



SMART ENERGY  
DECISIONS

# 2017 Innovation Summit Survey

Trends and strategies in corporate  
energy management

## **LETTER FROM THE EDITORIAL DIRECTOR**

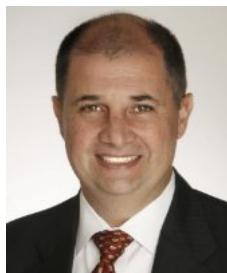
**T**he findings of this exclusive research study, coupled with numerous discussions at **Smart Energy Decision's** 2017 Innovation Summit, lead to one clear conclusion: The role of the corporate energy manager continues to grow more complex.

Based on the positive feedback we have received on the Innovation Summit and growing reader engagement with our content, we're doubling down on our commitment to help large commercial and industrial companies improve their profits and reduce their carbon emissions by implementing best practices in energy efficiency and renewable energy sourcing.

As evidence of this commitment, we're excited to announce the launch of SED Research. This new division of **Smart Energy Decisions** will produce exclusive industry research focused on the information needs of energy and sustainability executives at large commercial and industrial companies. Look for our first major research report to be published this September.

If you're interested in plans for the 2018 **Smart Energy Decisions** Innovation Summit, the event will be held February 25-28, 2018, at the Barton Creek Resort in Austin, Texas. See page 21 of this report if you'd like more details.

Thanks for your readership and engagement.



John Failla  
Founder & Editorial Director  
Smart Energy Decisions

## **INTRODUCTION:**

**U**.S. commercial and industrial companies are facing a daunting energy landscape. As they continue to consume energy more efficiently amid efforts to save money and reduce carbon footprints, an increasing number of businesses are simultaneously pursuing renewable energy procurement strategies for similar reasons. And as different sectors are motivated by different market, policy and social forces that dictate their decision making, their energy management strategies and activities being deployed across the country can be wildly varied.

In an effort to better understand this dynamic and rapidly changing environment, **Smart Energy Decisions** recently surveyed corporate energy management executives from nearly 40 large commercial and industrial companies who attended the 2017 Innovation Summit. The results provide an informative window into the actions these firms are taking to execute their energy and sustainability goals.

Respondents to the survey, conducted in late February 2017, were about evenly spread across three sectors with 31% from commercial companies; 31% from industrial companies; and 37% from large retail chains. The results indicate how large companies are pursuing energy goals amid increasing sustainability commitments and energy market complexity.

Companies participating in the survey have large energy budgets: 69% have annual energy spends in excess of \$50 million and 43% top \$100 million. Of the eight companies with the highest energy expenditures, five are industrial firms. Among retail companies, 38% spend \$50-\$100 million per year on energy, while 44% of commercial companies spend less than \$50 million.

This study provides insight into the timelines and types of projects these firms are pursuing over the next few years.

## 2017 INNOVATION SUMMIT SURVEY: Trends and strategies in corporate energy management

This report presents a deeper dive into the responses of a short survey. Where it makes sense, we have broken out sector-specific trends in responses and have formatted the report accordingly by topic and sector around the answers to the following questions:

- ◆ **What best describes the single most important factor driving your 2017 energy management plans and programs?**
- ◆ **What best describes the relationship between energy management and sustainability at your company?**
- ◆ **Please select the response that best describes the timeframe in which you are planning the following types of projects:** Onsite solar; offsite renewable energy power purchase agreement (PPA); battery storage/fuel cells; HVAC retrofit; lighting retrofit; equipment specific replacement or retrofit; building automation system; building analytics system.

Thirty-eight of the 43 companies that attended the inaugural **Smart Energy Decisions** Innovation Summit held from March 13-17, 2017, in Orlando, Fla., responded to the survey. Three of the respondents – all municipal government organizations – were excluded from the following results so that the survey results represent a mix of industrial (31%), retail (37%) and commercial (31%) companies. The base for each chart is 35 respondents.

### Survey respondents comprise executives from the follow companies:

| RETAIL               | COMMERCIAL                    | INDUSTRIAL                         |
|----------------------|-------------------------------|------------------------------------|
| Bed Bath & Beyond    | Bloomberg LP                  | Allergan                           |
| Best Buy             | CBRE                          | BD                                 |
| Gander Mountain      | CBS                           | BMS                                |
| Gap Inc.             | Cinemark USA                  | Bridgestone Americas, Inc.         |
| Giant Eagle          | Goldman Sachs                 | Celanese                           |
| MOM's Organic Market | HP                            | Fruit of the Loom                  |
| Petco                | InterContinental Hotels Group | General Motors                     |
| Sears Holdings Corp. | Newmark Grubb Knight Frank    | International Flavors & Fragrances |
| Sheetz, Inc.         | TD                            | Lockheed Martin                    |
| Sobeys Inc.          | The Tower Companies           | Merck                              |
| The Kroger Co.       | Wells Fargo                   | Procter & Gamble                   |
| Weis Markets, Inc.   |                               |                                    |
| Whole Foods Market   |                               |                                    |

# 1. What best describes the single most important factor driving your 2017 energy management plans and programs?

The reduction of energy costs was the primary factor driving the 2017 energy management plans and programs of respondents, with 43% selecting this answer. Meeting carbon reduction commitments and enhancing energy data and analytics were also significant drivers, with each cited by 17% of respondents as the most important factor.

