

# SCALING POWER INFRASTRUCTURE FOR A.I. WORKLOADS

A MarketPulse Survey for Connection-APC

JANUARY 2026

In Partnership With:

**FOUNDRY**



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# INTRODUCTION

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Today, U.S. enterprises are increasingly adapting their data center power infrastructure to meet the growing demands of AI workloads.

As AI adoption accelerates and energy use climbs, the power systems you rely on to keep operations running must be ready to keep pace. Connection and APC by Schneider Electric partnered with Foundry to deliver this peer-level review of the information you need to know when taking a harder look at how to scale your power infrastructure for AI workloads.

# METHOD AND OBJECTIVES

## Survey Goals

This research aims to understand how enterprises with active AI implementations in their data centers are planning for increased power requirements.

We explore the current state of AI adoption, the impact of AI workloads on data center power consumption, and the extent to which organizations are proactively planning for future power needs.

The survey also examines:

- Anticipated timelines for power upgrades
- Key challenges and barriers to scaling power infrastructure
- The role of sustainability in power planning
- Confidence levels in existing infrastructure and forecasting tools



### Total Respondents:

108

### Collection Method:

Online questionnaire

### Geography:

U.S.

### Field Dates:

December 17, 2025–January 16, 2026

### Number of Questions:

10

### Organization Size:

500 employees or more

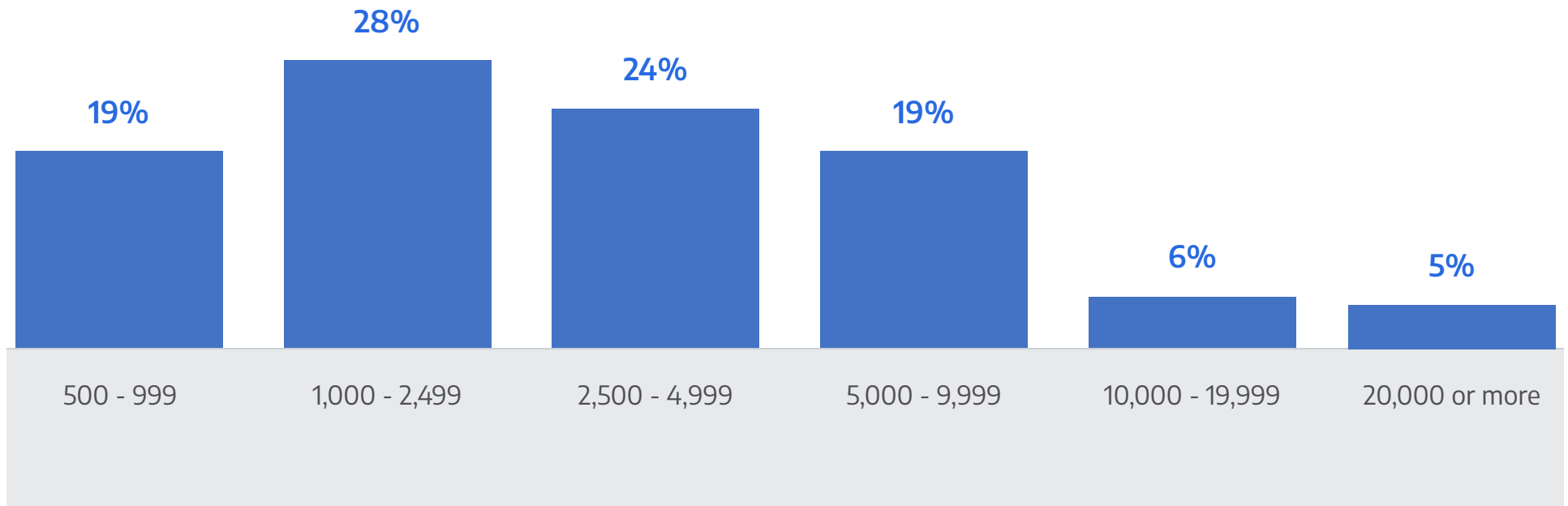
### Senior Decision-makers:

Respondents are Director-level and above and serve as primary decision makers or key influencers in data center power or infrastructure planning.



# RESPONDENT PROFILE

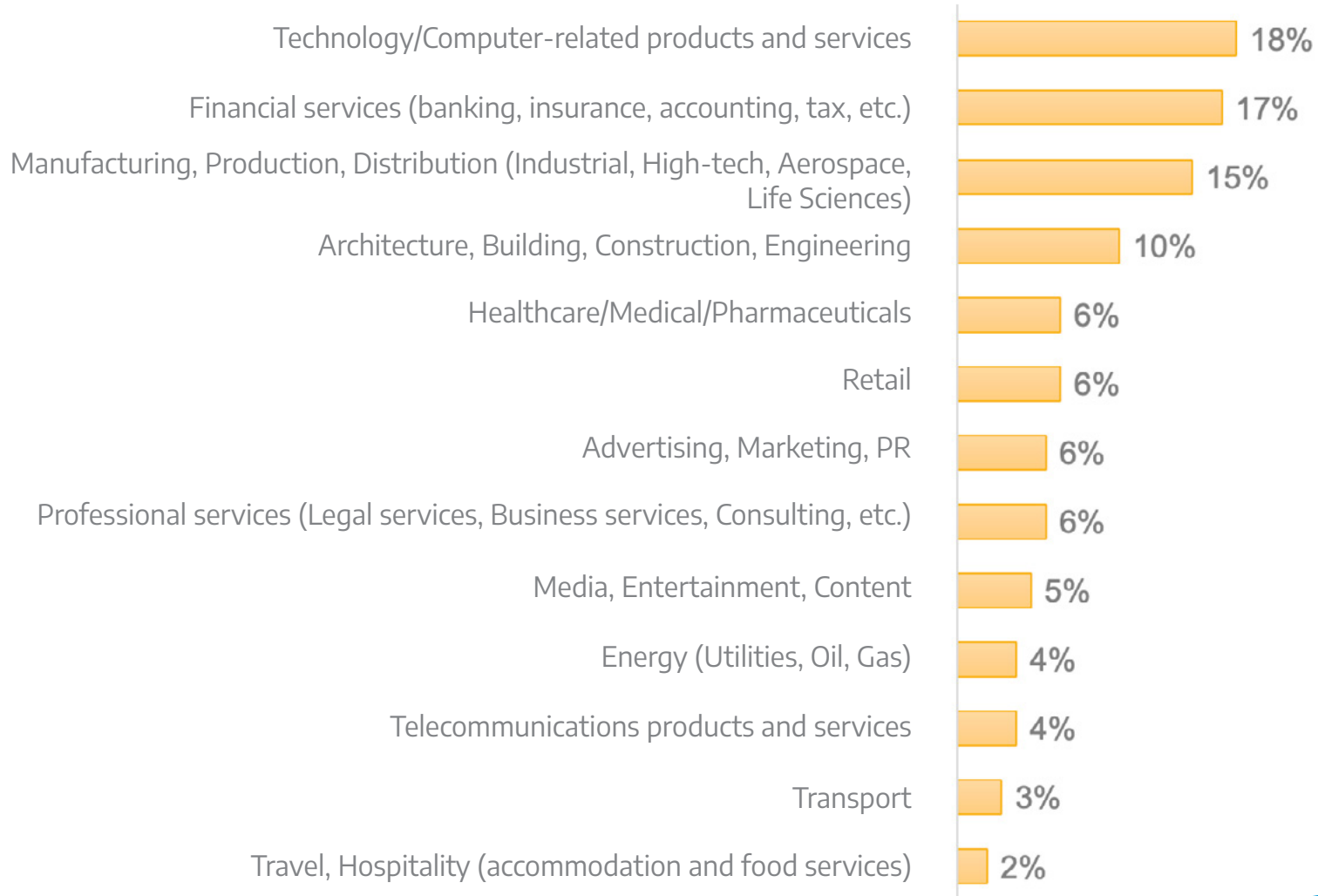
# COMPANY SIZE BY NUMBER OF EMPLOYEES



S1: Approximately how many people are employed in your entire organization or enterprise?  
(Please include all plants, divisions, branches, parents, and subsidiaries worldwide.)

Base 108

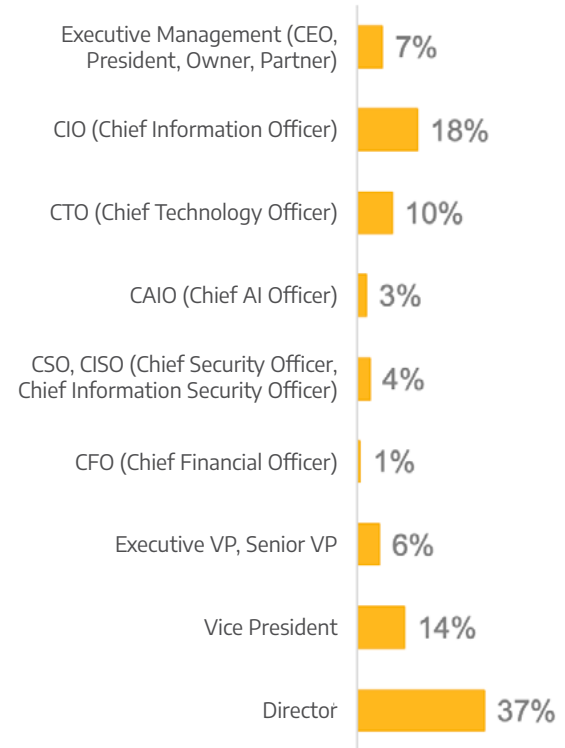
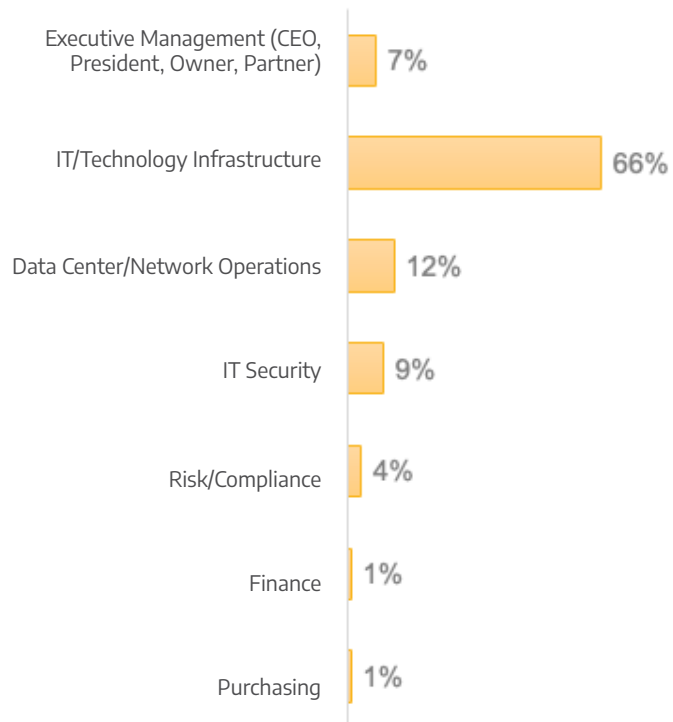
# PRIMARY INDUSTRY



S5: Which of the following best describes your organization's industry or sector?

