



# The Future of Real Estate Investment in Climate Tech

PREPARED BY





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# Contents

The Case for Climate Tech	2
About the Survey	5
Key Takeaways	7
Current Sentiments	8
Climate Tech Investment	12
Accelerating Momentum	14
Conclusion	16



# The Case for Climate Tech

As the largest asset class in the world, real estate is an integral part of every aspect of our daily lives. The real estate industry influences our economy; how and where we live, work, shop, recreate, and travel; and more. The world's greatest cities and suburbs owe much of their vibrancy to the real estate industry.

Over the past decade, the real estate sector has made great strides in embracing technology and innovation. Extraordinary progress has been achieved in building smart cities and structures as the pace of investment in new technologies has scaled to exceed \$20 billion annually. The real estate sector is now entering an age of unprecedented innovation and transformation that has also been greatly accelerated by the COVID-19 pandemic and its disruptions to the way we work and live.

However, it is also important to address the industry's impact on the environment to better inform future decision-making processes that will support a decarbonized building sector. Today, the real estate sector contributes to roughly [40 percent](#) of all greenhouse gas emissions, consumes about [35 percent](#) of all energy, and its use of raw materials has climbed to [40 percent](#) globally. Given the size and scale of the real estate industry and given that humans spend 90 percent of their daily lives inhabiting real estate, the broader implications of the building sector often remain overlooked, especially regarding its environmental impacts.

While the real estate sector is embracing innovation and technology overall, there must be a greater focus on climate, sustainability, and environmental, social, and governance (ESG) specifically. [CREtech](#) recently launched a new climate initiative, [CREtech Climate](#), which aims to be the "voice" of the real estate industry's commitment to climate change through proper education, inspiration, and practical guidance on accelerating climate tech adoption. The goal is to support real estate investors, owners, and developers in making better-informed decisions to decarbonize the built environment.

Given the magnitude of the climate crisis and the real estate industry's outsized role in catalyzing meaningful progress in achieving net zero, CREtech Climate, in partnership with the [Urban Land Institute](#) (ULI), a cross-disciplinary network of real estate and land use experts whose Center for Sustainability is dedicated to creating healthy, resilient, and high-performance communities around the world, and [Fifth Wall](#), a venture capital firm pioneering for industry-wide climate tech innovation, recently conducted a survey to better understand the real estate industry's current status in addressing climate change. The goal of the survey was to gather insights from global leaders around current sentiments and investment strategies regarding climate technologies.



The effects of the climate crisis are increasingly being addressed by governments, investors, lenders, underwriters, tenants, and consumers throughout virtually every aspect of society. The real estate industry therefore has an enormous opportunity to drive climate leadership and lead the way in addressing this extraordinary global climate crisis.

According to C40, [over 700 cities have committed to reach net-zero by 2050](#). With increasing climate risks, investors have begun to prioritize developers and asset owners who are thinking deeply about transitional risks and are taking proactive steps to achieve carbon reductions. Similarly, tenants are becoming more mindful in their decisions to lease space that helps meet their corporate sustainability goals. These are trends that are expected to greatly accelerate in the years ahead as climate technologies continue to evolve and enable even deeper decarbonization.

The real estate industry has set lofty ESG goals and has embraced climate tech as a way to support ambitious net-zero and sustainability commitments. Climate tech investment and adoption have emerged as opportunities to bolster the industry's existing efforts to meet the aggressive climate targets set by cities and countries around the globe. However, much work remains and investment dollars are needed at a massive scale to address the magnitude of the climate crisis properly. Through climate innovation and technology investments, the real estate industry is presented with a business opportunity to achieve significant financial returns by investing in climate technologies while also catalyzing the built environment's journey to net-zero emissions.

The following report highlights sentiments we received from survey respondents, represented by the global participation of an aggregate portfolio of more than 7.9 billion square feet. The insights and data collected in the survey prove to be invaluable, and CREtech Climate, ULI, and Fifth Wall are grateful to all who participated and contributed to the findings. While there is still much work and investment needed for the industry to address the climate crisis and create a healthier, more equitable, and greener built environment, we are encouraged by companies that are demonstrating clear leadership in this critical movement. At the same time, continued climate leadership is critical during this ever-changing time, and CREtech Climate, ULI, and Fifth Wall are excited to support the industry in that journey.

**Michael Beckerman**  
CEO  
CREtech & CREtech Climate

**Marta Schantz**  
Senior Vice President  
Urban Land Institute  
Greenprint Center

**Brendan Wallace**  
Cofounder & Managing Partner  
Fifth Wall





CREtech Climate is committed to help the industry embrace, adopt, and enhance climate technologies in the real estate industry through climate leadership. The results of this survey are groundbreaking and provide us with the insights needed to drive actionable change and ensure that the real estate industry can achieve widespread carbon reductions through investments in new and evolving climate technologies. While the survey results are incredibly uplifting, at CREtech Climate we recognize that addressing aggressive climate goals is not going to be easy, but through education, collaboration, and innovation, we can start to drive transformational change. As we embark on this journey to decarbonize the built environment, it is important to emphasize that emerging climate technologies will be the lifeline to protecting and enhancing our environment for future generations. CREtech Climate is immensely appreciative to our partners ULI and Fifth Wall who joined us in this effort, and is also extremely thankful to all of the organizations that participated in this survey. These results will be instrumental in benchmarking and shaping the future of climate technologies in the industry, and we are eager to see the conversations and ideas they spark.



