HEATING UP FOR ENERGY PROVIDERS
UK CONNECTED HOMES

accenture consulting
Although it remains unclear who will profit most in the connected home, the race to stake a claim is intensifying. To date, connected device sales have driven the majority of growth. Now, Accenture sees a shift from devices to data-enhanced services.

Energy will remain central to the connected home but traditional energy providers face a growing risk of disintermediation. They are grappling with fundamental questions: What role should we play and what are the right investment strategies? Where will sustainable revenue come from, and when? What are the investment priorities over the next five years as the market place unfolds?

The answer to these questions is not obvious. Furthermore, it needs to be worked out on a company-by-company and market-by-market basis. The key question is not how to control access to the connected home, but how to evolve traditional products and services to maintain and grow share of value in a connected ecosystem.

To establish a position in the UK connected home, energy providers will need to evolve into connected energy providers, who deliver innovative service propositions with sustainable competitive advantage based upon proprietary data and insights alongside brand recognition for energy expertise.
With the Internet of Things, every object, consumer and activity now has the ability to be part of the digital realm. The number of households with some form of smart home system is predicted to surpass 300 million worldwide in the next decade.¹

Since its inception in 2010, Accenture’s New Energy Consumer research program has validated connected home growth predictions, showing a gradual rise in consumer interest in connected home and home energy products and services. Our 2016 report, New Energy Consumer: Thriving in the Energy Ecosystem, revealed that 60 percent of consumers would be interested in technology that can completely automate management of their electricity.
Further, about 70 percent of consumers expressed interest in value propositions bundling an energy trading marketplace with connected home and automated home energy management offerings.

In short, the connected home is becoming a new marketplace for bundled products and services, a boom in data, insights and automation is reshaping the competitive landscape. More than ever, the energy provider-customer relationship is up for grabs, and traditional delineations between service providers are breaking down.

For traditional energy providers, there is a window of opportunity in the connected home to partner, test and learn. This window will rapidly close as competitors take advantage of early adopters and rapidly evolving technology to establish strong value based offerings.

Figure 1. Consumer interest in new products and services has increased significantly.

* Back-up energy emerging in 2014 and analytics driven home energy management applications becoming common in 2015-2016.

Before diving further into the opportunities, it is helpful to consider the ecosystem that enables the connected home (see Figure 2).

**Connected devices**
Including smart meters, connected thermostats and smart appliances. To date, the rise of the connected home has been largely device driven. As more connected devices emerge, strategic alliances are forming and focusing on winning the primary customer interface and relationship.

Apple’s HomeKit is a prime example of creating a simple user interface to meet the key consumer need to simplify and combine the increasingly complex marketplace.

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**Figure 2.** The heart of the connected home: Data processing, analytics and insights.

Source: Accenture analysis.
The home hub
The hub is the focal point bringing all connected devices online. The software powering the hub has tended to be specific to a single provider as each platform provider tries to build a proprietary link into the home. Some are working on their own; others are leveraging partnerships and interoperability standards. None has yet cracked full interoperability.

API bridge
This connects the hub to third-party apps, in-home user interfaces, cloud services and analytics. Connected platforms will need integration to back-end systems of the providers of supply and service to enable settlement for services consumed. It is a logical extension that the connected platform in the home will need to sustain next-generation point-of-sale capabilities, that is, the ability to enter into a new service contract with a new provider or to switch an existing provider. In time, emerging technologies, such as blockchain and advanced analytics, could open up machine-to-machine and peer-to-peer trading opportunities.

Routes into the home
Accenture sees two routes into the home: providing the infrastructure and/or supplying ongoing products and services. Infrastructure providers contribute the platforms or devices that connect and automate the home. Their investment in technology innovation and manufacturing is supported by opportunities to benefit from scope and scale well beyond the connected home and the boundaries of national markets. Amazon, Apple, Google, Microsoft and Samsung are among the technology giants that fall into this category. They see the value in the connected lifestyle and are racing to ‘own the home’ by partnering to build household products and services that connect via their platform. These heavy-hitting new entrants, along with Telco’s and a host of innovative start-ups, could threaten the core utility business by combining home energy management and switching services within their connected lifestyle offerings.

Providers of ongoing products and services have domain-specific knowledge and credentials which they must use to build out services and secure their presence in the connected home. These could include providers of energy, security, home services, entertainment and media, communications, health services and insurance.

As competition intensifies, energy providers face strategic choices. Energy will remain central to any connected home. However, energy providers face risk of disruption from both infrastructure players and providers of adjacent services. Energy providers have opportunities to roll out their own propositions in new business areas, such as security, but the reverse holds true.

