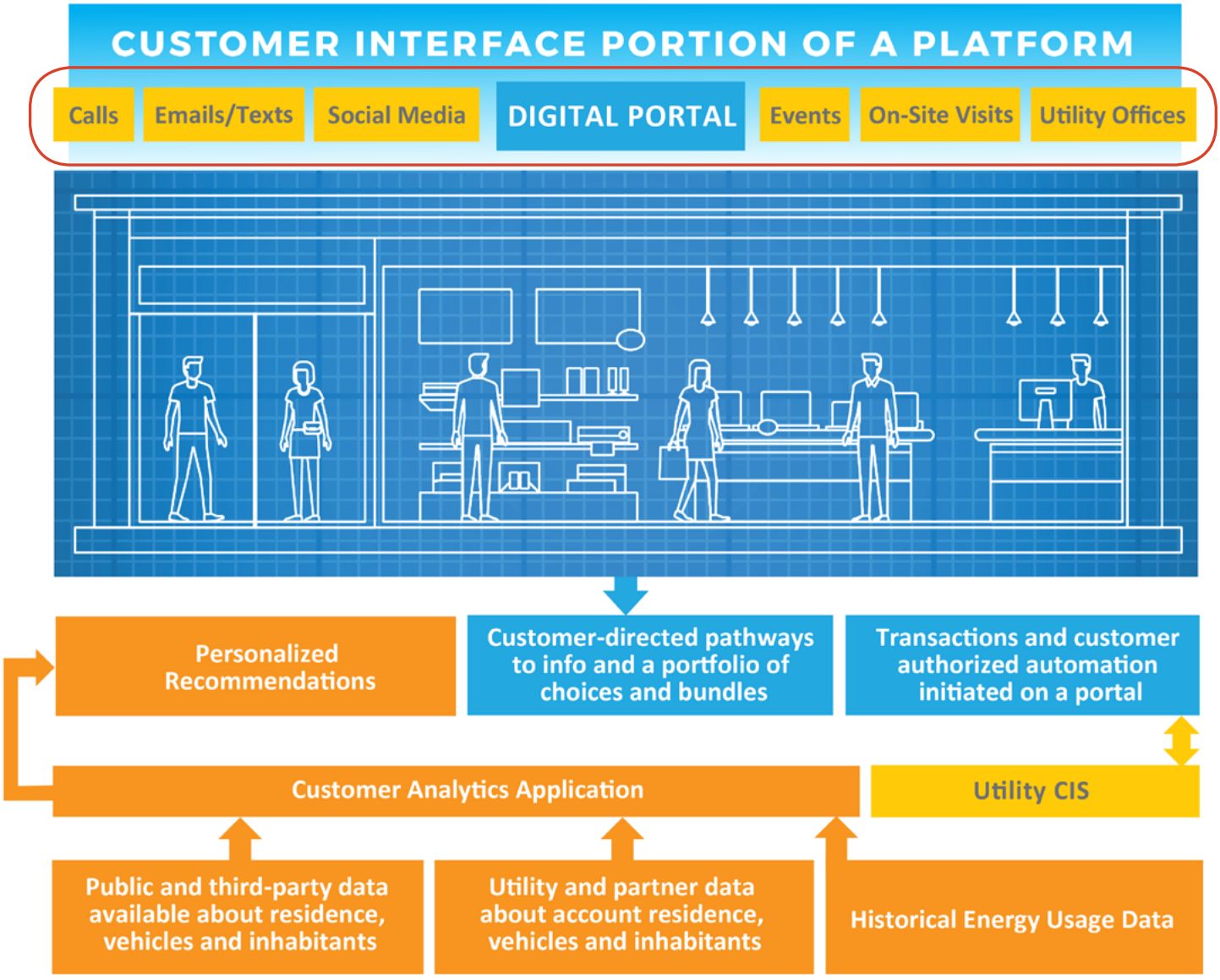
Experts across the industry who were interviewed had different opinions on the features, operational characteristics, and intended purpose of a platform. The definitions that emerged from our interviews with industry insiders were quite varied; however, most interviewees agreed that consumer platforms should offer two basic functions:

1. Engage consumers in energy use and bill management; and
2. Help consumers set and manage their priorities related to energy efficiency and energy use.