Base 108

# JOB FUNCTION / JOB TITLES



S3: What is your primary job title?

S4: Which of the following best describes your primary job title?

Base 108



# SUMMARY OF FINDINGS

# SUMMARY OF FINDINGS

## AI Is Widely Adopted

- Nearly all enterprises surveyed (97%) report AI workloads are already deployed in production environments.
  - More than one-third (36%) say AI is fully integrated into their operations, signaling a shift from pilots to mission-critical workloads.
- Generative AI (89%) and traditional machine learning/analytics (74%) dominate current AI deployments, underscoring the power intensity of today's AI use cases.

## AI Is Rapidly Increasing Data Center Power Demand

- An overwhelming majority (87%) say AI workloads have moderately or significantly increased data center power consumption.
- Enterprises with fully integrated AI are far more likely to report a significant power impact (54% compared to 17% in the early stages of AI deployment), reinforcing the need for forward-looking power strategies.

## Planning Is Underway, and Most Enterprises Expect Power Upgrades Soon

- Just over half (52%) report completing extensive power planning prior to deploying AI workloads, and 42% have done moderate planning (6% report minimal planning).
  - Planning rigor increases with AI maturity, suggesting experienced organizations recognize power as a key factor for AI success.
- More than three-quarters (77%) anticipate needing a data center power upgrade within two years due to AI.
  - Organizations with more mature AI deployments report even greater urgency, with 51% of this group indicating upgrades are anticipated within the next 12 months.

## Scaling Power for AI Comes with Real Constraints

- In addition to budget constraints (66%), cooling requirements (65%) and regulatory compliance (55%) rank among the top barriers to scaling power infrastructure.
  - Organizations with high AI maturity are more likely to cite a lack of planning tools as a challenge (36% compared to 17% of those in the early stages of AI deployment), signaling growing complexity.

# SUMMARY OF FINDINGS (CONTINUED)

## Sustainability Is a Core Requirement

- Nearly all respondents (93%) say environmental sustainability is important or very important in AI-related data center planning.
  - Importance increases with AI maturity, reinforcing sustainability as a long-term operational priority.
- However, just one-third (33%) report having a fully integrated sustainability strategy to manage AI-driven power usage, revealing an execution gap.

## Confidence in Current Power Infrastructure Changes with AI Maturity

- Just over half (54%) say they are very confident that their current power infrastructure can support future AI expansion, and 36% are confident. Nine percent (9%) are somewhat confident and 1% are not at all confident.
- Confidence rises with AI maturity, suggesting experience and investment drive greater readiness (82% of those at fully mature organizations are very confident, compared to 17% of those at organizations just beginning to deploy AI).

## Forecasting Tools Are Effective, Especially for AI Leaders

- A majority (53%) rate their current power forecasting tools as very effective, and 37% indicate their tools are effective. Ten percent (10%) report tools are somewhat effective.
- Effectiveness ratings are highest among organizations with fully integrated AI (74% rate forecasting tools as very effective, compared to 20% of those in early stages of AI deployment). This indicates accurate forecasting is perceived as a requirement for managing AI-driven power demand.

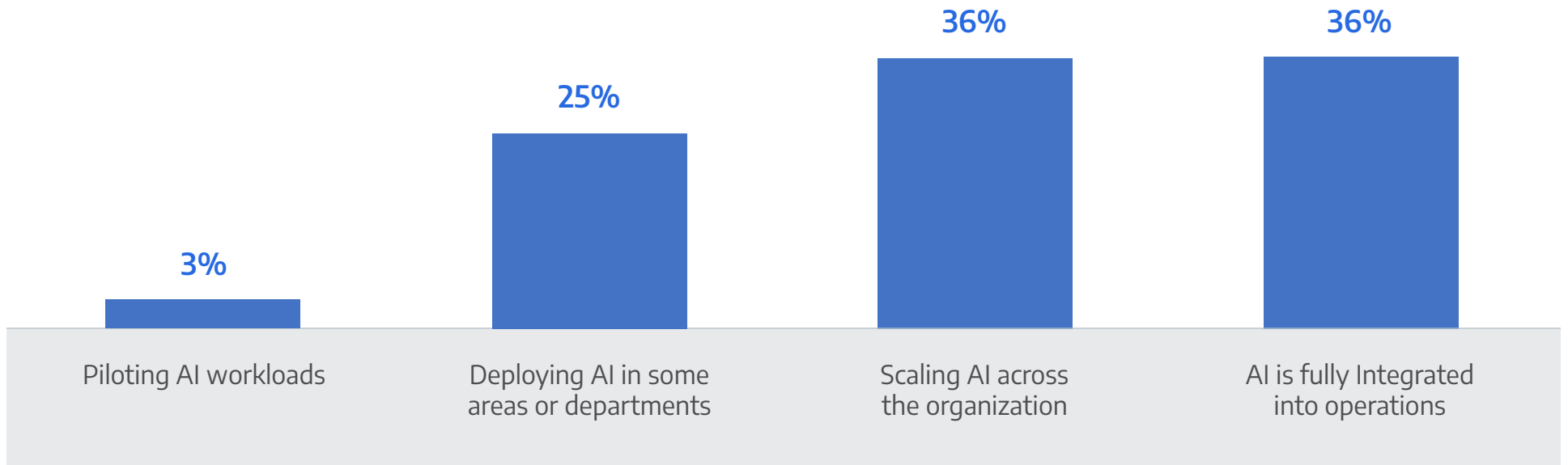
## Reliability and Efficiency Lead Power Infrastructure Priorities

- Reliability (28% rank this as #1) and energy efficiency (22% rank as their top choice) are top priorities when planning power infrastructure for AI workloads.
- Among organizations actively scaling AI, energy efficiency surpasses reliability as the top concern (31% of those scaling AI deployments rank energy efficiency as #1, compared to 20% of those in early deployment stages and 15% of those who have fully integrated AI into operations.)
- This shift reflects growing pressure to balance performance and sustainability as AI scales.

# SURVEY RESULTS

# NEARLY ALL (97%) ARE DEPLOYING A.I. IN PRODUCTION; 36% REPORT A.I. IS FULLY INTEGRATED INTO OPERATIONS

*How would you describe your organization's adoption of AI workloads?*

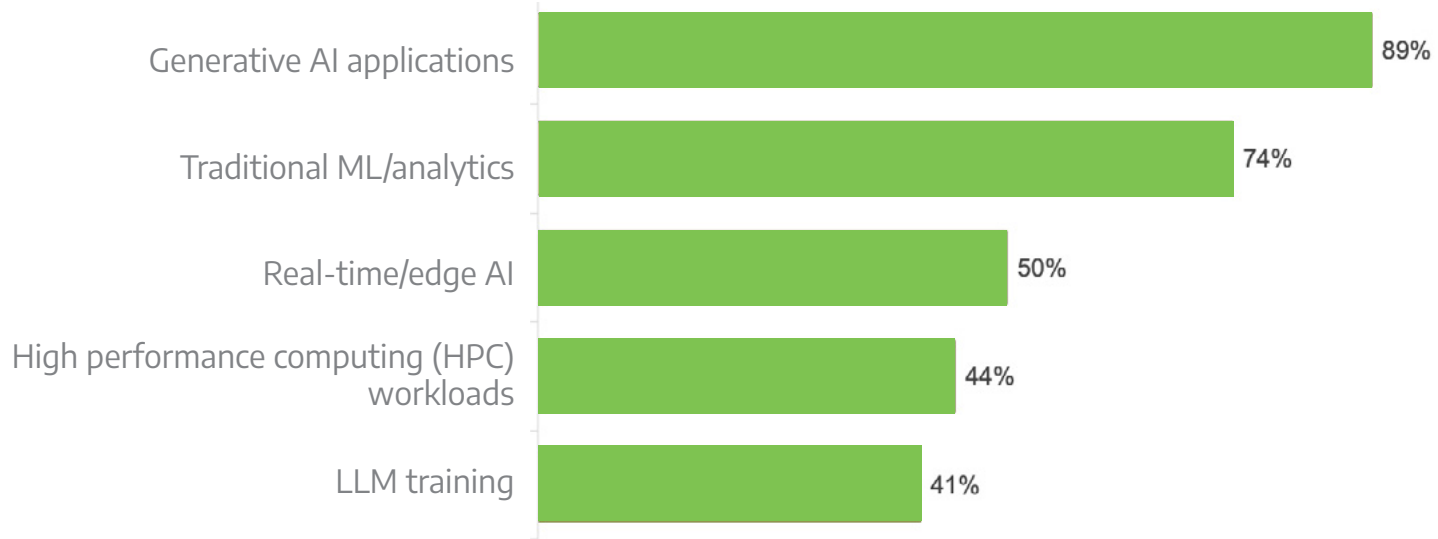


S6: How would you describe your organization's adoption of AI workloads?

