

The Energy Advantage Report

Executive summary

Perspectives series
August 2018



Energy is moving up the agenda at organizations across every sector. We're seeing more organizations thinking about how energy can contribute to business growth and drive deeper efficiencies. The most forward-thinking are taking greater control of how they source and use energy. They can do that thanks to the greater availability of local generation options (also known as distributed energy) and smart solutions that provide greater insights and control of consumption.

We commissioned independent research to quantify how quickly businesses are changing how they think about energy.

It found that energy security and resilience ranks 2nd as a business risk, behind only cyber crime. And the leaders are taking action. For example, two fifths of healthcare organizations have implemented measures to improve energy resilience and control.

But it's not just about avoiding risk. Energy offers many opportunities to create competitive advantage. Manufacturers are out in front when it comes to building an energy strategy and then executing it. One fifth of them have already implemented wireless sensors and analytics to provide them with greater insight and control.

And across all industries, companies are experiencing multiple benefits from using advanced energy solutions.

This is just a taste of the results. This Executive Summary sets out more of the key findings. We hope that you find this insight useful. Please let us know what you think.

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What are distributed energy solutions?

Energy efficiency: Energy efficient lighting, back-up generation/standby power, heating ventilation and air conditioning (HVAC) unit optimization, efficiency improvements to the fabric of buildings

Energy insight: Wireless sensors and analytics, building management system (BMS)/building automation systems (BAS)

Heat and power: Combined heat and power (CHP)/cogeneration, thermal/electrical efficiency solutions

Energy monetization: Battery storage units, flexible load/demand response measures

Renewables: Onsite solar panels, onsite wind turbines



Two fifths of companies have seen significantly reduced energy costs after investing in advanced energy solutions.



One quarter of businesses say investing in advanced energy solutions has improved their reputation.



Seven out of ten organizations agree that the cost of being energy resilient is less than the cost of a power failure.

Energy leaders gain a competitive edge

Where you stand matters. Our research shows that energy leadership has business benefits—and those taking the lead are gaining a competitive edge.

Benefits beyond cost savings

Organizations that have invested in distributed energy solutions are already seeing a wide range of benefits. Over two fifths have already experienced a significant reduction in energy costs. And organizations are reporting benefits that go way beyond that. These range from greater control and visibility to improved resilience of supply.

Almost one quarter of companies say that it has improved their reputation, and a similar proportion report that it's providing additional revenue.

The more committed organizations are, the better the results. The most advanced organizations have established formal energy strategies that align with their business priorities. These organizations are more likely than their peers to be performing well against a range of key business measures; including financial performance and being customer-centric.

Is your business an energy leader?

Can you count yourself among the energy leaders that are investing in energy to gain a competitive edge? If not, how do you become one? We've developed our unique Energy Leadership Model to help you understand what actions you need to take to get more from your energy investments. The model sets out four stages of energy leadership, based on vision and execution.

Less than one in ten organizations count themselves among the most advanced. These companies have a progressive attitude towards energy and are more likely to have a formal strategy and a dedicated energy team. They're excelling, relative to their peers, in terms of their energy vision and in how they're executing their plans. And they're reaping the greatest rewards. They're far more likely to be maximizing internal efficiencies, achieving sustainability, and enhancing their brand through social and environmental responsibility.

We've identified four key areas you need to tackle if you want to achieve the benefits the energy leaders are seeing. **Read on to find out more.**

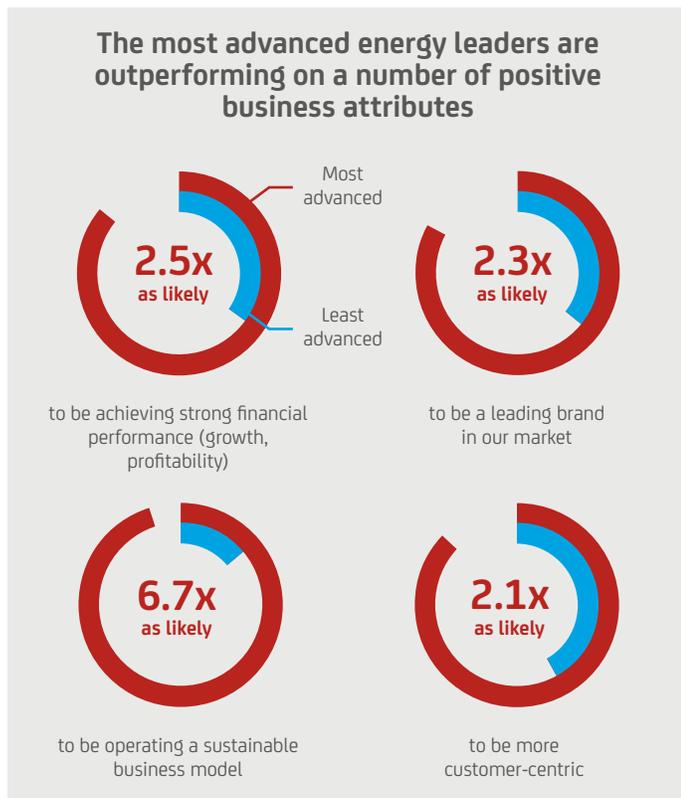


Figure 1: How would you compare your organization's current performance against similarly sized competitors for the following?

