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The Race To Decarbonization: A Spotlight On Industrial Refrigeration, Cooling, Heating, And Energy Solutions

Results From The November 2021 Thought Leadership
Paper, “The Race To Decarbonization”

Executive Summary

Decision-makers are tasked with addressing sustainability goals that are influenced by industrial refrigeration and heating installations. These installations can have their environmental sustainability positively impacted or lessened, e.g., addressing the choice of refrigerants (choosing a low global warming potential [GWP] alternative), energy usage reduction, and operational improvements. Companies that fail to address key regulations can face stiff penalties.

Forrester Consulting conducted a Thought Leadership Study commissioned by and developed in collaboration with Johnson Controls to evaluate the progress that sustainability focused organizations have made in pursuing their goals. To explore this topic, Forrester conducted a series of interviews and fielded an online survey with 2,348 global sustainability strategy leaders in late 2021. Respondents represented organizations in 25 countries and across 19 industries. Forrester then created a maturity model based on levels of people, process, and technology investments to uncover best practices and benefits that sustainability leaders realize.

For this spotlight, Forrester focused on a subset of 102 global sustainability strategy leaders at companies using industrial refrigeration, cooling, and/or heating solutions. We found that the organizational benefits to investing in sustainability are immense. At the same time, because scaled sustainability is a relatively new concept, most companies using industrial refrigeration and heating solutions have room to grow in navigating the complexities of measuring and reporting on their progress.



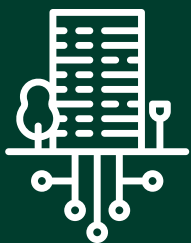
Key Findings



Investing in sustainability is a critical differentiator for companies using industrial refrigeration and heating solutions. Respondents in the survey ranked sustainability as a top organizational priority; and it's the priority that has grown the most in importance over the last two years. The top drivers leading companies to prioritize sustainability include attracting customers who make purchasing decisions based on sustainable corporate values and products and integrating sustainability into the corporate brand.



Sustainable transformation leads to organizational benefits. Decision-makers report benefits across the organization as a result of undertaking a sustainable transformation. Top benefits include improved efficiency, improved regulatory compliance, and decreased costs.



Prioritizing sustainability requires strategic commitment. Sustainability has become a greater focus for companies using industrial refrigeration and heating solutions, and with that has come lofty goals for reducing carbon emissions. Most leaders still struggle with measurement and complexity. Failing to improve on these reporting goals threatens to derail their efforts.

Investing In Sustainability Is A Necessity And Critical Differentiator

Decision-makers at companies using industrial refrigeration and heating solutions are starting to understand that making sustainability a business priority is not just a compliance requirement, it's a competitive differentiator for their business. We surveyed 102 leaders from these companies, and found that:

- **Sustainability is the top organizational priority.** Implementing or maturing sustainability practices was ranked as the top priority over the next 12 months, and it's the priority that has grown the most in importance over the last two years (see Figure 1).
- **Customer and employee demands are driving the sustainability priority.** The top drivers behind the prioritization of sustainability are: attracting customers who make purchasing decisions based on sustainable corporate values (78%); integrating sustainable value propositions into the corporate brand (61%); and attracting customers who make purchasing decisions based on sustainable products (56%). Comparatively, just 34% of respondents indicated that addressing industry or government regulatory requirements is a driver in implementing or maturing their sustainability practices.

Decision-makers at companies using industrial refrigeration and heating solutions are two times more likely to indicate that prioritizing sustainability is done to better attract customers who make purchasing decisions based on sustainable corporate values, as compared to addressing regulatory requirements.