Twenty-three percent of respondents selected the “other” option to this question. Among these respondents, 63% mentioned renewable energy as an important energy management plan driver. These open-ended responses are listed below:

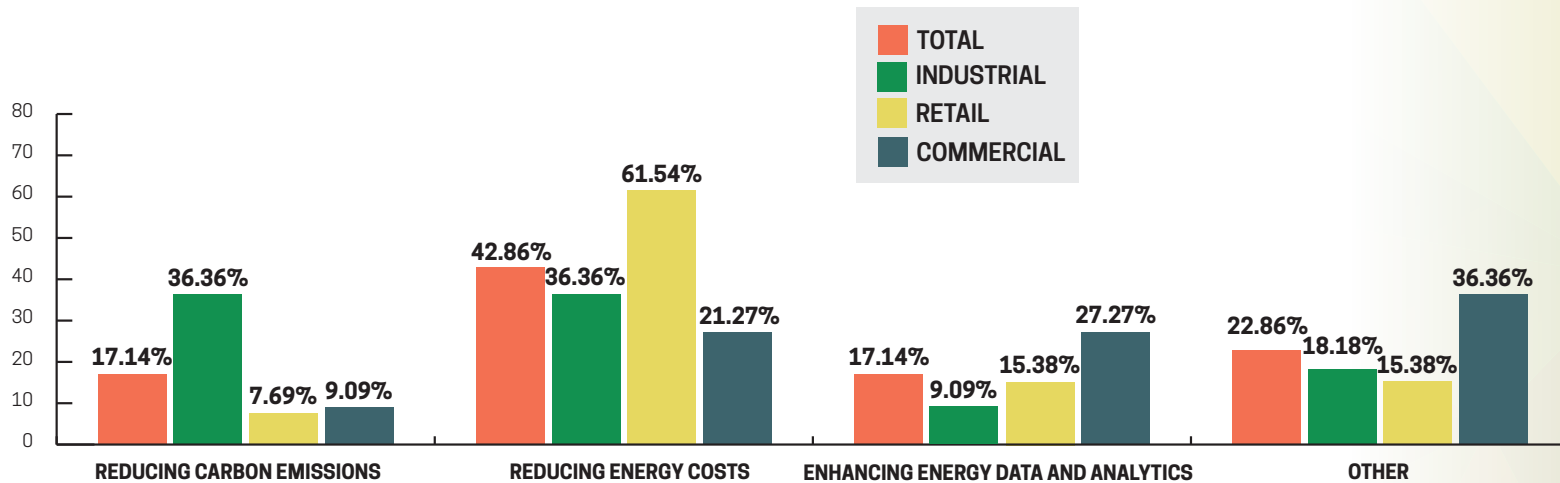
- ◆ **“Renewable energy procurement options** - Energy cost and carbon footprint reductions are a close second.”
- ◆ **“Establishing** new renewable energy goals (domestic operations)”
- ◆ **“Meeting** commitments to reduce energy consumption”
- ◆ **“Drive** expense reductions while increasing renewable use”
- ◆ **“Reducing** energy costs and reducing carbon emissions are equally important.”
- ◆ **“All of the above!”**
- ◆ **“Best in class** renewable procurement practices”
- ◆ **“Identifying and executing** on new renewable energy projects”

### What best describes the single most important factor driving your 2017 energy management plans and programs?

Within the broader group, **retail companies** overwhelmingly reported a focus on reducing energy costs, with 62% of the retail companies surveyed selecting this answer. Carbon reduction commitments were the primary driver of energy management plans and programs for 8% of the respondents, while 15% selected enhancing energy data and analytics.

Of the **industrial companies** surveyed, 36% selected meeting carbon reduction commitments as the most important factor driving their plans, and another 36% selected energy cost reduction. Fewer than 10% of that group selected enhancing energy data and analytics.