The definition of consumer platform provided in the *Consumer Platform of the Future* report and used for the field survey is "an online energy resource that you can access from your computer, smartphone or tablet. This portal would combine your household's energy usage data (current and historical), your preference settings, real-time energy usage data, energy provider and third-party programs and offers, and use this information to help you understand and manage your energy use."

Figure 1 below depicts the platform as an online channel that consumers can access from the device of their choice to help them understand and manage their energy use. The digital portal is one component of a platform and combines preference settings, energy provider and third-party programs and offers, as well as the household's available energy usage data. When integrated with an analytics engine, highly personalized recommendations can be made based on known information about the home, residents and vehicles. If integrated with the provider's Customer Information System, the consumer can authorize or monitor transactions and automation settings. This is one depiction of how the platform could be integrated within the utility's back-office systems. There may be other scenarios.[1]

Figure 1: Potential Structure of a Platform



Source: SECC, *Consumer Platform of the Future*, January 2018, p. 20

[1] *Consumer Platform of the Future*, January 2018, SECC, p. 20.

WHAT FEATURES MAKE A CUSTOMER INTERFACE SUCCESSFUL?

Interviewees shared their perspectives on several features that contribute to making a customer digital engagement tool successful. The most often cited features they say consumers want a customer interface to provide are:

1. Easy Access to Information

A digital customer interface provides easy access to consumer energy data in a format that is clear and understandable. This information would be available to both consumers as well as energy service providers, such as utilities and/or third parties. It should also help consumers understand their rate plans and include itemized or disaggregated usage data to inform consumers about how much they spend on different categories of their energy consumption on a monthly, daily, hourly, or smaller increment basis depending on whether or not a consumer has a smart meter. The information should be easy for customers to navigate in the sense that it effectively links energy use with potential decisions that can be made based on that information.

2. Comparative Information on Options and Recommendations

A successful customer interface should connect customers, the utility, third parties, and manufacturers to proactively bring insight about different options to customers (e.g., how to select the right time-varying rate, which technologies or programs will benefit them the most, or how to integrate photovoltaic (PV) solar).
A consumer platform of the future would also:

- Provide consumers with customized energy products and program alternatives based on their usage and preferences;
- Provide financing options; and
- Make recommendations on courses of action.

3. Control of their Energy

A customer interface can also help consumers better manage and control their energy use. Control could be active, for example, where customers take action in response to a utility alert via text or public service announcement by resetting their thermostat or reducing their energy usage. Or it could be passive, for example, with a smart meter that has a switch controlled by the utility or that receives a signal and automatically responds without the consumer having to take any action. A customer interface also allows energy service providers to work collaboratively with customers to help them explore their options, achieve their goals, and buy products and services.

4. Attractive to Consumers

A customer interface should attract consumers with a user-friendly interface and keep them engaged. This could be achieved with financial incentives or disincentives similar to banks offering rewards to customers for selecting electronic statements or by charging a fee for an in-person service. Utilities could make it less attractive to talk to a representative by reducing staffing and increasing wait times, although this option has customer satisfaction implications.

5. Flexible, Agile, and Smart

A customer interface should also be flexible and agile to adapt to changes in the energy industry. It should be powered by intelligence, meaning that it should get smarter as it is used more by learning from the consumer data it receives.