**Michael Beckerman**  
CEO  
CREtech & CREtech Climate



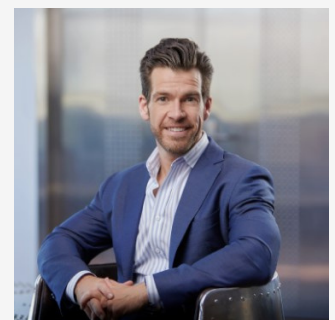
The Urban Land Institute recognizes that proptech is changing the business of real estate. With a mission to shape the future of the built environment for transformative impact in communities worldwide, ULI is hyper-focused on the opportunities that are advancing the industry—both financially and environmentally. Proactive real estate companies are investing in and adopting proptech in all business areas, with rising interest in climate technologies. At ULI, we recognize the impact real estate has on climate change, as well as the corresponding responsibility and opportunity to address it. Climate tech is a prime area for real estate to show leadership. We are keen to support this survey to understand how the industry as a whole is currently strategizing, prioritizing, and planning for climate tech in their business. We deeply value the insights and perspectives shared from each and every real estate firm that participated in this survey. We look forward to supporting the industry as it drives positive change across the building sector through climate tech and beyond.



**Marta Schantz**  
Senior Vice President  
Urban Land Institute  
Greenprint Center



At Fifth Wall, we're ardent believers in solving problems through collective action. The survey was meant to shed light on the fact that despite the real estate industry's strides, a long road lies ahead. I'm extremely encouraged by some of the survey's results—especially around the collective acknowledgment of the importance of real estate's role in the fight against climate change, and indications of increased future investment into the R&D required to develop sustainable, long-term climate solutions that can eradicate the industry's emissions. It will require billions of dollars of investment, and bold, progressive leadership from the largest players in the industry to set a new industry standard around sustainability. We're so grateful to every firm that participated for joining this effort, and I'm optimistic that collectively we can turn insights into action and make a difference.



**Brendan Wallace**  
Cofounder & Managing Partner  
Fifth Wall



# About the Survey

This survey is intended to better understand how the real estate industry as a whole is currently addressing the critical issue of climate change via real estate climate technology (climate tech) investing. The survey questions unpacked drivers influencing investment in climate tech, as well as steps that real estate organizations are taking to address the impacts of climate change across portfolios. Respondents' answers helped CREtech Climate, ULI, and Fifth Wall benchmark the industry's progress, as well as gain a better understanding of real estate strategies, priorities, and future plans for investing in climate technologies.

## Participants Represented

**7.9** billion square feet of space

**7+** asset types

**10** countries

Real estate companies worldwide participated in the survey and represented over 7.9 billion square feet of space. Participants voluntarily opted-in to participate, and the data have been analyzed in the aggregate.\* The survey was distributed only to real estate developers, owners, and asset managers to gauge their commitment to addressing climate writ large, and their strategies, priorities, and future plans for investing in climate technologies.

### Respondents by Asset Types

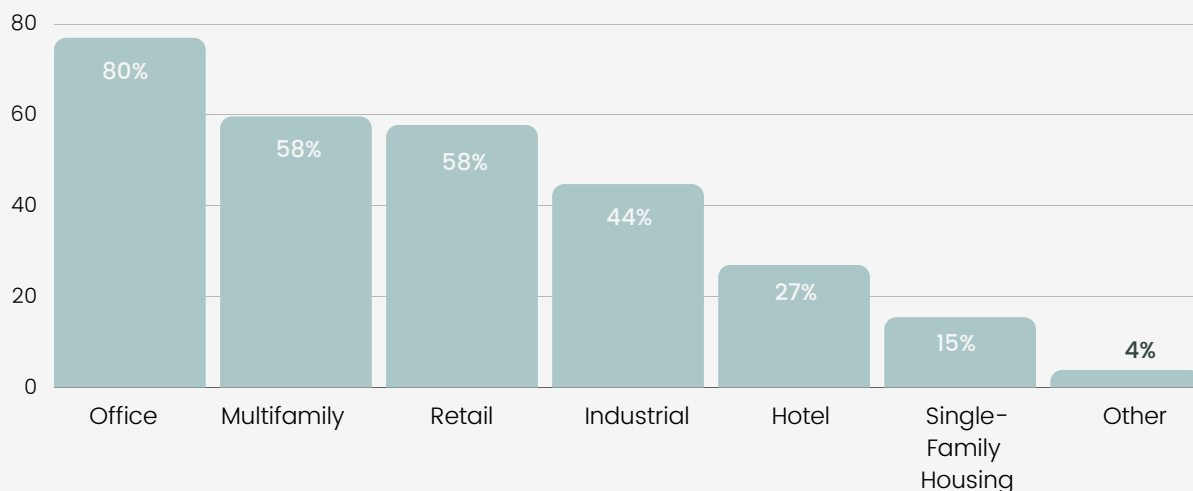


Figure 1: The majority of respondents represent diverse portfolios consisting of multiple asset types, with participation from developers, owners, and asset managers representing each major property type in the real estate industry.



\*Currency conversions were based on rates as of early April 2021.

