

The Energy Advantage Report

Powering your business forward

Perspectives series
June 2018



The way organisations view energy is changing. The most forward-thinking are taking more control of how they source and use energy. Local generation options (also known as distributed energy) are becoming increasingly accessible and tools built on Internet of Things technology provide the means to understand and manage energy use more effectively.

One potential benefit is better operational efficiency, but it's not the only one. More and more customers are coming to us to talk about how they can manage risks better, improve their resilience and mitigate the impact of price fluctuations. Others want to discuss improving their green credentials to meet the expectations of their customers and employees.

This broader remit is redefining the role of energy. For a start, a wider range of stakeholders are taking an interest. They want to talk about getting additional value from their energy assets and investing for greater independence and flexibility in the future. The most advanced want to know how energy can help them make money.

Those are our experiences, but we wanted to validate them and quantify how quickly businesses are changing how they think about energy. This report is the outcome. We hope that you find this insight useful. Please let us know what you think.

Centrica Business Solutions
Alan.Barlow@centrica.com



Alan Barlow
Director UK & Ireland
Centrica Business Solutions

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Executive summary

Companies are increasingly recognising that energy solutions can help them achieve their strategic goals.

Energy delivers business benefits

Technological innovation and regulatory change are opening up new opportunities in how energy is generated and consumed. Organisations investing in advanced energy solutions are already seeing benefits—and these go way beyond cost savings. They're getting more control over energy use, strengthening their brands and, in some cases, gaining a new revenue stream.



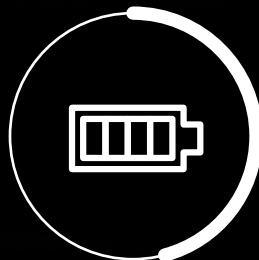
Two-fifths of companies have seen significantly reduced energy costs after investing in advanced energy solutions.



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

Leaders have a competitive edge

The businesses that act now stand to gain a significant first-mover advantage and reap the biggest rewards. Organisations with formal energy strategies are outperforming on a range of key business metrics—including financial growth, efficiency and customer-centricity. At present, that's just a small group of companies. However, by working with energy partners, more organisations can grasp the opportunity to turn their ambitions into actions and realise the full potential of energy.



The most advanced businesses are **2.5x** as likely to be achieving strong financial performance as the least advanced.



Seven out of ten businesses say they need commercial and technical expertise to help them realise the growth opportunities energy can unlock.

Focus on four key areas

How can you join the ranks of the energy leaders—and draw true strategic value from your energy investments? Our research identifies four key areas of focus:

Increasing visibility. Measuring your energy use can reveal areas where you can make immediate gains. And it can help build a case for further investment.

Balancing energy sources. This is about augmenting your existing energy sources. Companies typically start with energy efficiency improvements and then consider on-site generation solutions.

Reducing risk. Organisations should be carrying out regular assessments of the risks posed by disruptions to supply. Today, that's not happening consistently.

Linking energy and business plans. Developing a formal energy strategy, which links your energy goals with business outcomes, is key. It's an area where most companies need help.



More than half of the most efficient companies use three or more different measures to track energy usage.



Around half of companies have implemented energy efficiency improvements.



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



Three-quarters of companies say they have an energy strategy, but **over half** of those say it's not formalised and implemented consistently.

Attitudes to energy are changing

One in three organisations are already thinking about how energy can contribute to business growth, drive deeper efficiencies and reduce risk.

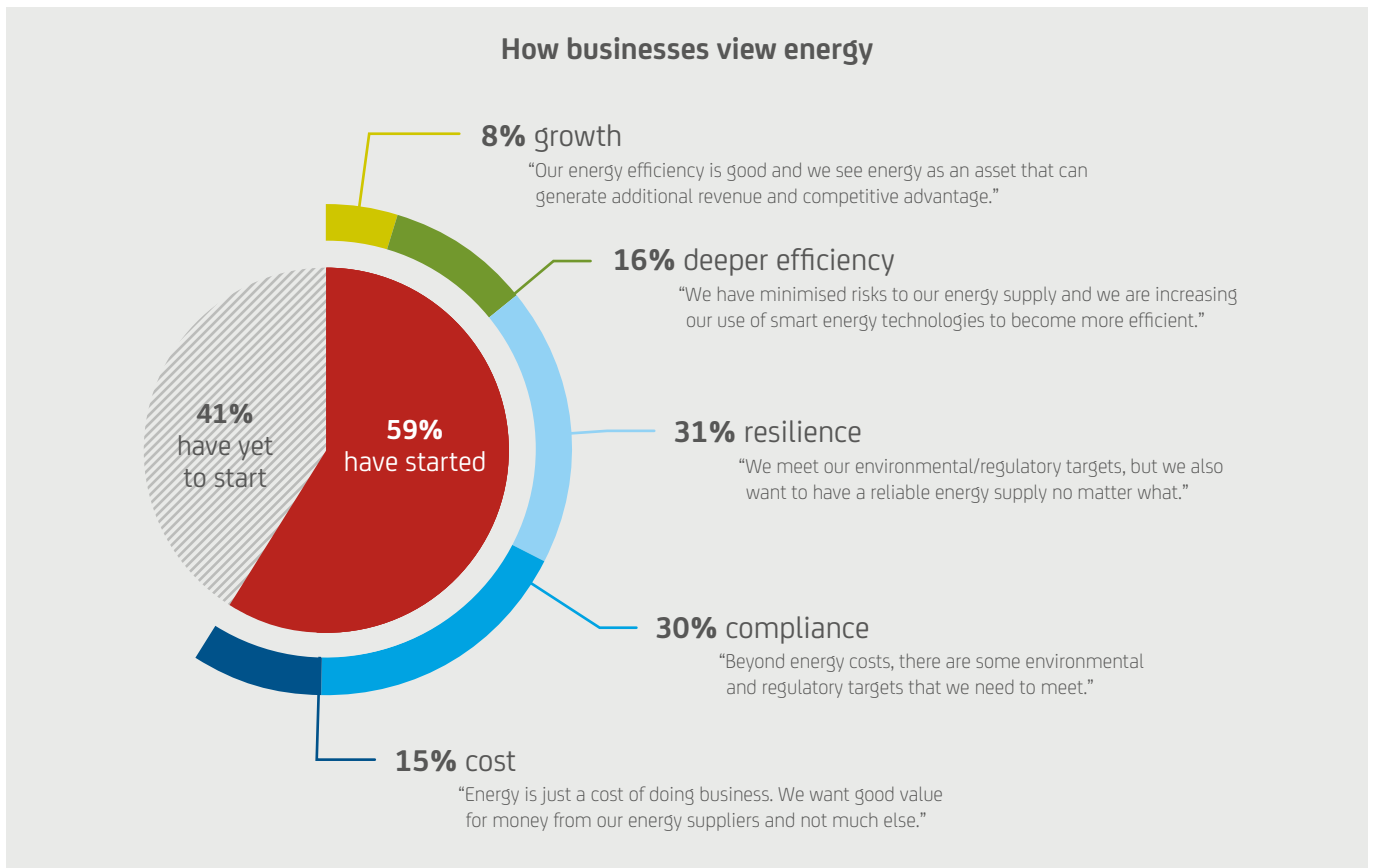


Figure 1: Which of the following statements best matches your organisation's current position when it comes to energy matters? [Base: 1,633]

How businesses view energy

For most of this report, we focus on the responses from businesses that have already started using, trialling or considering advanced energy solutions. Nearly three fifths of businesses fall into this category.

Among these businesses, the most enlightened—nearly a quarter of organisations—have started looking at the role energy can play in helping them achieve their broader business objectives. That includes considering how they can become more efficient, generate additional revenue and build competitive advantage. And there are a small proportion at the forefront of this shift—we call them “energy leaders”.

Point of view: Rethink how energy can benefit your business

With greater choice of energy solutions and a recognition of the business value they can deliver, energy is becoming more relevant to a wider set of stakeholders. This is changing who is involved in decision-making and the role of energy managers. Moving forward, energy managers will work much more closely with business leaders to develop energy strategies aligned to business goals and will seek partners who can work with them to identify solutions which drive long-term business performance.

As more businesses seek to look at energy as something more than simply a cost to be managed, energy will become increasingly strategic.

What makes an energy leader different?

Our research suggests that how an organisation thinks about energy is one of three characteristics that are shared by energy leaders:

- **Measurement:** Energy leaders are sophisticated in how they measure and control energy efficiency. They typically combine several types of data and assess usage on a regular basis.
- **Adoption:** Energy leaders have invested in a range of advanced energy solutions—from energy efficient devices to on-site production and storage.
- **Attitude:** Energy leaders recognise the strategic importance of energy and the value it delivers in achieving business objectives.

Energy leaders think about energy differently, use different sources and manage differently.

“I think businesses will be taking the lead on energy issues as opposed to governments because governments are getting too haphazard in their approach ... companies can no longer rely on subsidies as incentives ... and have to act accordingly on their own and show that they are being good stewards of the environment.”

Energy Manager, Manufacturer, Canada

Solar and LED help automobile dealership reduce energy consumption

Miller Motorcars is a luxury automobile dealership based in southwestern Connecticut, USA. The business was seeking ways to minimise environmental impact, cut costs and provide better experiences to its customers. Centrica Business Solutions helped it to improve the ambience of its service centre—which uses over 650,000 kWh of power annually—with upgraded LED lighting. A new solar system also made the company eligible to utilise the 30% Federal Investment Tax Credit (ITC) and Connecticut’s Zero Emissions Renewable Energy Credit (ZREC). Overall, Miller Motorcars was able to reduce its energy consumption by 61%, driving projected savings of \$1.4 million over 25 years.

Stories from energy leaders

Why energy is moving up the agenda

Organisations are making energy a boardroom topic. They’re investing more in advanced energy solutions, spurred on by pressures to improve customer experience, to demonstrate their corporate social responsibility and to deliver greater efficiencies.

The most forward-looking organisations are already considering how insights from their use of energy can help them unlock deeper efficiency gains in businesses and provide competitive advantage. For example, over half strongly believe that businesses will, in the future, be harnessing the power of big data from their energy systems for competitive advantage. But many companies interested in leveraging the commercial opportunities lack the expertise to do so.

50% say they lack the internal expertise needed to monitor and implement efficiency.

The use of Internet of Things (IoT)-enabled sensors and meters are set to have a big impact in this area. The majority of businesses strongly agree that their widespread deployment will dramatically reduce wasted energy. They expect big data to help them boost growth and get ahead of their competitors.