Other providers have an unprecedented opportunity to expand and take over the energy conversation, requiring the incumbent to focus on their own domain and defend it first and foremost.
As consumer willingness to pay a premium for connected devices falls and cross-platform interoperability increases, value will shift to services enhanced by data and insights. Energy providers have the opportunity to succeed in delivering these value based services.

Energy providers already have an abundance of customer insights and advanced engagement tools to build lifestyle-oriented, customised solutions which can be enriched by connected home technology. Even more important, energy providers are shown to have a high degree of consumer trust in the connected energy services territory. Accenture’s New Energy Consumer research showed consumers trust energy providers above others to provide consumers in the UK with demand reduction and energy services. This level of trust positions utilities to grow and win in this marketplace.
CARVING OUT AND CAPTURING VALUE

It is important to define the value at stake for energy providers to direct the areas of focus and investment. Accenture sees three broad sources of value for the energy providers and their customers in the connected home:

1. **Energy solution integration**
   Delivering value from identifying and sharing dynamic pricing and consumption efficiencies across the utility value chain. Energy solution integration requires insights into individual consumption patterns, energy saving opportunities, integration of renewables and distributed generation, and innovative demand response propositions. The value add service created provides an opportunity to significantly improve customer satisfaction through shifting the primary customer conversation to a more informed usage based dialogue with a higher frequency of value adding interactions.

2. **Data driven savings**
   Share in the realisation of operational efficiencies that can be created across service lines by leveraging proprietary data on living patterns and appliance performance. For example, sharing in a reduction in operating (planning and dispatch) costs for a maintenance repair services by sharing better insight into emerging problems and customer availability.

Once established as the prime energy solution integrator, energy providers have the opportunity to use the data generated from the connected home to deliver value through innovative service offers and collaborative partnerships.

3. **Adjacent sales**
   Branch out of the energy relationship in the home and target share in adjacent service domains. As discussed above, this is unlikely to be easy money; it will be important that the energy supplier has a clear right and expertise to play in any new service line.

To reach and retain the heart of the connected home, an energy provider’s strategy for becoming a connected energy provider should focus on capturing proprietary data and insights and the development of value-added propositions. On such grounds, they will be able to partner from a position of strength with the right infrastructure providers, driving adoption and keeping pace with functional innovations.
WHAT’S THE SIZE OF THE PRIZE IN THE UK?

Building a robust connected home business case is not easy. It requires detailed assumptions on market conditions as well as insights on the strategic advantages on a provider-by-provider basis.

At best, the connected home offers an opportunity to develop market-beating propositions and growth opportunities; at a minimum, it represents an increasing investment of doing business if energy providers wish to remain relevant to consumers.

A number of industry reports discuss the size of the UK connected home market; however, no one provides a clear, bottom-up view of the potential value.
£2 billion* in potential energy-provider revenue opportunity by 2020

Having consolidated data points from existing market reports, Accenture has created a bottom up model identifying approximately £2 billion in potential UK revenue opportunity for the energy provider by 2020. This valuation is not exhaustive, but aims to provide a scenario of revenue opportunities available.

Of course, margin available to the energy provider from each revenue pool will differ materially and each will need to shape the value at stake through its own strategy, scope and connected home roadmap.

Figure 3. Connected home: Potential market opportunity across three value pools.

*Accenture UK estimates
Source: Accenture analysis.
The energy solution integrator market is not mature within the UK, making the market estimate very sensitive to external factors. We have split revenue calculated of £600 million by 2020 into four main areas:

- Customer sale and churn benefits
- Distributed energy and storage
- Demand and frequency response

Helping customers decrease their energy bill and offering enhanced energy offerings using smart meter data with hints, tips and advice is likely to naturally increase customer satisfaction and engagement. It moves the customer dialogue away from a negative binary bill message to a more positive conversation around usage.

Smart meters combined with increases in storage technology opens the potential for an increase in products and services. From analysing market sources on installed capacity of battery storage in the UK, a market size has been calculated assuming the energy provider is able to gain revenue from installing and maintaining the storage device, as well as offering a storage-optimised ‘top up’ energy tariff.

The rollout of smart meters is a key enabler for the demand and frequency response market segment. The value opportunity from current demand response schemes has been used to generate a market size.

Energy providers need to aggressively own this space to reduce the risk of non-energy data owners taking the potential benefits and customer relationships. There are a number of emerging schemes including enhanced frequency response and demand turn up that have the potential to increase this value at stake. These have not been sized though due to the current uncertainty in value. Previously the Department of Energy and Climate Change have stated the value of optimising balancing the transmission system through a smart energy system could reach a value of £1 billion annually by 2050.

Figure 4. Energy solution integrator value: £600 million by 2020.