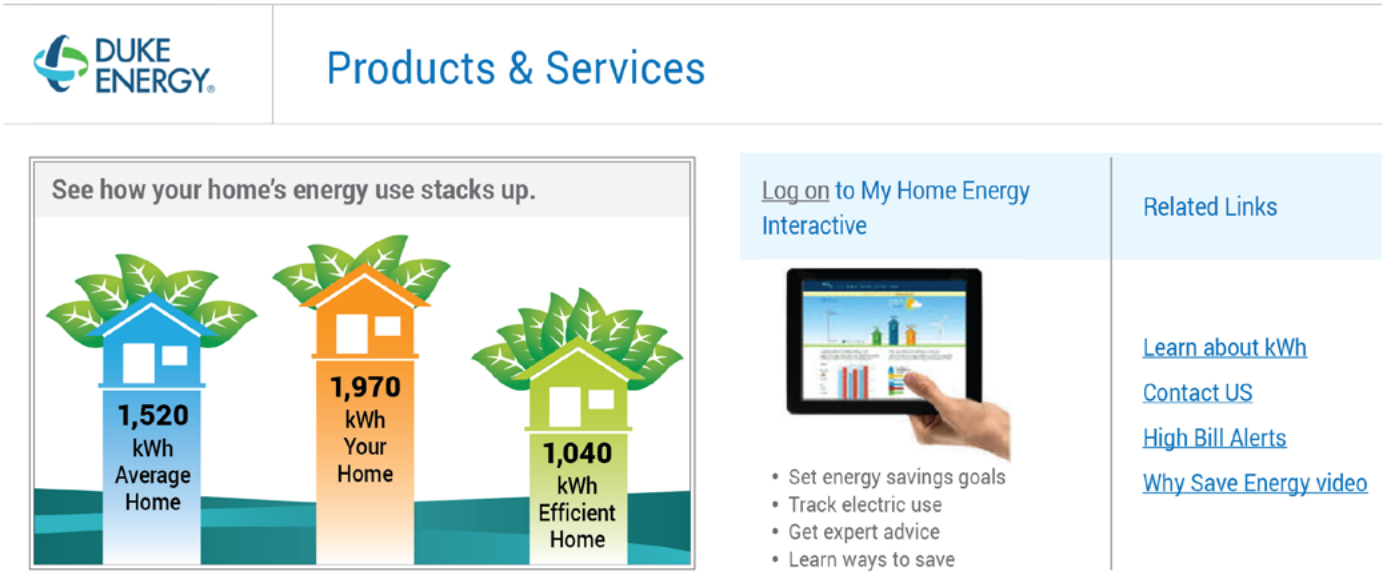
UTILITY CONSUMER DIGITAL ENGAGEMENT TOOLS: CASE STUDIES

While the concept of a customer interface may seem new to many, these efforts have been around for years in one form or another. Implementations thus far tend to be incremental — building on traditional utility services and leveraging fundamental elements of the platform, such as web interfaces and utility-owned usage data, and expanding thereafter to apply broad-based elements of the platform to change the customer relationship or dramatically expand offerings that require a third party. Examples include Duke Energy's MyHER Program and the Sacramento Municipal Utility District's (SMUD) My Account portal and SMUD Energy Store. Both provide clear examples of the opportunities and challenges associated with consumer platforms.

Duke Energy

Since 2012, Duke Energy has been using the Tendril Energy Services Management (ESM) Platform to create and disseminate Home Energy Reports (HERs) as part of its MyHER Program. Customers receive paper and electronic HERs providing monthly usage data over a 12-month period, among other things. The reports show customers comparisons to their own past energy use, either month-over-month or year-over-year. The MyHER Interactive shows the same information, but if a customer has a smart meter, it shows hourly usage for the previous day. Tendril's ESM Platform lets Duke Energy personalize the promotions and action items presented in each individual HER. Additionally, customers have the opportunity to ask an expert a question about a decision they are considering or a situation they are encountering and can get a response online.

Figure 2: Duke Energy's My Home Energy Reports Interactive



Source: https://www.duke-energy.com/home/products/my-home-energy-report

CHALLENGES

Duke's paper HER program is on an opt-out basis, which has played a key role in the high rates of participation the program has achieved. Less than one-tenth of one percent of Duke's residential customers have opted out from the paper reports. Once customers have 13 months of energy usage data, they are automatically enrolled unless they opt out.