Base 108

# GEN A.I. AND TRADITIONAL MACHINE LEARNING / ANALYTICS ARE TOP A.I. WORKLOADS

*Which types of AI workloads are currently deployed in your data centers?  
(Select all that apply)*

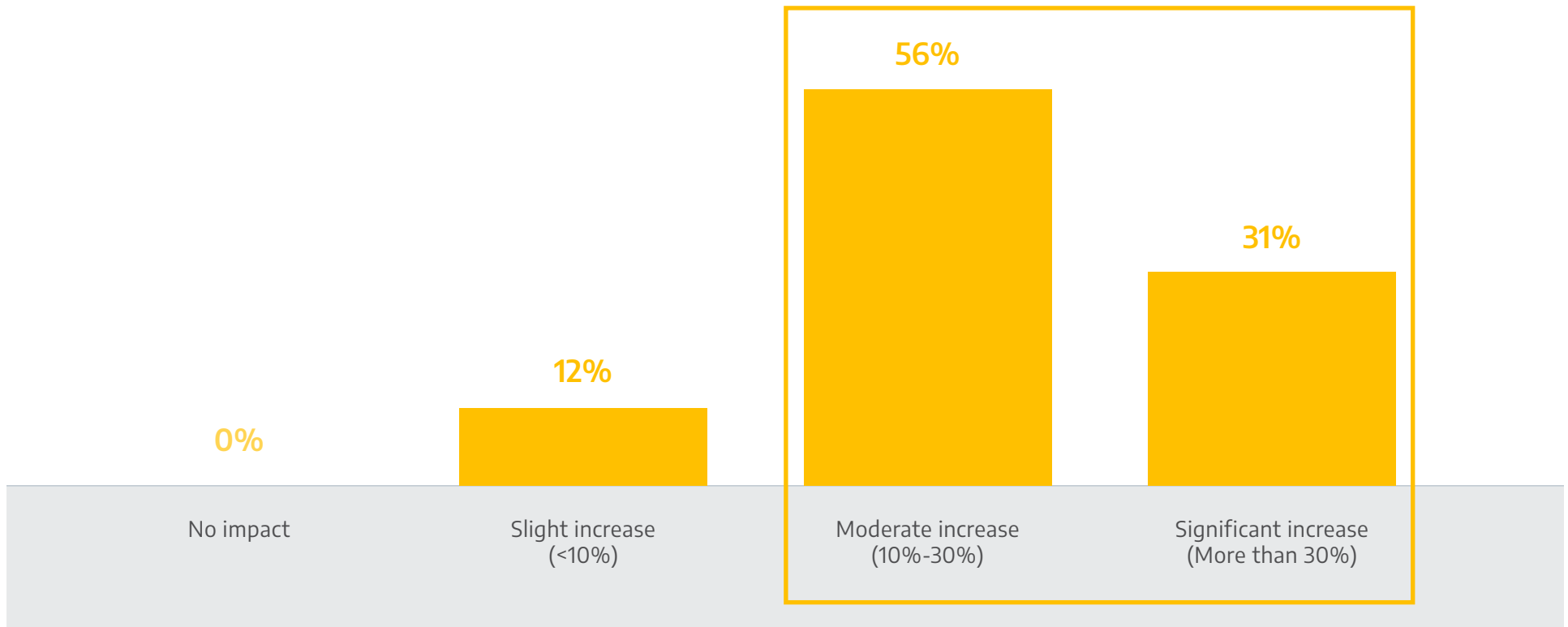


Question 1: Which types of AI workloads are currently deployed in your data centers?  
(Select all that apply)

Base 108

# 87% REPORT A.I. HAS MODERATELY OR SIGNIFICANTLY INCREASED POWER CONSUMPTION

*What impact has AI had on your data center's power consumption?*



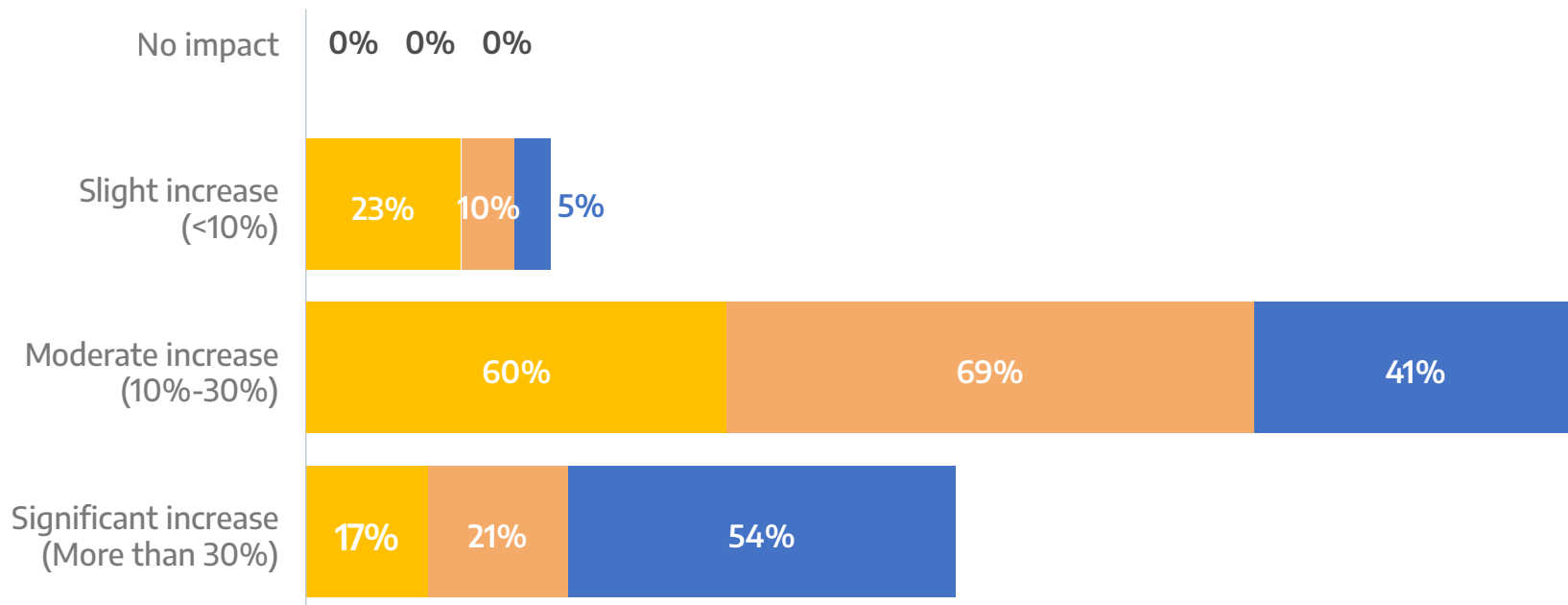
Question 2: What impact has AI had on your data center's power consumption?

Base 108

# COMPANIES THAT HAVE FULLY INTEGRATED A.I. ARE MORE LIKELY TO REPORT A SIGNIFICANT IMPACT ON POWER CONSUMPTION

*What impact has AI had on your data center's power consumption?*

■ Piloting OR Deploying AI in some areas or departments   ■ Scaling AI across the organization   ■ AI is fully integrated into operations

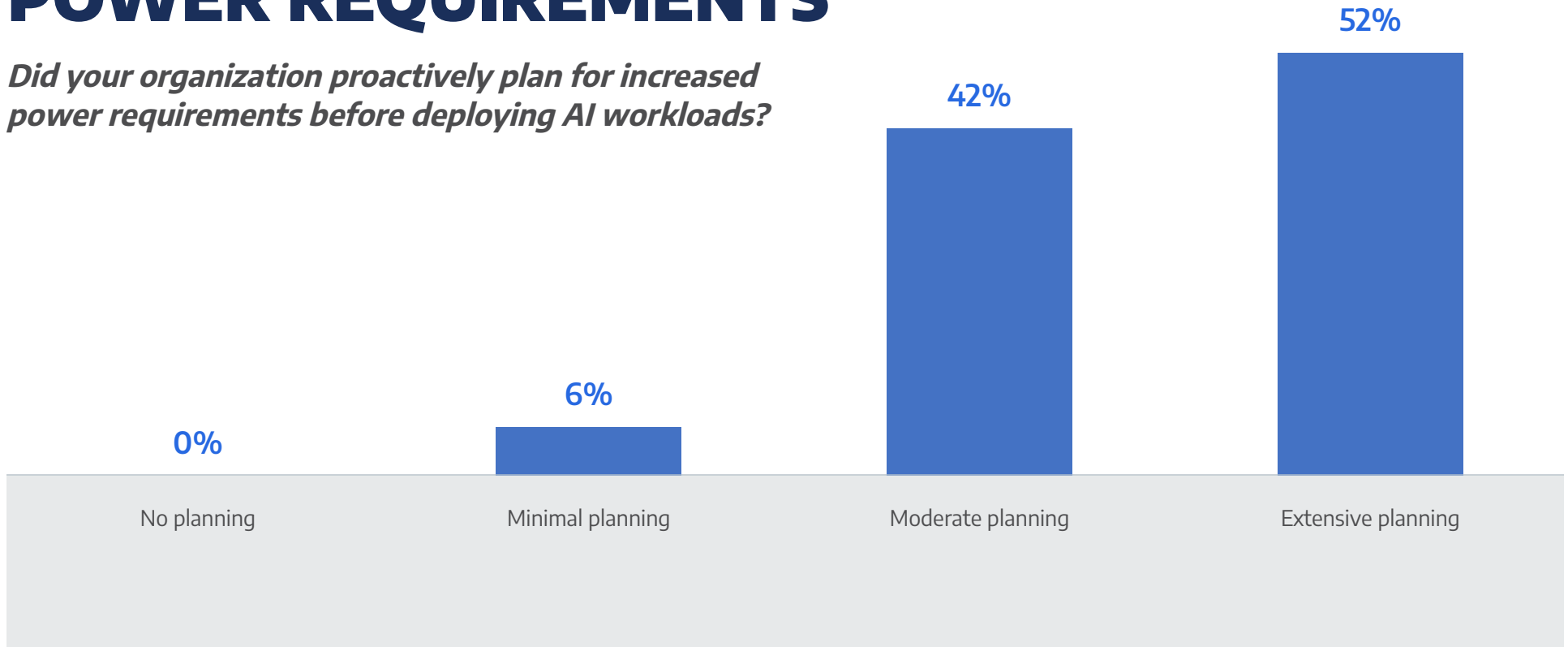


Question 2: What impact has AI had on your data center's power consumption?