Point of view: Don’t wait, take the lead

Across the globe, legislation is driving change—particularly within the energy producers themselves. Collaboration between energy companies and government is important to building smarter grids and transforming transmission systems to support renewable energy projects.

Energy leaders aren’t waiting for their governments to set the agenda though. They’re acting now because they recognise that commitment to energy efficiency and sustainability is becoming more important to stakeholders of all kinds. And they understand that intelligent energy planning can also help improve business performance and sustainability, and reduce risk.

That’s making the role of energy increasingly important and central to strategic thinking.

Energy leadership delivers competitive advantage

Why should you be rethinking your attitude to energy? Our research shows that the organisations taking the lead are gaining an edge.

Benefits beyond cost savings

Organisations that have invested in advanced energy solutions are already seeing a wide range of benefits. Over two-fifths have already experienced a significant reduction in energy costs. And organisations are reporting benefits that go way beyond that. These range from greater control and visibility to improved resilience of supply. Almost a quarter of companies say that it has improved their reputation, and a similar proportion report that it is providing additional revenue.

“The benefit is that we are in control of our energy market. It also delivers financial returns. We are getting a return on our investment plus good PR and CSR ... We realise that continuous improvements and continuous energy efficiency will make us better, so half of our energy efficiency comes from a small continuous improvement programme and the rest from significant capital investment.”

Sustainability Manager, Manufacturer, Ireland

Energy overhaul saves hospital £1 million a year

St. George’s Hospital Trust is the largest healthcare provider in southwest London with 8,500 dedicated staff. It serves 1.3 million people and operates one of the busiest A&E departments in London. The hospital had been relying on a 40-year-old energy centre and was in need of an efficiency upgrade. Centrica Business Solutions created a new energy strategy for the hospital, which included a new energy centre and combined heat and power (CHP), boilers, efficient lighting, heating, ventilation and air conditioning (HVAC) systems and a building management system (BMS). Over the course of the 15-year contract, the projected annual savings are more than £1 million. That’s money that can be invested back into caring for patients and educating medical staff. It will also save 6,000 tonnes of carbon a year—equivalent to the emissions of 3,000 cars.

Stories from energy leaders

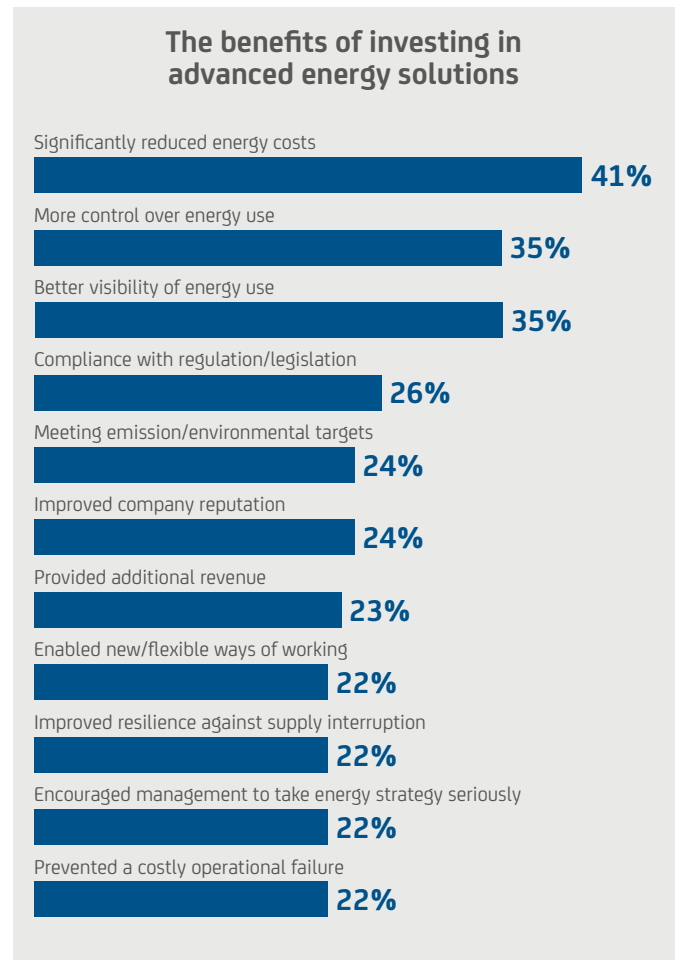


Figure 2: What have been the main benefits from your energy investments so far? [Base: 891]

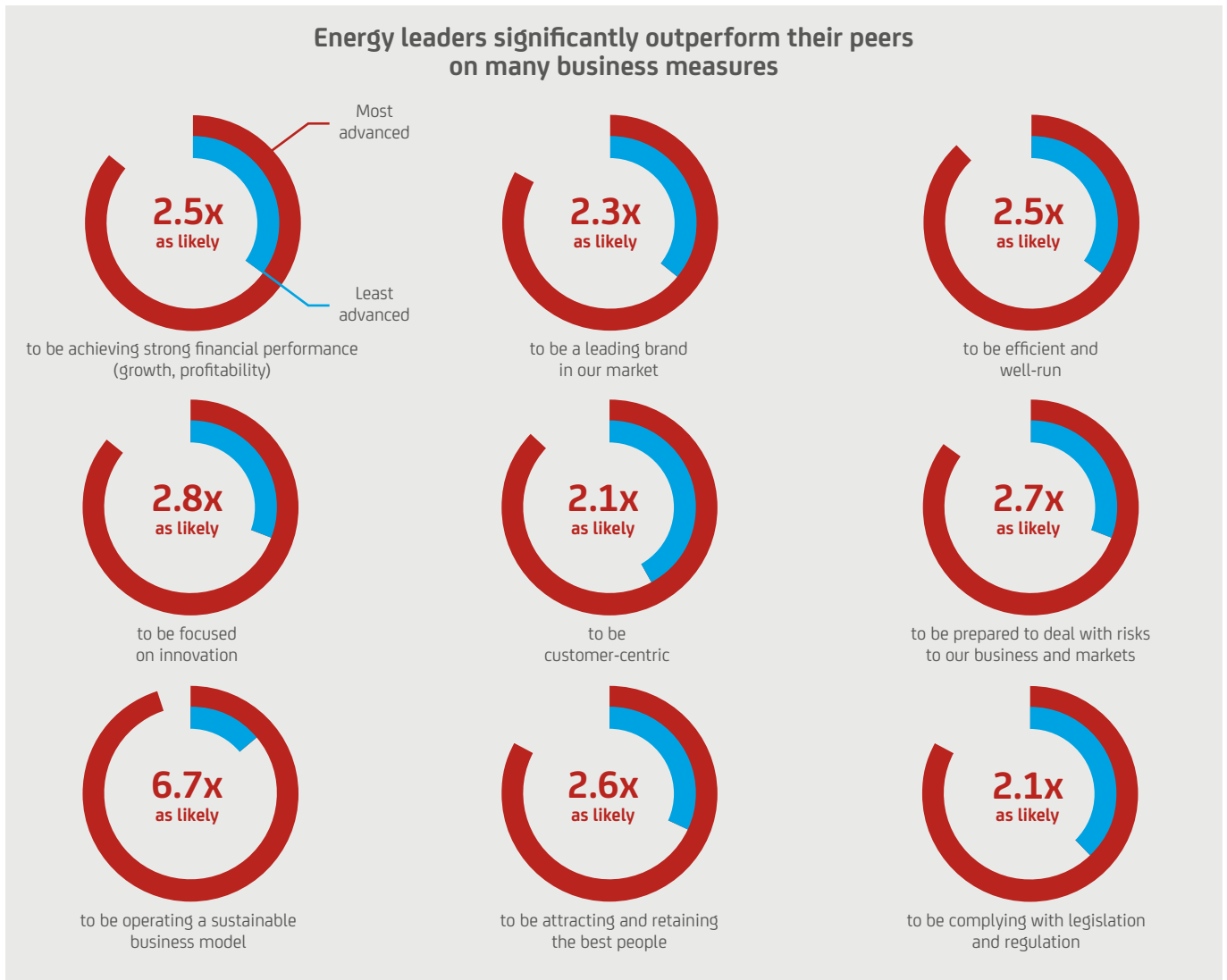


Figure 3: How would you compare your organisation’s current performance against similarly sized competitors for the following? [Base: Least advanced, 156; Most advanced, 132]

More committed, bigger benefits

The most advanced organisations are establishing formal strategies that establish how their investments in energy align with business priorities. These organisations are more likely than their peers to be performing well against a range of key business measures.

Energy leaders are:

- 2.5 times as likely to report themselves ahead of their competitors with respect to their financial performance and being efficient and well-run.
- More than twice as likely to outperform their competitors in terms of being customer-centric and being a leading brand in their market.

“What we would like to do is to generate enough power to not only power a good portion of our building, but sell any we can’t utilise at a premium on what we are capturing it for ... All of us are on board: my senior directors, my employees, everybody in the company. I think we will lead by example. I think we will see a change in attitude to energy matters—we already are.”

CEO and Chairman of the Board, Retail, USA

Point of view: Make the case for energy leadership

Our research suggests that the organisations looking at energy as more than just another cost can achieve real business gains. The most successful energy leaders are the ones that can build a strong business case by showing how what they’re doing supports performance and growth. That’s going to increasingly mean establishing formal energy strategies that link energy investments to business goals.

Is your business an energy leader?

Energy leaders are gaining a competitive edge. Can you count yourself among them? If not, how do you become one? We've developed a model to help.