## How Is Climate Tech Defined?

According to a recent [PwC](#) report on climate tech investing, **climate technology** (climate tech) refers to innovations that decarbonize the economy and combat the climate crisis. These technologies may span sectors but ultimately help reduce greenhouse gas emissions or provide adaptations to the changing climate. Examples of climate tech with respect to the built environment include solutions that target energy efficiency, renewable and distributed energy, building materials, and carbon resilience. In addition, while we commend the broad use of smart devices and certification systems, the scope of the definition more narrowly focuses on technology that addresses and works toward combating climate change.

## How Do We Define Investment?

An important distinction to make: deployment of climate technology is commonly conflated with investment in climate technology. While deployment of climate technology is necessary to recognize the positive effects of climate innovation for the built world, existing technologies to decarbonize real estate are insufficient to help the industry achieve—or even approach—true zero-carbon operations; the development of such technologies requires investment capital. For the purposes of this survey and beyond, we aim to clarify the distinction between the two below for the industry to orient around a common terminology:

- **Deployment of climate technology** refers to becoming a customer of existing climate technology solutions, and follows a typical purchase and deployment model (e.g., installing existing, commercially available solar panels at a property).
- **Investment in climate technology** refers to investments in climate technology (as previously defined) companies and startups, providing these companies with the capital they need to fund further research and development (R&D), assemble best-in-class teams, and build scalable solutions that can be adopted and deployed by the entire industry (e.g., investing in an equity round for a Series A climate technology company developing a de novo building material that dramatically reduces the carbon emissions associated with construction using traditional building materials).

“ By taking a more proactive approach to sustainability, we hope to better position ourselves to attract top-tier tenants to our buildings and future-proof our assets, which should also improve our investment performance. ”

The Meridian Group, survey participant

THE  
MERIDIAN  
GROUP



# Key Takeaways

The survey indicates that the majority of real estate companies recognize the industry's impact on climate change. One hundred percent of survey respondents agreed that the real estate industry has a part to play in climate change, and 75 percent of respondents have plans to invest in climate tech over the next five years. Collectively, survey respondents reported that they have already invested roughly \$172,550,000 over the past year toward climate technologies, including renewables, energy management solutions, and low-carbon materials, among others.



**100%**  
of respondents agreed that the real estate industry has a part to play in climate change

**64%**

of respondents currently have a lead professional for their climate, sustainability, and ESG efforts



## Respondents Reported the Following Has Hindered Their Investments in Climate Tech

- Lack of clear ROI
- High upfront costs
- Prioritization of other investments



**75%**

of respondents have plans to increase their investment in climate tech over the coming years

## Top 3 Drivers of Investing in Climate Tech

- 64%** a desire for a competitive advantage
- 52%** a desire for lower operational costs
- 56%** a moral sense of responsibility

## Highest Climate Tech Investment Priorities

-  Efficient lighting
-  Efficient heating & cooling
-  Renewable energy

# Current Sentiments

Respondents unanimously agreed that the real estate industry has a role to play in addressing climate change—in fact, less than 2 percent of respondents said that the industry is already doing enough to address climate change (see Figure 2).

## Is the real estate industry doing enough to address climate change?

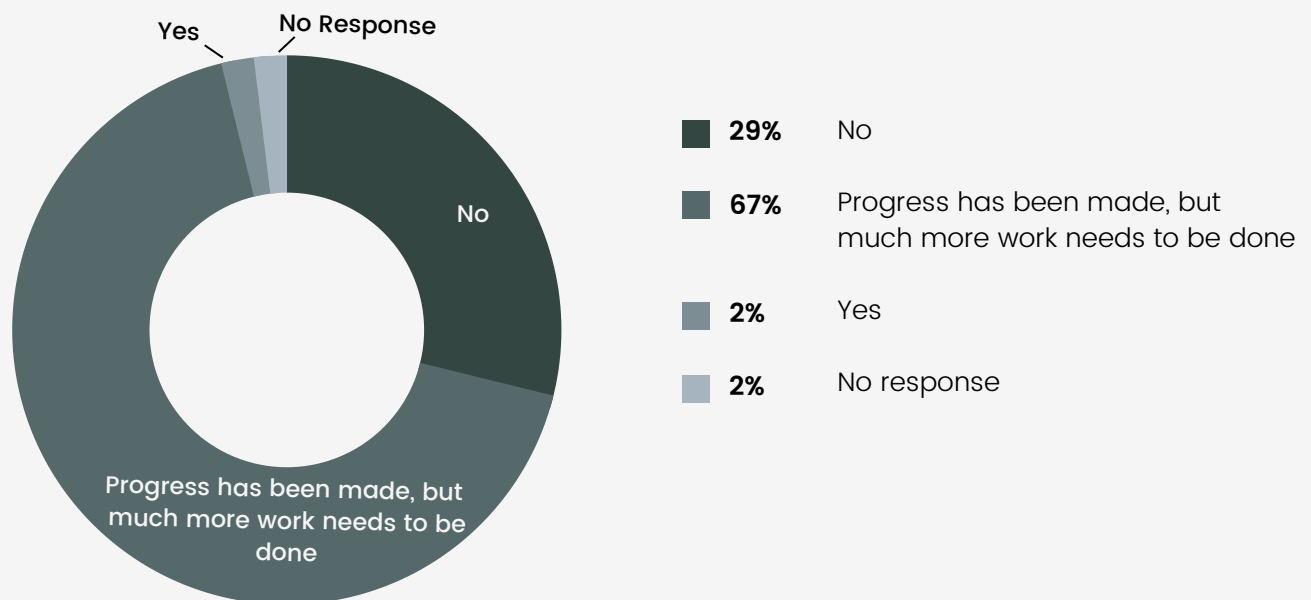


Figure 2: A majority of survey respondents agreed that the real estate industry is not doing enough to address the increasing impacts of climate change, with less than 2 percent of respondents saying that the industry is doing enough.

