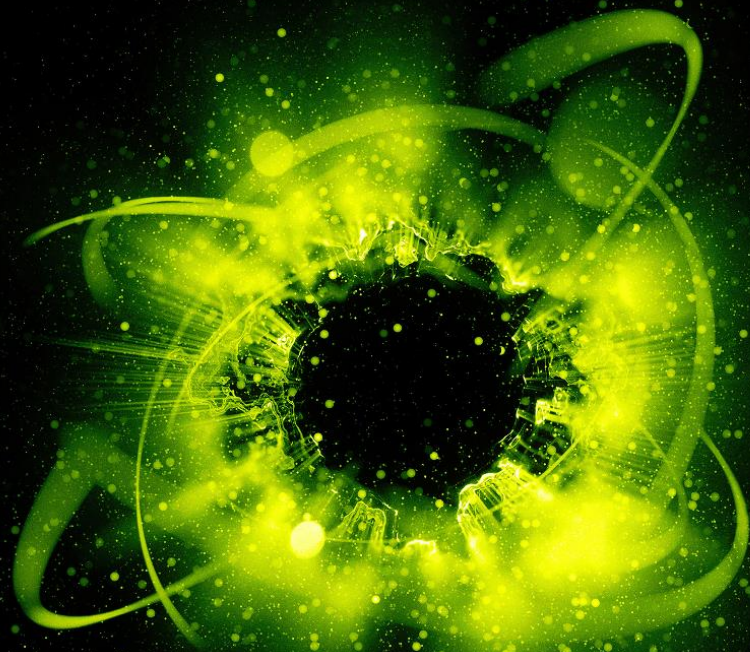







Deloitte.