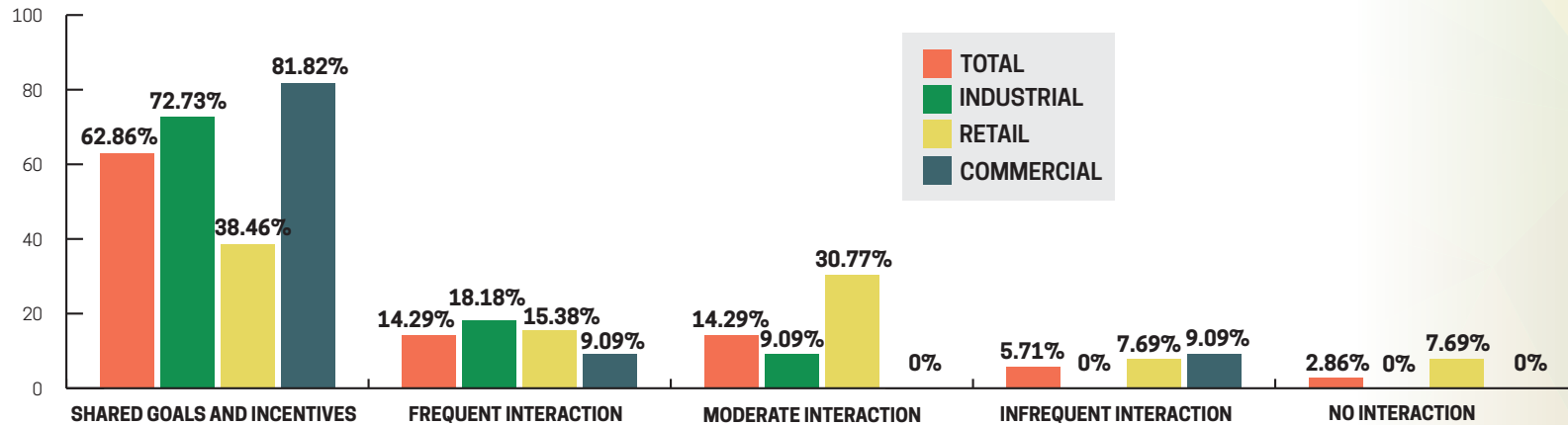
Fewer than 10% of the **commercial companies** surveyed cited meeting carbon reduction commitments as the most important factor driving their energy plans, while 21% chose reducing energy costs and another 27% chose enhancing energy data and analytics.



# 2. What best describes the relationship between energy management and sustainability at your company?

The majority of companies that responded to the survey reported that their energy management and sustainability teams work very closely together, with 63% saying the teams have shared goals and incentives. The results indicate a clear link between corporate energy efficiency initiatives and broader sustainability goals.

When the results are filtered by sector, further insight is revealed. For instance, an even larger number, 82%, of the commercial companies said their energy management and sustainability teams had shared goals and incentives. Among industrial respondents, 73% selected that answer, but only 38% of the retailers agreed. Of the retail companies, 31% said the relationship between energy management and sustainability was moderate, and a couple said the relationship was characterized by infrequent or even no interaction. Based on these results, one could infer that energy management and sustainability goals are fairly siloed within this sample of the retail sector. That is decidedly not the case among industrial respondents, however, as none reported the two groups having infrequent or no interaction. Commercial respondents were more mixed, with 9% reporting infrequent interaction, though none reported that the groups within their company had no interaction at all.





# 3

Please select the response that best describes the timeframe in which you are planning the following types of projects:

## PLANS FOR ONSITE SOLAR:

At 49%, nearly one-half of the companies responding to the survey had already embraced onsite solar as a renewable energy option, either recently completing installations or currently implementing onsite solar installations. Another 17% of respondents had onsite solar plans in the next six to 12 months, while about 11% of respondents had solar plans that are more than a year out. In total, 17% reported that their companies were not at all considering onsite solar.

Filtering by sector, about 55% of the industrial companies surveyed had recently completed onsite solar installations, which was much higher than the commercial or retail sectors at about 36% and 15%, respectively.

Among commercial companies, approximately 80% had either recently installed onsite solar or were planning to do so in within a year.

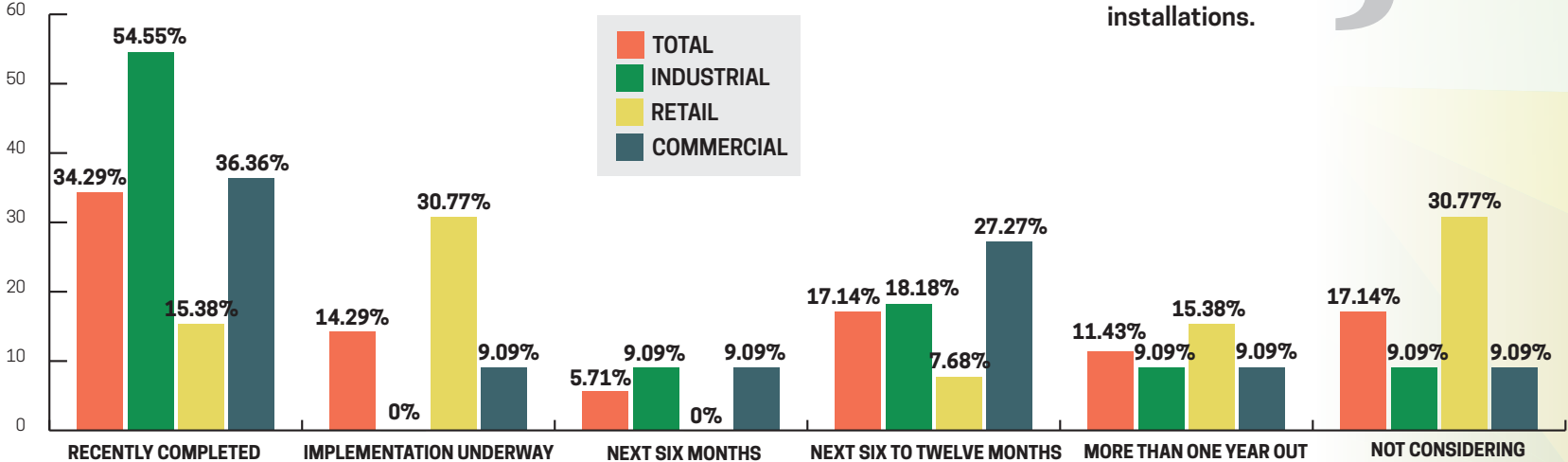
Among retail companies, the responses were notably more divided. While about 46% had either recently installed onsite solar or had an installation underway, a significant number, about 30%, said their companies were not considering onsite solar at all. For about 15% of retail respondents, onsite solar projects were more than a year out.