The most common climate-related action undertaken by real estate firms is the deployment of existing technology across their assets, which is considered to be the minimum viable pathway toward addressing real estate's sustainability problem. Similar approaches include certifying buildings within a portfolio through programs like Leadership in Energy and Environmental Design (LEED) or WELL and the establishment of an internal sustainability team or outsourcing consultants.

Direct investment into climate tech trails substantially, with 40 percent of respondents reporting this activity, despite the fact that the technology required to wholly decarbonize the real estate sector has not yet been developed (see Figure 3). Real estate as a whole may understand that it has a role to play in addressing climate change, but it does not yet see investment in climate tech as the most viable tool to do so.

### Which of the following actions has your company taken to address climate change?

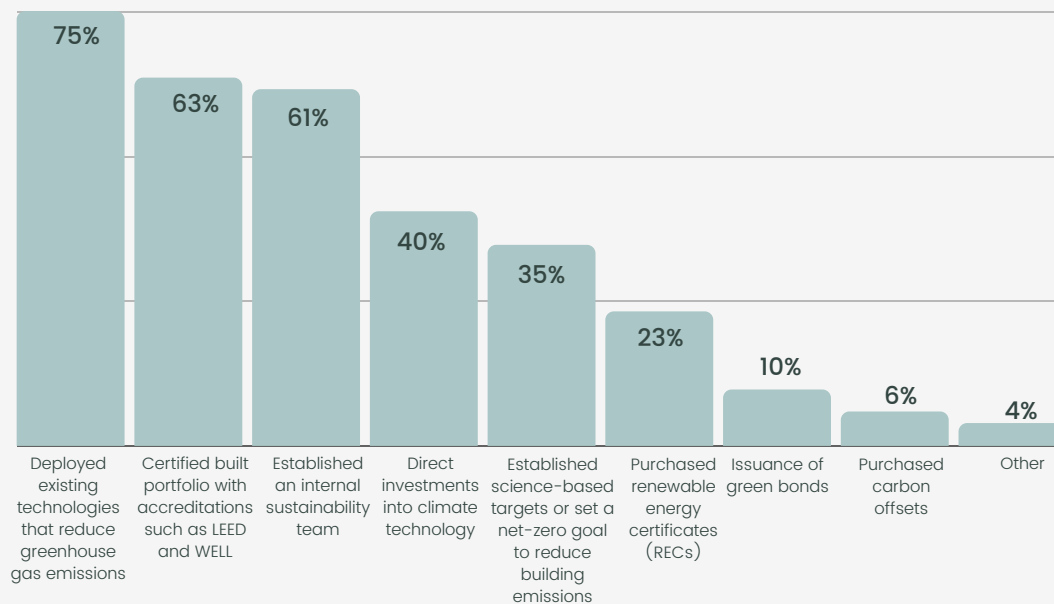


Figure 3: Only 40 percent of survey respondents report direct investments into climate tech.

“ A critical element of Hudson Pacific’s commitment to leadership in sustainability is leveraging innovation and technology to minimize our environmental footprint as much as possible. By investing in climate tech, we hope to help scale innovative solutions that will encourage more companies to adopt sustainable practices.

Hudson Pacific Properties, survey participant



”

The responses below indicate a greater business case for investing in climate technology. When companies were asked about the drivers, gaining a competitive advantage and lowering operating costs exceeded a moral sense of responsibility. Budding demand from occupants, regulators, corporate employees, and lenders and investors has not yet had significant influence on that decision-making (see Figure 4).

### What are the most important drivers influencing your company's investment in climate technology?

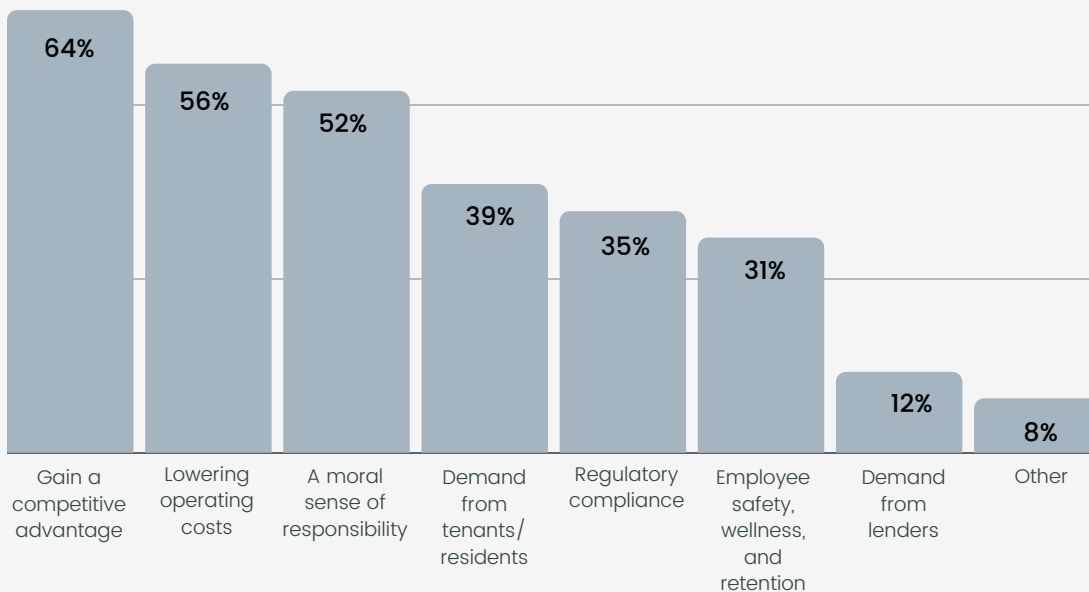


Figure 4: Respondents indicated that gaining a competitive advantage, lowering operating costs, and a moral sense of responsibility were the top three most important drivers of investing in climate technology.



