Connected homes: What role should energy companies play?

Home energy services may seem like a natural adjacency for utilities, but executives need to assess the competitive landscape and their own capabilities before jumping in.

By Mark Brinda, Jolyon Dove and Stu Levy

BAIN & COMPANY

Mark Brinda is a partner with Bain & Company in New York. Jolyon Dove is a Bain partner in London, and Stu Levy is a partner based in Washington, DC. All three work with Bain's Global Utilities practice.

What is the role for energy companies in the rapidly developing market for smart and connected homes? With many cable, telecom and home security companies offering smart thermostats and plugs as part of a bundle of connected home services, it's a logical question for energy executives to ask. Add to that Google's acquisition of Nest for $3.2 billion in January, and the potential of energy services in the connected home appears that much more attractive. But are energy providers in the best position to offer them?

Many executives at energy providers are wrestling with this question, both at traditionally integrated and regulated utilities and at competitive energy marketers. Unfortunately, there isn't one right answer. A range of factors, from the regulatory environment to the existing competitive landscape, will shape the answer. There are good reasons to enter the market. In addition to the recurring revenue from services like remote control and monitoring, offering these services can improve a company's brand, set it apart from competitors and even reduce customer acquisition costs and churn rates—particularly valuable in competitive markets. Over time, markets may even see a reduction in wholesale energy costs if customers begin to shift their use from peak to off-peak times.

The decision of whether to enter the connected home market—and how—must be based on clear-eyed analysis of the costs and benefits.

But the decision of whether to enter the connected home market—and how—must be based on clear-eyed analysis of the costs and benefits of developing a new and differentiated offering, convincing customers to try it and keeping them engaged long enough to recoup the initial investment and generate a profit. Executives should recognize the significant up-front costs for developing a technology platform and integrating it with the current business, as well as for sales, marketing and installation. There are also recurring costs to support the added products and services.

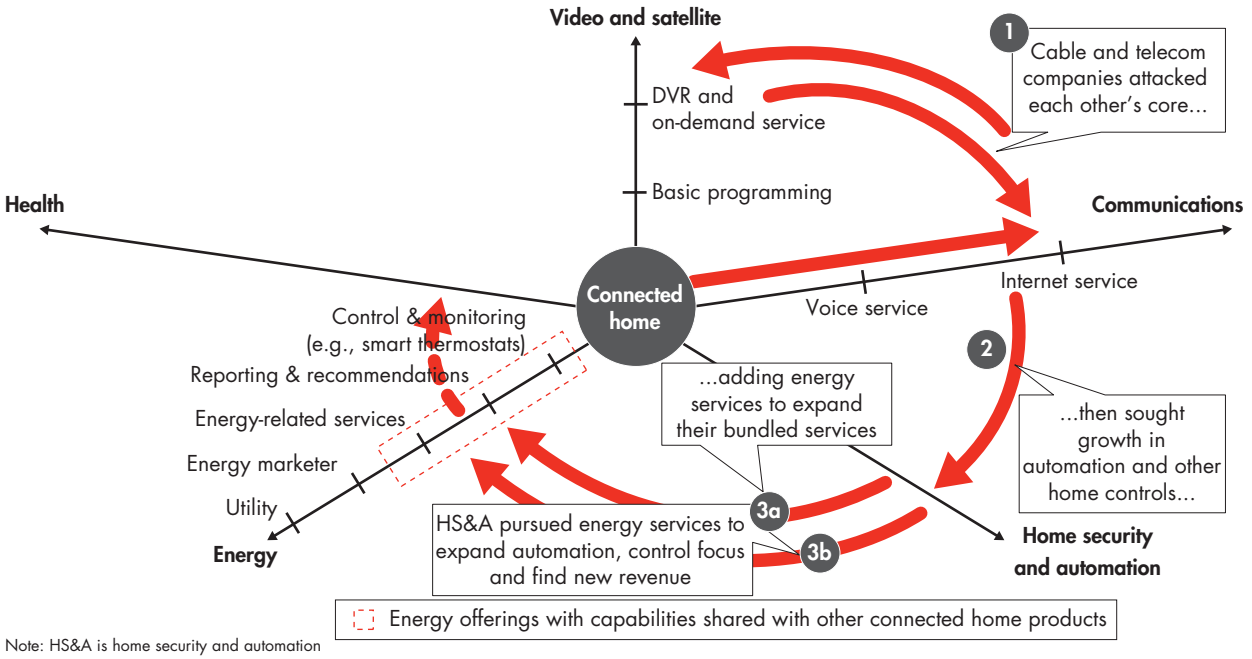
In the US, cable, telecom and home security companies have taken an early lead in shaping the market by offering connected home bundles that typically build off a common platform to provide basic security services. Companies then add other features like remote lighting, lock controls and carbon monoxide monitoring. This was a natural progression in their continued search for additional recurring monthly revenue (*see Figure 1*). Many have also partnered with technology companies to add energy management services, including smart thermostats—a possible barrier to energy providers that might want to partner with them. For example, Time Warner Cable partnered with tech start-up iControl Networks in 2012 to offer its IntelligentHome service.