Base: Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# MORE THAN HALF (52%) INDICATE EXTENSIVE PLANNING WAS COMPLETED AHEAD OF A.I. DEPLOYMENT TO ACCOMMODATE POWER REQUIREMENTS

*Did your organization proactively plan for increased power requirements before deploying AI workloads?*



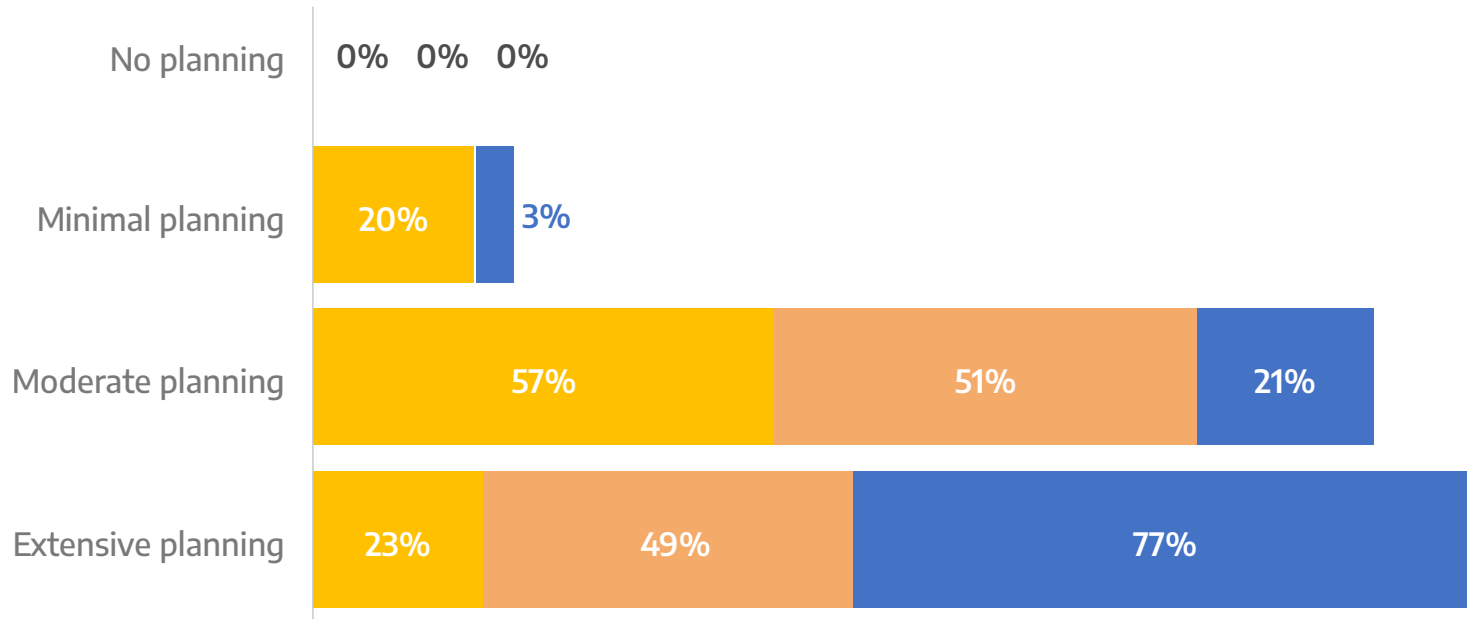
Question 3: Did your organization proactively plan for increased power requirements before deploying AI workloads?

Base 108

# AS A.I. MATURITY INCREASES, SO DOES THE LIKELIHOOD THAT COMPANIES HAVE COMPLETED EXTENSIVE PLANNING FOR INCREASED POWER REQUIREMENTS

*Did your organization proactively plan for increased power requirements before deploying AI workloads?*

■ Piloting OR Deploying AI in some areas or departments   ■ Scaling AI across the organization   ■ AI is fully integrated into operations

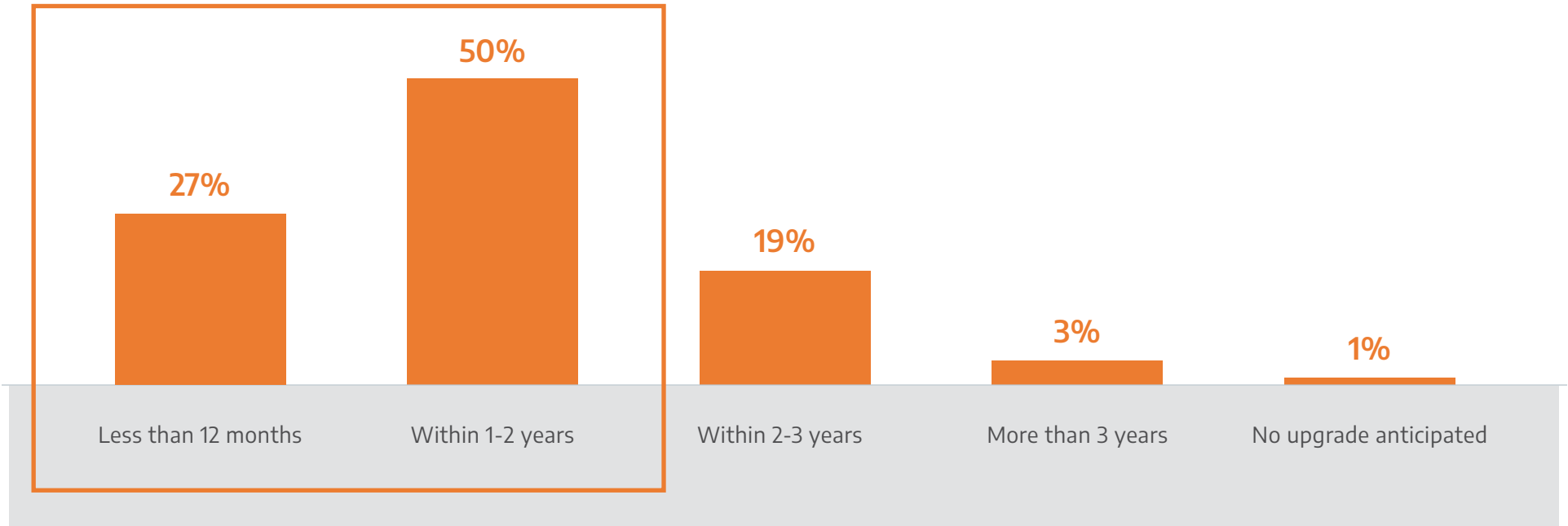


Question 3: Did your organization proactively plan for increased power requirements before deploying AI workloads?

Base Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# MORE THAN THREE-QUARTERS (77%) ANTICIPATE A DATA CENTER POWER UPGRADE WILL BE NECESSARY WITHIN 2 YEARS TO ACCOMMODATE A.I. DEPLOYMENTS

*How soon do you anticipate needing a data center power upgrade due to AI?*



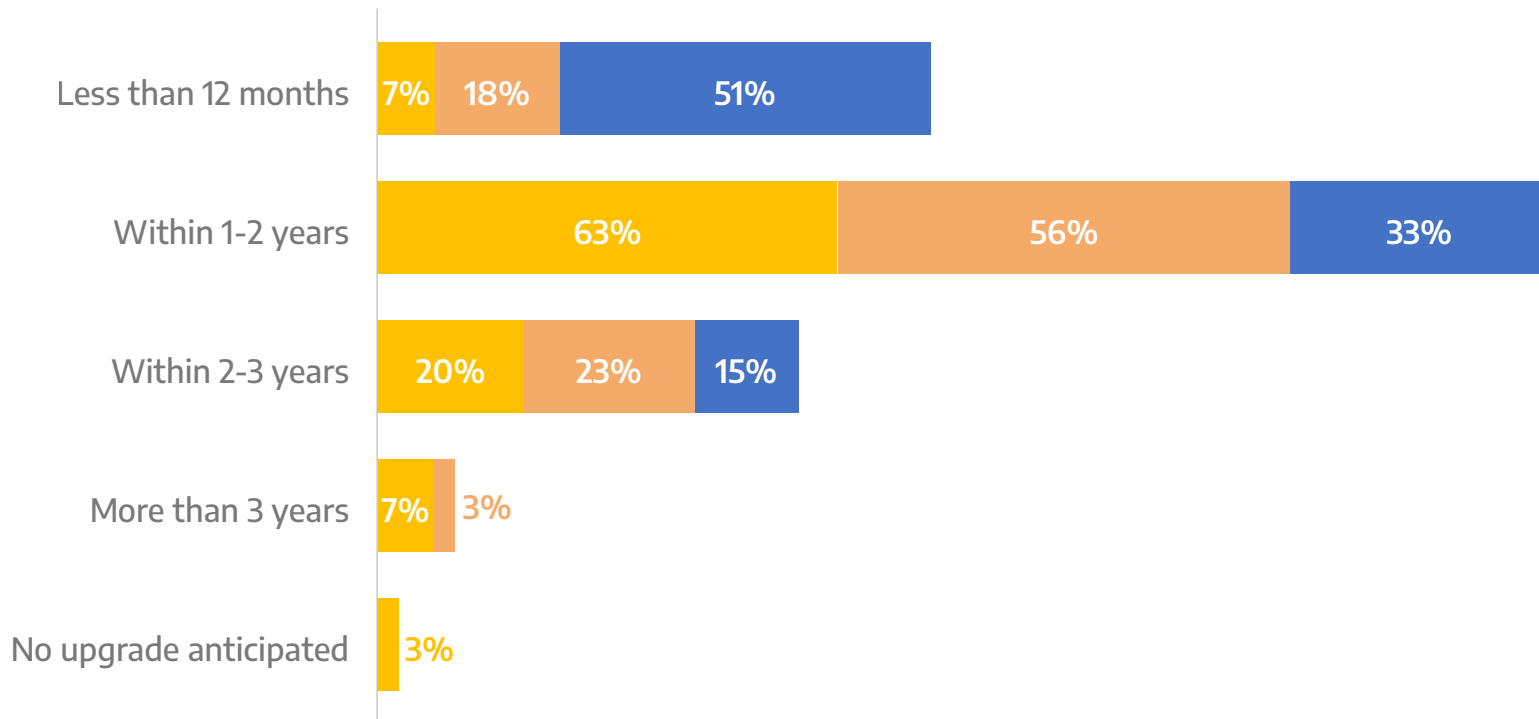
Question 4: How soon do you anticipate needing a data center power upgrade due to AI?