Deloitte Resources Study:
10-years of key business trends
in energy management



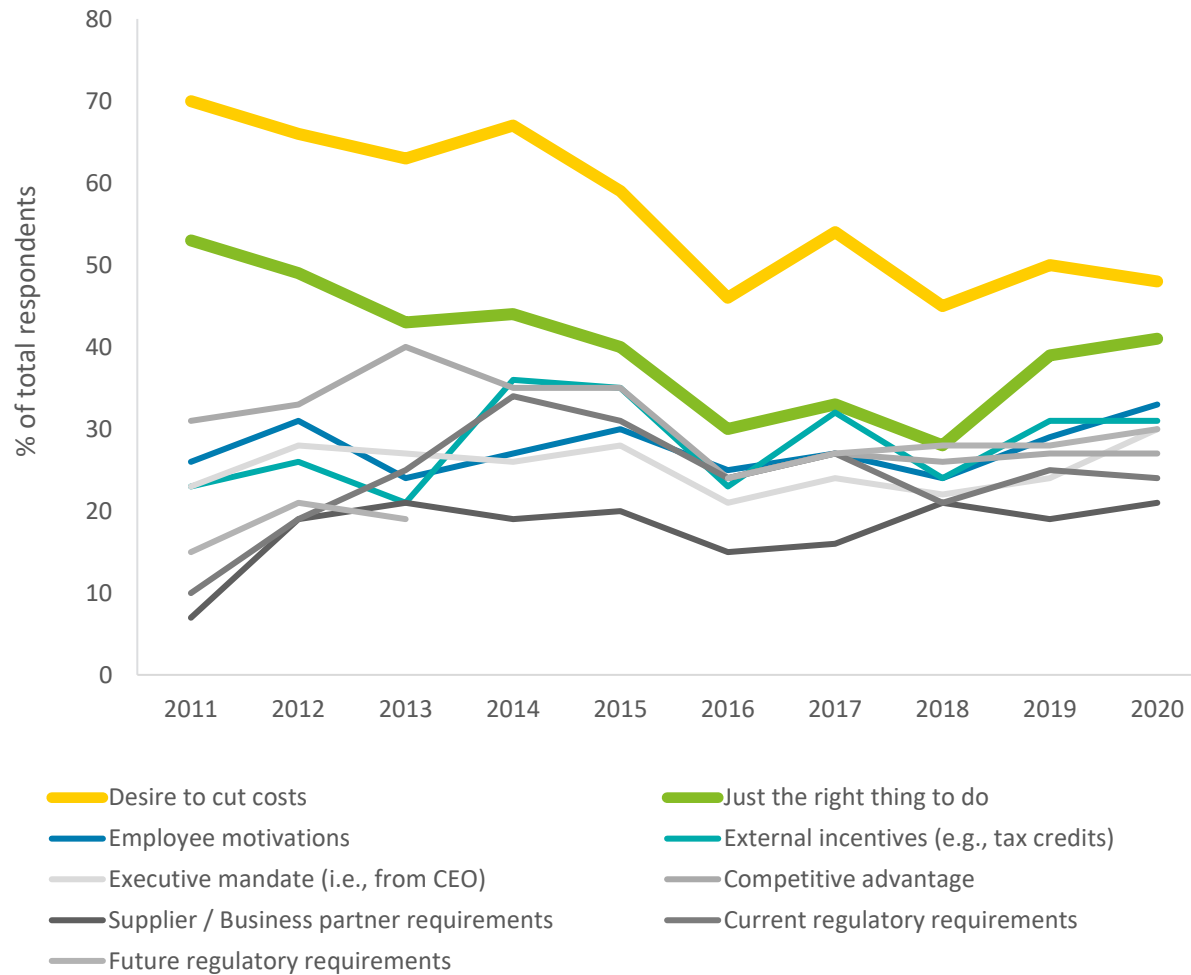


Years	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Key themes 2011-2020*	Changing business attitudes and practices help make investment and business decisions	Energy management efforts at U.S. businesses intensifying	The Power Shift: Businesses take a new look at energy strategy	Energy management becoming core business competency	Energy management: passes the point of no return	Energy management: Navigating the headwinds	Energy management: sustainability and progress	Energy management: Business are answering the call for environmental responsibility	Businesses move full speed ahead	Paused by pandemic, but poised to prevail
Motivations for energy management 	Driven by cost consciousness and social awareness, businesses are voluntarily charging ahead with conservation	Desire to cut costs emerges as the top motivator	Regulatory requirements are gaining momentum	Cost cutting remains important About one in three businesses surveyed cite external incentives as key drivers	Cost cutting is no longer overwhelmingly dominant. Energy management is becoming a core corporate discipline, motivated by image in addition to financial advantages	Competitiveness remained a top driver; 83% of business respondents say they view reducing consumption as essential to staying competitive from a financial perspective	Companies' views of energy procurement are shifting from merely a cost to an opportunity for reducing risk, improving resilience, and creating new value	Desire for some type of certification and supplier/business partner requirements see biggest jumps	Economics and sustainability together dominate top drivers	Employees, board members, and customers are key motivating stakeholders
Energy management vision, mission, and goals 	About 46% of surveyed companies have formal goals	About 50% of surveyed companies have formal goals, but measuring progress against goals can be difficult	More companies report setting resource reduction goals beyond electricity, such as for natural gas, but targeted reduction levels are generally less aggressive - averaging 19% across resources, compared to 24% in 2012	Half of surveyed companies continue to report setting formal energy management goals - and resource reduction goals (electricity, natural gas, water, and transport fuels) trended back upward	Surveyed companies with formal goals surpasses 55% Business see clear link between energy vision and strategy	Alignment of energy management vision with corporate strategy weakened, with 47% of businesses surveyed reporting full alignment, down from 52% in 2015	Energy management alignment with corporate strategy, incorporation across business units, and integration into employee goals all rose	Businesses report starting to reap the rewards of driving their energy management programs into business units and operational sites	Businesses are setting resource management goals, formalizing them, and linking energy compensation	Respondents reporting alignment of energy vision/mission with corporate strategy reached the highest level yet - 70%