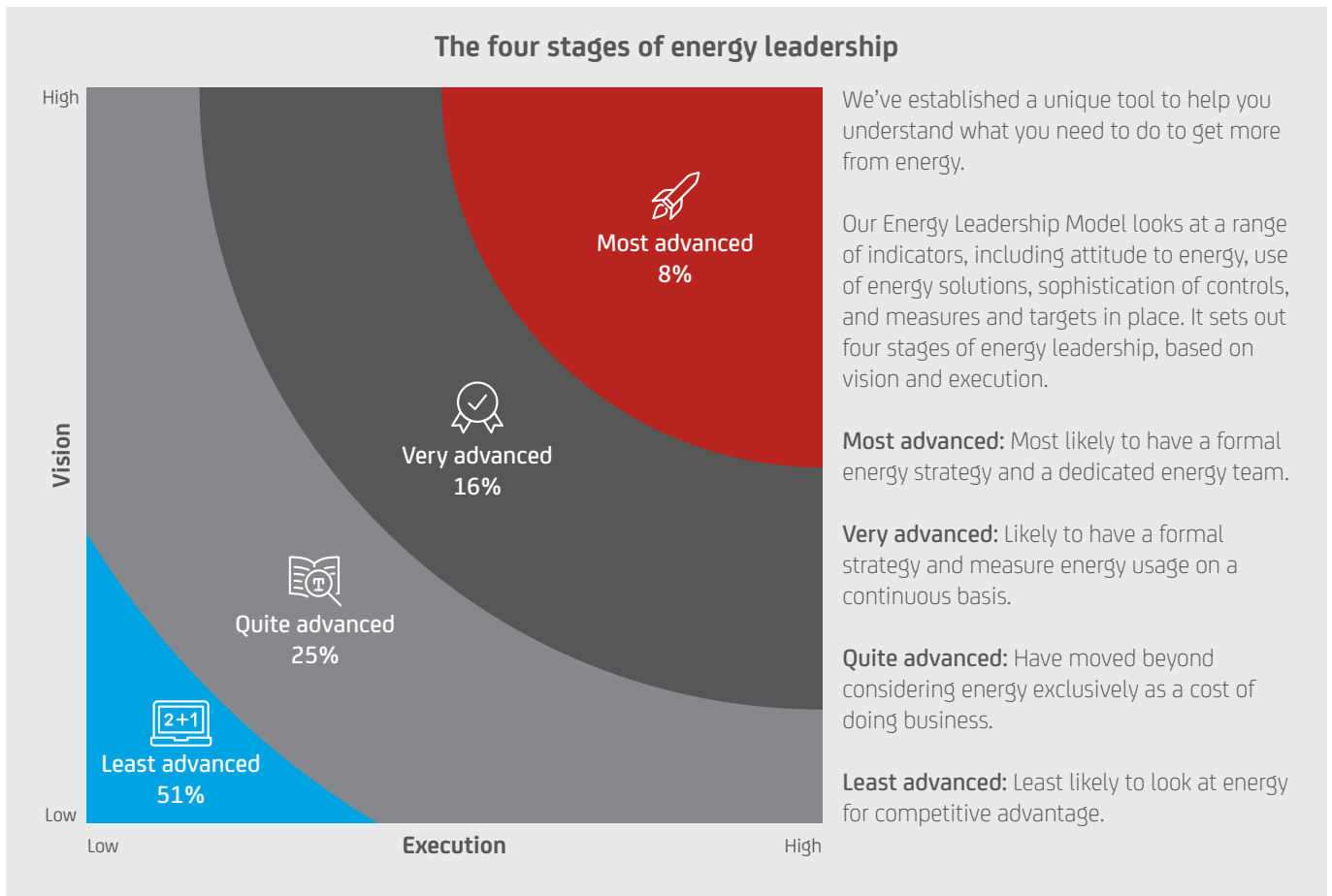


Figure 4: Based on responses to 12 questions in the Energy Leadership Survey—see “About this research” on page 30 [Base: 1,633]

Less than one in ten organisations count themselves among the most advanced in their approach to energy. These companies are excelling, relative to their peers, in both execution and vision. They're maximising internal efficiencies and building resilience. And they're also addressing more outward-facing energy priorities, such as achieving sustainability, and social and environmental responsibility—and, in doing so, they're enhancing the reputation of their brand.

At the most advanced companies, energy is embedded at the very the heart of the organisation, and is playing a significant role in improving business performance.

Point of view: Be open to innovation

The latest energy solutions can help you achieve much more than simply managing energy costs. It takes more than a new solution to become an energy leader though. Those who can sell a vision of how energy can make a difference will be the ones that get noticed by the board. If you want your organisation to be among the most advanced, you'll need to take longer-term focus, be open and transparent with stakeholders and embrace innovation.

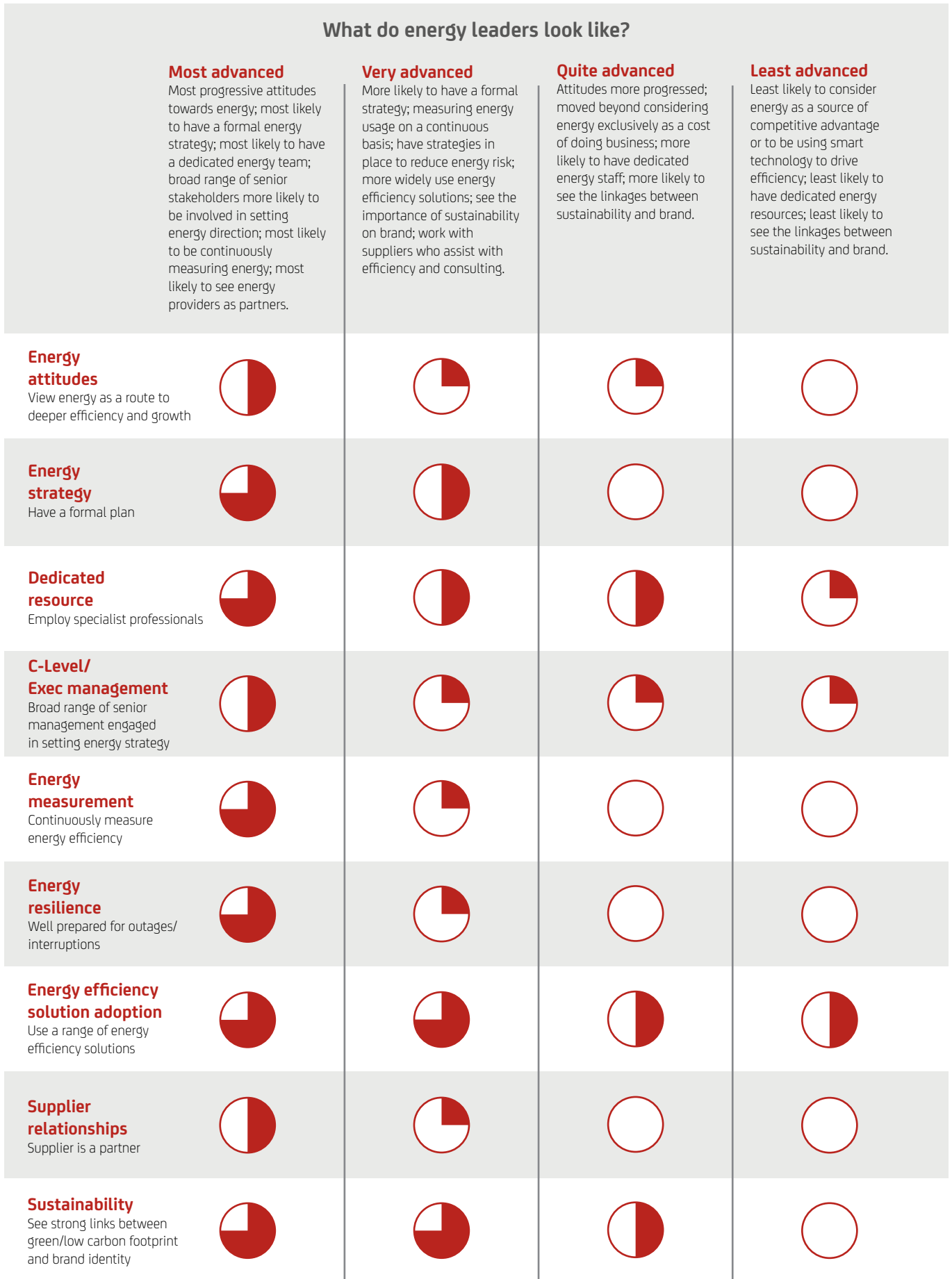


Figure 5: Based on responses to nine questions in the Energy Leadership Survey. Shading denotes proportion responding positively to question [Base: 957–1,007]

Among industries, manufacturing leads the way

Taking an industry view of energy leadership suggests that manufacturing is out in front in terms of vision and execution. This is likely to be because energy is so critical for these businesses, making it a clear priority for investment.

Following on from manufacturing is property. This includes construction—an industry under pressure to adopt sustainable practices. The EU’s Energy Performance of Buildings Directive, for example, requires all new buildings to be “nearly zero energy” by December 2020. Policies like this are stimulating industry-wide discussions about energy-efficient technologies.

Large companies are more advanced, to a point

While smaller businesses tend to be less advanced when it comes to energy leadership, opex-based financing models are making advanced solutions more accessible. Many small businesses are already benefitting from investments in solutions like smart lighting which have shorter term ROI.

The segment of companies with the highest average position on our model is those with 2,500 to 9,999 employees. This is likely to be because these organisations have the scale to see the benefits of energy efficiency clearly and they are able to drive change. Larger organisations, with more than 10,000 employees, may face complexities in terms of decision-making and implementation where existing policies and attitudes may result in a slower pace of change.

Point of view: You need vision and execution

Our research suggests that energy leadership isn’t predicated by what industry you’re in, or the size of your organisation. It’s about attitude, investment in innovative solutions and your approach to management.

Energy leaders are those who have both the vision to recognise the strategic role that energy can play and the ability to deliver against that vision. Traditionally, energy managers have focused on execution and have been challenged with getting support for the vision. The most successful energy managers are those who collaborate effectively with business stakeholders for whom energy is critical. By working together, it is much easier to develop a compelling vision of the role of energy in achieving business goals and to capture the attention of the board.

To push your agenda forward, you need a coherent strategy that balances vision with execution. And that requires strong ‘C-level’ support.