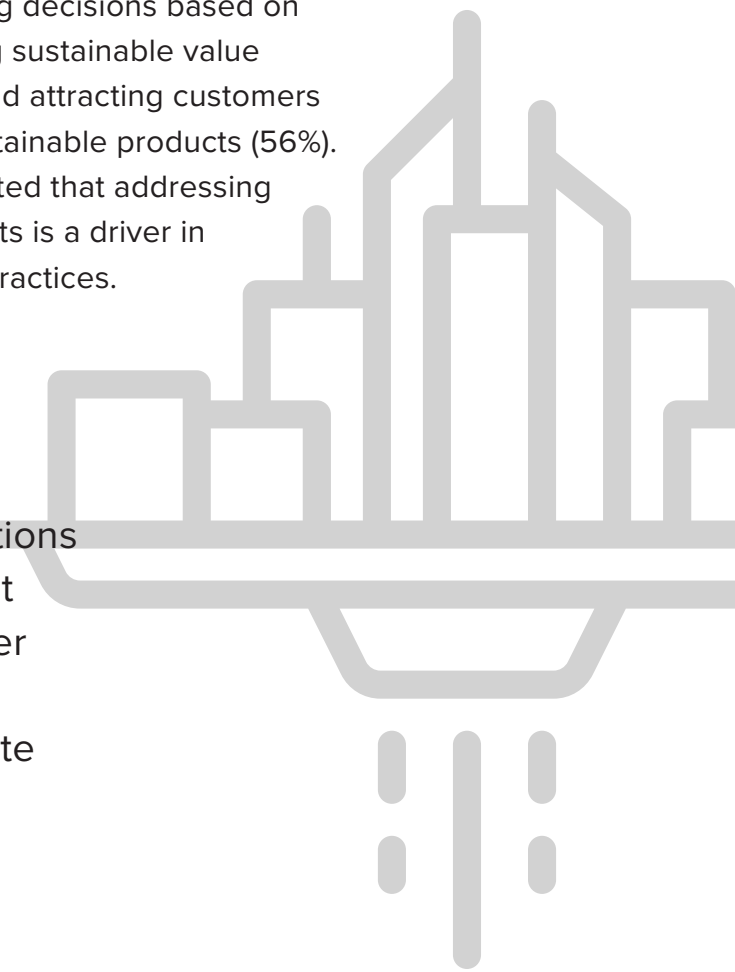
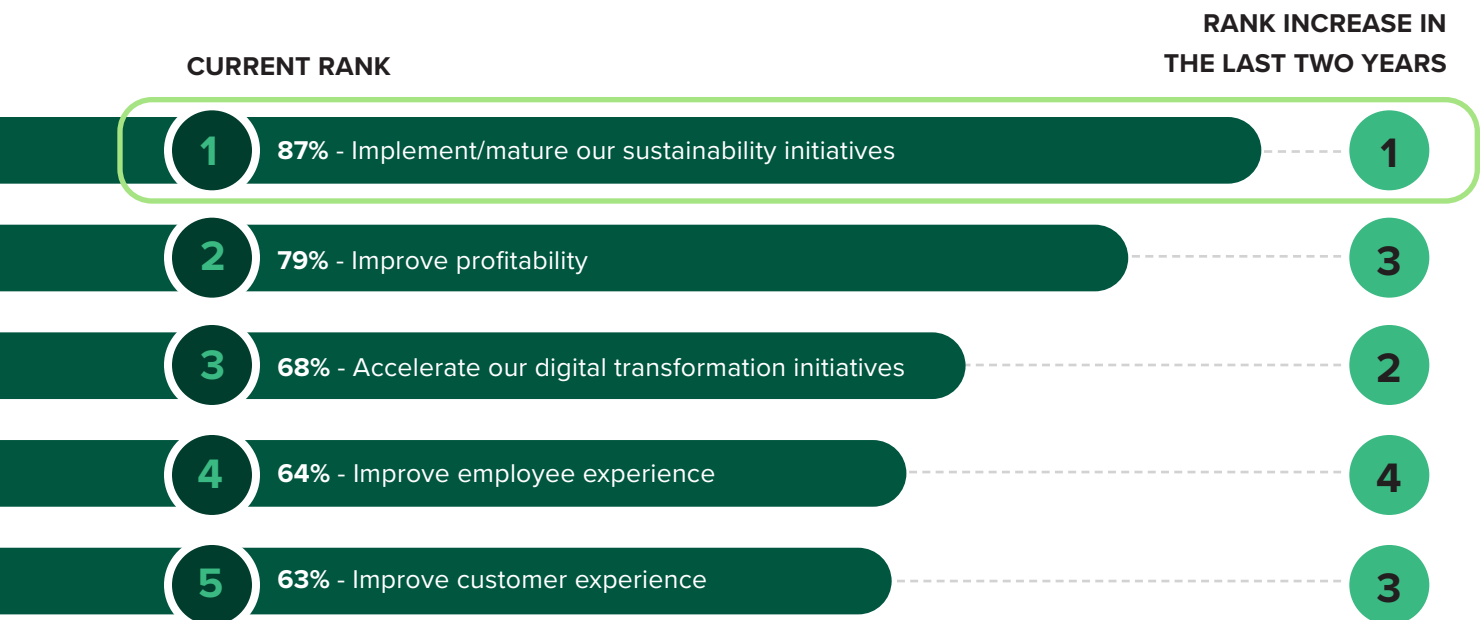