PLANS FOR ONSITE SOLAR:

34%

of the companies surveyed had recently completed onsite solar installations.



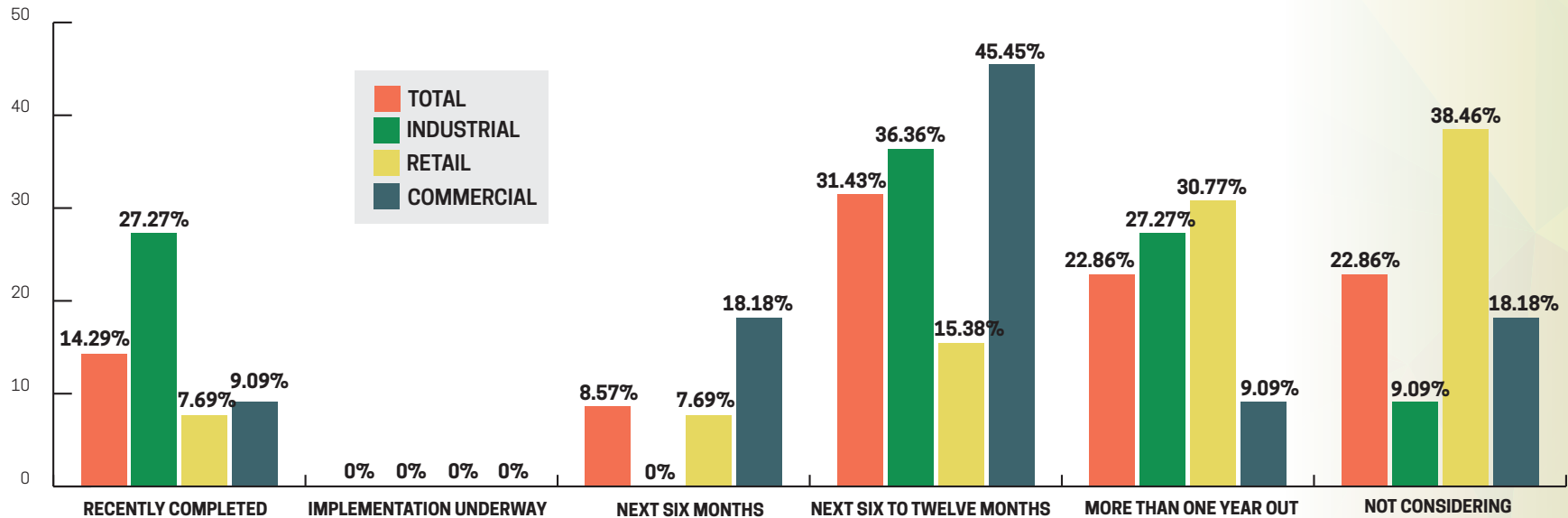
## PLANS FOR OFFSITE RENEWABLE ENERGY POWER PURCHASE AGREEMENTS:

Compared to onsite solar, results show fewer companies had completed or were currently completing offsite renewable energy PPAs, though this is expected to change within the next year. About 14% of companies had implemented an offsite PPA, with a larger portion, about 40%, saying they expected to do so within the next 12 months. Another 23% of the companies surveyed had offsite renewable energy PPA plans that are more than a year out and another 23% were not considering an offsite PPA.

The results among **industrial companies** surveyed vary widely. About 27% had already completed an offsite PPA, while 36% of them were planning an offsite PPA within the next six to 12 months. A smaller portion, about 9%, were not considering the option at all.

Offsite PPAs were less popular among the **retail companies** surveyed, with 38% of them not considering such a project. However, a small number of them, about 8%, recently completed an offsite PPA. About 23% said they expected to pursue such a project within 12 months, while about 30% had plans that are more than a year out.

Of the **commercial companies** surveyed, about 45% had plans to sign an offsite renewable energy PPA in the next six to 12 months, while roughly 18% plan to do so within the next six months and another 18% were not considering this option.



