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The Growing Importance of Sustainability in Buildings

How are organizations integrating buildings into their sustainability plans to generate better outcomes for their employees, their customers and the planet as a whole?

Introduction

Improving the sustainability and performance of buildings is rising fast on the agenda of many large organizations. From reducing carbon emissions and improving energy management to enhancing occupant experience, the expectations of building owners and tenants are changing, as are those of regulators.

Driving energy efficiency, improving indoor air quality and satisfying increasing environmental, social and governance (ESG) requirements are three key drivers that organizations are now focused on in the move to meet these changing expectations.

"It is not enough to make buildings that are less bad anymore," says Victoria Burrows, director, Advancing Net Zero at the World Green Building Council. "They must make a positive contribution to the environment they are in."

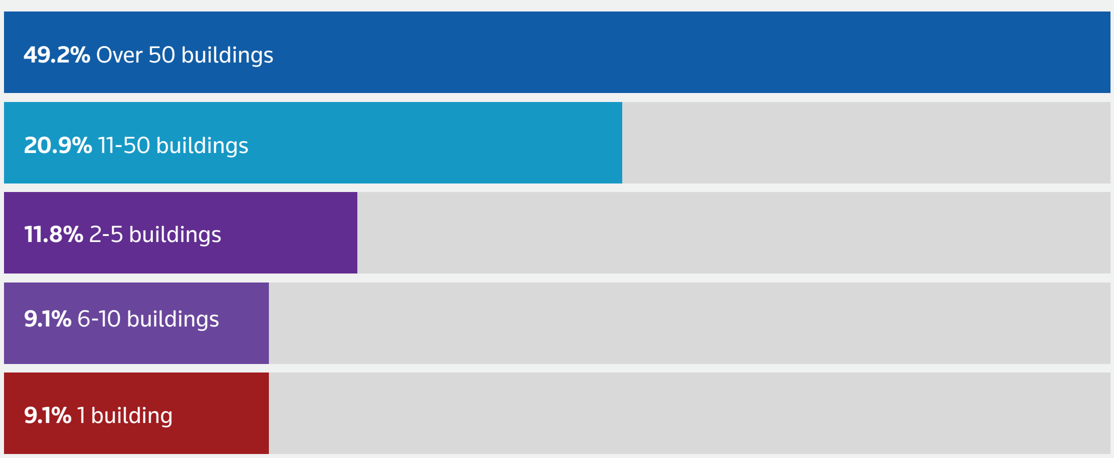
There are a growing number of tools to make buildings more sustainable, with technology playing a role in both decarbonizing buildings and improving their performance.

"It is increasingly important for buildings to be sustainable, and that as an industry, we get serious about the need for buildings to be part of getting to carbon neutral on the timetable the world needs," says Will Cavendish, Global Digital Services Leader at Arup.

This paper looks at where building owners and operators are prioritizing their strategies and investments in this space. It's based on a survey conducted by Reuters and Honeywell Building Technologies of more than 185 senior executives from organizations that have significant building portfolios and includes responses from teams managing large-scale hospitals and healthcare sites, airports, educational institutions, industrial facilities and corporate campuses.

More than 70% of respondents indicated that they have direct responsibility for more than 10 buildings with just under 50% of respondents having responsibility for more than 50 buildings.

How many buildings are you and your team responsible for?



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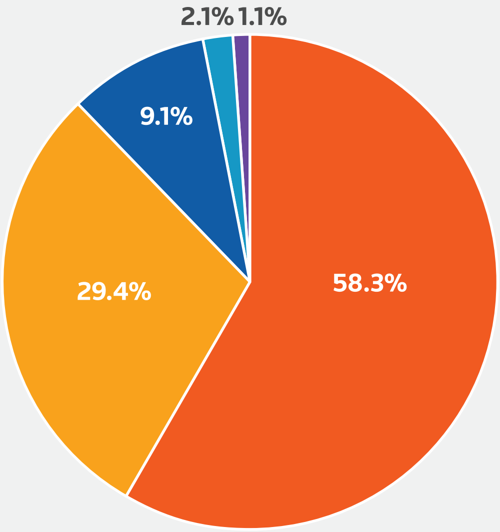
How Important is Getting to Carbon Neutral?

The priority of reducing carbon in buildings is reinforced by the responses to a question about the importance of it in relation to organizations' overall sustainability goals.