To develop means to evolve. The natural flow of evolution establishes we will thrive if we are able to adapt. Everything we perceive in our environment, natural and built, calls on our sense of responsibility to our community and our own business, to design and develop sustainably.



PK Realty Management LLC, survey participant



“ We take our ecological and social responsibility very seriously: We are Responsible by Choice.

**GARBE.**  
Industrial Real Estate

GARBE Industrial Real Estate Group, survey participant

Despite understanding the benefits of investing in climate tech, the real estate industry acknowledges challenges hindering their organization’s action: lack of return on investment (ROI), high upfront costs, and prioritization of other investments. Somewhat surprisingly, concerns about the climate tech functionality, persistence, and success were not noted as the largest barriers (see Figure 5).

### What challenges hinder your organization's interest in or ability to invest more in climate technologies?

FIGURE 5

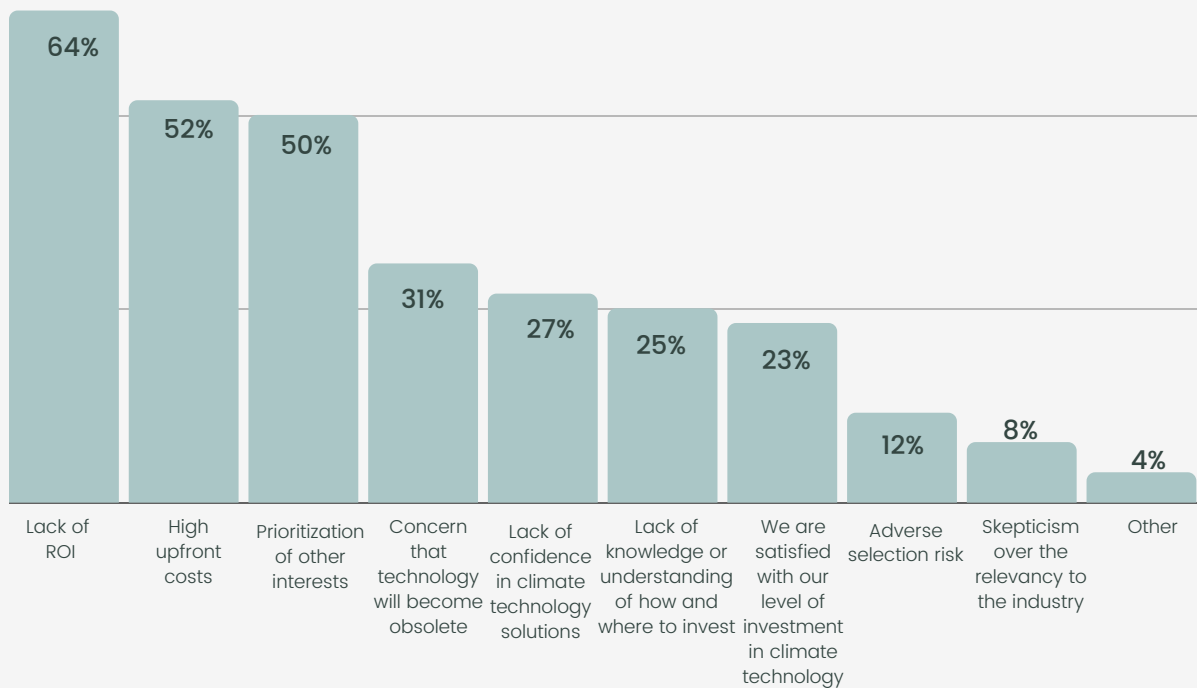


Figure 5: Survey respondents acknowledged that challenges are associated with investing in climate technologies, citing a lack of return on investment as the number-one challenge when investing in climate technology.

# Climate Tech Investment

Of the 87 percent of respondents who provided data, over the last five years the total aggregate investment in climate tech of those surveyed was just under \$173 million. While this was more than their investment in carbon offset and renewable energy credits, when considering the 7.9 billion-square-foot aggregate portfolio size represented by the survey findings, the total investment in climate technologies appears stark in comparison to the investments needed to drive the real estate community toward a more sustainable future. With this in mind, it is important to note that a majority (75 percent) of respondents indicated that their investments into climate technologies will accelerate over the next five years—clearly recognizing the importance and opportunity of ramping up real estate investing in climate tech (see Figure 6). Notably, not a single survey respondent indicated that they anticipated their investment in climate tech would decrease over the next five years.