The interactive digital portal, however, is on an opt-in basis, so it has been much harder to get customers to migrate from the paper reports to the online portal. Duke feels that an email campaign would significantly increase the number of customers who switch to the online portal. The caveat here is that the utility has only about half of its customers' email addresses, so this form of outreach has been limited. Among customers who Duke has been able to contact by email, the conversion rate has been high.[2,3]

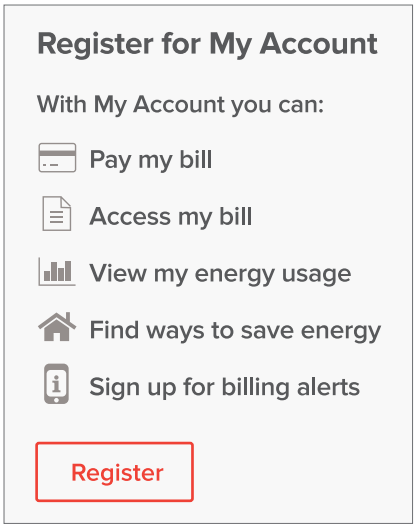
Sacramento Municipal Utility District

SMUD partnered with multiple solution providers to offer its customers an integrated platform. SMUD provides an example of a step-by-step enhancement approach.

MY ACCOUNT

SMUD has an online customer portal called My Account, which provides a suite of tools and features for residential and commercial customers. Customers can access billing and payment functions, usage and cost analysis, and tips for saving money and energy. These features and tools are provided through a mix of items developed in-house, such as SMUD's digital bill, bill comparison tool, and current usage and cost tool. Additional features and tools are provided through vendors SMUD has contracted with, such as: Oracle for usage and cost analysis, energy consumption disaggregation by category, tips to save, and paper and digital home electricity reports; Kubra for payment and billing; and Clean Power Research for solar and electric vehicle analysis. SMUD integrated the Oracle platform into My Account at the end of 2015. Customer use is high, with 52% of customers having a My Account login. Of those users, half log in at least once a month; one-fourth log in twice a month; and one-tenth log in three or more times a month.

Figure 3: SMUD's My Account Registration Page



SMUD ENERGY STORE

SMUD and Simple Energy, a provider of utility-branded marketplaces, partnered in October 2017 to launch a new online marketplace called SMUD Energy Store. SMUD customers can buy a variety of energy products via the online store, such as smart thermostats, LED lighting, connected home products, advanced power strips, and portable power, such as solar-powered chargers for phones and other devices. New products are added to meet customer needs, market trends, and advances in technologies.

SMUD Energy Store offers instant rebates — applied directly at checkout — on selected products. Additionally, customers can see their purchase and rebate history in their SMUD Energy Store account.

[2] "Embodying Customer Centricity With the Help of Tendril" (December 2015) https://www.tendrilinc.com/resources/case-studies/tendril-energy-software-case-study-duke-energy

[3] Interview with Duke Energy on April 30, 2018

Since its launch last year, SMUD Energy Store has sold close to 17,000 items, with smart thermostats and LED lighting topping the sales charts. The instant rebate feature has allowed SMUD to increase the number of thermostat rebates by around 300% compared to its previous process for rebates using paper or online applications.

The newest addition to SMUD Energy Store is a feature that offers a variety of home services, along with available SMUD rebates and financing options for such improvements, a contractor matching tool, and educational resources.

In addition to SMUD Energy Store, SMUD is also developing a mobile app that will allow customers to pay bills, check and report outages, view energy usage, receive notifications and alerts, as well as enroll in demand response or other energy-saving programs.