Close to 90% of those surveyed indicate that it is either extremely (+58%) or somewhat (+29%) important in relation to these goals, with less than 4% responding that it is not important to them. With the latest figures indicating that buildings account for 37% of the world's carbon emissions,[i] the pressing need to reduce the carbon impact across building portfolios is there, coupled with the fact that organizations are now placing a higher emphasis on improving the performance of their assets.

Manish Sharma, vice president and general manager of Sustainable Buildings at Honeywell, reinforces this sentiment when referencing ongoing conversations he has with clients and partners. "If we fast forward to 2024-2025, I believe this will be one of the top priorities for organizations, driven by new taxation plans on carbon and new incentive plans particularly across the U.S. and European markets".



Extremely important	58.3%
Somewhat important	29.4%
Neutral	9.1%
Not very important	2.1%
Not important at all	1.1%

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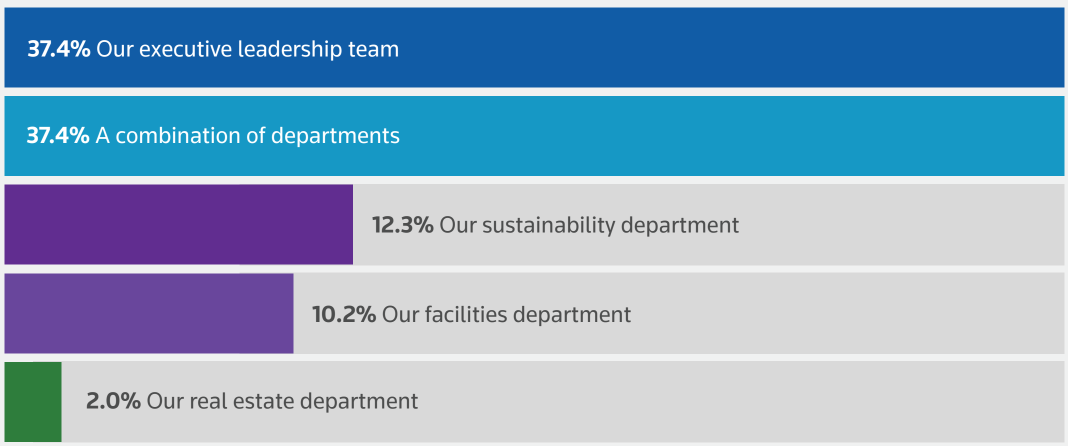
Whose Responsibility is It?

It's clear from the survey responses that the responsibility for driving sustainability and carbon reduction across building portfolios sits firmly either with an organization's leadership team or is positioned as a collaborative effort across multiple departments.

We can see from the results that a relatively small percentage of organizations give their specific sustainability, facilities or real estate departments overall responsibility for this, which suggests that it is high priority and is largely being led by leadership.

Anecdotally, there is evidence to suggest that the majority of large organizations now have a Chief Sustainability Officer or equivalent position, and this person will often sit at an executive level to lead initiatives in this area.

Who is ultimately responsible for driving sustainability and carbon reduction in buildings in your organization?



What Key Benefits do Organizations see?

There are undoubtedly significant business benefits – both internal and external – in the improvement of sustainability strategies across building portfolios.

Perhaps unsurprisingly, the major benefit highlighted is the reduction of waste and carbon which allows organizations to comply both with external regulations and investor demands as well as with their own sustainability goals. Nearly 90% of respondents indicate that this is one of the top three benefits they see, with more 50% of those surveyed placing it in the top spot.

In addition to this, improvements in productivity and cost reduction are seen as the next biggest benefits with 84% of respondents placing this as one of the top three benefits and more than a third placing it in top position. Notably, improving brand image is also seen as a strong benefit with more than 60% of those surveyed ranking it as one of their top three choices.

> Making buildings more sustainable and improving air quality are no longer nice to haves. People are demanding action on these priorities as a minimum expectation.
>
> Manish Sharma, *vice president and general manager, Sustainable Buildings,* **Honeywell**

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Rank the business benefits you see from improving the sustainability of your buildings?