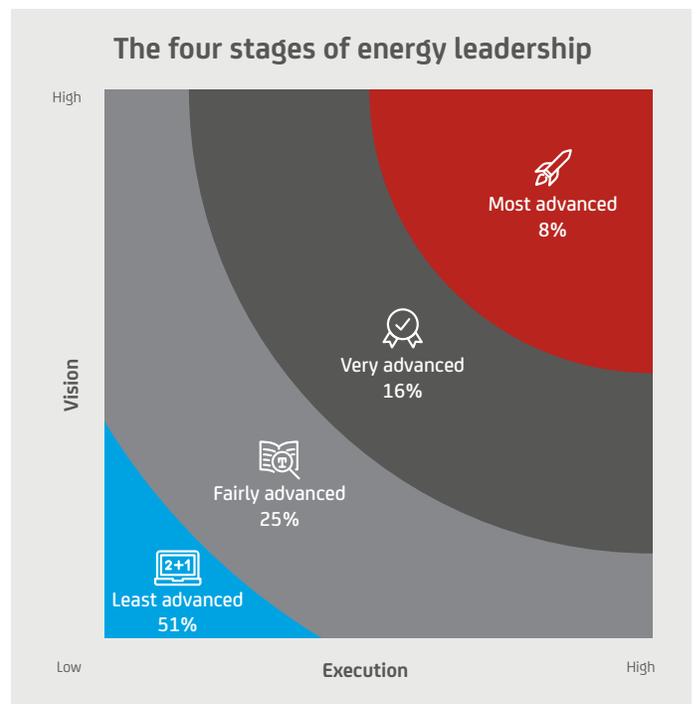


Figure 2: Based on responses to 12 questions in the Energy Leadership survey.

Increasing visibility and efficiency

Reviewing your existing energy use and investing in smart energy measurement solutions can deliver immediate benefits.

Measurement brings rewards

While many organizations measure energy use, they're doing so infrequently—they often haven't done so within a year or only review it occasionally. This means that few organizations have access to the granular data required to drive improvements in operational performance.

Only one quarter of organizations (24%) say they assess energy use continuously.

Organizations have a strong impetus for improving their measurement of energy use: those that do are more likely to be energy efficient. Organizations that consider themselves much more efficient than their competitors are much more likely to be continuously measuring their consumption, using multiple methods to do so. They're also significantly more likely to systematically review and adapt their working practices to improve energy efficiency.

Three fifths (58%) of the most energy efficient companies use three or more different measures to track energy.

Successful businesses are investing in smart energy

Businesses that have adopted smart energy solutions—such as wireless sensors, building management systems/building automation systems (BMS/BAS) and analytics—are more likely to say they're strongly over-performing compared to similarly sized competitors for growth and profitability. The most confident are those that have adopted both wireless sensors and BMS/BAS.

Implementing “a single pane of glass” view, which pulls together usage information into one place, can lead to a more integrated approach to energy. Most companies currently lack such insight, with over half (55%) saying they do not have a comprehensive, end-to-end view of their energy efficiency.

Construction company cements savings

A large cement company, with operations across 50 countries, wanted a solution that would provide full visibility of how its critical machines were performing. Centrica Business Solutions installed our Panoramic Power wireless sensor technology to measure energy use and pinpoint consumption across different equipment, buildings and plants. This helped the company identify a broken conveyor motor. Fixing this delivered a saving of \$261,998 annually at just one location.