Energy self-sufficiency and resiliency 	Self-generation is getting attention and meeting a portion of internal power needs	35% of companies surveyed are currently generating their own electricity through renewable sources or cogeneration	One-third (33%) reported their companies are generating at least some portion of their electricity supply through onsite generation	On-site generation gains more ground; over four-in-ten respondents report having some form of onsite electricity generation	More than half (55%) of businesses surveyed currently generate some portion of their electricity supply onsite	Major motivations for onsite generation include price certainty (37%), cost savings (37%) and diversity of energy supply (36%)	35% of business respondents indicated that they have considered implementing or participating in a microgrid in a question that debuted this year	Price certainty, diversity of energy supply, cost savings and resiliency were the major motivators for respondents for on-site electricity	Nearly half of the businesses surveyed were concerned about cyber risk to electricity supplies in response to a debut question	Quest for self-sufficiency rose sharply during the decade, with onsite generation gaining nearly 40 points, rising from 21% to 60%
Renewable energy procurement 	-	Participation in renewable energy programs offered by electric companies rose to 37% of surveyed companies, as awareness and availability of programs expanded	Awareness of green energy programs rose, but participation softened from the previous year, with cost the most common barrier	On-site renewable installations accounted for, on average, 10% of total electricity supply for respondents who have onsite generation	Businesses reporting onsite generation were in the majority for the first time (55%), and they reported renewables at 13% of their electricity supply, up from 10% the prior year	Businesses give the green light to renewables, with 52% reporting they are working to obtain more electricity from renewable sources	Combining battery storage with renewables can sweeten the deal: 58% of respondents who are not working to procure renewable energy, say combining with storage could motivate them	Respondents are increasingly reporting customer pressure to procure more electricity from renewable sources	47% of companies say that they're working to procure more electricity from renewable sources	Companies report procuring more renewable energy from a wider variety of sources
Challenges to implementing energy management programs 	Corporate progress on energy management in danger of stalling as financial hurdles loom	Capital funding is respondents' number one challenge to future progress	One-third of companies surveyed say bureaucracy is the primary challenge to achieving goals	Investment payback period and measuring impact of investments on bottom line are notable challenges	Length of payback period, measuring impact of investments on bottom line and lack of dedicated staff are major challenges	Length of payback period was the primary barrier to achieving resource management goals with fewer citing staffing or strategic challenges	More business respondents cited strategic challenges, staffing, and internal bureaucracy as primary challenges to success than in 2016	Capital funding emerged as the major challenge with strategic and bureaucracy challenges reducing considerably	Length of payback period remained the primary challenge and regulatory uncertainty dipped significantly	Lack of time, commitment, and capital for investment emerged as the major challenges by 2020

*Based on responses to the annual Deloitte Resources Study survey

Motivations for energy management

Energy management drivers over the decade (2011-2020)