HIGH BENEFIT — LOW BENEFIT

	1	2	3	4	5
Reducing waste and carbon emissions	54.5%	27.8%	7%	5.3%	5.3%
Increasing productivity & reduction of costs	33.7%	34.2%	16%	10.2%	5.9%
Improving brand image	5.9%	20.9%	34.8%	26.7%	11.8%
Attracting investors	3.7%	5.3%	12.3%	20.3%	58.3%
Attracting and retaining employees	2.1%	11.8%	29.9%	37.4%	18.7%

What are the Barriers to Progress?

While there are clear benefits to be gained from making improvements in sustainability efforts, barriers remain. When asked which three obstacles are most hindering progress, there are some clear areas of concern, with cost being shown as the most common barrier, chosen by more than 88% of respondents.

Difficulties in measurement and a general lack of resources and expertise are other areas that more than 60% of respondents point to, with problems in convincing senior leadership teams also cited by more than 50% of those surveyed.

In addition to these barriers, there are also sometimes competing priorities to be navigated, even within the confines of sustainability. The trade-off between reducing energy use and improving air quality is a key example.

Ensuring that priorities such as these are balanced allows artificial intelligence (AI) technology and intelligent building optimization tools to show their strength. According to Andy Mazzucchelli, Energy and Sustainability manager at Land Securities Group (Landsec), the largest commercial property development and investment company in the United Kingdom, using artificial intelligence (AI) can cut energy bills by up to 25% and up to another 20% could come from optimizing equipment use through data monitoring

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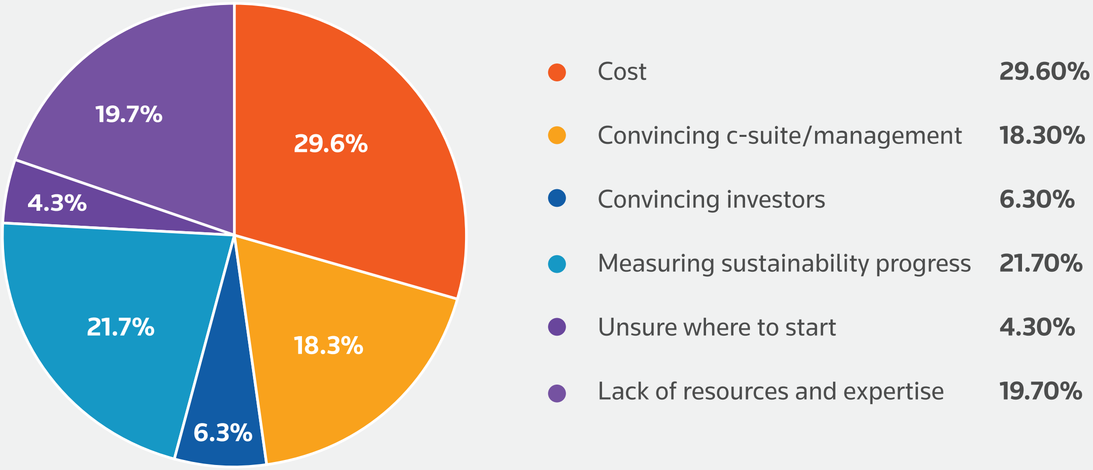
What, in your opinion, are the biggest obstacles holding your organization back from meeting its building sustainability goals?



Where are Organizations Focusing and Investing?

The survey shows that there are significant investments being made across many areas to accelerate the drive to carbon neutrality and improve sustainability efforts in overall building performance.

When we look at the specific technology solution areas that organizations include in their sustainability plans, there are a wide variety of areas that the respondents focus on. There's consensus on several topics, with on-site energy management and optimization systems and waste management the most common fields that organizations say they include in their planning. Of these, Energy Management Systems are the most popular, included in more than 80% of responses.

In all, five of the eight choices are selected by more than 65% of respondents with Renewable Energy Generation being prioritized by 57% of those surveyed. Many organizations still seem to be identifying ways to incorporate Fleet Sustainability, Electrification & Smart Mobility and Security & Situational Awareness Solutions & Monitoring Services into their sustainability plans, with the categories receiving importance rankings by 45% and 33% of respondents, respectively.