Figure 4: SMUD Energy Store Product and Service Offerings

Sources: SMUD Logo (https://smudenergystore.com/) Other graphics: SEPA, 2018

CUSTOMER ENGAGEMENT STRATEGY

SMUD's residential customer engagement strategy is largely focused on increasing the utility's digital interactions with customers. Over 50% of SMUD's market is comprised of digitally savvy consumers. SMUD has been investing heavily in platforms like SMUD Energy Store and the SMUD App, and its segment data shows customers would participate even more if these platforms had the tools and services they need. SMUD has done a significant amount of research to find out what products and services customers want and to ensure its online portals are user-friendly.

CHALLENGES

SMUD noted a couple of challenges when they were creating their customer engagement platform. The first, which is likely broadly applicable to many organizations, is that anytime a company works with a vendor, there is additional management required to ensure the vendor's vision aligns with the company's. The second is more relevant to larger public utilities: anytime you have an innovative product, it generates a lot of interest across an organization, and there are pressures to have decision-making spread widely, even for relatively minor details.[4,5]

[4] http://www.firstfuel.com/news/press-releases/smud-selects-opowers-customer-engagement-platform-to-replace-existing-systems/

[5] Interview with Sacramento Municipal Utility District on April 20, 2018.

OWNERSHIP OPTIONS FOR CONSUMER PLATFORMS

A variety of utility ownership models exist for digital engagement platforms today. Four options identified through research include:

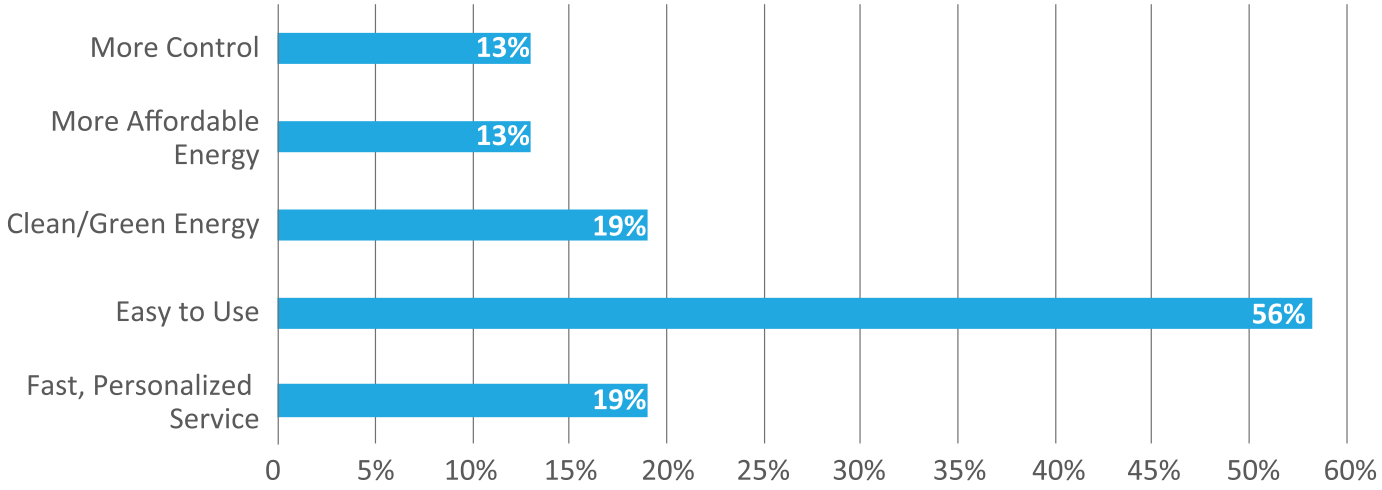
Option 1:	**A utility develops and manages a platform it builds in-house.**
Option 2:	**A utility partners with one or more solution providers who develop, provide, and support or manage the entire platform.**
Option 3:	**A utility initially manages a platform it builds in-house, and over time as it wants to expand capabilities, partners with a solution provider.**
Option 4:	**A utility could develop part of the platform and partner with one or more solution providers to obtain other parts of a platform. All parties work in conjunction with one another to provide ongoing management and support.**

Based on online research and follow-up conversations with utilities after the industry insider interviews were conducted, the most common ownership model is Option 2. By partnering with solution providers, utilities reduce their risk of developing a program in-house that is not popular with customers, can take advantage of economies of scale (i.e., they don't need to bear the full cost of the programming and development overhead), and can rely on the third-party expertise provided by vendors as opposed to hiring those capabilities in-house. Furthermore, they can leverage the best practices, revisions, and updates that other users contribute as the platform is deployed in the field.