Source: Deloitte Resources Study Survey 2011-2020

10-year trends

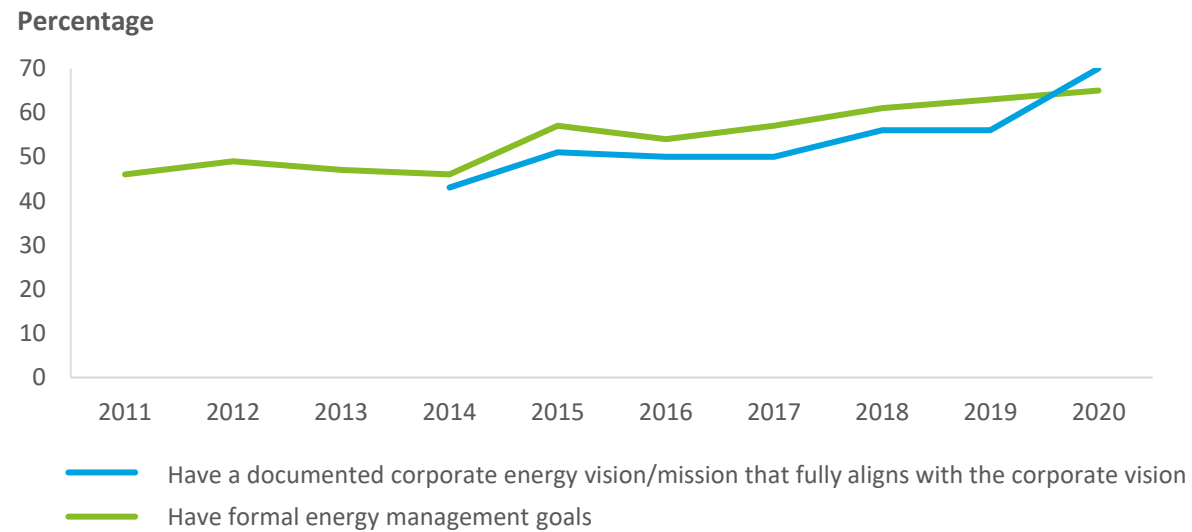
Over the decade of our surveys, the primary drivers for businesses to implement their resource management programs have been desire to cut costs, right thing to do, employee motivations, and external incentives.

- “Desire to cut costs” was the top motivator of respondents throughout the 10 years. However, toward the end of the decade, the “right thing to do” began gaining ground against it, as ESG goals became core to corporate strategy.
- The “right thing to do” rose for respondents after 2018 as companies responded to changing expectations, such as supplier/business partner requirements to reduce carbon emissions in the supply chain and the desire to achieve certifications such as LEEDS for green buildings. Efforts to improve company image began permeating the broader business environment.
- External incentives, such as federal and state tax credits for renewables and energy efficiency investments, were also strong motivators. And concern about current and future regulatory requirements, if combined, would surpass all other drivers for respondents in some years.
- Internal stakeholder (employees, board members) and customer pressure to combat climate change had also become key motivators for respondents for managing energy use by 2020.
- In 2020, there was a noticeable jump in respondents (90% compared to 81% in 2017-18) who view energy procurement as “an opportunity to reduce risk, improve resilience, and create new value rather than as a cost.”

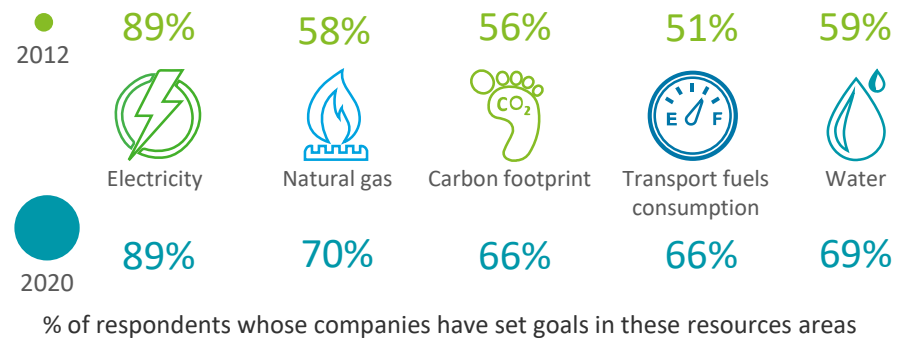
Energy management vision, mission, and goals



Formal energy management goals and alignment of energy vision/mission with overall corporate vision



Setting goals across more resource areas



Source: Deloitte Resources Study Survey, 2011-2020

10-year trends

Over the decade, surveyed businesses increasingly set formal energy and resource management goals, expanded them to more resource areas, and met them. In addition, respondents increasingly said their corporate energy vision/mission aligned with their company's overall corporate vision.