Source: Accenture analysis.
Data driven sales: £176 million by 2020

Connected maintenance value opportunity is calculated but is only applicable when connected to a sizeable maintenance business directly or through partnerships. There are significant internal operational benefits for utilities with boiler service products through the use of connected boilers. A connected boiler is likely to increase first-visit completion rates for boiler repairs, therefore reducing the utility’s repair costs. The market value of installing connected water meters has also been calculated through analysing the reduction in the potential insurance payouts for water leakage. A connected water device is expected to detect a leak within the water system, automatically stopping the water flow and avoiding potential insurance pay-outs.

Two other distinct sources of revenue have been estimated: commission from marketing and home insurance data purchase.

The value identified has been calculated based on a commission per product sale through sharing data with third parties. Though overall revenue is smaller than for the other parts of our value tree, it is worth noting that this represents a high flow-through to margin. Our estimate on revenue from the sale of data from marketing is derived from a percentage of connected customers opting in for use of data marketing. This revenue is likely to increase with a higher penetration of connected homes and new connected devices providing richer data sources.

Figure 5. Data monetisation value: £78 million by 2020.

Source: Accenture analysis.
The revenue generated on sale of these connected devices: including heating, lighting, camera, locks, appliances, healthcare and connected oil devices.

The most mature area of our connected home revenue sizing, the connected devices market is expected to continue growing rapidly. However, due to the level of competition, this value is expected to be the most difficult for a utility to capture.

The sizing of this market has been calculated through using current market growth reports (Navigant and CP Consulting) to estimate the number of properties with a connected home device, and the propensity of people to buy each connected device. Taking an average market value of each device creates an overall revenue stream moving into the future.

Figure 6. Device sales value: £1.4 billion by 2020.

Source: Accenture analysis.
WHAT NOW?
PRIORITIES FOR
THE NEXT FIVE YEARS

Accenture research and experience suggests that although connected home product and service opportunities abound, the future will not be defined by a single product, process, service or solution. It is therefore important to create a business model which delivers the flexibility to iterate rapidly and change based on customer and market insights and learnings.

Leading energy providers are already investing in new home offerings that sustain and generate revenue streams today whilst providing optionality for future growth. Those that choose not to at the least, pilot new home and lifestyle products and revenue streams could find themselves boxed into a commodity only model that minimises revenue uplift. Further, such providers risk missing out on creating consumer touchpoints which can both significantly improve customer satisfaction and deliver wider product growth.

To thrive as a connected energy provider in the UK, Accenture believes there are three key priorities for today’s energy providers seeking growth in the connected home over the short to medium term:

1. Establish and guard your position as the connected energy provider

Start testing new propositions now to understand what consumers will pay for and how. Do not wait for scale in smart meter rollout. There are suitable platforms and partners available today, and pilots can be deployed to test sophisticated propositions around time of use, demand response and product bundling with strategic partners. The removal of tariff restrictions as part of the UK CMA investigation helps enable a much more flexible and agile way to small proposition testing.

In addition, energy providers should focus on developing proprietary data and analytics to become the most valuable information provider. These efforts may well involve strategic partnerships for infrastructure, analytics and data science capabilities, but the energy provider should seek to own the underlying data and insights to create value based propositions.
2. Consider likely return on investment from different rollout strategies

There are several key areas to consider to deliver an effective roll out strategy. Minimising the initial cost of placing hardware in the home, the ongoing data management cost and understanding the opportunities and synergies with the smart meter rollout are all key. Some of the initial questions to consider are:

- How to test and learn in the connected home without waiting for the smart meter rollout?
- How much data is enough, what are the benefits of 10 second interval data vs half hourly?
- How important will switching brands/providers be to the consumer’s choice of platform?
- Who will drive or fund infrastructure innovation and upgrades in the home?
- How to minimise the total cost of the connected home through avoiding multiple CAD’s in the home?
- What is the future outlook on technological convergence and demand response mechanisms?

These are important questions as they will point to the appropriate balance between a rollout strategy of ‘scaling’—that is, getting a presence in the connected home and ‘tailoring’—that is, maintaining a test and learn approach to refining propositions and insight whilst remaining flexible to infrastructure innovations.

3. Leverage strategic partnerships to drive innovation and scale

Energy providers will need to collaborate with infrastructure providers and other providers to drive innovation and scale. They will need to develop strategic partnerships for “access” to harness the pace of innovation and maintain key functionality, and to leverage synergies across bundled propositions and drive adoption at scale. It is only after this step has been successfully completed that energy providers can consider extending their brand presence into adjacent service lines.

Successful energy providers are ready to take advantage of the connected home, playing an active role in identifying value as the marketplace unfolds. Energy providers must establish a strategy for next-generation connected energy management services before a start-up, competitor or new entrant suddenly establishes a foothold. The crucial first step: answering and acting upon the key strategic questions and determining a partnership strategy that allows rapid proposition testing in the marketplace.
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