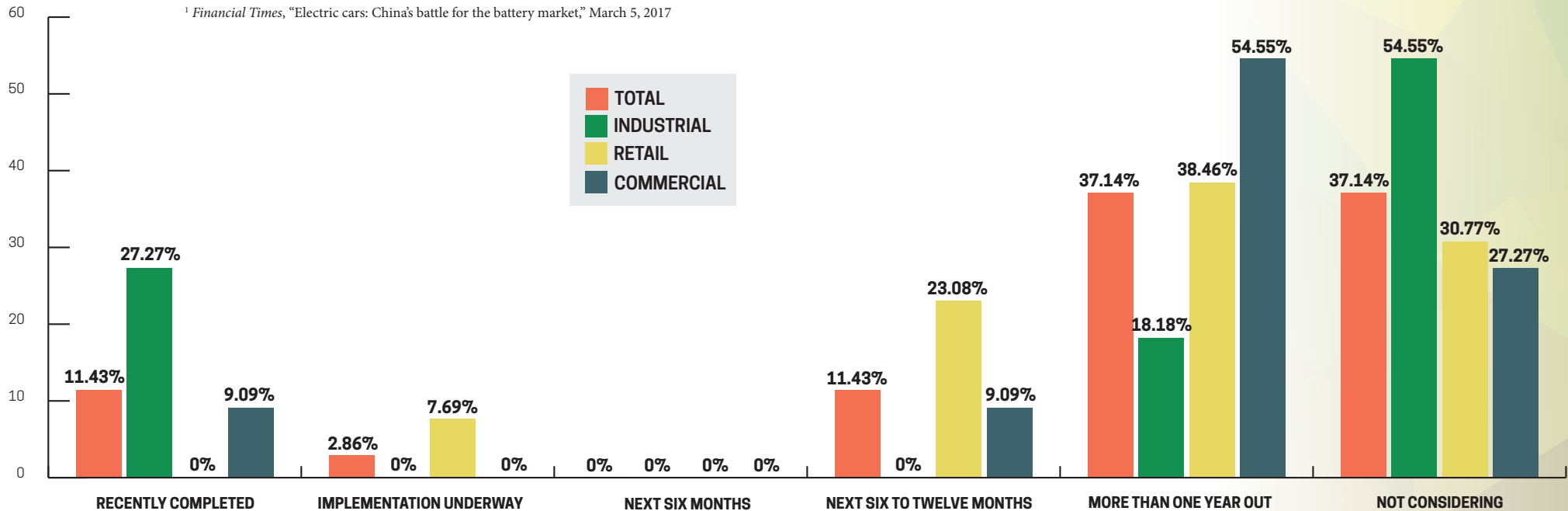
### PLANS FOR BATTERY STORAGE/FUEL CELLS:

Current and near-term deployment of battery storage or fuel cells are modest, according to Innovation Summit attendees. The survey data indicates people were waiting on the sidelines for pricing and incentives to become more favorable across wider geographic areas. Overall, roughly 37% said their plans for this were more than a year out and an additional 37% said they were not considering battery storage or fuel cells. We expect this will change over time as battery costs are expected to decline fairly quickly, with developments such as Tesla’s gigafactory, as well as similar but larger-scale moves by Chinese firms.<sup>1</sup> Lower battery costs will be key to increasing adoption going forward.

Among **industrial company** responses, approximately 27% had recently completed a fuel cell or battery installation. However, a strong majority, about 55%, are not considering these technologies.

The dominant trend among respondents at **retail companies** we surveyed was waiting until more than a year out to install battery storage or fuel cells. Among retailer respondents, approximately 31% said their company was not considering these technologies at all.

<sup>1</sup> Financial Times, “Electric cars: China’s battle for the battery market,” March 5, 2017