Bundling also allows these companies to spread costs across a broad set of offerings and adjust pricing to make energy management essentially free, if necessary, to compete with standalone offers. These providers can also justify a greater investment in sales, technology and service centers, since most operate across numerous states and have much larger overall customer bases than many energy providers.

In the UK, utilities may have a better opportunity to shape the market. Regulators have mandated a national rollout of smart meters, and now utilities are developing services that build on them. For example, British Gas is promoting time-of-use tariffs and remote control services that let customers adjust their home heating system remotely—for example, to lower the temperature if you forgot to do so before leaving. Operators of distribution grids in the UK are considering demand-response services that reward customers if they reduce their power use during peak periods. For these companies, it may be less expensive to develop and offer that service than to build more power distribution capacity.

In the rest of Europe, utilities may have an even greater opportunity to shape the market, as the nontraditional players that have defined it elsewhere have been slow to enter this region. But as US companies move into European markets, that is likely to change quickly. Nest

Figure 1: The connected home market has evolved from communications to energy services and beyond



Note: HS&A is home security and automation
Source: Bain & Company

is among those eyeing the region: The company added time zones and weather information for 10 European countries in its January 2014 software upgrade. We see several ways these nascent markets could evolve, from simple metering services into full home automation, depending in part on who takes the lead to define the early offerings (*see Figure 2*).

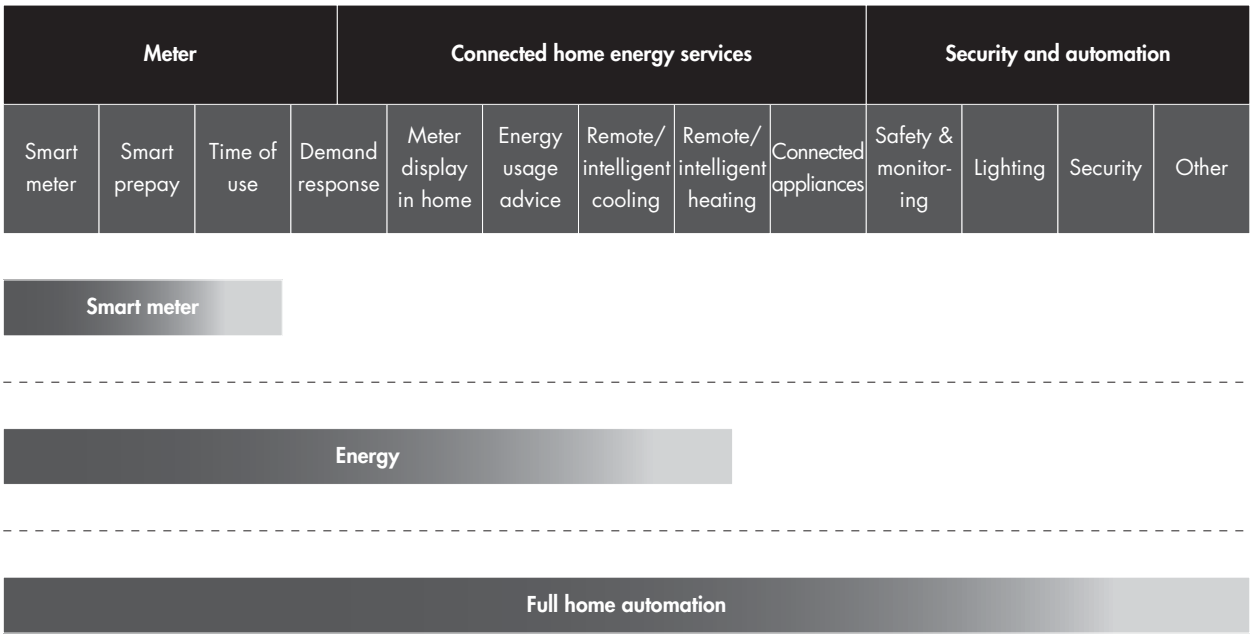
In the end, the decision may come down to understanding which risk is greater: entering the market or letting competitors advance without you. The former requires substantial investment in new capabilities, technologies and partnerships, but the latter carries the risk of missing out on a new revenue stream and, more important, being cut out as the authoritative voice on home energy in an ongoing dialogue with customers.

