



THE NEW MAKE VS. BUY CALCULUS

HOW UTILITIES CAN REMAIN RELEVANT TO
CUSTOMERS WHO PRODUCE THEIR OWN
POWER

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The days of the traditional electrical power utility are numbered. Disruptive forces – a combination of supportive government subsidies and advances in technologies such as micro combined heat and power boilers, solar photovoltaics and battery storage – are making it relatively easy and cost-effective for people in developed countries to unplug from the grid. Yes, fossil fuel prices have fallen, but photovoltaic and battery storage prices are also dropping quickly.

As a result, residences and small businesses are rapidly becoming more energy independent, producing electric utilities' core product – electricity. We estimate that every two minutes a home or business in Europe and North America goes solar.

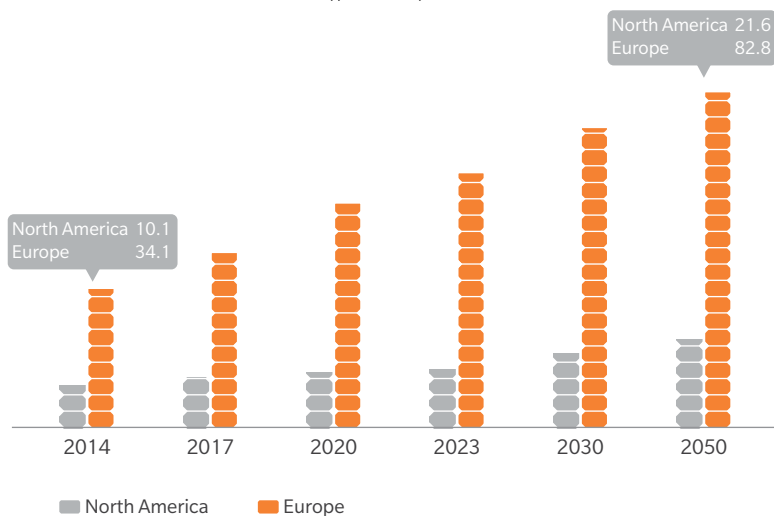
MORE POWER GENERATED BY CUSTOMERS

If current trends hold, our research shows, the amount of power generated by utilities' residential and commercial customers in Europe and North America will rise by more than 60 percent within the next five years, reaching a record amount of approximately 400 terawatt hours per year. While that represents but a small portion of the entire power universe (the United States alone generates 10 times that amount of electricity), this amount is steadily growing. By 2050, customers in Europe and North America will generate the equivalent of \$104 billion worth of electricity, up from about \$44 billion today, provided energy prices stay close to their present level, supportive regulations remain in place and low-cost technologies become even more commonplace. (See Exhibit 1.)

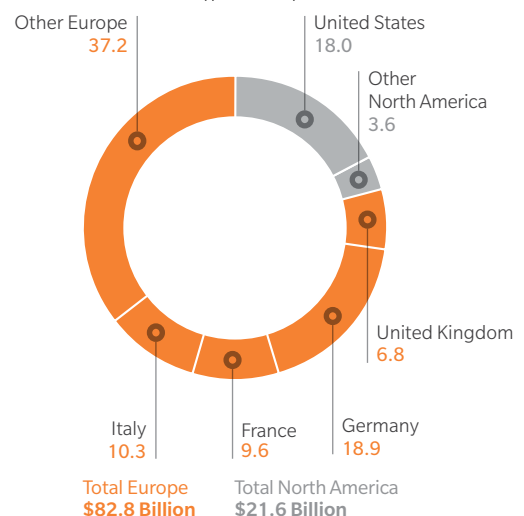
EXHIBIT 1: POWER PLAY

Residences and small businesses are becoming more energy independent

MARKET VALUE FORECAST OF RESIDENTIAL AND COMMERCIAL POWER GENERATION (\$ BILLION)



PROSPECTIVE MARKET VALUE IN 2050 SPLIT BY CORE COUNTRIES (\$ BILLION)



Source: Oliver Wyman analysis

The major shift underway in electricity generation is similar to upheavals that other industries have experienced, and have emerged all the stronger for it. Consider the telecommunications industry. In the 1990s, when deregulation fundamentally reshaped the market, smart competitors refocused their attention on anticipating and meeting their customers' preferences – by pioneering a wide range of alternative products and services. Most now provide not just basic land line phone service but also Internet, cable and applications that enable phones to communicate with, and remotely manage, everything from home security systems to car temperatures to bill payments.

COMING OUT ON TOP

To come out on top of this disruptive wave, utilities, too, will need to better anticipate and meet their customers' needs – even if that means enabling customers to become their competitors. Specifically, utilities are best positioned to understand the economics of power generation. Instead of just trying to sell their power, they should sell their knowledge, by advising a broad range of customers on whether they should invest in making their own electricity.

Increasingly, customers, ranging from businesses to households, are turning to a variety of sources for energy to ensure that their power is secure, abundant, hassle-free, cheap and sustainable. But they need technical expertise and practical support – the core competencies of utilities. In addition, utilities (like telecoms before them) will have to streamline and automate their legacy operations while investing in developing their people. Employees will need to be capable of articulating and delivering a much more expansive range of new products and services than is currently offered.

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Finally, the electric utility of the future will have to be at the forefront of incubating, developing, investing in and implementing new energy-related technologies. To do so, utilities will need to cooperate effectively with a much broader network of investors, researchers, government policymakers and development programs.

DIVERSIFIED ELECTRIFICATION

It's tempting for utilities to think customers' fledgling efforts to produce their own electricity are temporary. They're not. They portend a new, more diversified wave of electrification that will alter our way of life. Utilities need to become more attuned to customers' needs – and start acting as both expert providers and advisers – to remain part of their old customers' new electric equation.

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