Adoption of smart energy management solutions is linked to competitive advantage

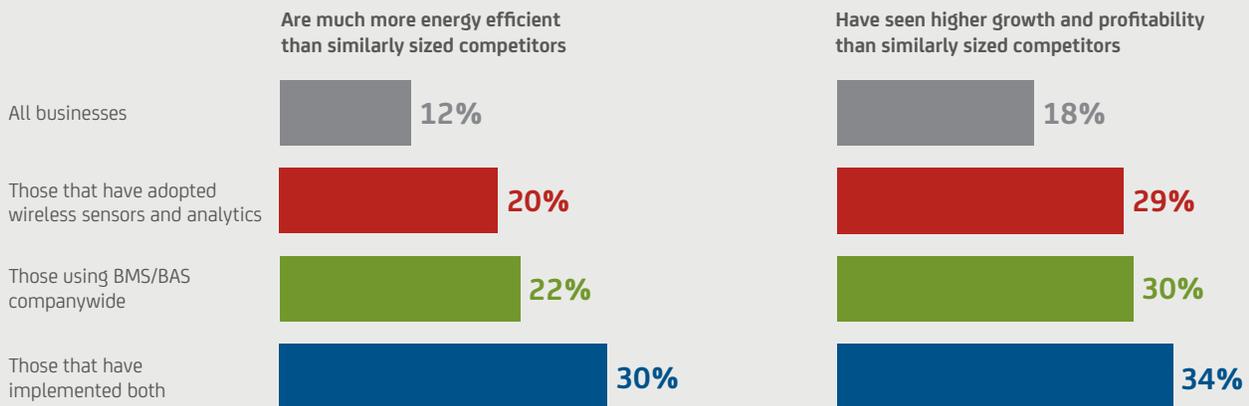


Figure 3: To the best of your knowledge, which of the following energy improvements has your organization implemented? How energy efficient do you believe you are compared to similarly sized competitors? How would you compare your organization's current performance against similarly sized competitors for achieving strong financial performance (growth, profitability)?

Balancing your energy sources

With so many different energy solutions available to supplement your existing supply, how do you decide where to invest?

The biggest focus is energy efficiency

52%

Over half of organizations we surveyed have implemented solutions designed to deliver energy efficiency improvements to their buildings. These include HVAC and energy-efficient lighting. These can offer the clearest and quickest return on investment.

Leaders recognize the importance of insights

40%

Reassuringly, given its importance, two fifths of organizations say they've already adopted wireless sensors and analytics, or BMS/BAS across at least some of their sites.

Compelling case for heat and power integration

37%

While the business case for thermo-electric generation can be extremely compelling, it may not be suitable for all companies. It usually makes the most economic sense for businesses with high thermal loads and where electricity costs are high.

Awareness of energy monetization is high

35%

Nearly all companies surveyed were aware that they could get paid for decreasing demand on the grid at times of peak demand. Over one third are already selling excess capacity back to the grid, participating in supply-side incentives or demand-side incentives.

Onsite renewables yet to be widely adopted

31%

Adoption of onsite renewables can be limited by physical considerations. We expect much wider adoption as these technologies and battery storage continue to mature. Collaboration between companies is likely to help too.

Companies are looking for new funding methods

Adopting new energy solutions can require significant investment. While traditional funding options are most prevalent, other methods are starting to be used. These include shared risk models.

Payback financing, for example, is a model where investments are funded by a third party—typically a supplier—and paid for out of ongoing energy savings or increased revenue, reducing the capex burden on the company.

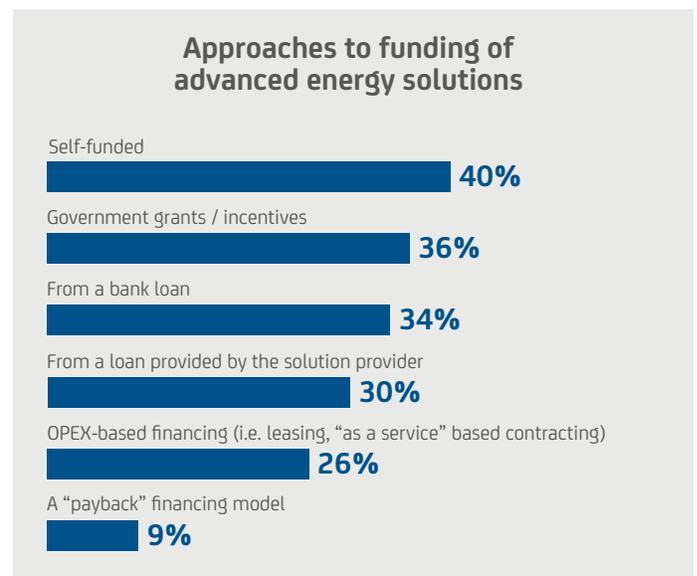


Figure 4: In future, which funding methods for energy investments would you prefer to use?