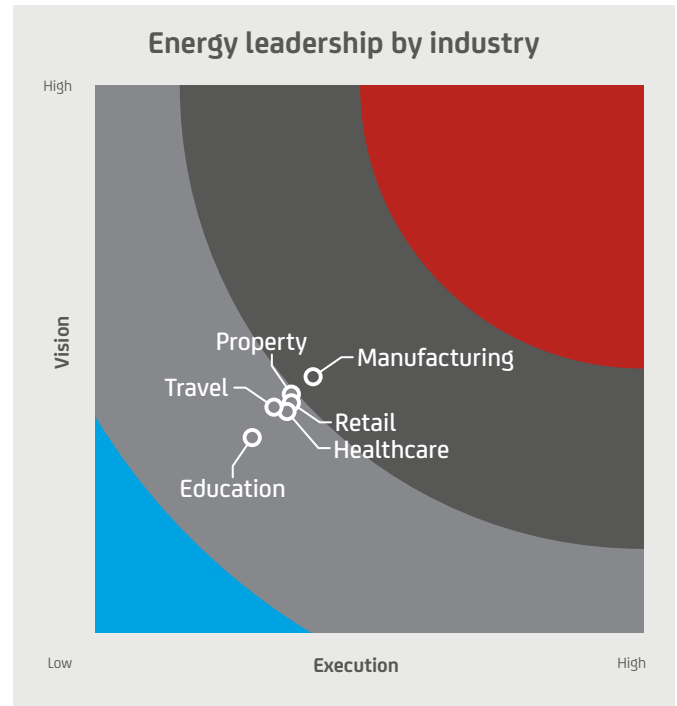


Figure 6: Based on responses to 12 questions in the Energy Leadership Survey—see “About this research” on page 30 [Base: 1,633]

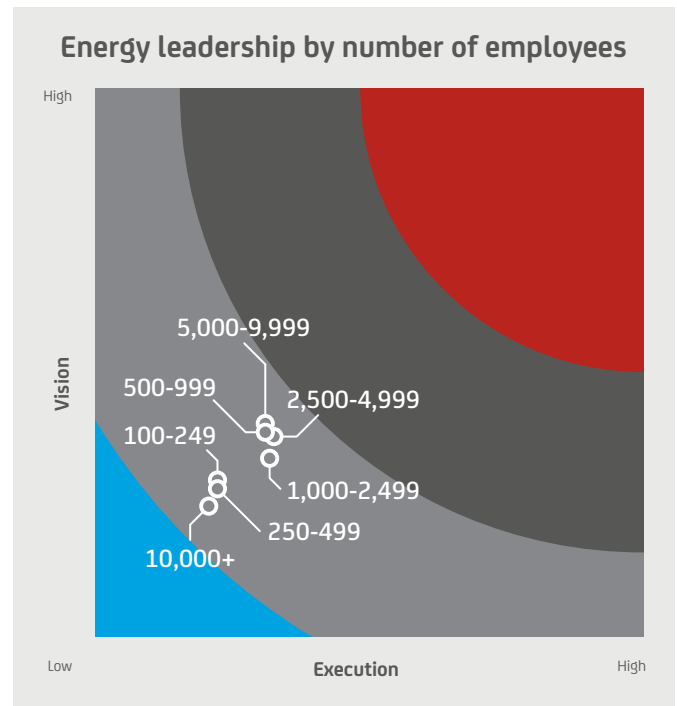


Figure 7: Based on responses to 12 questions in the Energy Leadership Survey—see “About this research” on page 30 [Base: 1,633]

How to become an energy leader

How can you realise the benefits the energy leaders are seeing? There are four key areas you need to tackle.



Increasing visibility and efficiency



Balancing your energy sources



Reducing business risk



Linking energy plans to business outcomes

Increasing visibility and efficiency

The process of reviewing your existing energy use can deliver immediate financial benefits, and help you build the case for further investment.

Most companies lack good measurement

Although the majority of businesses measure and track energy use, there's a great deal of variation in how well they're doing this. While many say they measure it, they often haven't done so within a year or only review it occasionally. Only a quarter of them (24%) say they assess energy use continuously. This means that few organisations have the granular data required to drive operational performance.

Point of view: Measure the difference you make

While the overwhelming majority of organisations track energy use, not many do it well: many rely on unsophisticated methods and few measure continuously. This gives them little insight into energy efficiency or how it can be improved. Being able to measure energy usage is key to effective management and demonstrating the difference you can make to efficiency over time.

Measurement brings rewards

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

Energy efficient companies continuously track their consumption, use multiple methods to do so, and are systematic in how they implement change.

Greater energy efficiency is strongly linked to having a range of monitoring/tracking tools: the majority (58%) of the most efficient companies use three or more different measures to track energy.

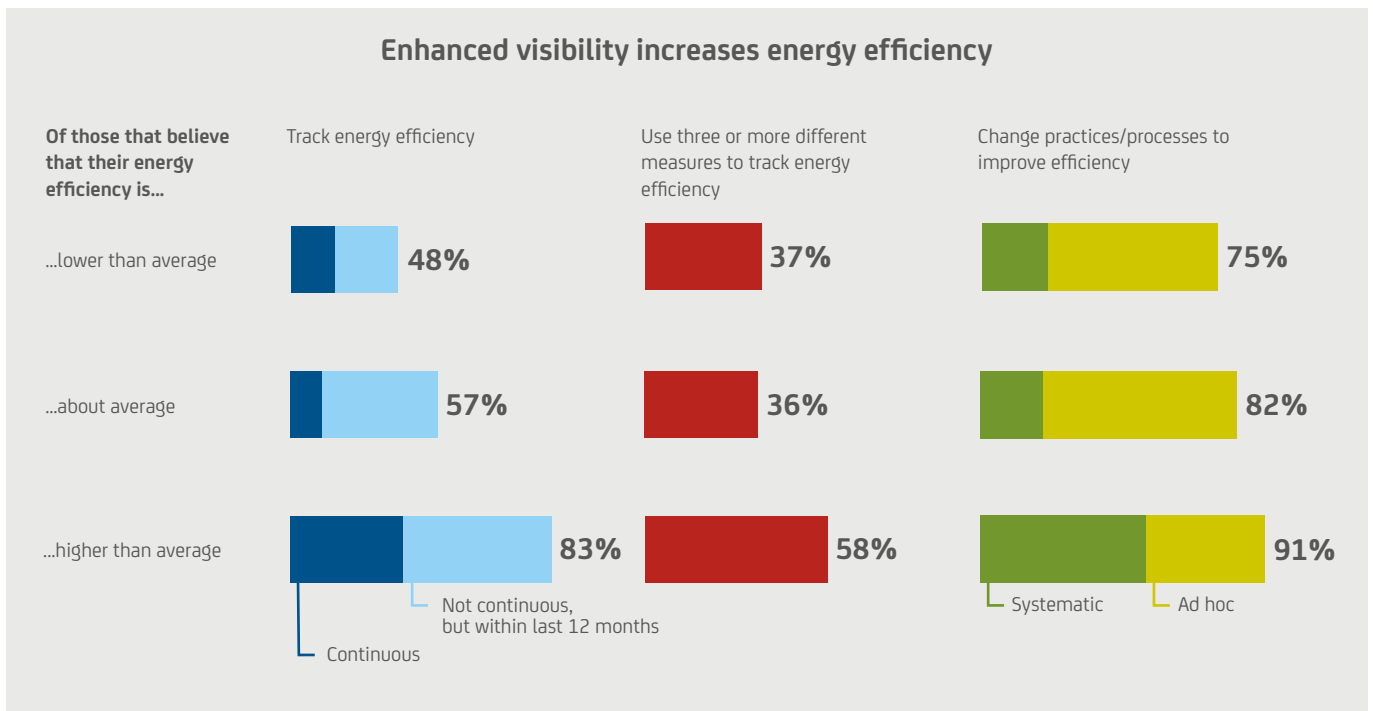


Figure 8: How energy efficient do you believe you are compared to similarly-sized competitors? Is energy efficiency something your organisation measures and tracks? How have you measured energy efficiency within your organisation? Has your organisation ever reviewed or adapted its working practices and processes to improve energy efficiency or costs? [Base: 1,007]

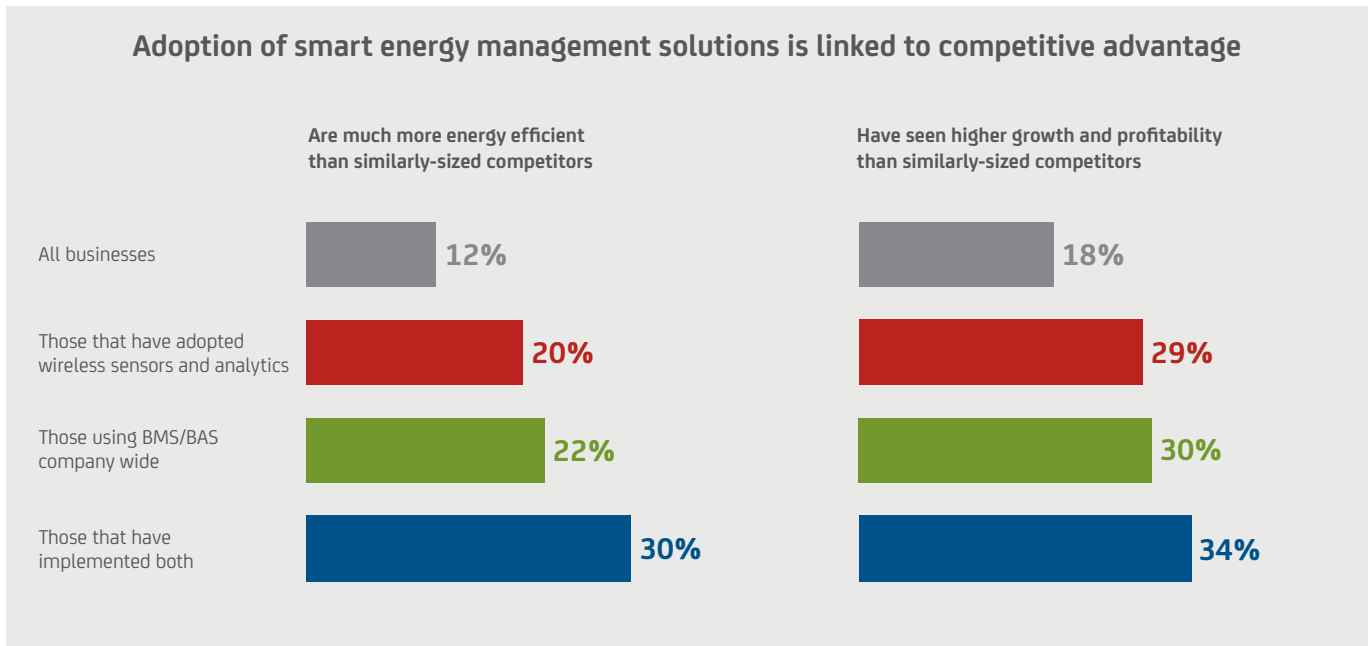


Figure 9: To the best of your knowledge, which of the following energy improvements has your organisation implemented? How energy efficient do you believe you are compared to similarly-sized competitors? How would you compare your organisation’s current performance against similarly-sized competitors for achieving strong financial performance (growth, profitability) [Base: 1,007]

The benefits of smart energy measurement

Smart energy solutions, such as wireless sensors and analytics and BMS/building automation systems (BAS), give companies the opportunity to improve energy efficiency. Almost a third of those that have adopted both wireless sensors and BMS/BAS view themselves as much more energy efficient than similarly-sized competitors—compared with less than one in ten of those with neither.

“If you’ve got smarter energy, then potentially you could have a cost saving to offer to your customer—whether it’s in terms of energy saving in the factory, so our running costs aren’t quite as high, or a packaging change which reduces the cost of a tray for example.”

Product Development Manager, Food Manufacturer, UK

Businesses that have adopted smart energy solutions are also more likely to say they are strongly over-performing compared to similarly sized competitors for growth and profitability. Again, the most confident are those that have adopted both wireless sensors and BMS/BAS.