## How will investments into climate tech change in the next five years?

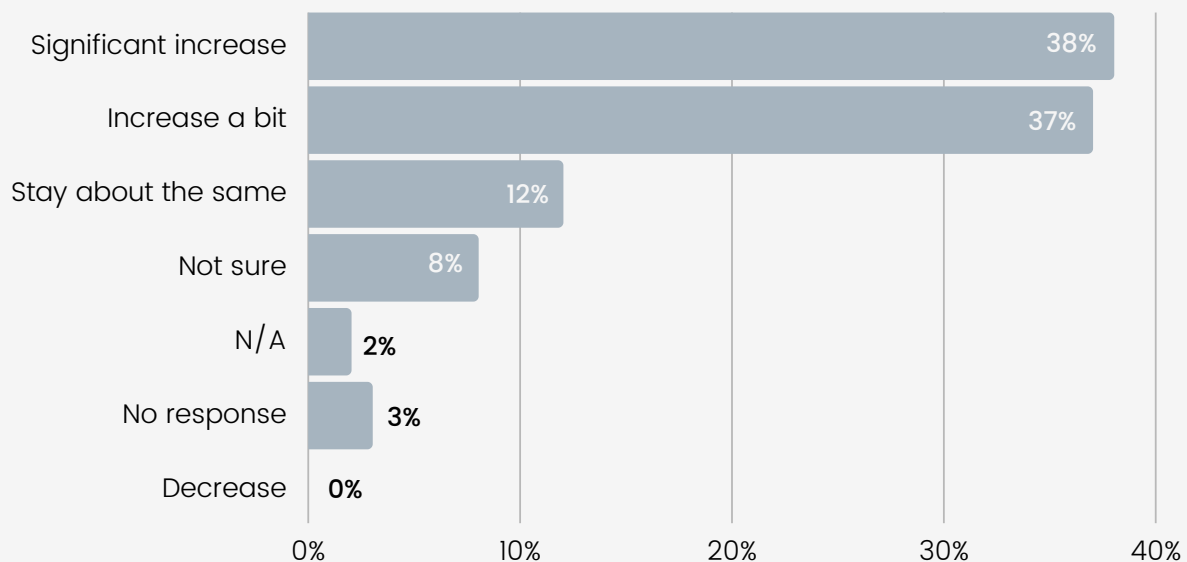


Figure 6: Survey findings show that there likely will be an influx in climate technology investments over the next five years. Notably, not a single survey respondent indicated that they anticipated that their investment into climate tech would decrease over the next five years.

While investments in climate tech are one way to address the need for building sector decarbonization, another way is by investing in carbon offsets and renewable energy certificates (RECs). Over the next five years, 38 percent of respondents plan to increase investments in carbon offsets, and 54 percent of respondents plan to increase investments in RECs (see Figures 7 and 8)

### How will investments into carbon offsets change in the next five years?

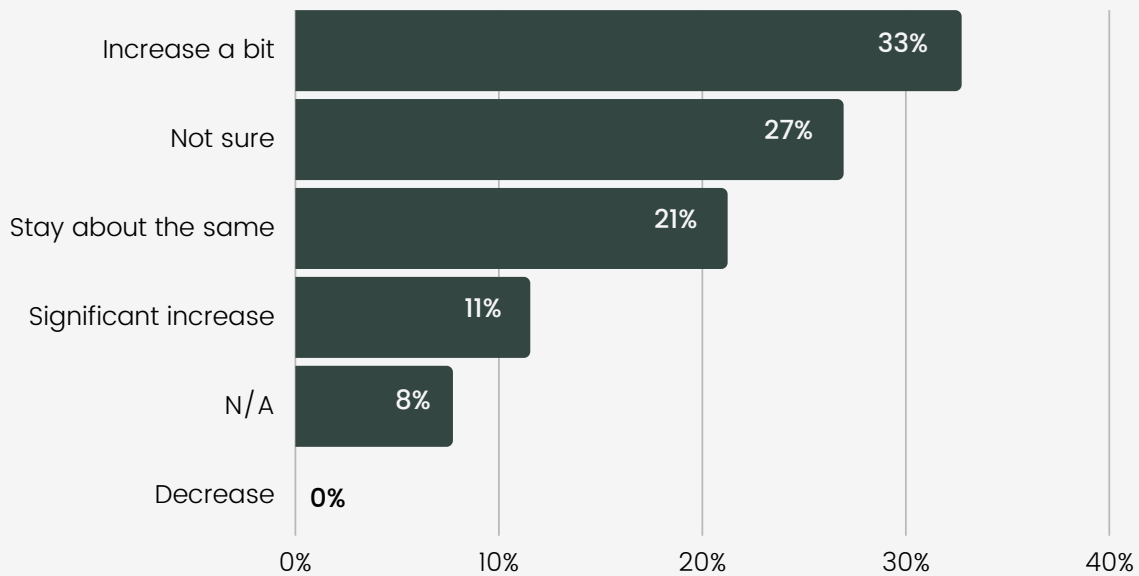


Figure 7: Respondents collectively either were unsure about how carbon offsets would change in the next five years or anticipated a slight increase.