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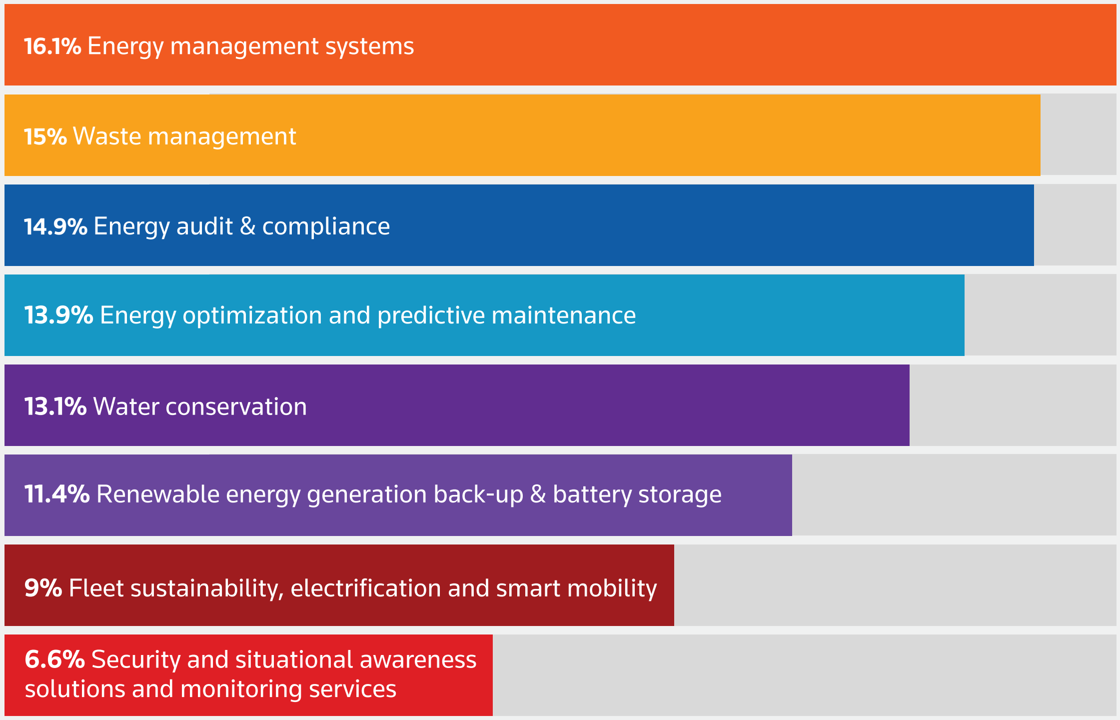
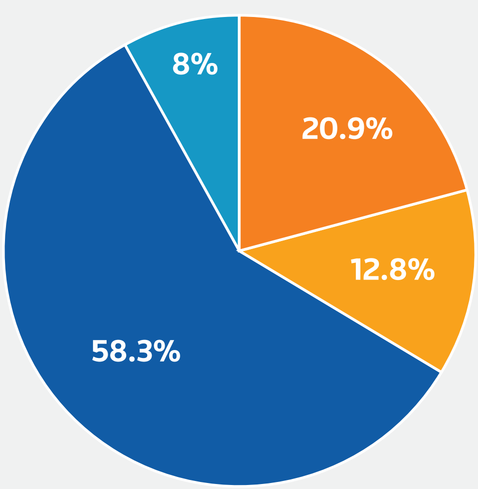
Which of the following areas are included in your building sustainability plans?



Related to these, when we look at the preferences for OpEx versus CapEx investment outlays, nearly 60% of respondents indicate that both types of investment are priority for their organization, with 20% of those surveyed favouring OpEx investments and just under 13% focused more heavily on CapEx spending.

"It's important for organizations to define carbon reduction strategies and investment decisions based on a shorter duration of goals, rather than just one long-term carbon neutrality goal. It makes progress much more achievable," says Sharma.

When you consider investing in new technologies to improve the sustainability of your buildings, which types of investments are you prioritizing in the near term?



- **20.9%** OpEx investments that are generally easier to finance & deploy
- **12.8%** CapEx investments that are generally harder to finance & deploy
- **58.3%** Both types of investments are priority for us
- **8%** Investing in technologies to improve sustainability is not a priority for us