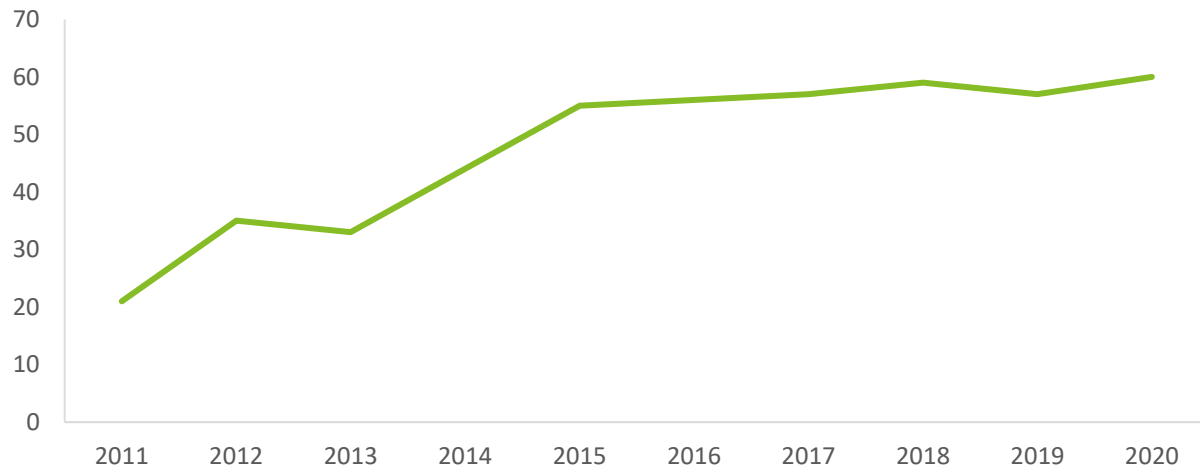
- Since 2013, more companies started focusing on managing resources beyond electricity, expanding to natural gas consumption (69%), transport fuel consumption (62%), and water usage (73%). However, surveyed businesses' targeted reduction levels became less aggressive than the previous year, and they gave themselves equivalent time horizons to accomplish their goals.
- In 2015, the percentage of respondents reporting formal energy management goals jumped significantly and remained above 50%. At the same time, more than half said energy management vision aligned with corporate vision, rising to more than 70% by 2020.
- 2017 saw stabilization in corporate priorities as well as greater familiarity with how specific resource management practices can support them, as most of the metrics around energy management vision, mission, and goals jumped back to 2015 levels after falling in 2016. Respondents also reported higher levels of integration in energy management goal setting across business functions.
- Corporate commitment to energy and resource management rose over the decade with an increasing percentage of respondents (nearly 51% in 2020) reporting that leadership and staff at all levels have energy objectives incorporated into goals.

Energy self-sufficiency and resiliency

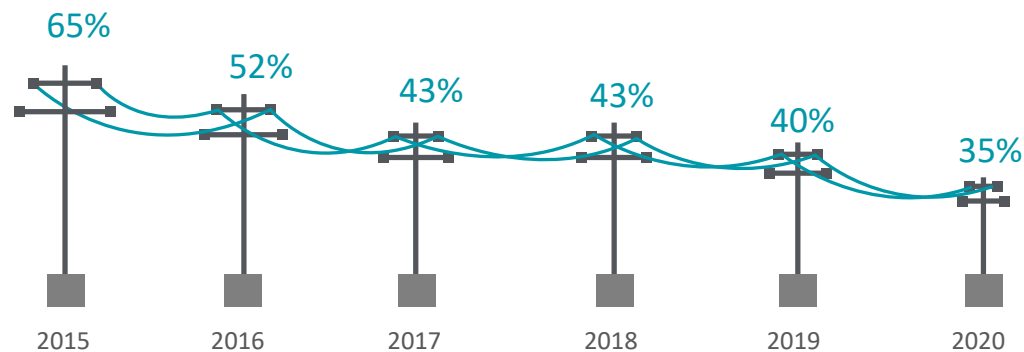


Onsite generation is gaining momentum

Percentage of surveyed businesses with onsite generation rose sharply



Percentage of supply from electricity providers fell accordingly



Source: Deloitte Resources Study Survey, 2011-2020

10-year trends

Over the decade, the share of respondents with onsite generation rose sharply as businesses increasingly sought self-sufficiency. Conversely, the percentage of electricity supplied by their electricity providers fell as onsite generation increased. Amid rising concerns about outages, businesses took further action to boost resilience.