Opportunities exist for energy providers with a broader offering

We see opportunities for energy providers across regions. But generating sufficient volume and acceptable returns will require significant effort to design and implement the right product and service offering and to distribute it through effective sales channels. Because market conditions influence a provider's ability to enter and play, executives thinking about competing in energy management or broader connected home services should consider how the market is already meeting those needs in their region, what services are gaining traction and the regulatory environment.

In spite of the lead nontraditional energy players have, energy providers could create services that offer greater value than many that are available today. Most energy management services have focused on basic monitoring and control, with an eye toward reducing customers' monthly energy bills. Our research suggests that, while the number of customers who consider energy management a top priority has been growing, they still account for only 12% of subscribers (*see Figure 3*). And even for these customers, once they have captured the initial savings, it's unlikely they will be willing to continue paying a recurring fee, making the long-term

Figure 2: Three levels of connected home services



Source: Bain & Company

sustainability of this type of energy management offering questionable.

Some participants in this space have already begun to look for additional sources of value in their offerings. Take Nest's residential demand response program, Rush Hour Rewards, offered with its energy partners and also Comcast's recent partnership with NRG to launch Energy Rewards in Pittsburgh, Pennsylvania, adding electricity supply to a bundle that also includes free HBO for new sign-ups. It's clear that some of the market leaders are broadening their current energy-related offerings.

Market dynamics and internal capabilities should dictate entry strategy

In regulated markets in the US, energy providers can view this as an opportunistic play. At a minimum, they can enhance their customers' experience. They might also generate some additional, unregulated revenue through new services or partner with a company offering a broad array of connected services or with a technology player to develop a standalone energy management offer. They can also provide energy management services on their own.

The situation is different in deregulated markets in the US, where energy providers have more urgency to define a strategy. There, they face a "prisoner's dilemma": They feel pressure to enter the market if for no other reason than to avoid ceding ground to new entrants that could poach their customers and succeed at their expense. This same dilemma also extends to partnerships, with each market offering a limited number of attractive potential partners. In the Northeast US, for example, energy providers would have to consider Comcast's arrangement with NRG as they assess opportunities to partner with market leaders.

While energy providers don't need partnerships to enter the US market, going alone requires a candid assessment of existing capabilities and resources. An energy company must be able to form its own offer, including R&D capabilities to develop a smart thermostat, as well

Figure 3: About 12% of subscribers see energy savings as one of their top three priorities in deciding whether to purchase connected home services

	Highly engaged: Want many features					Disengaged: Want fewer features
	Health managers	Energy savers	Always connected	Security focused	Self-reliant	Indifferent
Primary reason for subscribing	*"I actively monitor and manage someone's health."*	*"I want help reducing my energy consumption."*	*"Help me better secure and manage my home and family."*	*"Just keep my family and my property safe."*	*"I know what I want and how to make it work."*	*"I don't think much about it."*
Purchased more than 2 years ago	3%	5%	25%	47%	7%	13%
Purchased or upgraded in last 2 years	6%	12%	33%	35%	5%	8%
Average monthly revenue	$40–50	$45–60	$40–50	$35–40	$10–15	$30–35
Annual US subscription revenue	~$700M	~$850M	~$2.8B	~$3.3B	~$300M	~$900M