Implementing “a single pane of glass”, 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 energy savings

A large cement company, with operations across 50 countries, wanted a solution that would give its plant managers full visibility of how its critical machines were performing. We 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 that a conveyor motor was not working correctly, creating a bottleneck. Fixing this delivered a saving of over €200,000 annually at just one location. The data also showed that energy was being consumed unnecessarily across several buildings and plants outside of working hours. Addressing this saved the company some €8,000 a year.

Stories from energy leaders

Point of view: Upgrade your measurement systems

IoT technologies have transformed how energy use is measured. It’s now practical to measure energy consumption down to the device level, whether that’s a motor in an elevator, a fan in an air-conditioning unit or a freezer in a remote store. Upgrading measurement systems can help you gain real-time insights into energy and operational performance across the whole estate, to understand what is happening at building, floor and device level.

Balancing your energy sources

There are many different distributed energy solutions available that you can use to supplement your existing supply. Where are energy leaders investing?

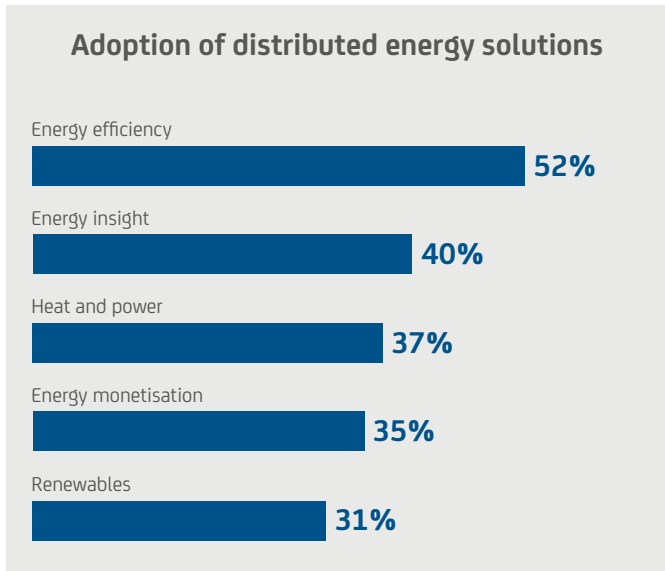


Figure 10: To the best of your knowledge, which of the following energy improvements has your organisation implemented? (See page 30 for the solutions included in each category) [Base: 1,633]

The biggest focus is currently energy efficiency

Organisations have tended to start their energy journeys by introducing measures that will help them deliver energy efficiency improvements to their buildings, these include HVAC and energy-efficient lighting. It's unsurprising that many start here—these are some of the most straightforward solutions, which offer the clearest, and quickest ROI.

The importance of energy insights

Reassuringly, given its importance, two-fifths of organisations say they've already adopted wireless sensors and analytics, or BMS/BAS across at least some of their sites. A further fifth, say they're trialling or planning to adopt these solutions.

Compelling case for heat and power integration

The business case for thermo-electric generation can be extremely compelling. But unlike something like energy-efficient lighting, it may not be suitable for all companies. Typically, it makes economic sense for businesses with high thermal loads (e.g. hot water, steam, chilled water or hot air) and where electricity costs are high.

Businesses are interested in pursuing monetisation

Businesses recognise that adopting solutions such as battery storage units and demand response measures can open the door to energy monetisation. Nearly all companies surveyed were aware that they could get paid for selling power to the grid at times of peak demand; and the vast majority knew about the incentives to flex their power use based on demand on the grid. Over a third are already selling excess capacity back to the grid, participating in supply-side incentives or demand-side incentives.

On-site renewables yet to be widely adopted

Almost a third of businesses have adopted on-site renewables. Clearly adoption of these technologies can be limited by physical considerations—you can't just stick a wind turbine on your inner-city store or add solar panels to your rented branch office. We expect much wider adoption as these technologies and battery storage continue to mature.

While renewables receive the higher profile, more businesses surveyed had adopted integrated heat and power solutions than on-site renewables.

On-site renewables are an area where collaboration between companies can help. Almost three-quarters of businesses believe there are considerable opportunities to share energy infrastructure and generation assets with nearby companies. The most positive about this opportunity are organisations in the US, and companies in the retail and wholesale sectors.

Holiday retreat improves its energy monetisation

The Olde House, a working farm and holiday retreat in Cornwall, UK, was exporting excess solar energy during the day. But it was also importing expensive peak-time energy from the grid when holiday makers returned in the evenings. Centrica Business Solutions' Local Energy Market trial helped fund six energy storage machines. These now shift excess solar energy at times when it's needed on-site. This should improve the utilisation of on-site solar power by 1,800%, and save the company up to 50% on energy imports.

Stories from energy leaders

There is a gap between ambition and ability

Many organisations recognise the advantages of energy improvements—but they don’t know where or how to invest. Two-thirds of businesses say they don’t know how to make better use of the energy generation assets they already have. Nearly three-quarters feel they lack both the commercial and technical expertise needed to realise new opportunities relating to energy. Not many businesses are likely to have the in-house skills to get appropriate aggregation agreements in place, for example.

“When we produce more energy than we need, we’ll sell it back to the grid. It seems to me to be a very positive thing. We’re already doing it, with solar panels. We don’t have wind turbines, but we’re thinking about getting them. In that case, if there was excess we would sell it back.”

Director of R&D, Property developer, Italy

Companies are looking for new methods of funding

Taking on new energy solutions can require significant investment. Currently, traditional funding options are most prevalent: two-fifths of companies have funded initiatives themselves and a third have used government schemes and bank loans. Other funding methods are starting to be used, such as 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.

Leasing and “as a Service” arrangements, while still the exception, are almost twice as likely to be a preferred option among the most advanced companies in our Energy Leadership Model. This supports the belief that funding energy investments through opex will become more prevalent.

Theme park benefits from “as a Service” model

For a theme park, based in a rural location, providing power for its waterpark, hotel guests and staff is a sizeable challenge. It recognised that a CHP would provide the ideal model for energy and carbon reductions, and cost savings. Under a Power as a Service model, Centrica Business Solutions installed a CHP on-site and provides ongoing support. The CHP generates energy savings of 12% a year—and as the unit generates power at source, there is very little transmission loss.

Stories from energy leaders

Approaches to funding of advanced energy solutions

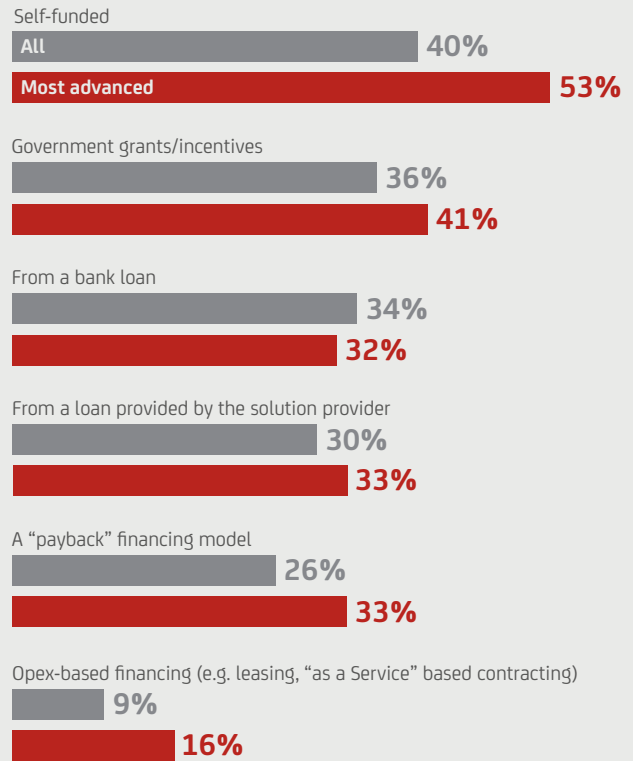


Figure 11: In future, which funding methods for energy investments would you prefer to use? [Base: 957, 132]

Point of view: Consider “as a Service”

At the moment, fewer than one in ten companies see “as a Service” as their preferred option for funding the adoption of advanced energy solutions, but that’s likely to grow quickly as businesses become more aware that this option exists. Much of the lack of interest in this type of delivery model can probably be explained by lack of awareness of it even existing. In many fields, from jet engines to computing, the “as a Service” model is now the norm for new equipment.

Cloud computing is a particularly good example of how the “as a Service” model has evolved. While cost reduction remains a driver, in many cases, especially in the enterprise space, companies are turning to third parties for their expertise. We foresee a similar shift in the energy market, with internal energy management teams becoming centres of excellence dedicated to developing strategy, achieving buy-in and optimising the performance of suppliers.

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.

Energy security ranks as a substantial business risk

Companies are concerned about energy security and resilience. Along with political uncertainty, it's the most likely to be seen as a substantial business risk after cyber-crime. And given the recent focus, and media coverage, of cybersecurity issues, this shows just how real a concern energy resilience is. It ranks above natural disasters and even financial risk.

The concerns are well-founded

Businesses are more dependent on energy than ever. And as they depend on power-reliant technology—from the 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 organisations agree that the cost of being energy resilient is less than the cost of a power failure.

Many organisations 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 a third have also faced problems where internal factors, including equipment failure, have interrupted their supply.

Pharmaceuticals company avoids disruption

A leading pharmaceutical company's site in Italy produces a vaccine that must be kept within certain ambient temperatures. If it fails to do this, it must dispose of the vaccine. The company's task is made harder by the fact that its warehouse is located in an area that suffers from disruption to its energy supplies. Centrica Business Solutions installed a CHP unit which is helping to protect the business by ensuring continuity of supply to the site.