WHAT CONSUMERS WANT FROM A CONSUMER PLATFORM

Interviewees described the features, capabilities, and options they think consumers likely want from a platform. As expected, responses varied widely. *Figure 7* below shows that being easy to use was cited most often (56%) as a feature that industry insiders said consumers desire, followed by clean/green energy (19%), fast, personalized service (19%), more affordable energy (13%), and more control (13%).

Figure 5: Consumer Platform Features Consumers Likely Want According to Industry Insiders



Source: SEPA and SECC, 2018.

- **More Control:** Consumers have a desire to be more in control of their energy use and want choices to manage it.
- **More Affordable Energy:** Consumers want more affordable options to meet their energy needs.
- **Clean/Green Energy:** Consumers are showing that they value and want cleaner or greener energy.
- **Easy to Use:** Customers are saturated with information from multiple sources and do not want to spend much time thinking about electricity technologies or electricity in general. This makes it even more important that platforms are easy to use and provide actionable insights. Consumers want easy access to easily understood information for products and services that simplify their lives, including more automation so they can spend less time thinking about their energy. Consumers want the next level of information from their utilities, such as voice interface devices like Alexa, which offer a much easier alternative to opening up an app to ask, for example, what the fuel mix was last month.
- **Fast, Personalized Service:** Customer expectations are increasing. Customers want their utilities to provide a customer service experience that is at the same level as other retailers in terms of offering a personalized experience with tailored services and fast response times. The benchmark is no longer other utilities: it is Amazon and Southwest.

CONSUMER PLATFORMS: KEY CHALLENGES AND SOLUTIONS

Along with any new product or service, there are inherent barriers to widespread adoption that must be overcome. The challenges associated with consumer platforms span from a variety of technology integration and consumer education issues, all the way to deeper concerns about consumer data privacy and cybersecurity. Industry insiders offered a variety of solutions that could address these individual challenges.

Challenges and Solutions to Deployment

Industry insiders were asked to discuss the challenges and constraints they are experiencing as they try to better align their organizations with consumer expectations. Several challenges relating to consumer platform design, development, and implementation are noted. The two most often cited challenges were "Being Agile and Keeping Pace With Change" and "Traditional Regulatory Rules and Thinking." A series of potential solutions to address each barrier is also provided.

Table 1: Challenges and Solutions to Consumer Platform Design, Development, and Implementation

CHALLENGES	SOLUTIONS
Traditional Regulatory Rules and Thinking: Customers have high expectations of their utilities, just as they do of other retailers they interact with, and as a result, they think utilities can do more than what might be possible. Part of this constraint is due to regulations designed to protect consumers. Sometimes well-intended rules to serve customers, such as data privacy or bad debt protection rules, end up limiting what a utility can invest in and ultimately do for their customers. One utility cited this as a reason they are unable to provide an Amazon or Google-like experience. Electric utilities are incentivized to take on very little risk and are expected to serve the broader population, making it harder for them to try new ideas — such as customizing service offerings for different customer segments — to become more consumer-oriented. **50% of interviewees cited this as a challenge**	**Better Communication with Regulators:** Utilities could communicate more with regulators about what customers want, what the benefits and costs to various stakeholders are, and what security and privacy measures they could utilize as they roll out a new program. Utilities could also share more ideas with regulators about what changes they would like to make to support greater customer engagement. **Regulatory Reform:** Regulatory reform is needed to establish a system that rewards a consumer-oriented focus and encourages more research, testing, and pilots for improved consumer engagement programs.