School achieves immediate savings with solar energy

Reed Intermediate School in Newtown, CT, was using 1,958,098 kWh of electricity a year educating hundreds of fifth- and sixth-grade pupils. Although costs are always a factor, the school's main motivation for going solar was to become more environmentally friendly. Being financed through a Power Purchase Agreement with the Connecticut Green Bank meant the school had no upfront costs, and benefited from immediate savings on electricity. Overall, Reed Intermediate School reduced energy consumption by 39%—and has offset CO² emissions equivalent to 196 tons of waste being recycled each year, instead of sent to landfill.

Reducing business risk

Energy security and resilience is seen as the biggest business risk, behind only cyber crime. However, attitudes and actions don't always line up.

Companies know the business risks

Well over one quarter (28%) of organizations rank energy security and resilience as a substantial risk to their business. Along with political uncertainty, it's the biggest concern—ranking behind only cyber crime. It even ranks above financial risk and natural disasters.

Those concerns are understandable. Businesses are more dependent on energy than ever. And as they depend on power-reliant technology—from mission-critical hosted applications to electric vehicles—the pressure on supply is likely to increase. Outages could have a significant impact on financial performance and customer loyalty.

71% of organizations agree that the cost of being energy resilient is less than the cost of a power failure.

Many organizations have faced issues relating to energy resilience over the past 12 months. The biggest problem has been interruption to energy supply caused by external factors, such as grid failures due to high demand or extreme weather. Almost one third have also faced problems where internal factors, including equipment failure, have interrupted their supply.

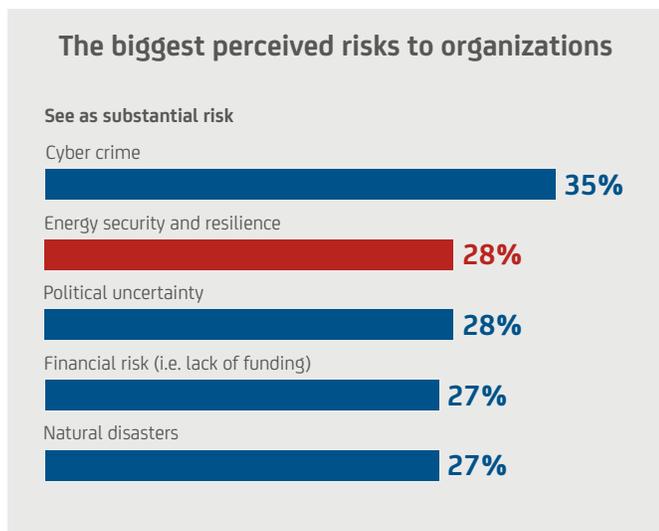


Figure 5: Which of the following do you see as substantial risks to your organization?

But they're not taking action

These concerns about energy resilience, and the experience of power outages, aren't always driving businesses to rethink their approach to energy. Many organizations aren't regularly assessing the risks of interruption to their energy supply—only one quarter have done so in the last year.

The majority (88%) of companies have an energy resilience plan, but little more than half of them test it regularly and many don't assess resilience at all locations.

Even when organizations carry out energy resilience assessments, they don't always do so comprehensively. Assessments at one fifth of companies didn't cover all locations.

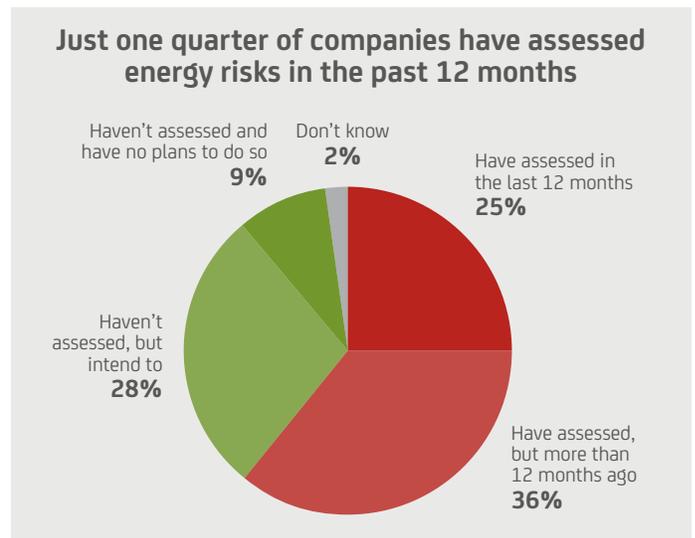


Figure 6: To your knowledge, has your organization ever fully assessed the risk of interruption to its energy supply?

Permanent standby protects valuable assets
 A leading wine and transportation service provider needed to maintain customers' inventories in a climate controlled environment, 24/7. It decided to upgrade its portable backup power generator to a permanent installation. The operation was located near sensitive wetlands with noise restrictions, necessitating the use of a high-quality, fully sound-proof enclosure. Due to the urgency of the project, Centrica Business Solutions ensured delivery, setup and full commissioning of the generator within six months.