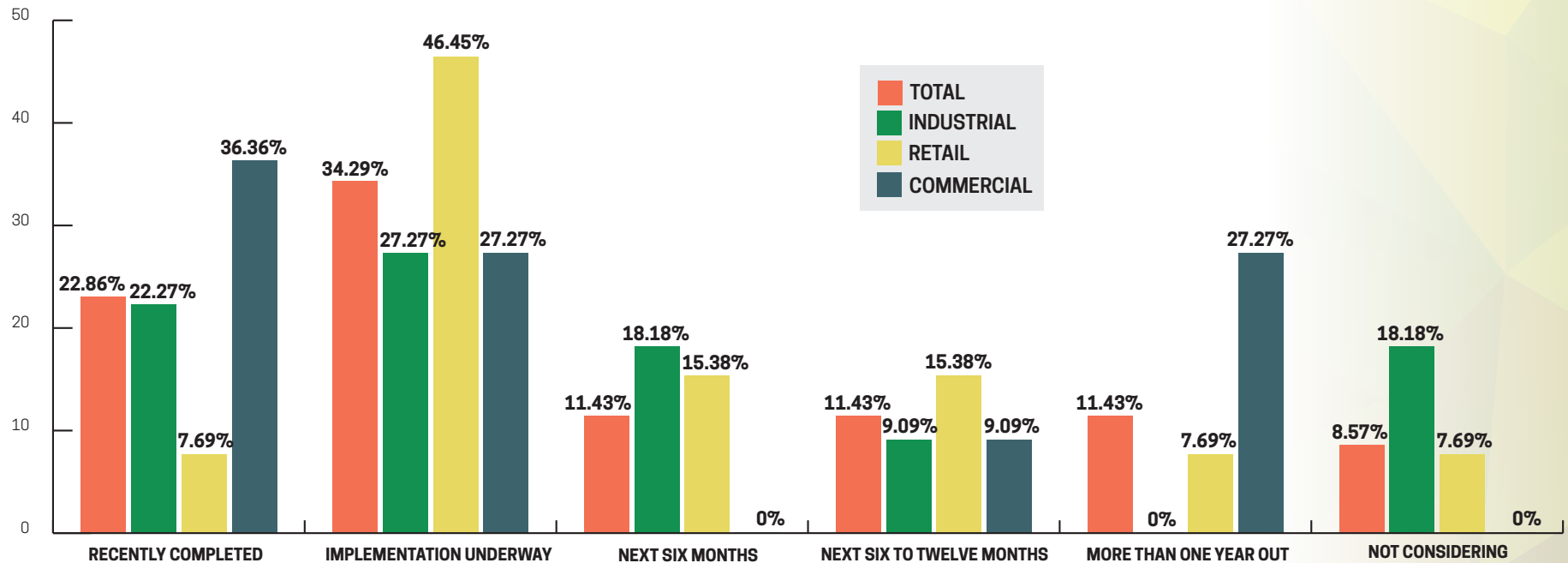
## PLANS FOR HEATING, VENTILATION, AIR CONDITIONING RETROFIT:

HVAC retrofits are a popular energy management project being employed by the companies surveyed, with approximately 34% saying they were currently retrofitting HVAC equipment and about 23% reported recently completing an upgrade. Fewer than 9% of respondents were not considering an HVAC retrofit project of some kind.

Twenty-three percent of the **industrial companies** surveyed recently completed an HVAC retrofit, while 27% were currently upgrading their HVAC equipment. About 18% were not considering an HVAC retrofit.

**Retailers** stand out when filtering the results by sector, with about 46% of retail respondents currently implementing an HVAC retrofit. Only about 8% were not considering an HVAC upgrade.

The **commercial firms** surveyed showed strong interest in HVAC retrofits, with 36% of them having recently completed an upgrade and approximately 27% currently upgrading their HVAC systems. An additional 27% had HVAC retrofit plans that are more than a year out. Not a single commercial respondent said they were not considering an HVAC upgrade.



## **PLANS FOR LIGHTING RETROFIT:**

Absolutely zero respondents to our survey said they were not considering some form of lighting upgrade. Commercial building lighting upgrades have been called the “gateway drug to energy efficiency” due to relatively low upfront costs that payback quickly. Lighting improvements also provide instant gratification in ways that behind-the-wall mechanical upgrades do not.

If efficiency is an easy carbon emission reduction method, then lighting is energy efficiency’s low-hanging fruit “because it’s the cheapest efficiency improvement you can make and people see it,” Richard Yancey, executive director of Green Light New York Inc. has said.<sup>2</sup>

Further, about 31% of the companies surveyed recently completed an upgrade and approximately 34% said they currently had a lighting retrofit project underway.

**Industrial firms** that responded to the survey show great interest in upgrading their lighting, with 46% of them having recently completed a lighting retrofit. The remaining industrial respondents all had short-term lighting upgrade plans within the next 12 months.

The value of lighting retrofits is not lost on the **retail segment** of the survey, with 54% of respondents currently conducting an upgrade. Another 15% recently completed a lighting upgrade and the remaining 31% plan to do so within the next 12 months.