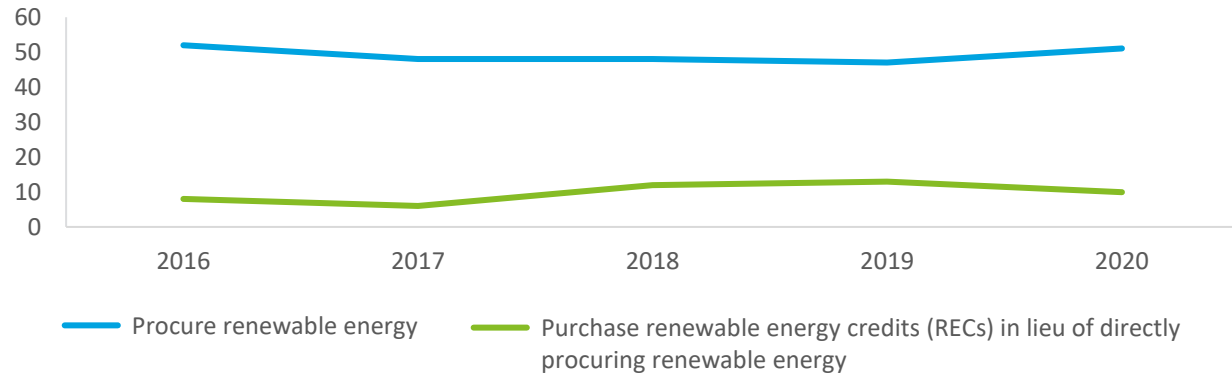
- Since 2014, respondents' onsite generation rose while the share of electricity from providers fell. In 2020 respondents reported sourcing just 35% of their electricity supply from electricity providers during the prior year, down from 65% when the question was first asked in the 2015 survey.
- Respondents increasingly sourced renewables for onsite generation, reporting the electricity provided from renewable sources rising from 10% in 2014 to 25% in 2020.
- Among those respondents generating onsite, the top motivations over the ten years were price certainty, energy supply diversification, cost savings, resiliency, and sustainability.
- Resiliency concerns appear to be rising as well, with 36% reporting an increase in power outages during the previous 24 months in 2020, up from 27% reporting an increase in 2013. Longer outages may have contributed to businesses seeking alternative electricity sources.
- In line with their growing interest in resiliency and self-sufficiency, 44% of respondents considered implementing or participating in a microgrid in 2020, up from 35% in 2017.
- Respondents conveyed further apprehension about continuity of power supply in a new question on the 2019 and 2020 surveys. Half expressed concern about an interruption to their electricity supply due to a cybersecurity event involving their electricity supplier or the electric grid.