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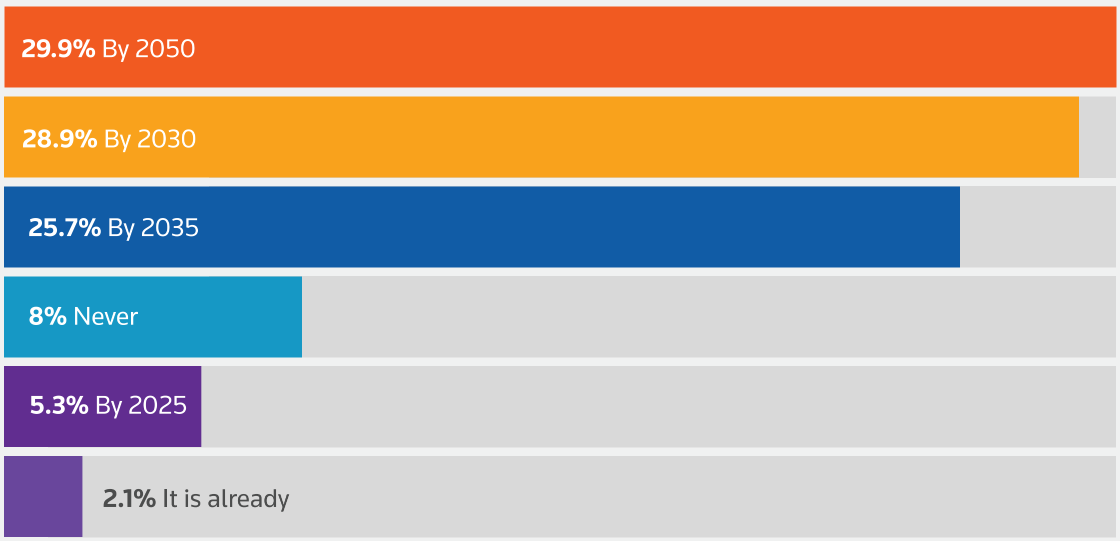
When do Organizations Forecast Carbon Neutrality?

In terms of expected carbon neutral forecasts on building stock, there is a positive outlook on the forecasted progress from the majority of respondents. Carbon neutrality is expected by more than 90% of those surveyed by 2050, with more than 62% of respondents optimistic that goals can be achieved by 2035. The direction is clear, with just 8% of those surveyed indicating that they don't foresee carbon neutrality ever becoming a reality for their building portfolios.

The reality is that we inevitably see different levels of progression across different geographical markets, industries and organization sizes with regulations and incentives often accelerating change.

When do you realistically expect your building portfolio to be operating as carbon neutral?



Conclusion

Building owners and operators will likely face many challenges in the coming years, from the imperative to tackle climate change as well as the need to adapt to changing market and customer demands.

With this comes huge opportunities to improve the performance and functionality of building spaces, and technology has a major part to play in making these aspirations a reality.

"Smart and intelligent buildings are genuinely starting to happen, and we are now starting to uncover the full benefits they will bring," Will Cavendish, Global Digital Services Leader at Arup says.

These benefits include a better experience for occupants, reduced ongoing costs, as well as staying ahead of regulation and future-proofing buildings so they can cope with emerging factors such as electric vehicles.

The survey responses point to a significant appetite for action, but there are some hurdles to overcome to drive continued investment.

Proven technologies and solutions can undoubtedly provide benefits and support sustainability efforts, but because every building is different, they must all be treated individually. "The way a building is designed, built and operated is really quite complicated. There are lots of different systems at play, lots of external factors to take into account and lots of different components and services – and then you add in the people using the building," points out Burrows.

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Incorporating buildings into sustainability plans is an ongoing journey, with no fixed end point. It's clear from the survey responses that there are differing levels of organizational maturity when it comes to instilling strategies and solutions to support this and it will be different for every organization.

The first step must be to benchmark the carbon output of your buildings and define your current state. Knowing where you're starting from and where your biggest issues are will help you to define realistic goals and strategies and create better outcomes.

On top of this, driving awareness and instilling a culture of sustainability in your organization is crucial. You can achieve a lot from investing in the right technologies, but this must be supported by encouraging behavioral change of workers and other occupants.

"This is not a 'flip the coin and you're sustainable' situation. It's an ongoing process that needs to be led from the top and driven by policies and communications that create positive environments and positive behaviours," says Sharma.

What's abundantly clear is that our relationship with buildings is changing, due to the pressing need for more sustainable modes of building operation. These trends are only set to accelerate over the years and decades to come, but for building owners and operators there is already a clear, technology-enabled pathway to address them.

i **World Economic Forum,** "Why building greener is crucial to meeting Paris climate targets" Patrick Henry, November 1, 2021. [Accessed November 2, 2022]

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