CHALLENGES	SOLUTIONS
Figuring Out What Customers Want: It can be difficult to understand what customers want now and in the future, thus making it challenging to deliver customized solutions efficiently. Customer preferences and needs vary both by segment and within segments based on lifestyles, socioeconomic status, etc., and these expectations change over time. **44% of interviewees cited this as a challenge**	**Conduct More Research, Outreach, and Pilots:** Organizations can find out what customers want by conducting surveys, benchmarking, or focus groups. Another option is to hire a consulting firm to do an in-depth analysis of customer segments to find out more about granular levels of variation. After gathering information, conduct pilots to test ideas out, which is an effective way to gain actionable insight.
Being Agile and Keeping Pace With Change: Being agile and flexible is necessary to meet customer needs and remain competitive. However, this is sometimes hindered by state utility commission requirements in the case of investor-owned utilities, or other approvals needed by governance groups in the case of a municipal or cooperative utility. **19% of industry insiders cited being agile and keeping pace with change as a challenge.**	**Conduct Pilots:** To be more agile, utilities could do more testing, follow-up, and experimentation with ideas. Pilot projects can be an effective, lower-risk way to explore possibilities. **Case Studies:** To keep pace with change, utilities could work to closely understand what other utilities are doing. SECC has produced over 20 case studies documenting utility programs that have integrated change both within and outside their organizations. Additionally, SEPA has a Beyond the Meter series that details innovative approaches to engaging customers and launching DER programs. **Design Programs With Built-in Flexibility:** It would be beneficial to create programs and offers in a way that allows them to be adapted to new challenges and needs rather than being designed and delivered as a “fully baked” offer.

CHALLENGES	SOLUTIONS
Standards, Security, and Privacy **Lack of Interoperability Standards Adoption:** Interoperability standards are not in place, which stifles technological advancements and deployment by making it difficult for devices to exchange data to communicate with one another. There are protocols that exist, but no standard is required to ensure that devices will be speaking the same language. One utility company noted that this issue caused a delay in their smart meter rollout. **Cybersecurity and Data Privacy:** Some consumers have concerns about the security of their data, as well as their privacy, and how their data will be used if shared. However, consumers appear to be willing to share data if they think the value of what they are getting is greater than their fear of sharing. **13% of interview respondents cited this a challenge**	**Consult With a Variety of Experts:** The level of expertise regarding interoperability ranges greatly among state utility commissions. For example, many commissions lack the engineering expertise to fully understand the technical components of interoperable standards development and utilization, which can hinder the adoption of these standards. Stakeholders with expertise in this area could provide support to organizations or individuals working to advance industry adoption of interoperability standards and help commissions become more informed of the risks and benefits associated with interoperability to ratepayers. Quantification of the costs and benefits of interoperability to consumers and industry stakeholders would make a more compelling case to regulators, but this data has been a challenge to develop. **More Consumer Education:** In states where AMI data must be purchased or provided by consumers, consumers are usually willing to provide data if they understand how it is going to be used and if they see personal benefits. Extensive transparency and consumer education about security measures and privacy protocols that companies are using would be beneficial.
Dealing With Multiple Parties: Dealing with multiple parties for a utility bill, rebate, communications, etc. can be confusing for the customer. **6% of interviewees cited this as a challenge**	**Consolidate Communications:** Energy providers can deploy single-point communications solutions that serve as a single provider for bills, rebates, and communications. Another approach can be to integrate data into the cloud and utilize it in a software-as-a-service environment.

Source: SECC and SEPA, 2018.

[1]https://www.energy.gov/sites/prod/files/2017/01/f34/Standards%20and%20Interoperability%20in%20Electric%20Distribution%20Systems.pdf (p. 34-35)

CONCLUSION

Rapid advances in technological breakthroughs are enabling companies to create memorable and personalized experiences for customers at scale. Although the electricity industry may be later than other industries, the time has arrived where energy providers are quickly transitioning to a consumer-centered culture. Not only is the technology available for excellent consumer engagement, but consumer expectations and desires are evolving too. Consumers expect the same level of service and information from their energy utility as they do any other service provider they interact with, such as financial institutions, Amazon, Uber, and online retail providers.