Stories from energy leaders

The biggest perceived risks to organisations

See as substantial risk

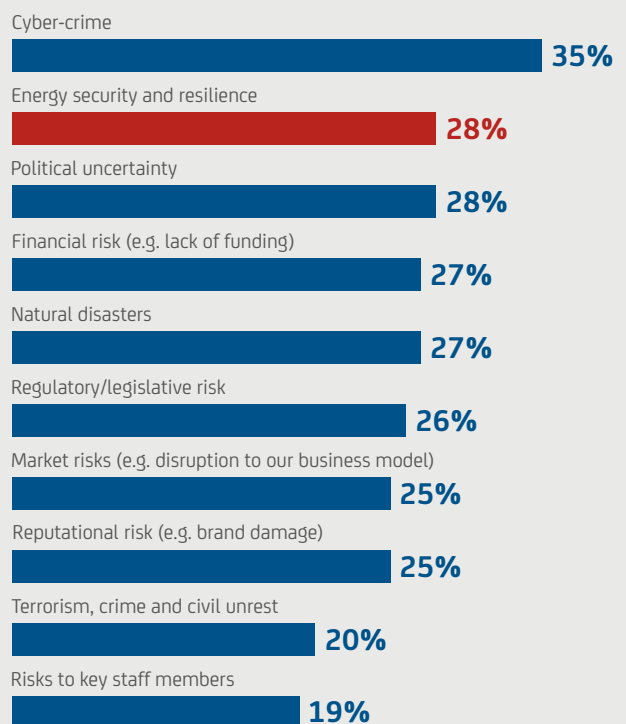


Figure 12: Which of the following do you see as substantial risks to your organisation? [Base: 957]

“We have to be able to supply our customers and keep products moving. So, it's about planning ahead so that if the worst-case scenario does happen, there's always a back-up plan in place to follow. It's reviewed every 12 months and so we're probably in tune with thinking about things that probably wouldn't happen; so, we're thinking a little bit more outside the box and ensuring that we've got processes in place.”

Product Development Manager, Manufacturing, UK

Many aren't assessing the risks effectively

Concerns about energy resilience and the experience of power outages, aren't always driving businesses to rethink their approach to energy. Many organisations aren't regularly assessing the risks of interruption to their energy supply—only a quarter have done so in the past year.

Real estate companies (24%) are almost twice as likely as those in the travel and tourism industries (13%) to have assessed the risks in the past year.

US-based organisations are the most likely to have assessed the risk of interruptions to supply in the last 12 months: around a third have done so, compared to less than a fifth of British ones. This could be because it's seen as a bigger threat—almost two-fifths of US-based companies said they are significantly concerned about interruption to energy supply due to external factors, compared with a quarter of those in Italy and the UK, for example.

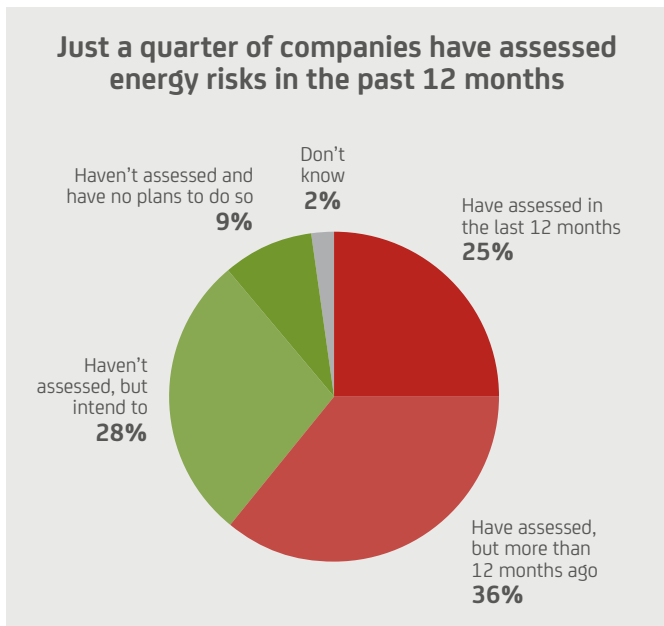


Figure 13: To your knowledge, has your organisation ever fully assessed the risk of interruption to its energy supply? [Base: 1,007]

Assessments aren't always comprehensive

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 across all locations.

Even when organisations carry out energy resilience assessments, they don't always do so comprehensively. Assessments at a fifth of companies didn't cover all locations. And the picture is worse still if we look at organisations without a documented energy resilience plan. In this instance, around three-fifths of those companies that have conducted resilience assessments didn't assess all sites. In contrast, the vast majority of companies with more advanced approaches to energy conduct assessments and do so across all locations.

"I cannot afford to be without electricity—that's why we have a generator. If you lose the power of the furnace then you lose the furnace. That's a fiasco because it's not just a case of fixing the machine—it means everything has stopped and you have no supply of glass. It's how you do business continuity in the event of a disaster or a furnace blowing up or going on fire; it's where we can get the glass from. We never shut it down unless we are rebuilding, which is about every five years."

Plant Production Manager, Glass Manufacturer, Ireland

Battery storage increases resilience for UK district
 Gateshead Council in the UK is bringing together multiple energy sources to generate cost savings and improve energy resilience. The Gateshead District Energy Centre includes a pair of 2MW CHP units, capable of powering 3,000 homes. Centrica Business Solutions has helped the council supplement this with one of the UK's largest commercial battery storage schemes. With a total capacity of 3MW, the storage units can power the 3,000 homes for up to an hour. That's giving the local council greater resilience, more flexibility in how it manages energy and helping future-proof its supply for further commercial and residential developments.

[Stories from energy leaders](#)

Point of view: Don't be left vulnerable
 With greater demands being made on energy, the predictability of supply from central sources is only going to get worse. Many companies are also working with aging infrastructures that need to be modernised. All of this is making a strong business case for more regular assessments of energy resilience, more rigorous maintenance approaches, back up solutions and reduced reliance on the grid.

Linking energy plans to business outcomes

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



Figure 14: Why has your organisation chosen to adopt some form of energy strategy? Why do you not have an energy strategy? [Base: 957]

Enablers or barriers?

Organisations 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. Those that haven't adopted an energy strategy, typically give "expertise"—such as not knowing how to define an energy strategy or not having the right partners to help—as a reason.

With the exception of the energy intensity of the business and regulation, all these factors are within the control of the business. Interestingly, factors which some companies see as enabling them to develop their energy strategy, some others see as holding them back.

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.

Centrica targets 50% emissions reduction by 2025

In 2007, we set ourselves a target to cut global carbon emissions from our 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, as well as the installation of LED lighting at numerous sites. An enhanced BMS allows us to gain greater insight and control the energy we consume to increase operational efficiency. In Oxford, UK, we developed a low carbon office capable of obtaining over 30% of its energy from low carbon and renewable technology.

In Windsor, UK, we are 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 optimising when power is imported, help balance the grid, and provide capacity to ensure the lights don't go out.

Stories from energy leaders

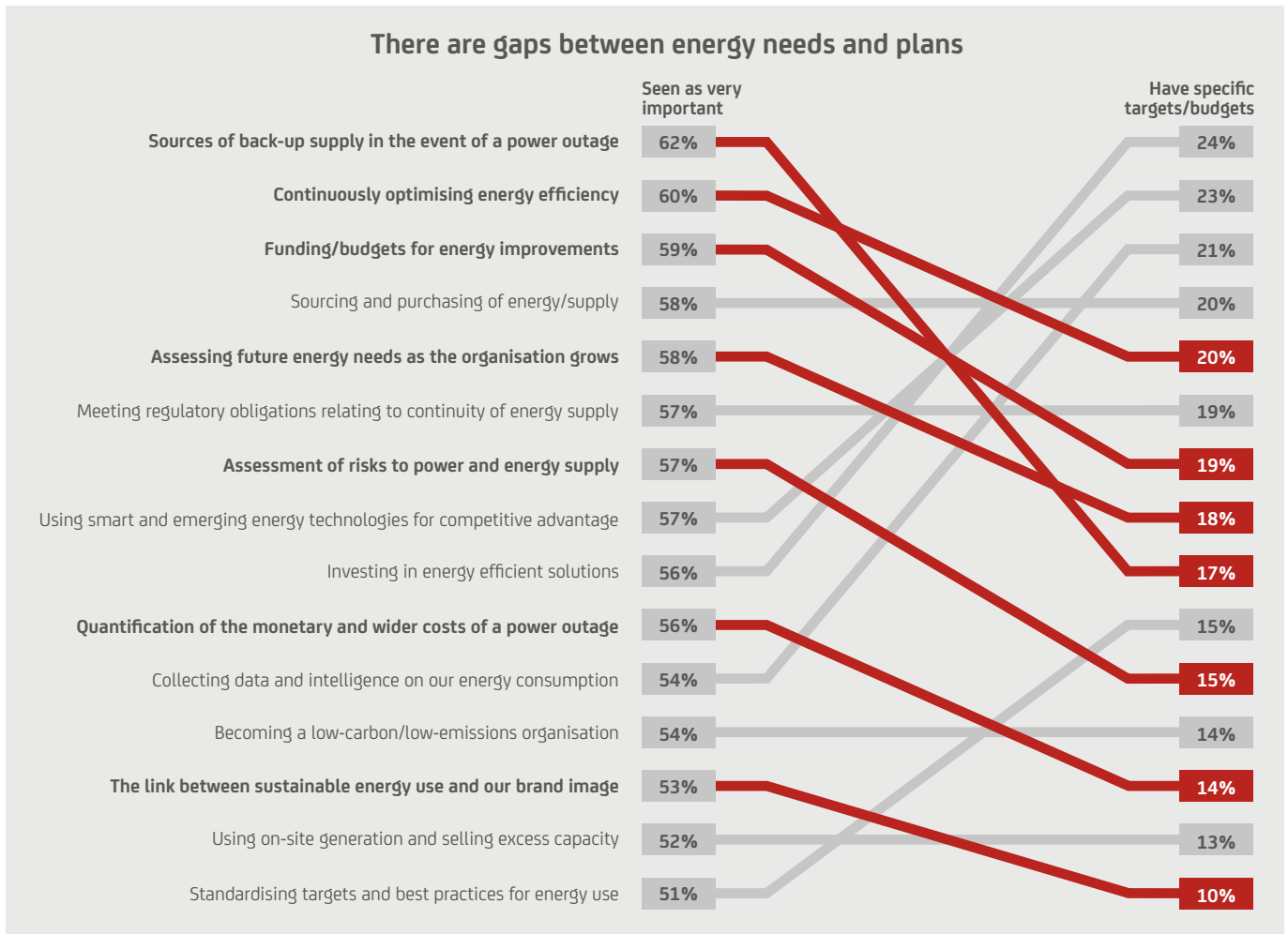


Figure 15: How important are the following topics relating to your organisation’s use of energy? [Base: 864]. For those areas where there is some detail in your energy strategy at present, are there specific targets, actions or budgets set for these? [Base: 631]

Few have a comprehensive energy 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 organisations 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.

Point of view: Make formal plans
 For many organisations today, their energy strategy goes no further than a statement of intent. To accelerate your journey, you need to formalise your plans, show how your energy initiatives will impact the business, and how you’ll measure this. Creating a link between your energy plans and your business strategy is an important step towards becoming an energy leader.

“It makes you plan a bit more for the future. If you’ve got a strategy in place then you can look at ways of reducing those costs, whether it’s by a percentage or whether it’s actually a revenue cost that you want to save.”