### How will investments in renewable energy certificates (RECs) change in the next five years?

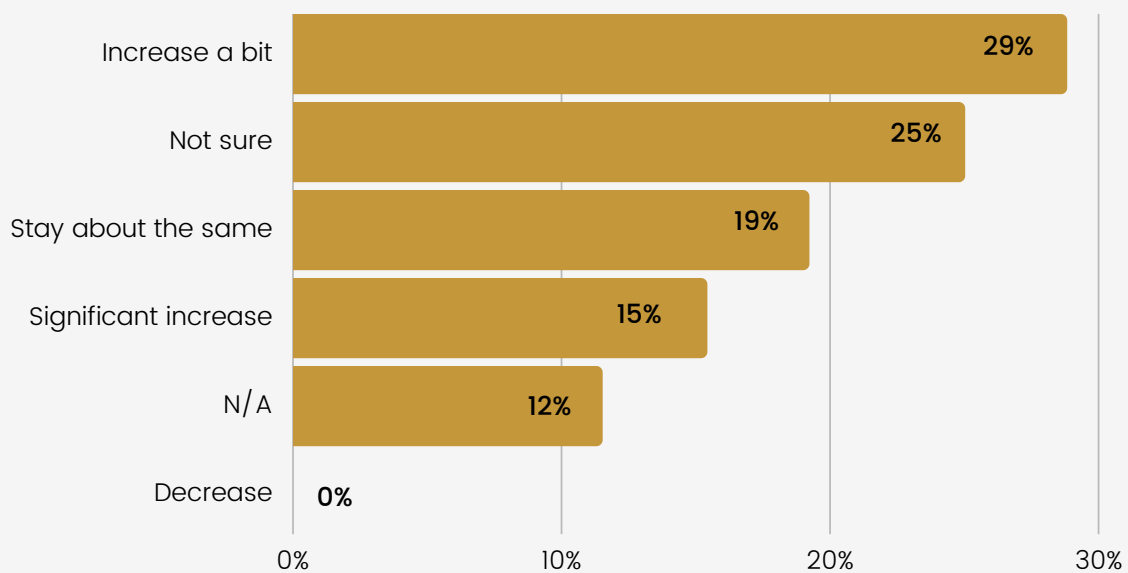


Figure 8: Survey results indicated that investments in RECs will continue to grow in the future.

# Accelerating Momentum

## What Will the Future Look Like?

In the next few years, real estate companies will likely continue to develop more robust sustainability initiatives. Only one-third of respondents do not plan on hiring personnel in the area of climate, sustainability, and ESG. For those that do, over half plan to expand their existing sustainability team with new hires (see Figures 9 and 10).

### Does your company plan on hiring in the areas of climate, sustainability, and ESG?

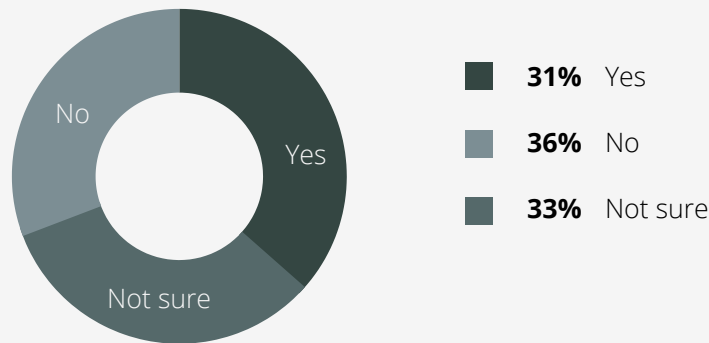


Figure 9: Roughly 31 percent of respondents said that they plan to hire in the areas of climate, sustainability, and ESG.

### What are your future hiring plans?

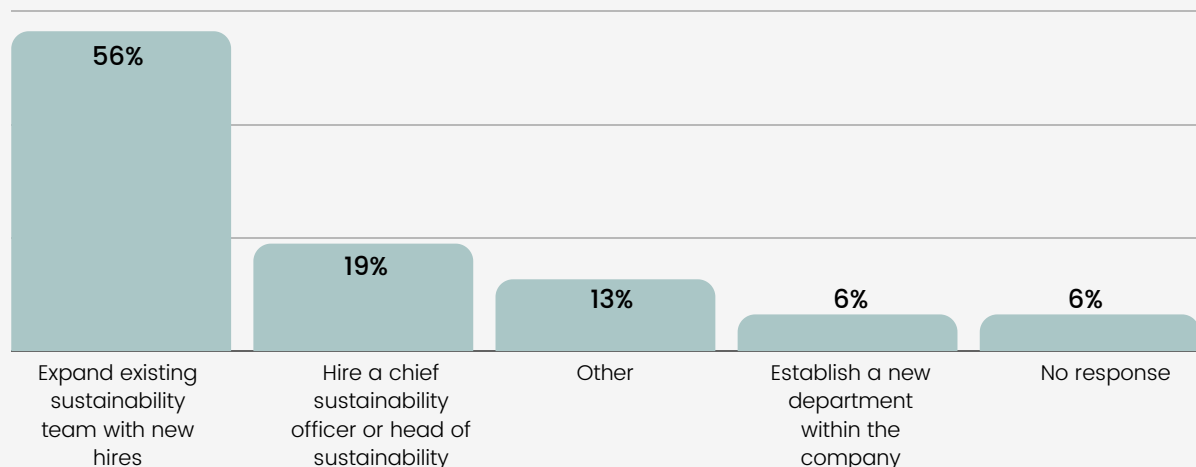


Figure 10: For companies that disclosed their plans to hire a climate, sustainability, and/or ESG professional, roughly 56 percent said they had plans to expand an existing sustainability team with new hires.



According to respondents, the top three priorities for investment and deployment of climate technologies include efficient lighting, efficient heating and cooling, and renewable energy (see Figure 11). These reflect opportunities for real estate firms to reduce their impact on the environment with a clear and direct benefit to the bottom line—the energy efficiency/demand side of climate tech.