Figure 1

“What are your organization’s top business priorities in the next 12 months?”



Base: 102 global sustainability decision-makers at firms using industrial refrigeration, cooling, and/or heating systems who are prioritizing sustainability

Note: Respondents have ranked their response from 1 to 5, with 1 being the most important; showing top five responses.

Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, September 2021

Sustainable Transformation Leads To Organizational Benefits

Undertaking a successful sustainability transformation drives competitive advantage and benefits for all stakeholders. While many companies that use industrial refrigeration and heating solutions are in the midst of a similar transformation, respondents have realized or expect to realize many business benefits.

Top reported benefits include: improved efficiency (89%); improved regulatory compliance (83%); and decreased costs (81%) (see Figure 2).

Figure 2

“Which of the following benefits have you already realized, or do you expect to realize, from pursuing your sustainability goals?”



Base: 102 global sustainability decision-makers at firms using industrial refrigeration, cooling, and/or heating systems who are prioritizing sustainability

Note: Showing “This is a benefit we expect to realize” and “This is a benefit we have already realized” responses; showing top 5 responses.

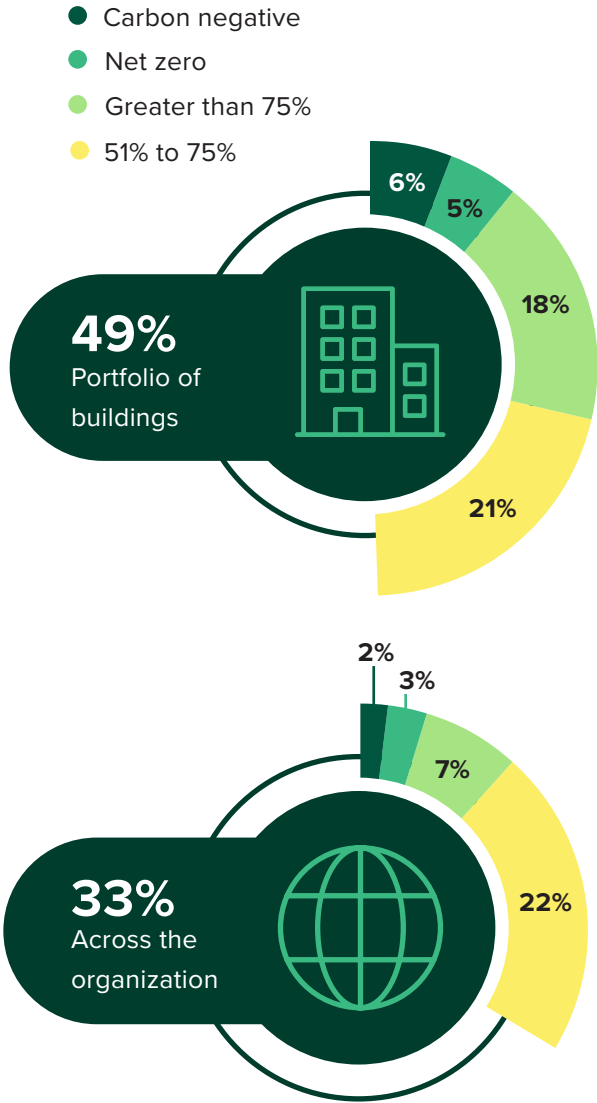
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, September 2021

Prioritizing Sustainability Requires Strategic Commitment

While sustainability initiatives have grown in importance for companies using industrial refrigeration and heating solutions, so too has the importance of executing upon those goals. Decision-makers report facing many challenges that threaten to derail their efforts:

- **Setting high sustainability goals.** Forty-nine percent of respondents indicated they plan to reduce energy consumption across their portfolio of buildings by at least 50%, while 33% have set the same goal across their entire organization (see Figure 3). What's more is that the average reported target date for meeting these sustainability goals is 2024.
- **Struggling with measurement.** Seventy-three percent of decision-makers indicate they are not currently using environmental, social, governance (ESG) reporting software. Forty-eight percent are struggling with internal alignment on how and what to track, while having siloed data (45%) and lacking in-house expertise (34%) are other common pain points.
- **Complexity making scaling difficult.** Respondents also reported the following obstacles hindering their ability to achieve sustainability goals: managing multiple parties involved in execution (34%); struggling to understand and prepare for changing policy requirements (32%); and lacking a strategic plan to achieving the goals they have committed to (30%). Over

Figure 3
Long-Term Goals For Reducing Carbon Emissions/ Energy Consumption



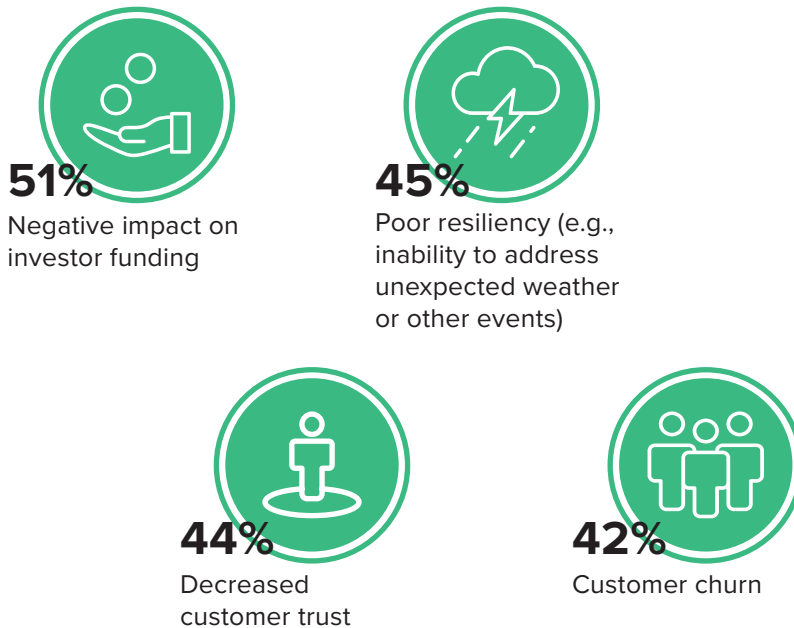
Base: 102 global sustainability decision-makers at firms using industrial refrigeration, cooling, and/or heating systems who are prioritizing sustainability
Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, September 2021

one-fourth (27%) indicated they lack external partners to help them with these pain points.

- **Failing to deliver on goals threatens to derail sustainability efforts.**
The top reported risks associated with failing to improve sustainability were negative impacts on investor funding (51%), poor resiliency (45%), and decreased customer trust (44%) (see Figure 4).

Figure 4

“Which of the following are risks associated with failing to improve sustainability at your company?”



Base: 102 global sustainability decision-makers at firms using industrial refrigeration, cooling, and/or heating systems who are prioritizing sustainability

Note: Showing top four responses.

Source: A commissioned study conducted by Forrester Consulting on behalf of Johnson Controls, September 2021

Nearly half

of surveyed decision-makers have committed to cutting their carbon emissions by at least half by 2024, yet many still struggle to measure their efforts, with just 27% currently using ESG reporting software.

Key Recommendations

Sustainability is a top priority for decision-makers in their industrial refrigeration and heating solution initiatives. Sustainability goals often address energy efficiency, carbon emissions, GWP of refrigerants, and other resources. For many companies, proactively positioning their sustainability initiatives to current and potential employees is also an important aspect of recruiting and retaining personnel. To address these priorities, stakeholders should:

Address mounting pressure from many stakeholders to prioritize sustainability activities.