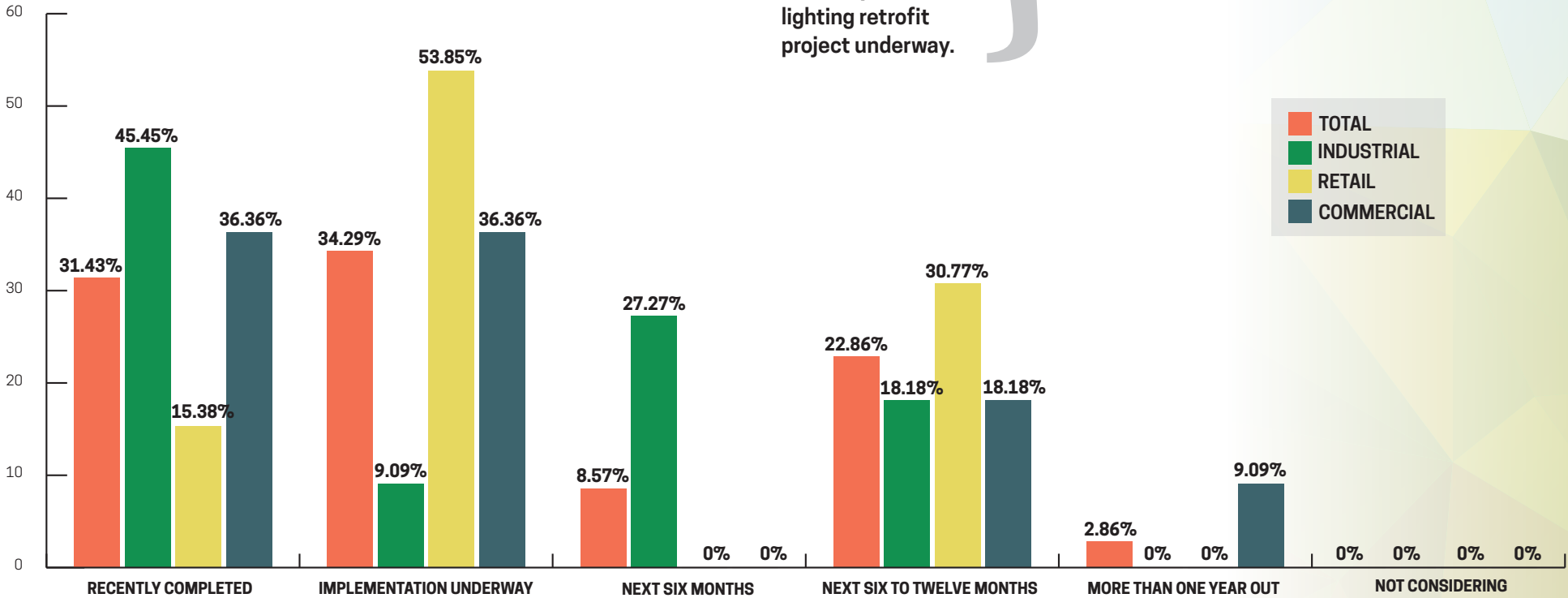
The **commercial segment** of the companies surveyed have also embraced lighting upgrades as an energy management strategy, with roughly 36% recently completing a lighting improvement and another 36% currently doing so. About 18% plan to upgrade lighting systems within the next 12 months and fewer than 10% are waiting more than a year to implement a lighting upgrade.

<sup>2</sup> *Breaking Energy*, “Lighting is a ‘Gateway Drug to Energy Efficiency,’” May 22, 2014.

PLANS FOR LIGHTING RETROFIT:

34%

of respondents currently had a lighting retrofit project underway.



## **PLANS FOR EQUIPMENT-SPECIFIC REPLACEMENTS/RETROFIT**

Activity on equipment replacements and/or retrofits such as chillers and boilers appears evenly mixed, with about 20% of the survey universe recently completing an equipment upgrade; 17% currently implementing; 20% planning an upgrade within the next 6 months; and 23% planning an upgrade more than a year out from when the survey was conducted. Approximately 14% of the respondents were not planning an equipment upgrade.

Of the **industrial companies**, a notable 46% reported recently completing an equipment upgrade, more than double the amount of the group on the whole. About 27% of the industrial respondents expected to upgrade equipment in the next six months; 18% have equipment upgrade plans more than a year out; and 9% are currently completing an upgrade. All of them reported being in some stage of considering such projects as none said they were not considering them.

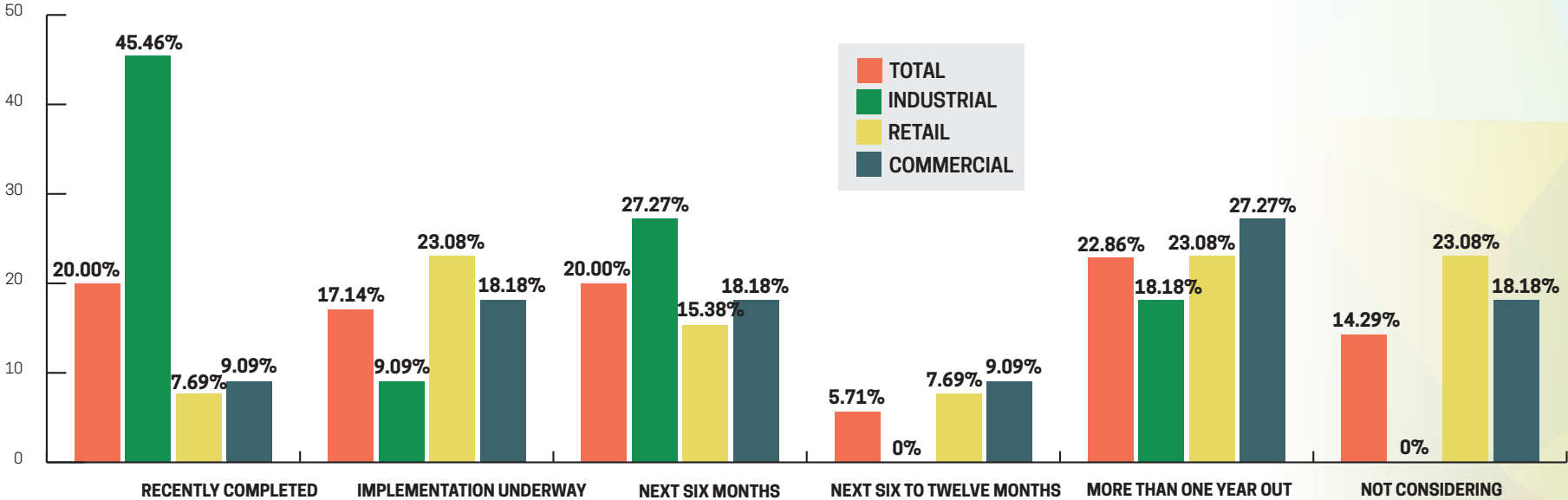
The **retail companies** showed mixed results with regard to upgrading equipment. About 8% recently completed such a project. The group also reported considerable short-term (within the next six months) plans for implementation of such projects at 23%, with the same number respondents saying they expect to wait more than a year to complete equipment retrofits and/or replacements and an additional 23% are not considering these upgrades.