Renewable energy is prioritized as a third-place item, which is promising given that it is becoming more widely accessible technology and also offers significant cost reductions and a long-term value-add to the green power generation/supply side of climate tech. Lower-priority items such as combined heat and power (CHP), energy-as-a-service, and embodied carbon mitigation are newer and/or more complicated opportunities, yet are actively growing and are gaining momentum in the industry.

### What climate technologies are you prioritizing in your portfolio?

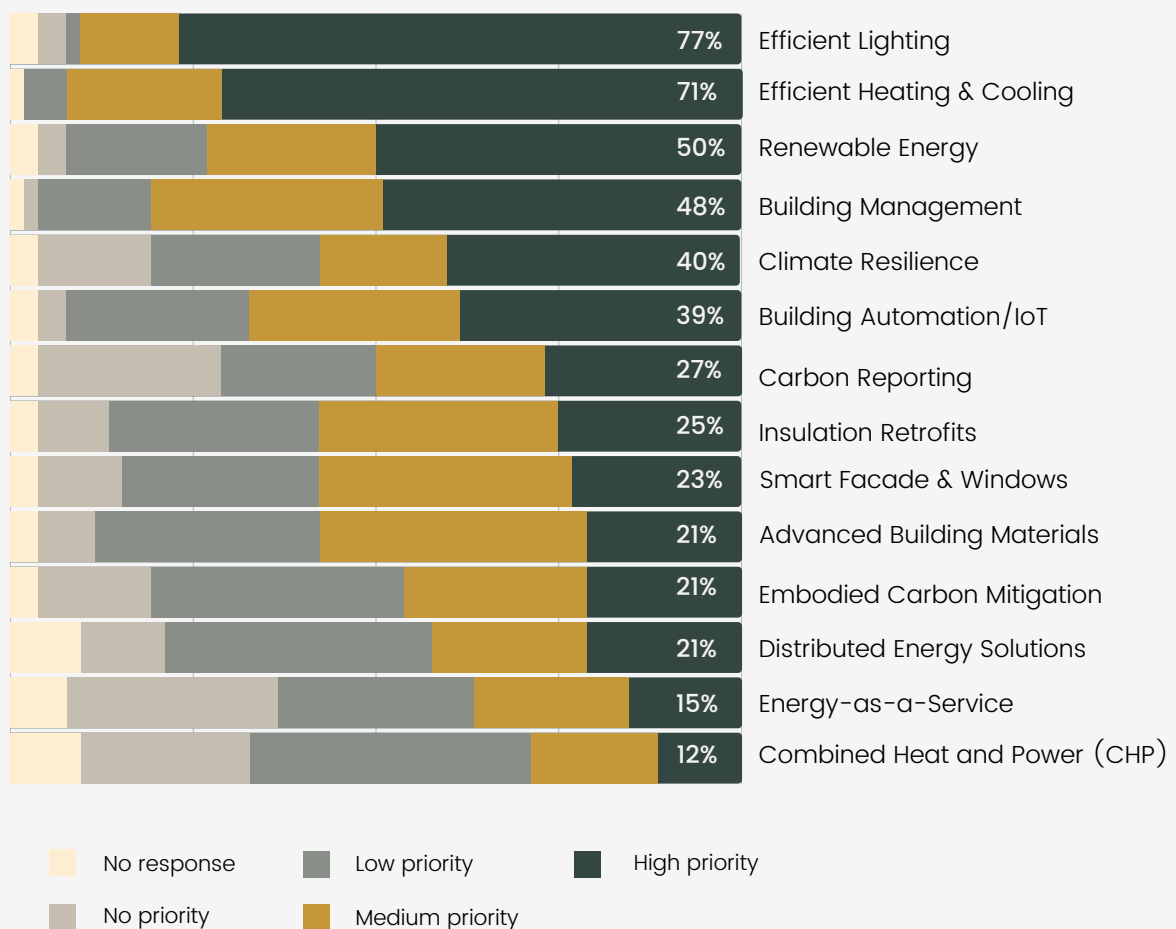


Figure 11: Survey respondents identified efficient lighting, efficient heating and cooling, and renewable energy as top priorities as they look to enhance their portfolios with new climate technologies.

# Conclusion

The attitudes reflected in the responses are encouraging, in that participants around the globe have acknowledged the industry's culpability in the climate crisis and have initiated actions to reduce their impacts. With more firms establishing internal sustainability and ESG teams, and investing more in climate tech over the next few years, there is a greater likelihood of more robust climate action being taken in the future. Real estate firms are beginning to prove their commitment to address climate change.

While positive transformations are occurring within firms, the climate tech investment results indicate that the industry is far from realizing its potential impact or decarbonization goals. A lack of returns on investment, high upfront costs, and prioritization of other investments prevent companies from allocating money to climate tech. However, given the shortcomings of existing climate-related solutions, real estate firms have an opportunity to fund the research and development of new innovations, which are critical to meet global decarbonization goals.

CREtech, ULI, and Fifth Wall would like to thank the firms that participated in this important research. The valuable insights provided create a measurable metric that we can use to ensure that the strides in the industry are more than words. Thank you to these industry leaders—including real estate owners, investors, managers, and technology conglomerates—who are paving the way for a more sustainable built environment.



Subscribe to the CREtech Climate daily newsletter to receive important headlines on how climate tech is driving change in the real estate industry. Learn more [here](#).

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