Product Manager, Food Manufacturer, UK

Practical steps you can take now

What can you do to accelerate your energy agenda and get the business on board? Here are three steps that will get you on the right track.



Recommendation 1:
Formalise your energy plan



Recommendation 2:
Build your team



Recommendation 3:
Develop a compelling
business case



1. Formalise your energy plan

Nearly three-quarters of companies have an energy strategy, but less than half of them are formalised and followed consistently.

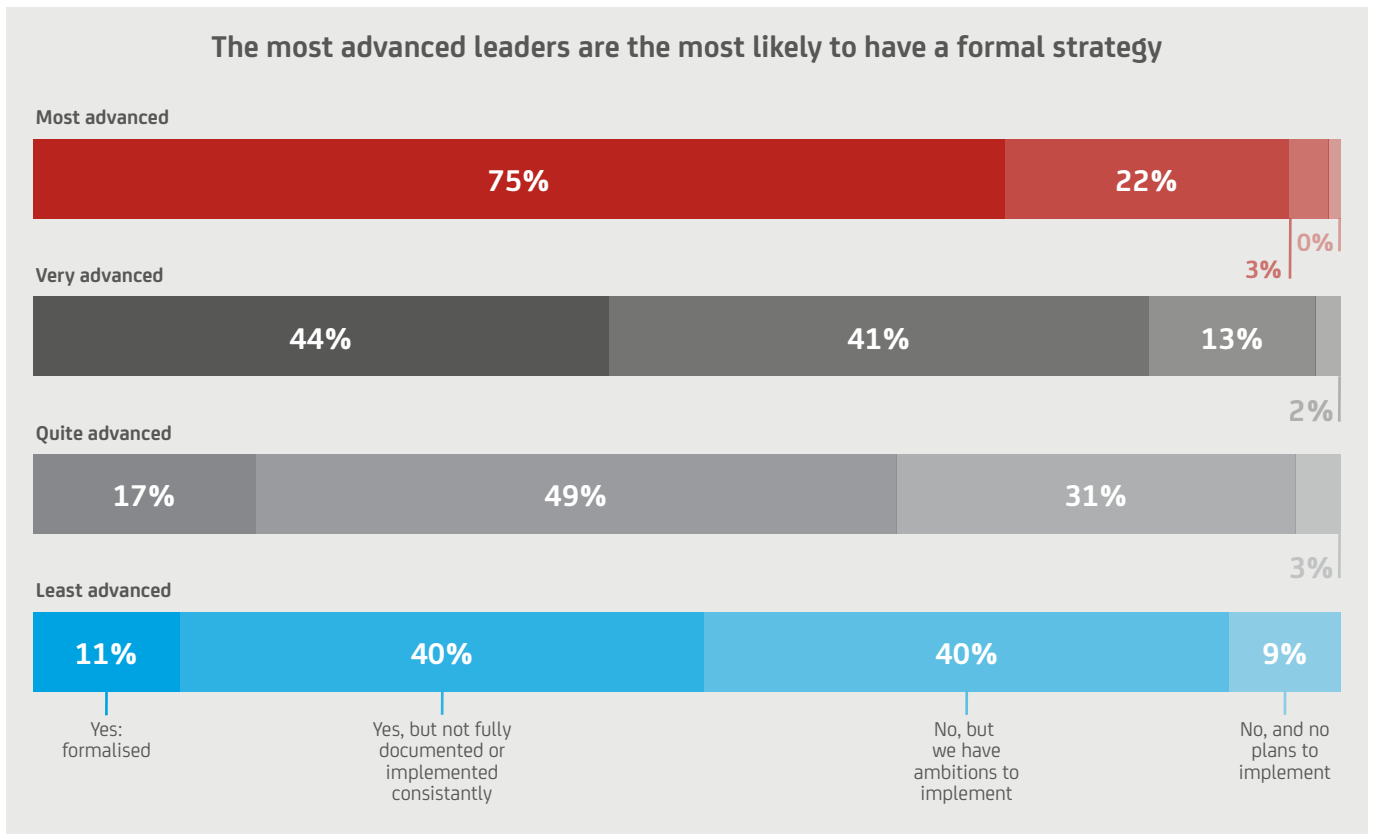


Figure 16: Does your organisation currently have an energy strategy? [Base: 997]

Having a formalised energy strategy is key

There is a clear linkage between how advanced a company is as an energy leader and having a formalised 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.

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

Point of view: Develop internal relationships

The C-suite can sometimes overstate the progress their organisation has made in achieving energy efficiency. Well over half (56%) of these executives believe their company is now more energy efficient. That compares to half (50%) of energy managers and just over a third (36%) of finance and procurement respondents.

For your strategy to be a success, you need to forge strong relationships across the business. Everyone needs to understand the value of having an energy strategy and have a clear view of the current state of play.

How to create a formal energy strategy

Each company's energy strategy will be different, reflecting its operations, current energy use and the level of its ambitions. However, there are four important components that we think should always appear.



Mandate: Demonstrate C-level support

Any energy strategy needs to include definitive backing from the organisation's senior leadership. Without strong C-level support, an energy strategy has less chance of achieving its objectives. Visible support from leadership is key to convincing cynical stakeholders—employees, shareholders and others—of the importance of energy strategy in achieving the company's goals.



Motivation: Show stakeholders why it's a good idea

An energy strategy shouldn't just be about the technologies and targets. Communicating why the company is changing how it considers energy is vital to achieving stakeholder engagement. Present the potential benefits, and show how companies with energy strategies rank themselves as outperforming their rivals on a number of metrics, including innovation, sustainability, customer-centricity and attracting and retaining the best people.

Different stakeholders—investors, partners, customers and employees—will have different objectives and the energy strategy should show how it will benefit all the groups that are important to you.



Measurement: Define your targets and commit to improving how energy use is monitored

Many companies still rely on very rudimentary ways of tracking energy use, like looking at quarterly bills. Building more sophisticated ways of measuring energy use and identifying areas for improvement is key to increasing energy efficiency and demonstrating results. Targets are also important to demonstrate commitment and progress. These targets must allow for flexibility as measurement improves and understanding of the organisation's energy use changes.

Start by completing a thorough audit of working practices and behaviours of both frontline staff and executive management. Consider investing in smarter measurement, using Internet of Things devices and an energy management application



Means: Show how you're going to meet your targets

Some solutions, like CHP and on-site renewables, will depend upon practical considerations. Many, like energy-efficient lighting and building management systems, will be relevant to most companies. When looking at all the solutions that are relevant to your business, you'll want to consider how easy to implement each is and how quickly it can deliver ROI. Many companies start with easily achievable projects like energy efficient lighting and HVAC optimisation, and use the savings to invest—or justify the investment—in more complex, longer-term projects. More visible projects, like LED lighting, can also help build awareness and change behaviour throughout the company.

2. Build your team



Businesses want to improve their energy usage, but many lack the ability to put this ambition into practice. Finding the right partners can help.



Figure 17: What types of information and support are you looking for from partners in the future regarding the implementation of an energy strategy for your organisation? [open ended]

Aspirations don't match ability

Overall, awareness of the commercial opportunities that energy investments present is high (94%). Over three-quarters of organisations are considering adopting at least one demand-side advanced energy solution.

There's a gap between companies' aspirations and their ability to take advantage of all the energy options available to them. To close this gap, organisations will need to increase their level of energy expertise. They can do this either through recruitment or, more likely, by working more closely with suppliers.

Companies are looking for support across the board

Businesses aren't just looking to suppliers to help them implement and run their energy solutions, they want help across the board. They're looking to providers to help them put together a strong initial business case—to give them guidance on how they can achieve the best ROI and how they can use energy more efficiently. They're looking for help in selecting the right solutions for their business—solutions that will meet their business needs both now and in the future. Beyond design and implementation, they want reliable and honest suppliers they can work with as partners. These providers should be able to help them assess their energy use and identify possible improvements.

Finding the right partner

With an increasing choice of energy solutions comes complexity. There is a need for companies to take advantage of external expertise to simplify and standardise; and to keep on top of new technologies.

Just 6% of organisations currently see their current supplier as a “true energy partner”.

Businesses regard energy suppliers as the most natural fit for helping them to define and implement their energy strategy. That said, only one in four organisations is currently working with them to implement energy management measures.

Some energy leaders are working with their suppliers to reduce waste across the supply chain. For example, some major retailers offer their suppliers tools to help them reduce their energy consumption and environmental impact. As well as reducing the retailer’s carbon footprint, it can also help to identify savings that can be passed on to the customer in the form of lower prices.

Employees can help identify efficiencies

No supplier has a magic bullet. There often needs to be a cultural shift within the organisation. That’s difficult when, according to half of the respondents to our survey, employees are not encouraged to suggest energy improvement methods. These businesses are missing a massive opportunity, both in terms of savings and employee engagement. Those “closer to the ground” in terms of energy usage can provide valuable insight into opportunities to improve efficiency and performance. And engaging employees is crucial to realising the anticipated benefits of many energy efficiency initiatives.

Point of view: Co-create with your suppliers

Many organisations still think about energy in terms of a procurement exercise. That can mean they set very narrow scopes for projects, which don’t take into account all the possibilities. You can benefit by involving potential partners earlier. By inviting them to co-create the scope of your project, you’ll gain an additional expert perspective. You’re more likely to benefit from their experience and identify innovative approaches. And, ultimately, you could save time in a procurement exercise and avoid a sub-optimal solution.

3. Develop a compelling business case



How can you convince the C-level that energy management should be on the agenda? Here are some ideas for building a successful business case.



Show you understand business needs

The impetus for investing in advanced energy solutions will be different for different organisations. Whatever your motivation, the key to building a strong business case is to demonstrate how it supports the overall business strategy. While lots of companies are still primarily focused on managing costs, for many resilience is a growing priority and some want to demonstrate their corporate social responsibility (CSR) credentials.

Your business case also needs to be based on a thorough understanding of business plans. Without this, it can prove difficult to estimate the size of a project accurately. We've seen businesses invest in solutions for sites that subsequently close and, conversely, introduce solutions that can't scale when a site's capacity grows. This can also be due to a lack of good information on existing energy use.



Reimagine how you present the financial benefits

Some businesses are concerned that the ROI of investing in energy is too uncertain. Like many other investments, the payback can take time, but the benefits can be substantial and long-lasting—and can extend far beyond things you can easily put a figure on. Your energy investments can help you be more flexible, support growth and protect you from market volatility.