Base 108

# AS A.I. BECOMES MORE EMBEDDED IN OPERATIONS, THE URGENCY TO UPGRADE DATA CENTER POWER CAPACITY ACCELERATES

*How soon do you anticipate needing a data center power upgrade due to AI?*

■ Piloting OR Deploying AI in some areas or departments   ■ Scaling AI across the organization   ■ AI is fully integrated into operations

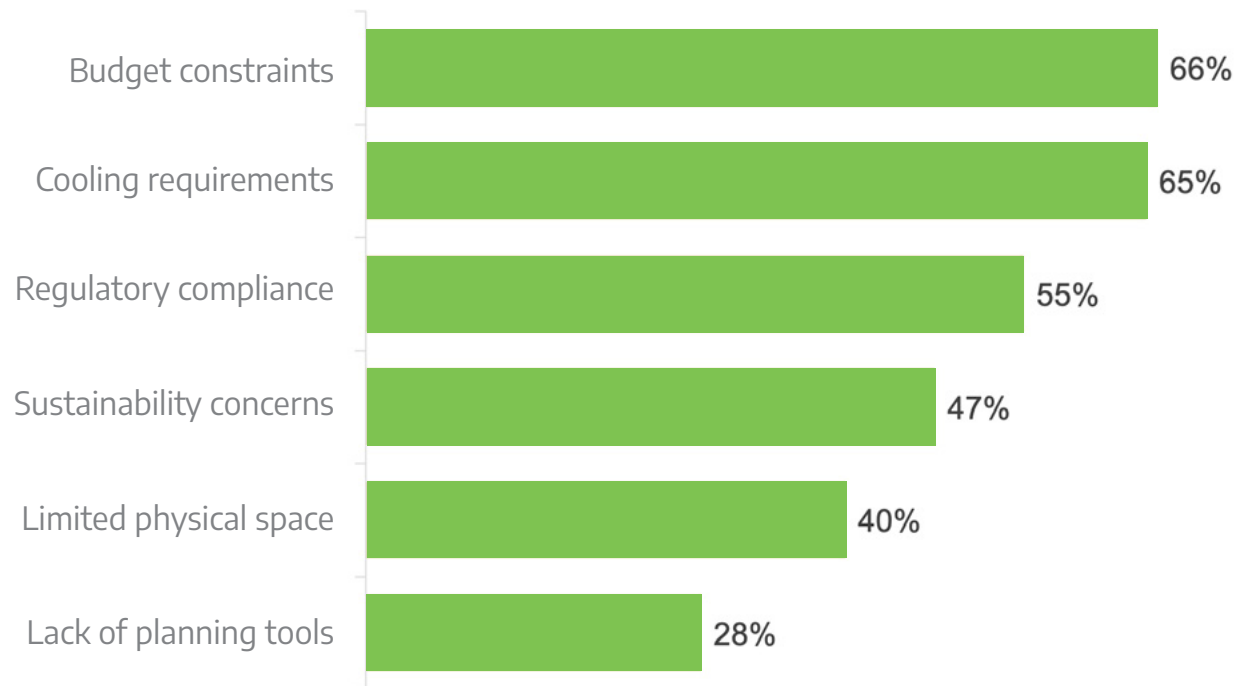


Question 4: How soon do you anticipate needing a data center power upgrade due to AI?

Base: Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# ASIDE FROM BUDGET, COOLING REQUIREMENTS AND REGULATORY COMPLIANCE ARE TOP BARRIERS TO SCALING POWER INFRASTRUCTURE FOR A.I. WORKLOADS

*What have been the biggest barriers/challenges to scaling power infrastructure for AI workloads?  
(Select the top 3)*

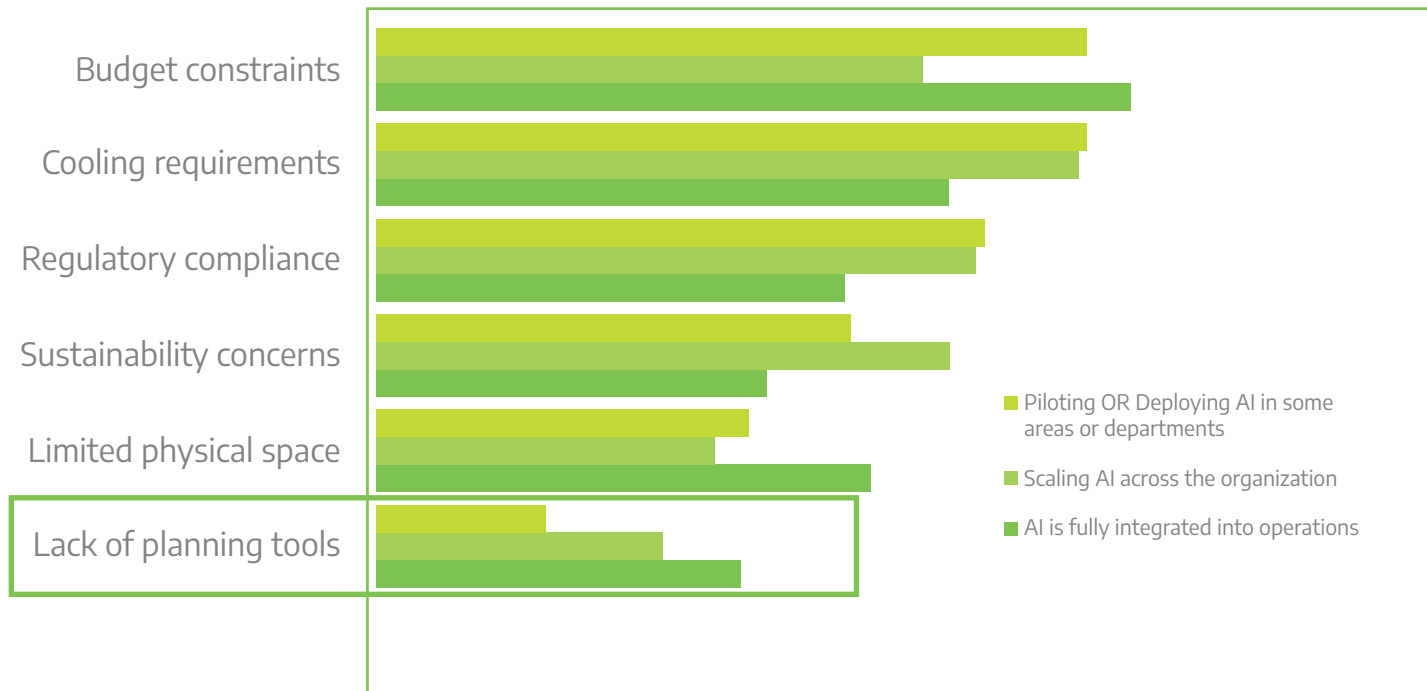


Question 5: What have been the biggest barriers/challenges to scaling power infrastructure for AI workloads?

Base 108

# THOSE AT COMPANIES WITH HIGH A.I. MATURITY ARE MORE LIKELY TO CITE A LACK OF PLANNING TOOLS AS A CHALLENGE WHEN SCALING POWER INFRASTRUCTURE

*What have been the biggest barriers/challenges to scaling power infrastructure for AI workloads?  
(Select the top 3)*

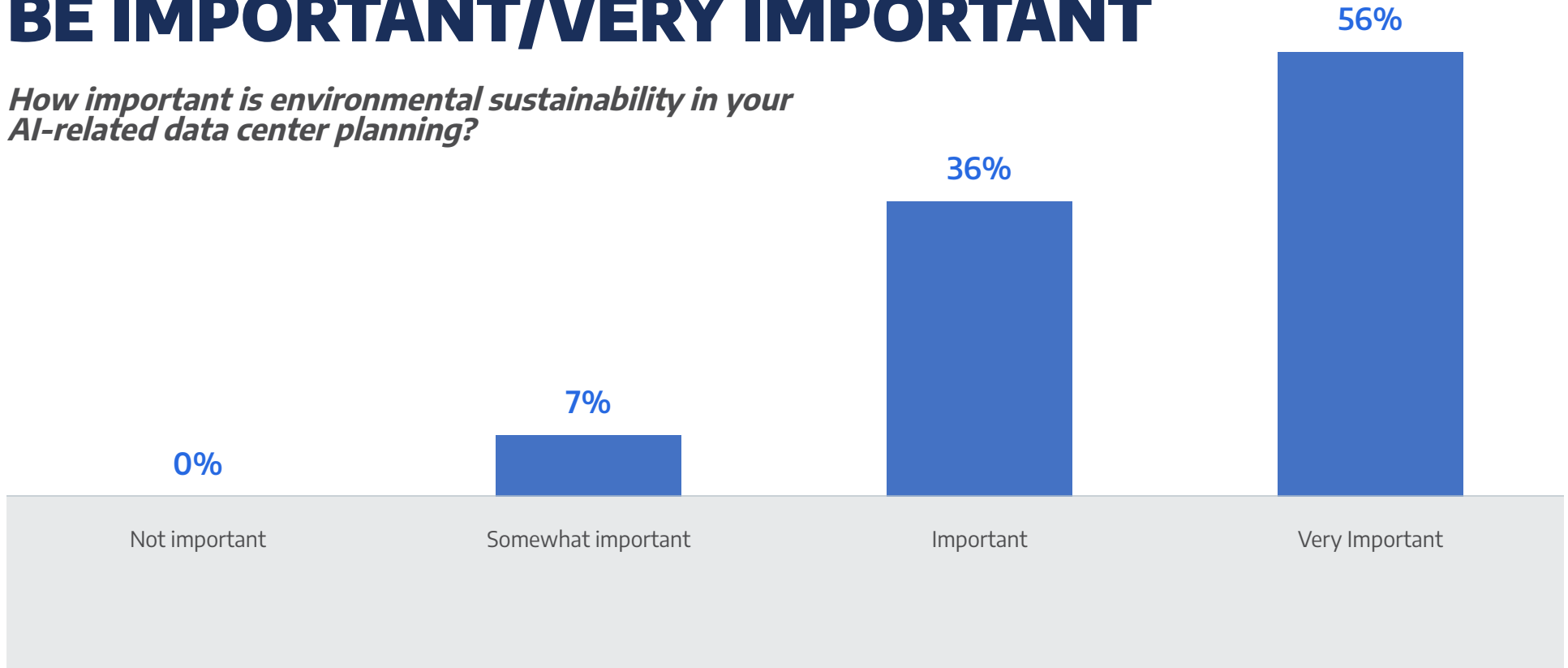


Question 5: What have been the biggest barriers/challenges to scaling power infrastructure for AI workloads?