Stakeholders across various roles are driving sustainability requirements. Governments and regulators are establishing targets and requirements at the regional and global level. Funders are demanding that firms disclose environmental and climate impacts of critical operational processes, and facility managers are seeking visibility into the sustainability impacts of their industrial refrigeration and heating solution installations. HR executives are also using their firm's activities to recruit and retain employees who seek to work for companies that proactively address sustainability.

Assess corporate sustainability priorities across critical resources, operations, and processes.

A comprehensive sustainability assessment requires stakeholders to consider a wide array of possibilities. For example, choice of refrigerants and GWP, as well as the impact of the industrial refrigeration and heating solution installations on carbon emissions. Other important aspects include managing energy efficiency and water across critical operations and maintenance processes. The key role of software solutions need to be considered when capturing diverse data sources and reporting on the local, regional, and global impacts of the company's sustainability activities.



Identify opportunities to leverage partners for assistance with the sustainability roadmap.

Each organization must establish a roadmap and path forward for sustainability, including the role of their installations in meeting these goals. For many companies, the initial focus often begins with carbon dioxide emissions regulations. Operational sustainability initiatives can include impacts of industrial refrigeration and heating solution installations on production, building operations, and facility management.

Measure benefits and impacts of the company's sustainability activities.

Identify metrics and methods to assess the impact of industrial refrigeration and heating solution installations, and measure the use of key elements such as refrigerant GWP and water resources. Some companies may focus on expanding their work with certified and trusted partners that help them meet requirements by assisting with the implementation of solutions and software to capture their impact and meet regulatory and corporate goals.

Appendix A: Methodology

This study was commissioned by Johnson Controls and conducted by Forrester Consulting. Johnson Controls collaborated on the survey questions and design, but Forrester retained final editorial control. For this study, Forrester conducted an online survey with 102 global sustainability strategy leaders to evaluate the progress that their organizations have made in achieving their goals. Survey respondents included directors, vice presidents, and C-level executives in IT, operations, sustainability, governance, risk, compliance, facility management, and commercial real estate roles who work at companies using industrial refrigeration, cooling, and/or heating solutions. The study began in August 2021 and was completed in September 2021.

To read the full results of this study, including best practices from sustainably engaged organizations, please refer to the Thought Leadership Paper commissioned by Johnson Controls titled, “The Race To Decarbonization.”

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Forrester’s Infrastructure &
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Appendix B: Demographics

NUMBER OF EMPLOYEES

500 to 999	22%
1,000 to 4,999	39%
5,000 or more	39%

RESPONDENT LEVEL

Director	60%
Vice president	27%
C-level executive	13%

RESPONDENT CORPORATE SUSTAINABILITY RESPONSIBILITY

I am the final decision-maker in this area.	74%
I influence decisions in this area as a primary part of my job.	26%

INDUSTRY

Firms using industrial refrigeration, cooling, and/or heating solutions	100%
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RESPONDENT DEPARTMENT

IT	27%
Operations	25%
Sustainability	11%
Facility management	14%
Governance, risk, and compliance	11%
Commercial real estate	12%

LEVEL OF SUSTAINABILITY IMPORTANCE

Very important	45%
Important	45%
Somewhat important	10%

GEOGRAPHY (RESPONDENT LOCATION)	
Australia (3%)	3%
Brazil (3%)	3%
Canada (3%)	3%
China (9%)	9%
France (3%)	3%
Germany (5%)	5%
Hong Kong (2%)	2%
India (7%)	7%
Indonesia (4%)	4%
Ireland (1%)	1%
Italy (4%)	4%

GEOGRAPHY CONTINUED	
Japan (15%)	15%
Malaysia (4%)	4%
Mexico (4%)	4%
The Netherlands (2%)	2%
Qatar (2%)	2%
Singapore (6%)	6%
South Korea (3%)	3%
Spain (2%)	2%
Switzerland (2%)	2%
Thailand (2%)	2%
United Arab Nations (UAE) (3%)	3%
United Kingdom (4%)	4%
United States (8%)	8%

Note: Percentages may not total 100 because of rounding.

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

“Guide Your Sustainability Program With The Forrester Sustainability Maturity Model,” Forrester Research, Inc., October 27, 2021.

“Embrace The Green Business Opportunity,” Forrester Research, Inc., March 30, 2021.

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