You can strengthen your business case by translating your savings into meaningful metrics that resonate with decision-makers—for a hospital, the energy savings from installing a CHP system could enable it to employ many more nurses. You could also demonstrate how ROI could be used to fund other parts of your energy strategy—for example, a reduction in energy costs could fund LED lighting.



Address business risk

There is growing uncertainty and risk around energy supply, especially now that half the energy bill comprises non-commodity costs. Having a strong procurement team can only go so far in protecting you from increasing energy prices. Moving away from a centralised model provides greater resilience to changes in the future price of energy—as well as to outages and equipment failure.

There are other risks too. Many large organisations are now bound by regulation and industry standards. Those that fail to comply with these could face financial penalties and damage their CSR credentials.

In the UK, for example, the Energy Savings Opportunity Scheme (ESOS) requires that qualifying companies carry out an audit of energy use by their buildings, industrial processes and transport every four years, and identify cost-effective energy saving measures. The compliance period for phase 2 of ESOS is already underway—the deadline is 5 December 2019. This presents a real opportunity for businesses to make the case for change.



Provide options

Business leaders like to be presented with options—for example, options that provide a different balance between emissions and financial targets. This demonstrates to them that your business case has been thoroughly evaluated and helps to show why you've made certain recommendations.

You should also address the different funding options available. As our research shows, advanced energy solutions are still often self-funded. Now, however, there are many other options available.



Look to the future

The best place to start when devising your business case, and energy strategy, is at the end. It helps to have a clear picture of your desired end goal, and then work back from there. Energy solution providers can help you with this—after all, they're the ones with the technical expertise and experience in supporting other organisations. By presenting them with a problem you want to solve, instead of asking for a cost for a specific solution, you're more likely to benefit from their creativity and innovation. We've seen some companies engage a number of trusted suppliers to support them in co-creating a strategy.

What your future vision looks like will depend on the nature of your business. It should, however, encompass your whole business. A mature coherent strategy builds in repeatable best practice and standardised solutions that can be implemented business-wide.

Point of view: Adopt a whole lifecycle approach

When you're setting out on a new energy project, you need to think beyond the initial design of your proposed solution. On many occasions we've been brought in when a company has encountered difficulties moving from implementation to ongoing service and maintenance.

You need to take a joined up approach and develop an end-to-end strategy. That extends to how you choose and manage your suppliers. Having a single supplier that takes you through design and implementation, and also manages your solution can provide the greatest continuity. You may, however, feel more comfortable working with a number of trusted providers—perhaps including legacy suppliers. In this case, it's important to select suppliers with a track record of managing successful partnerships.

You can add weight to your business case by including a rigorous process for selecting and managing suppliers. You should be clear about what value suppliers can add, and make sure that any promised savings are written into your contract.

Next steps

Share the executive summary with your senior leaders

Want to get business buy-in? Our summary report compresses all the key messages of this report into an easy-to-digest eight pages.



Find out if you're an energy leader

Discover how your energy initiatives compare to similar organisations in your industry with our easy-to-use self-assessment tool.



Speak to an expert at Centrica Business Solutions

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

centricabusinesssolutions.com

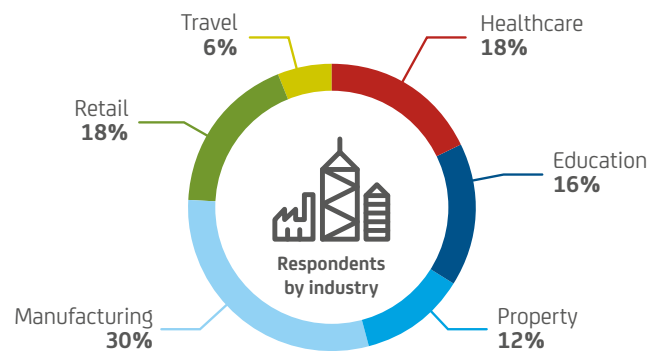
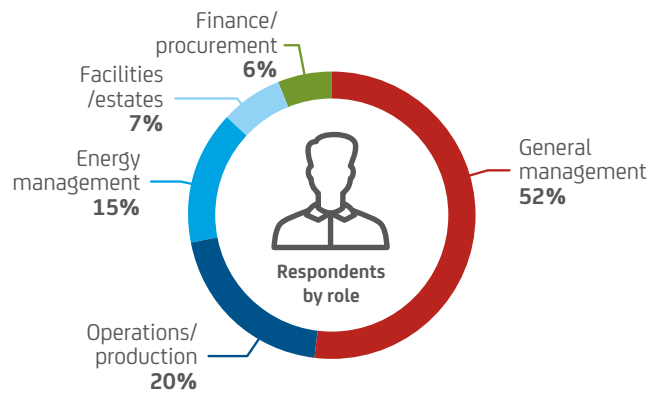
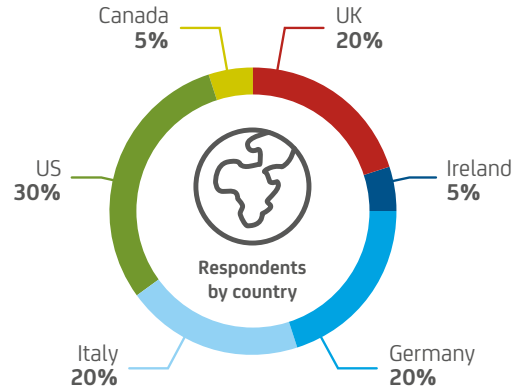
Contact us by phone: +44 2036 375 370 or email:
CentricaBusinessSolutions@centrica.com

About this research

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

Most of the figures in this report are based on qualifying respondents only—those that have started their energy journey. Figures 1, 4, 6, 7 and 10 are based on qualifying and non-qualifying respondents, so as to reflect all businesses.

The industries and countries they represented are shown below.



Energy Leadership Model

The Energy Leadership Model is based on how organisations rated themselves against the following:

- We have a comprehensive, end-to-end view of energy efficiency
- We measure and track energy efficiency, at least annually
- We're very good at transforming energy data into specific, actionable improvements
- Awareness of energy efficiency among our employees is very good
- Being energy resilient is a potential selling point
- Our reputation depends on having a consistent energy supply
- My organisation assesses the risk of interruption to its energy supply, at least annually
- When we assess energy resilience we do it across all sites
- We outperform similar companies on being socially and environmentally responsible
- We outperform similar companies on operating a sustainable business model
- Green credentials will be an essential component of brand value of all businesses by 2025
- Our energy supplier provides us with advice

Distributed energy solutions

Distributed energy solutions include the following:

Energy efficiency: Energy efficient lighting, back-up generation/standby power, HVAC unit optimisation, efficiency improvements to the fabric of buildings

Energy insight: Wireless sensors and analytics, BMS/BAS

Heat and power: CHP/cogeneration, thermal/electrical efficiency solutions

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

Renewables: On-site solar panels, on-site wind turbines

Subsectors

Education: Schools, colleges, universities

Healthcare: Hospitals, healthcare facilities, care homes

Manufacturing: Food, drink, CPG, industrials, pharma, other

Property: Commercial real estate, property management, construction, trades, property development

Retail: Retail, wholesale trade

Travel: Hotels, lodging, hospitality, leisure, entertainment, recreation

Glossary of energy terms

Battery storage systems High-powered storage systems that can deliver a number of financial, operational and environmental benefits. They can be used to increase the usability of renewable energy sources, increase resilience and generate revenue by selling excess power to the grid.

Building management systems (BMS)/Building automation systems (BAS) Computer-based systems installed in buildings to monitor and maintain ventilation, lighting and heating systems.

Combined heat and power (CHP)/Cogeneration A system that generates heat and power simultaneously. Instead of the heat produced as a by-product of generating energy being wasted, it's captured and put to use.

Demand-side management (or demand-side response or flexible load) Technology that helps companies to balance supply and demand and manage consumption. By reducing energy use at peak times, they can save money and earn incentives. These are typically financial and are offered by the energy provider.

Demand turn up A scheme which pays a company to shift operations to times of day when there is an excess of energy production—often from wind farms and solar power facilities. An example would be a factory moving production to a time of day when energy supply is high, but demand is low.

Distributed energy (or distributed generation or decentralised generation) A broad range of generation, storage, energy monitoring and control solutions that enable companies to increase energy efficiency, resilience and performance. This can include on-site generation—often through renewables or CHP.

Energy as a Service An emerging model that gives large energy consumers greater choice than the traditional “energy as a commodity” model. The characteristics of “as a Service” models in energy are different to those in IT—energy is already mainly supplied on a “pay as you go” basis and scales to meet demand. In energy, the focus is on giving more flexibility over how energy is produced (often from a mix of sources, both on-site and remote), who owns the assets, the degree of resilience, and pricing models.

Energy management system (EMS) Computer systems that enable centralised measurement and control of the use of energy across multiple sites such as factories, stores and office buildings. These systems have superseded SCADA systems. The term EMS is also used to describe systems utility companies use to manage energy grids.

Energy leadership A measure of how far along a company is on the journey to leveraging the full potential of energy. It is based on two aspects: execution and vision (see page 10).

Energy strategy A plan which sets out a company's energy-related goals. This would typically include targets and plans to improve energy efficiency, resilience to disruption, sustainability and competitive advantage.

Feed-in tariff The price paid to independent energy generators—including on-site renewables and energy recovery systems—for the electricity they supply to the grid.

HVAC Heating, ventilation and air conditioning.

Internet of Things (IoT) Connected equipment that is able to share data with other connected devices and systems. This can include everything from room thermostats to sensors on industrial equipment.

Payback financing model A model where investments in infrastructure improvements are funded by a third party, typically a supplier, and paid for out of ongoing energy savings or increased revenue. This reduces the capex burden on the company.

Resilience The ability to maintain operations despite disruptions in energy supply. This typically involves alternative sources such as diesel generators and battery storage systems.

Smart lighting Lighting systems—typically based on more energy efficient technologies, like LED—that can sense and react to their surroundings. For example, turning on/off automatically based on occupancy and ambient light.

Supply-side management The orchestration of energy resources in the most cost-effective manner possible. This would include changing the mix of energy sources used as availability and costs change—which can happen minute by minute on large commercial contracts.

About 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 will satisfy our customers, deliver cash flow growth and returns for our shareholders and be efficient and excellent in our operations.

We are shifting investment towards our customer facing businesses—organised around two global customer facing divisions: Centrica Consumer and Centrica Business, focused on, the residential consumer and the business customer respectively.

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.

About Centrica Business Solutions

Centrica Business Solutions is at the forefront of supporting organisations 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 one in four 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.

Learn more about how Centrica Business Solutions can help you power your business ambition by visiting centricabusinesssolutions.com

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