Base: Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# NINE IN TEN (93%) CONSIDER ENVIRONMENTAL SUSTAINABILITY IN A.I.-RELATED DATA CENTER PLANNING TO BE IMPORTANT/VERY IMPORTANT

*How important is environmental sustainability in your AI-related data center planning?*

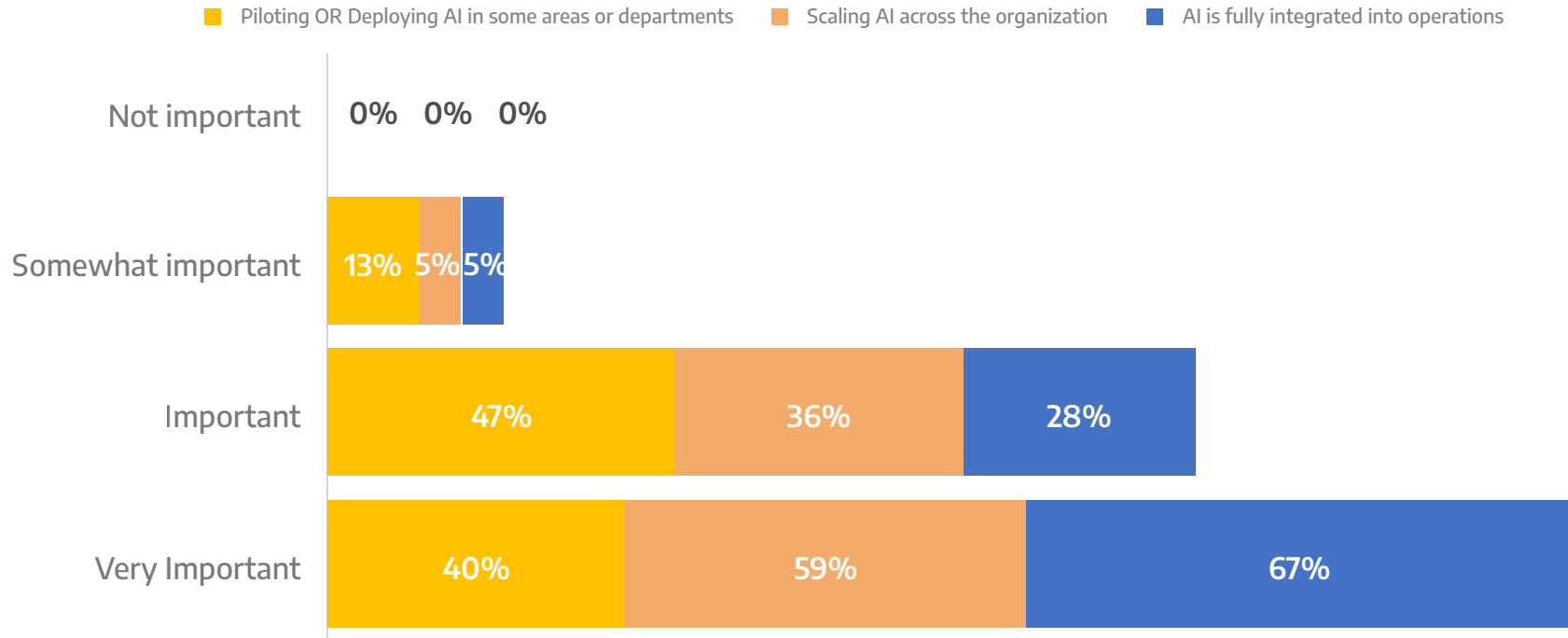


Question 6: How important is environmental sustainability in your AI-related data center planning?

Base 108

# ALL ORGANIZATIONS CONSIDER SUSTAINABILITY IMPORTANT TO A.I.-RELATED DATA CENTER PLANNING; IMPORTANCE INCREASES WITH A.I. MATURITY

*How important is environmental sustainability in your AI-related data center planning?*

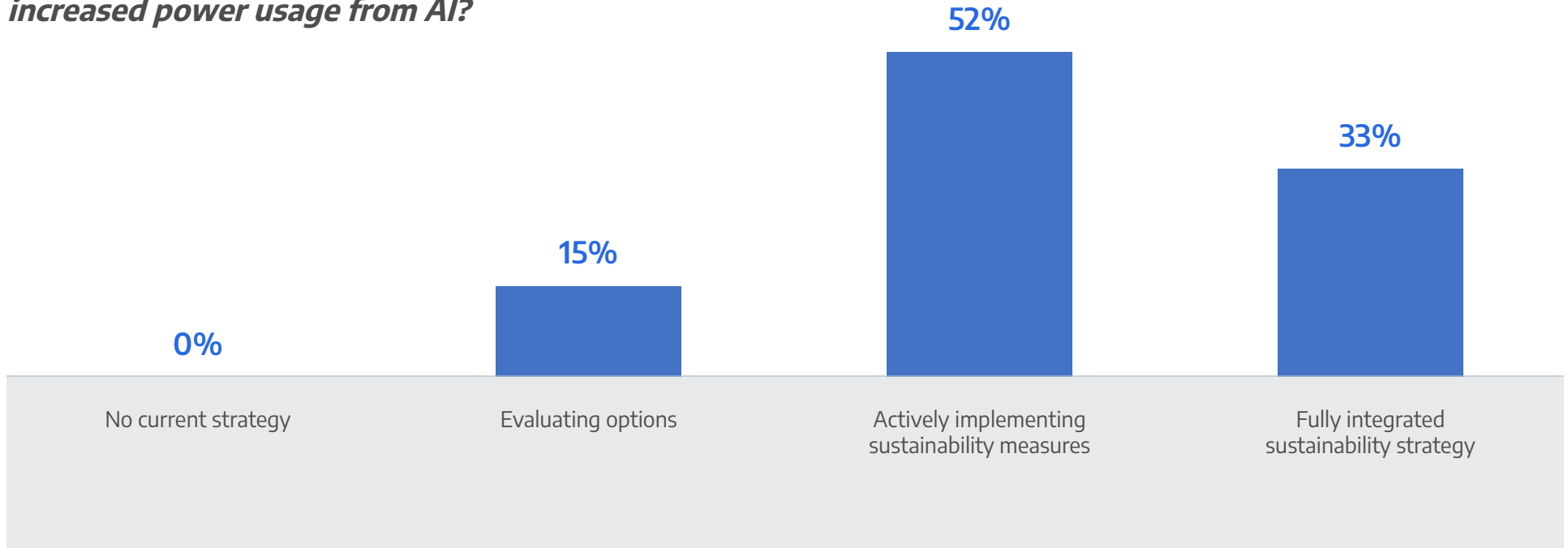


Question 6: How important is environmental sustainability in your AI-related data center planning?

Base Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# JUST ONE-THIRD (33%) REPORT HAVING A FULLY INTEGRATED SUSTAINABILITY STRATEGY TO MANAGE INCREASED POWER USAGE FROM A.I.

*Which best describes your approach to managing increased power usage from AI?*



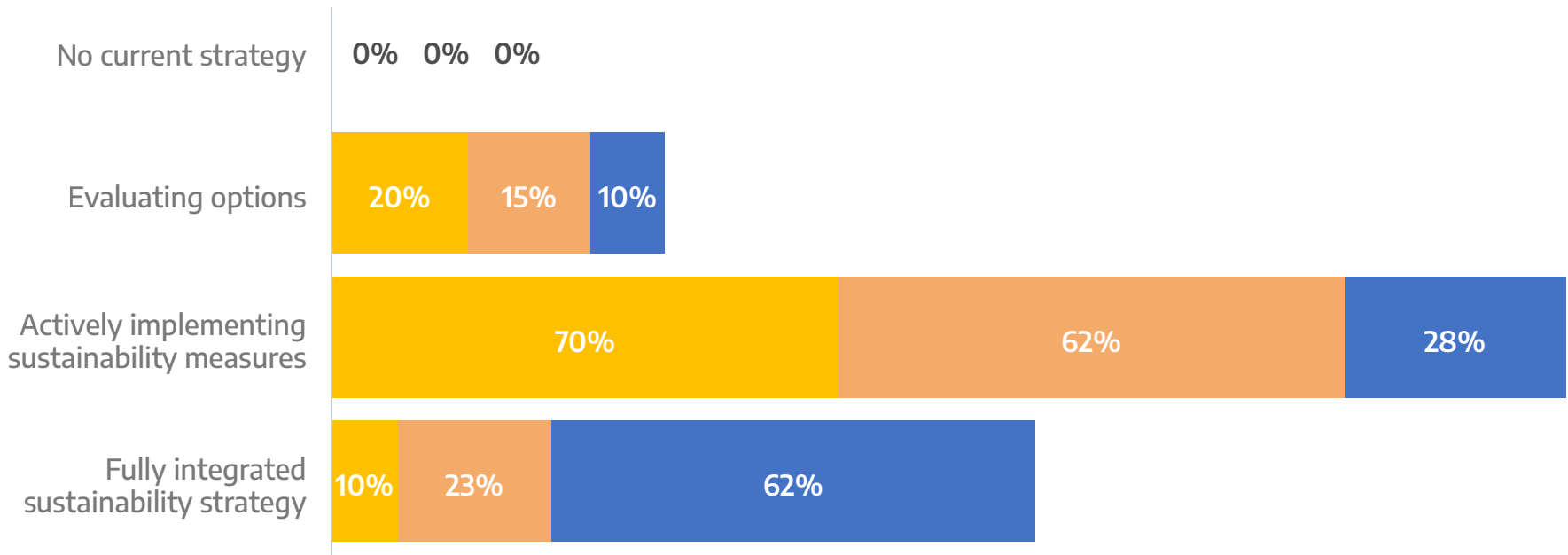
Question 7: Which best describes your approach to managing increased power usage from AI?