Connecting energy to business outcomes

The most advanced energy leaders have energy strategies that contribute to achieving their wider business objectives.

Having an energy strategy matters

Organizations are adopting energy strategies to provide them with a competitive edge. They're also being encouraged to do so by the availability of new technologies that have enabled advanced distributed energy solutions.

For every business that sees no competitive advantage in adopting an energy strategy, there are almost eight that are investing for that very reason. Similarly, there are 12 times as many businesses that see new technology as an enabler of their energy strategies as those that see it as a barrier.

There is a clear link between how advanced a company is as an energy leader and having a formalized energy strategy. Three quarters of businesses in the most advanced band of the Energy Leadership Model have one. The same is true for just one in ten of the least advanced.



Figure 7: Why has your organization chosen to adopt some form of energy strategy?

Few have a comprehensive strategy

Nearly three quarters of companies say they have an energy strategy. But these are rarely comprehensive or include specific targets, actions or budgets for items they themselves have identified as important to their use of energy. Resilience-related topics, in particular, appear to be under-addressed—possibly as organizations believe these will be the hardest to implement. For example, almost two thirds consider back-up sources in the event of a power outage to be very important but less than one in five have targets, actions or budgets linked to this in their plans.

Almost three quarters (73%) of companies have an energy strategy, but over half (56%) of those say it's not formalized and implemented consistently. The corresponding figures for the most advanced companies are 97% and just 23%.

Centrica targets 50% emissions reduction by 2025

In 2007, we set ourselves a target to cut global carbon emissions from property, fleet and travel in half by 2025. By 2015, we'd already cut global property emissions by 44%. In the UK, this involved the introduction of biomass, solar thermal and CHP energy units, and LED lighting at numerous sites. An enhanced BMS allows us to control the energy we consume to increase operational efficiency. In Oxford, we developed a low carbon office capable of obtaining over 30% of its energy from low carbon and renewable technology. In Windsor, we're installing two standalone lithium ion battery units. These will be used as a showcase to demonstrate how to improve resilience by providing an alternative source of power, increase efficiency by optimizing when power is imported, help balance the grid, and provide capacity to ensure the lights don't go out.

In the United States, we have installed energy monitoring sensors across our major offices as well as solar panels on two New Jersey properties, in one case coupled with Battery Storage to optimize and monetize the energy flexibility of that location.



Centrica

The world of energy is changing and, with our chosen businesses, distinctive positions and current capabilities, Centrica is well placed to deliver for its customers and for society.

We are developing innovative products, offers and solutions, underpinned by investment in technology. In February 2017, we announced the creation of “Centrica Innovations” that identifies, incubates and accelerates new technologies and innovations. We will look to invest up to £100 million over the next five years in start-ups, giving us access to technology and entrepreneurial capability and resources.

Centrica Business Solutions

Centrica Business Solutions is at the forefront of supporting organizations around the world to benefit from new distributed energy sources and technologies to achieve their business vision. Through a combination of deep expertise and a broad range of distributed energy solutions, we enable you to take control of your energy and gain a sustainable competitive advantage—improving operational efficiency, increasing resilience, and driving your business vision forward.

We'll partner with you to provide the right combination of innovative energy solutions and expert advice to deliver the energy strategy your business needs. We remove the complexity traditionally associated with the energy market and provide the right energy solutions, in the right place and at the right price. And we offer a comprehensive range of flexible financing options that can be tailored to your requirements for each project.

We provide global end-to-end distributed energy services to 25% of the FTSE 100 and power the ambitions of 2,000 companies across Europe, the Middle East and North America, from retail and manufacturing to health and education. We're investing £700 million by 2020 in distributed energy to make these energy solutions a reality for you.



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Ready to join the energy leaders?

Read the full Energy Advantage Report to discover practical steps you can take now to join the energy leaders. Get our tips on formalizing your energy plan, building your team and creating a compelling business case.



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About the research

In late 2017, Centrica commissioned B2B International, an independent research company, to investigate organizations' attitudes to energy and adoption of distributed energy solutions. Over 1,000 respondents from six countries and across a range of sectors took part in the research, all from companies with 100 or more employees. All qualifying respondents came from organizations using, trying or considering advanced energy solutions, and had management and/or financial responsibility for energy decisions within their company.

Ready to power your business performance?

We can work with you to improve your operational efficiency, reduce your business risk and drive your business vision forward.

Speak to an expert at Centrica Business Solutions.

centricabusinesssolutions.com

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