This new digital economy opens new opportunities for how products and services are configured and offered to consumers in every industry, including energy. Regardless of which type of device a consumer uses, whether phone, tablet or laptop, access to their energy data is an important part of the relationship. Furthermore, consumer interest in sustainability is high, and they are looking for energy technologies that meet their needs and values.

This research provides stakeholders with information on digital consumer engagement tools, which are likely to be a main way consumers interact with their energy providers. As a heavily regulated industry, utility executives and decision-makers face barriers to developing consumer engagement tools such as digital platforms. This paper sought to address these barriers and offered solutions to the most common ones as expressed by industry insiders.

These barriers exist for a variety of reasons. For every challenge listed below, we offered potential solutions:

- Lack of Interoperability Standards
- Lack of Regulatory Support
- Data Integrity and Privacy
- Understanding Consumer Interest
- Keeping Pace with Technological Change
- Dealing with Multiple Parties

Besides these challenges and proposed solutions, we discussed two utility case studies, SMUD and Duke Energy, both of which launched successful digital engagement tools. This provided in-depth examples of how these energy providers grappled with and deployed their consumer-facing platform.

Two measures that facilitate the deployment of a successful consumer platform include:

- Having AMI in place to provide granular levels of data on individual customers' energy usage. This can serve as a key building block for customized load management programs and services that customers can use to effectively manage their energy; and
- Having a regulatory environment that fosters a customer-oriented focus and supports research, development, and testing of innovative ideas that leverage consumer values and interests.

We invite utilities and stakeholders to examine the original research, which provided in-depth qualitative and quantitative findings on consumer interest in platforms, including a detailed study on three program configurations that consumers told us they would be interested in if they were available. The original study, *Consumer Platform of the Future*, can be found at **smartenergycc.org/research**.

Utilities and other industry partners have many opportunities to engage with SEPA and the SECC on these and other important topics. Areas for further engagement with SEPA can be found at https://sepapower.org/community/member-committees-and-working-groups/

APPENDIX A: INDUSTRY INSIDER INTERVIEW QUESTIONS

The question set used to interview industry insiders includes:

1. What does the "Consumer Platform of the Future" mean to you?
2. Thinking about the energy ecosystem and the relationship consumers have with their energy suppliers, have you noticed trends, expectations or attitudes evolving that might affect your organization's ability to make money, remain profitable, retain customers, expand share of wallet, or understand what consumers want/expect?
3. Thinking about [choose an idea/trend/gap just mentioned], what are some of the challenges you expect to face as you try to align your organization with consumer expectations?
4. If this research could answer, or help answer, one strategic question for your organization, what would that be?
5. What one thing would you like to learn about consumers from this research?

APPENDIX B: RECOMMENDED READING

Smart Energy Consumer Collaborative, January 2018, *Consumer Platform of the Future*, https://sepapower.org/resource/consumer-platform-future/

SEPA, May 2017, *Planning the Distributed Energy Future, Volume II*, https://sepapower.org/resource/beyond-the-meter-the-potential-for-a-new-customer-grid-dynamic/

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Smart Electric Power Alliance

SEPA facilitates collaboration across the electric power industry to enable the smart deployment and integration of clean energy resources. Our focus centers on solar, storage, demand response, electric vehicles, grid management, and other complementary technologies.

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SMART ENERGY CONSUMER COLLABORATIVE

Working for a consumer-friendly, consumer-safe smart grid

SECC's mission is to serve as a trusted source of information for industry stakeholders seeking a broad understanding of consumers' views about grid modernization, electricity delivery and energy usage, and for consumers seeking an understanding of the value and experience of a modern grid.

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