Base 108

# WITH A.I. MATURITY COMES THE INCREASING LIKELIHOOD TO HAVE A FULLY INTEGRATED SUSTAINABILITY STRATEGY

*Which best describes your approach to managing increased power usage from AI?*

■ Piloting OR Deploying AI in some areas or departments   ■ Scaling AI across the organization   ■ AI is fully integrated into operations

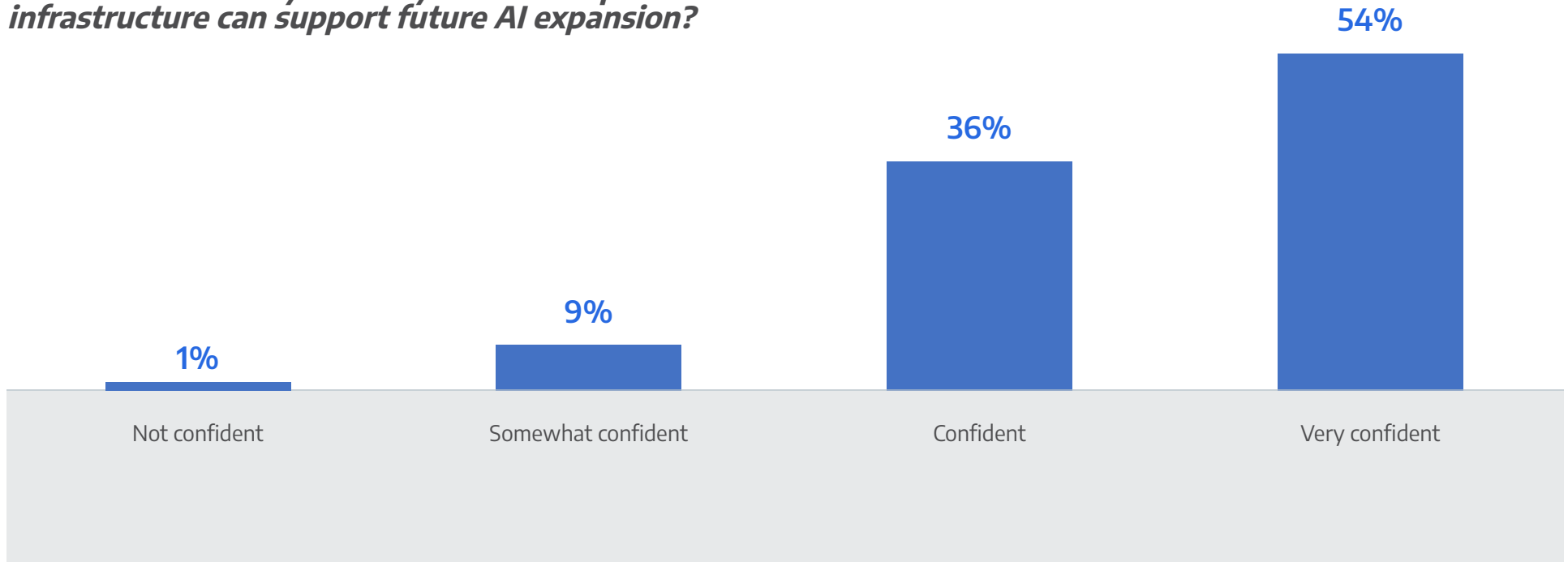


Question 7: Which best describes your approach to managing increased power usage from AI?

Base Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# JUST OVER ONE-HALF (54%) ARE HIGHLY CONFIDENT IN THEIR CURRENT POWER INFRASTRUCTURE TO SUPPORT FUTURE A.I. EXPANSION

*How confident are you that your current power infrastructure can support future AI expansion?*

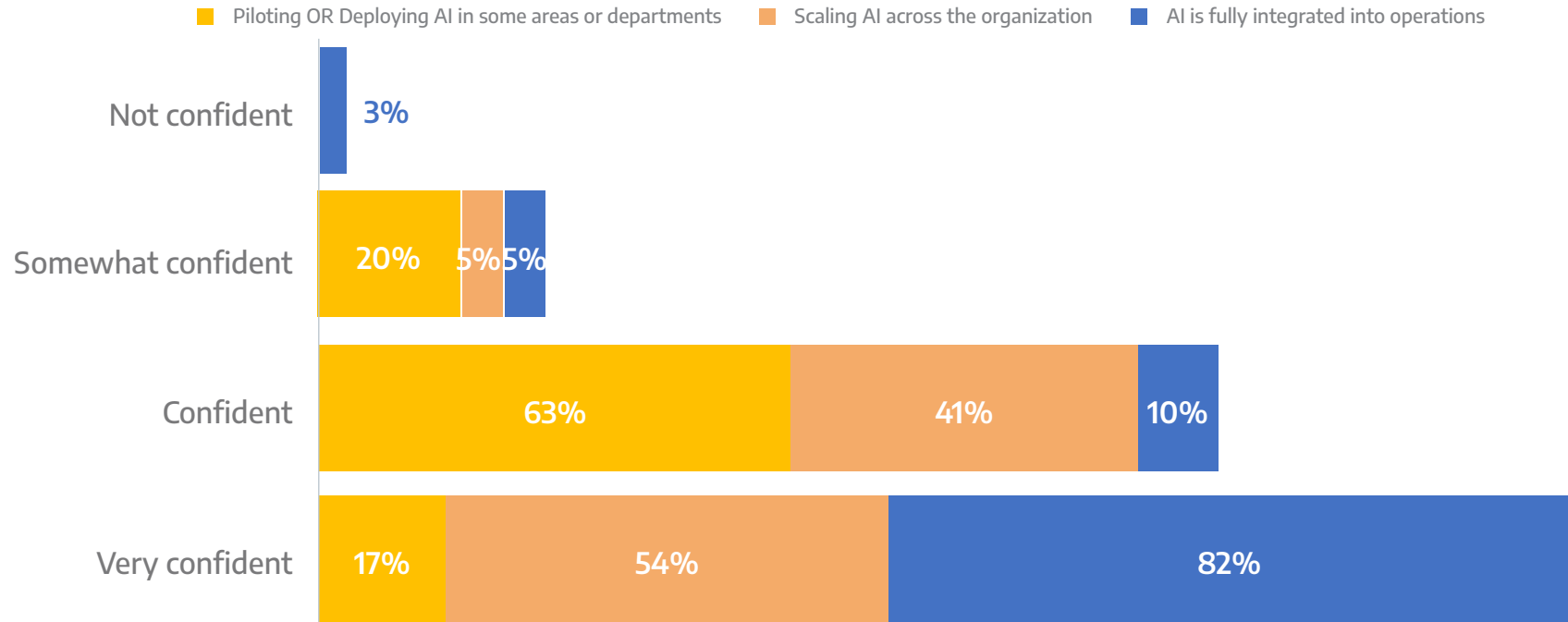


Question 8: How confident are you that your current power infrastructure can support future AI expansion?

Base 108

# THOSE AT COMPANIES WITH HIGH A.I. MATURITY ARE MORE LIKELY TO BE VERY CONFIDENT IN THEIR CURRENT POWER INFRASTRUCTURE GOING FORWARD

*How confident are you that your current power infrastructure can support future AI expansion?*

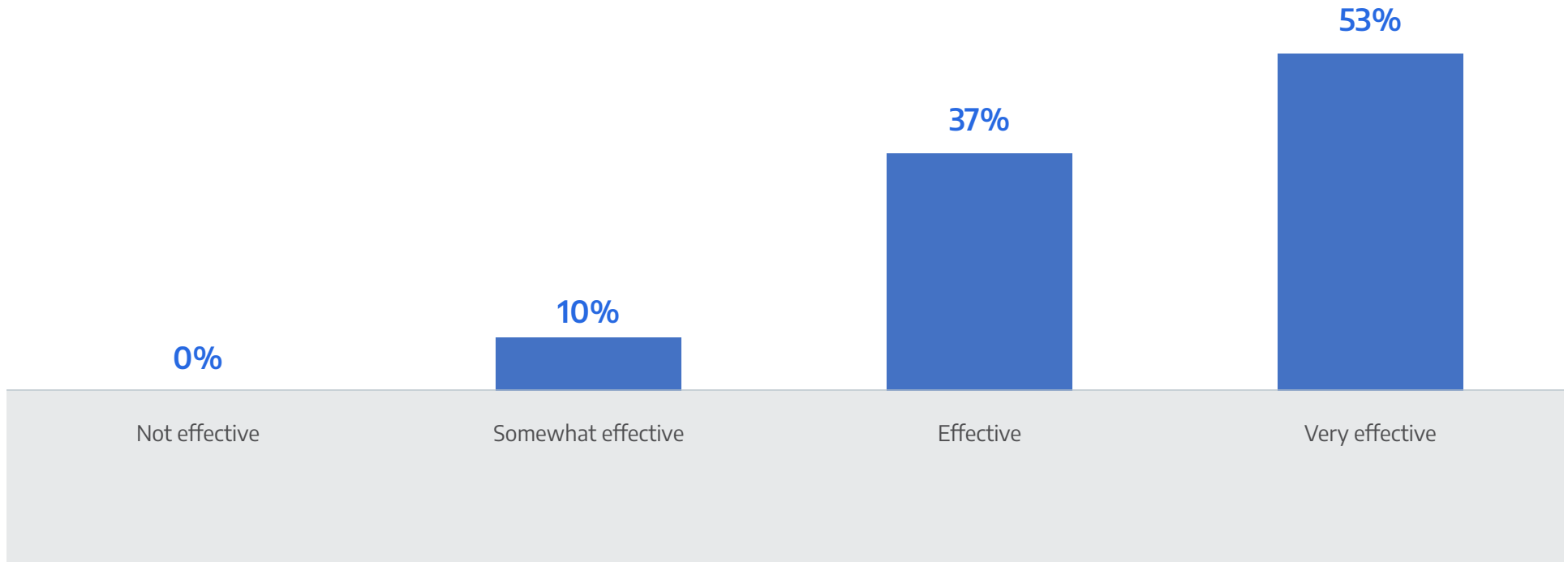


Question 8: How confident are you that your current power infrastructure can support future AI expansion?

Base Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# MORE THAN HALF (53%) CONSIDER CURRENT TOOLS AND METHODS TO BE VERY EFFECTIVE IN FORECASTING POWER NEEDS FOR A.I.