Renewable energy procurement

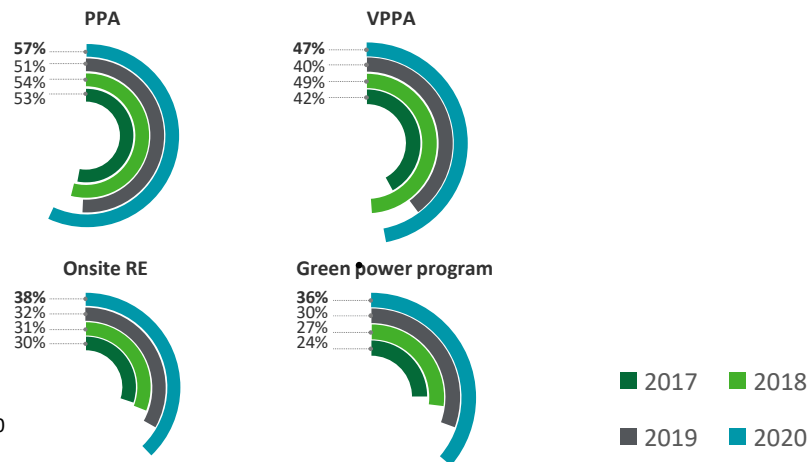


Customers increasingly demand businesses source more renewables, and businesses work to procure more

Percent of surveyed businesses working to procure more electricity from renewable sources



Renewable energy procurement methods are expanding



Note: Community solar was added in 2020 and 7% selected it.

Source: Deloitte Resources Study Survey, 2011-2020

10-year trends

Over the decade of our surveys, an increasing share of businesses reported their customers demanding they procure more renewable sourced electricity. This was likely behind the consistent 50-60% of businesses that reported they were “working to procure more electricity from renewable sources.” And that work must have paid off because total renewable procurement through corporate power purchase agreements (PPAs) rose sharply in the decade, from a cumulative 0.1GW in 2010 to 57.3 GW by the end of 2020.¹

- In 2020, nearly three-quarters of business respondents said their customers want them to procure a certain percentage of their electricity demand from renewable sources, up from 61% in 2017; and nearly 48% of respondents were working to procure more electricity from renewable sources.
- Throughout the decade, respondents increasingly publicized their renewable purchases, reaching 77% in 2020, up 12 points from 2017.
- Renewable energy procurement methods have been expanding, with the most common methods being power purchase agreements and green power programs.
- In 2017, of the 39% who were not working to procure more renewable electricity from renewables, 58% said combining renewable energy sources with battery storage could motivate them to do more.

Source: 1. “Corporate Clean Energy Buying Grew 18% in 2020, Despite Mountain of Adversity,” Jan 26, 2021, BNEF

Challenges to implementing energy management programs

Top 3 challenges to achieve companies' energy management goals

Year	Challenge 1	Challenge 2	Challenge 3
2020			
2019			
2018			
2017			
2016			
2015			
2014			
2013			
2012			
2011			

Lack of time
 Length of payback period
 Lack of capital
 Lack of dedicated staff
 Lack of commitment
 Lack of staff with appropriate skill sets
 Regulatory uncertainty
 Difficulty measuring impact on bottom line
 Unexpected complexity in implementing initiatives

10-year trends

Over the decade, lack of time and money appeared to be the dominant theme in the challenges respondents selected to achieving their resource management goals. Another key set of challenges involved staff issues, from lack of dedicated staff, to lack of commitment or skills. And finally, uncertainty, difficulty, and complexity.

- Capital funding was the main challenge to future progress for respondents' energy management programs, followed by the length of payback period in 2012.
- In 2013, once low-hanging fruit had already been picked and the next tranche of solutions were more capital intensive, the primary challenges to continued success for respondents started shifting to bureaucracy.
- For the next 3-4 years, surveyed businesses cited length of payback time, difficulty in measuring impact on the bottom line and staffing challenges as the key challenges.
- 2018 saw fewer respondents citing strategic challenges and internal bureaucracy compared to the previous year. They reported more support from the C-suite, with leaders promoting a cohesive energy management vision from the top down.
- In 2019, the regulatory uncertainty challenge dropped significantly for respondents, reflecting a general perception of regulatory easing during that period.
- Lack of time, commitment, and capital for investment emerged as the major challenges for respondents by 2020.

Source: Deloitte Resources Study Survey, 2011-2020



About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (“DTTL”), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as “Deloitte Global”) does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the “Deloitte” name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see www.deloitte.com/about to learn more about our global network of member firms.

Copyright © 2021 Deloitte Development LLC. All rights reserved.