Total annual US subscription revenue: ~$9 billion

Note: Percentage of customers based on total sample; average monthly revenue calculation based on representative sample
Source: Bain customer survey (total n=1,205; n=960 for customers; n=502 for customers who purchased more than 2 years ago; n=458 for customers who purchased/upgraded within last 2 years)

as the sales and marketing capabilities required to generate demand for it. Since many providers, particularly regulated utilities, have limited experience in marketing partnerships, industry executives seem to prefer the path of offering limited energy management services on their own. For that to work, they will need to make a strong case that they have the resources not only to build and deliver those services but also to compete against global companies with similar products. Defining the services is just the beginning of the process; delivering a sustainable business will require new skills that many energy companies lack.

The future of energy-related services as part of the smart and connected home market is still being defined. Even in markets like the US, where many nonenergy players have begun offering energy management as part of a bundle of connected home products and services, it is not clear that the energy portion of these bundles will yield sustainable, long-term profits.

Despite these challenges, or perhaps because of them, we see opportunities for energy companies across regions, but executives will have to decide the right way to enter based on market conditions, the potential to gain and keep valuable customers, and the investments necessary to sell and deliver the service. Whether they choose to partner with others or go it alone, ultimately, energy providers will need to find ways to tap their expertise and unique capabilities to create energy service offers that go beyond the existing smart thermostat and create long-term, sustainable value.

Shared Ambition, True Results

Bain & Company is the management consulting firm that the world's business leaders come to when they want results.

Bain advises clients on strategy, operations, technology, organization, private equity and mergers and acquisitions. We develop practical, customized insights that clients act on and transfer skills that make change stick. Founded in 1973, Bain has 50 offices in 32 countries, and our deep expertise and client roster cross every industry and economic sector. Our clients have outperformed the stock market 4 to 1.

What sets us apart

We believe a consulting firm should be more than an adviser. So we put ourselves in our clients' shoes, selling outcomes, not projects. We align our incentives with our clients' by linking our fees to their results and collaborate to unlock the full potential of their business. Our Results Delivery® process builds our clients' capabilities, and our True North values mean we do the right thing for our clients, people and communities—always.

Key contacts in Bain's Global Utilities practice:

Americas:

Matt Abbott in Los Angeles *(matt.abbott@bain.com)*
Mark Brinda in New York *(mark.brinda@bain.com)*
Neil Cherry in San Francisco *(neil.cherry@bain.com)*
Paul Cichocki in Boston *(paul.cichocki@bain.com)*
Jason Glickman in San Francisco *(jason.glickman@bain.com)*
Mark Gottfredson in Dallas *(mark.gottfredson@bain.com)*
Stu Levy in Washington, DC *(stu.levy@bain.com)*
Alfredo Pinto in São Paulo *(alfredo.pinto@bain.com)*
Tina Radabaugh in Los Angeles *(tina.radabaugh@bain.com)*
Joseph Scalise in San Francisco *(joseph.scalise@bain.com)*
Bruce Stephenson in Chicago *(bruce.stephenson@bain.com)*
Jim Wininger in Atlanta *(jim.wininger@bain.com)*

Asia-Pacific:

Sharad Apte in Bangkok *(sharad.apte@bain.com)*
Miguel Simoes de Melo in Sydney *(miguel.simoes-demelo@bain.com)*
Amit Sinha in New Delhi *(amit.sinha@bain.com)*

Europe:

Julian Critchlow in London *(julian.critchlow@bain.com)*
Jolyon Dove in London *(jolyon.dove@bain.com)*
Arnaud Leroi in Paris *(arnaud.leroi@bain.com)*
Jochem Moerkerken in Amsterdam *(jochem.moerkerken@bain.com)*
Jacek Poswiata in Warsaw *(jacek.poswiata@bain.com)*
Timo Pohjakallio in Helsinki *(timo.pohjakallio@bain.com)*
Kim Petrick in Munich *(kim.petrick@bain.com)*
Roberto Prioreschi in Rome *(roberto.prioreschi@bain.com)*
Jose Ignacio Rios in Madrid *(nacho.rios@bain.com)*

For more information, visit **www.bain.com**