*How effective are your current tools/methods for forecasting power needs for AI?*

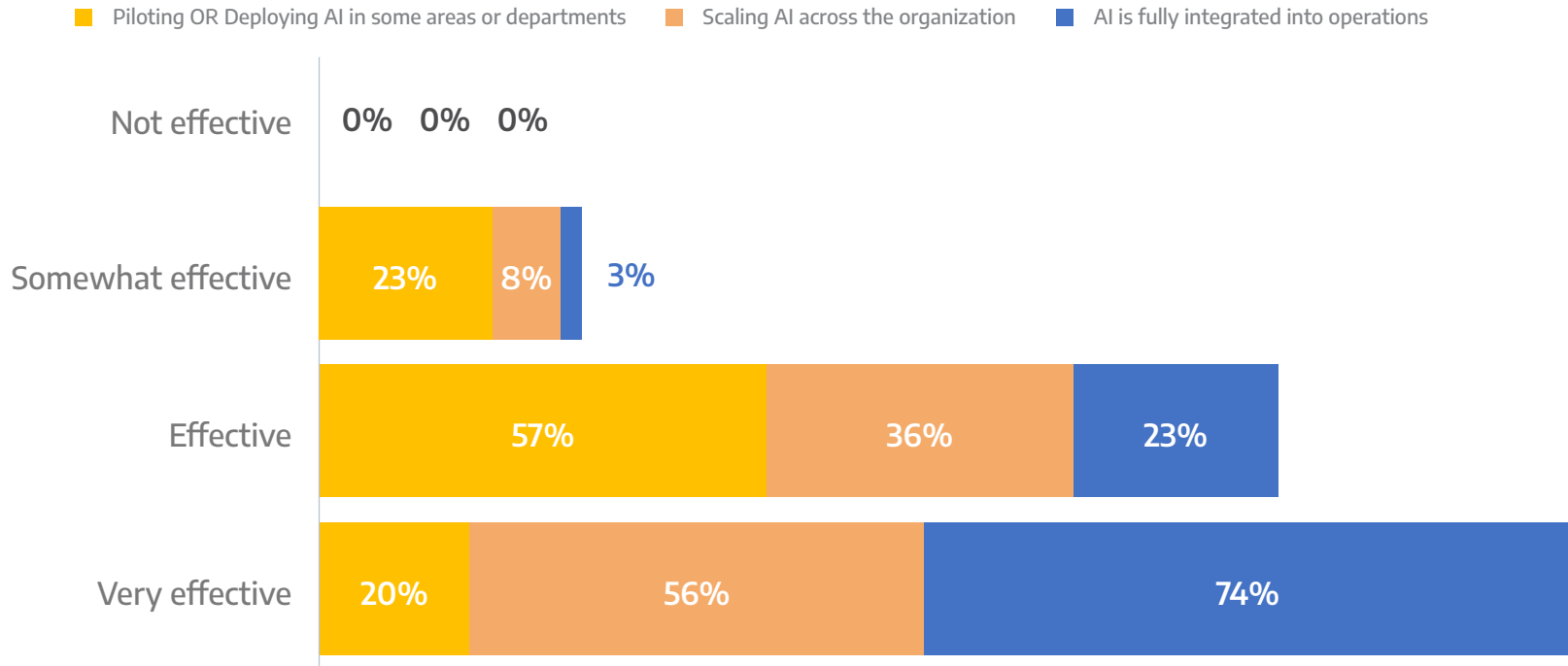


Question 9: How effective are your current tools/methods for forecasting power needs for AI?

Base 108

# HIGH EFFECTIVENESS RATINGS FOR CURRENT POWER FORECASTING TOOLS AND METHODS CORRELATE WITH GREATER A.I. MATURITY

*How effective are your current tools/methods for forecasting power needs for AI?*

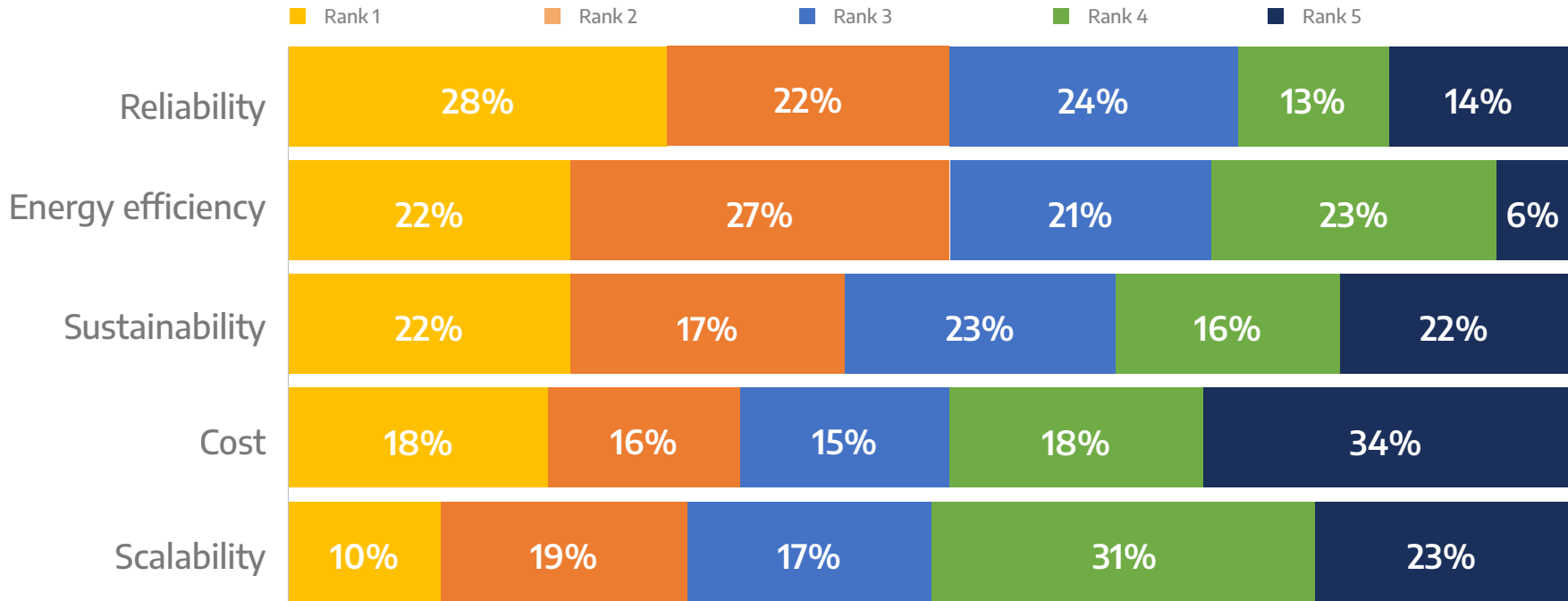


Question 9: How effective are your current tools/methods for forecasting power needs for AI?

Base Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

# RELIABILITY AND ENERGY EFFICIENCY ARE TOP PRIORITIES WHEN PLANNING POWER INFRASTRUCTURE TO SUPPORT A.I. WORKLOADS

*Please rank the following priorities when planning power infrastructure for AI workloads. (1 = highest priority, 5 = lowest priority)*



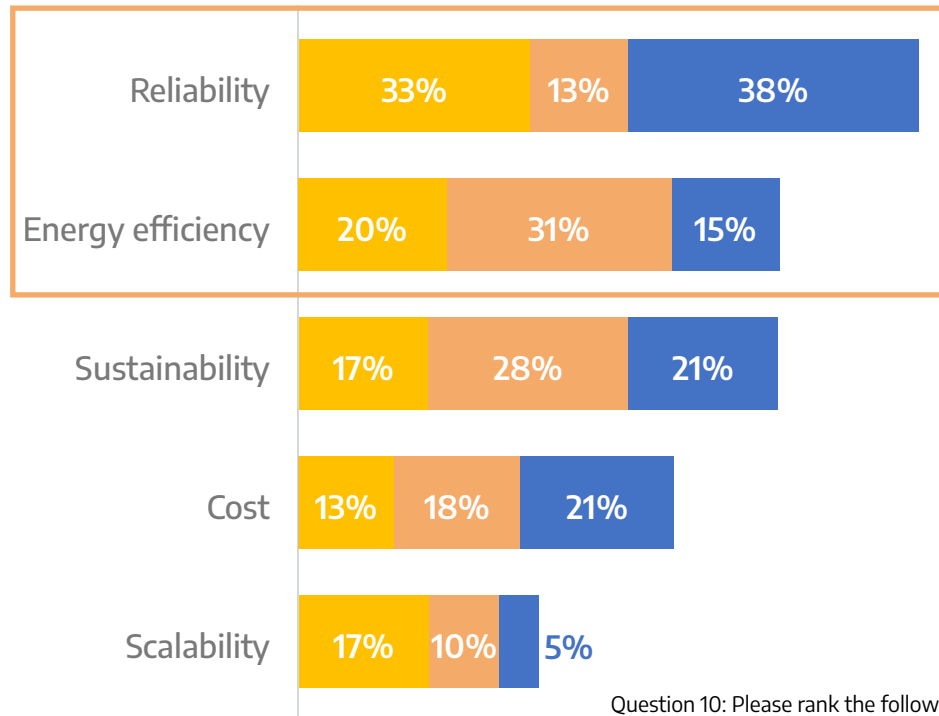
Question 10: Please rank the following priorities when planning power infrastructure for AI workloads (1 = highest priority, 5 = lowest priority)?

Base 108

# ENERGY EFFICIENCY SURPASSES RELIABILITY AS THE TOP POWER INFRASTRUCTURE PRIORITY AMONG THOSE CURRENTLY SCALING A.I. ACROSS THE ORGANIZATION

*Please rank the following priorities when planning power infrastructure for AI workloads.  
(% Ranking as #1)*

■ Piloting OR Deploying AI in some areas or departments
 ■ Scaling AI across the organization
 ■ AI is fully integrated into operations



Question 10: Please rank the following priorities when planning power infrastructure for AI workloads (1 = highest priority, 5 = lowest priority)?

Base: Piloting OR Deploying AI in some areas or departments: 30; Scaling AI across the organization: 39; AI is fully integrated into operations: 39

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