The **commercial** segment of the survey also returned evenly mixed results with regard to equipment replacement. A combined 27% either recently implemented upgrades or were in the process of completing such a project, while a similar 27% of respondents had plans to move forward with equipment upgrades that are more than a year out. Approximately 18% said they were not considering an equipment replacement project.



PLANS FOR EQUIPMENT-SPECIFIC REPLACEMENTS/RETROFIT:

**23%** }  
 are planning an  
 upgrade more than  
 a year out.



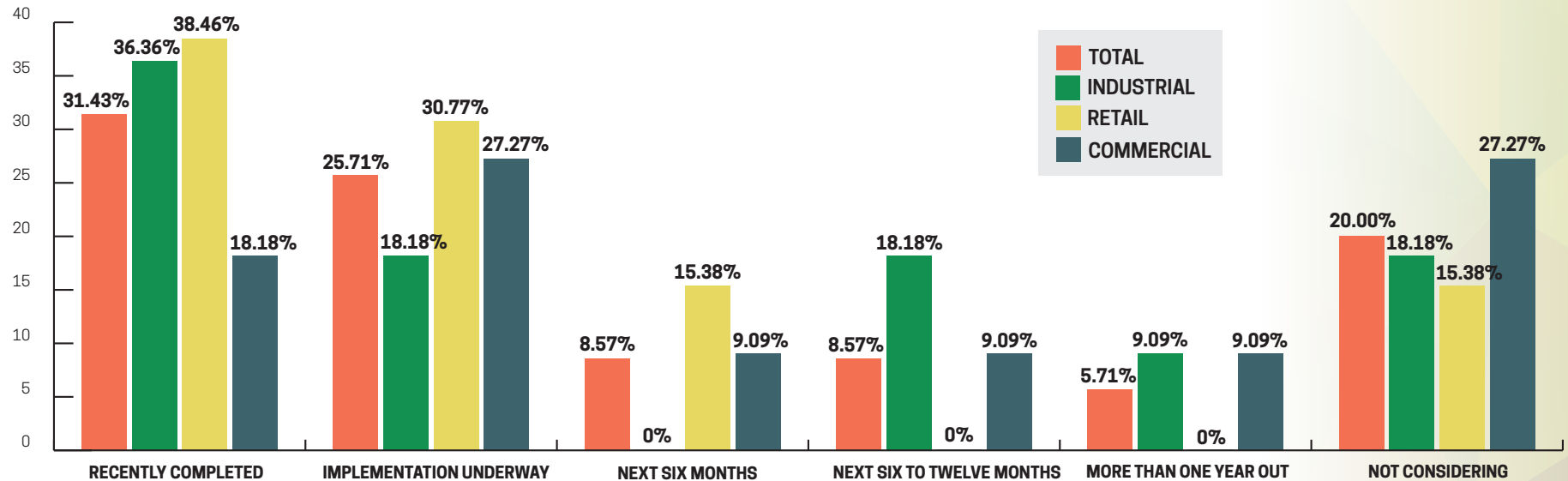
### PLANS FOR BUILDING AUTOMATION SYSTEMS:

Fifty-seven percent of companies surveyed have either recently completed automation systems or are now in the process of doing so. Another 17% expect to complete this process within the next year. While 6% express the intention to move forward at a later time, 20 percent have no plans to implement building automation systems.

**Industrial company** respondents showed significant interest in building automation, with 36% having recently installed a system and 18% currently installing building automation. However, 18% are not considering building automation.

The **retail sector** is the major adopter of building automation system technology among the companies surveyed, with 38% of them having recently installed building automation and 31% currently installing an automation system. About 15% of retail company respondents are not considering building automation.

In keeping with the overall trend, the **commercial companies** surveyed exhibited short-term interest – with 18% having recently installed a system and 27% currently doing so. That said, a considerable portion of respondents, 27%, were not considering building automation systems.



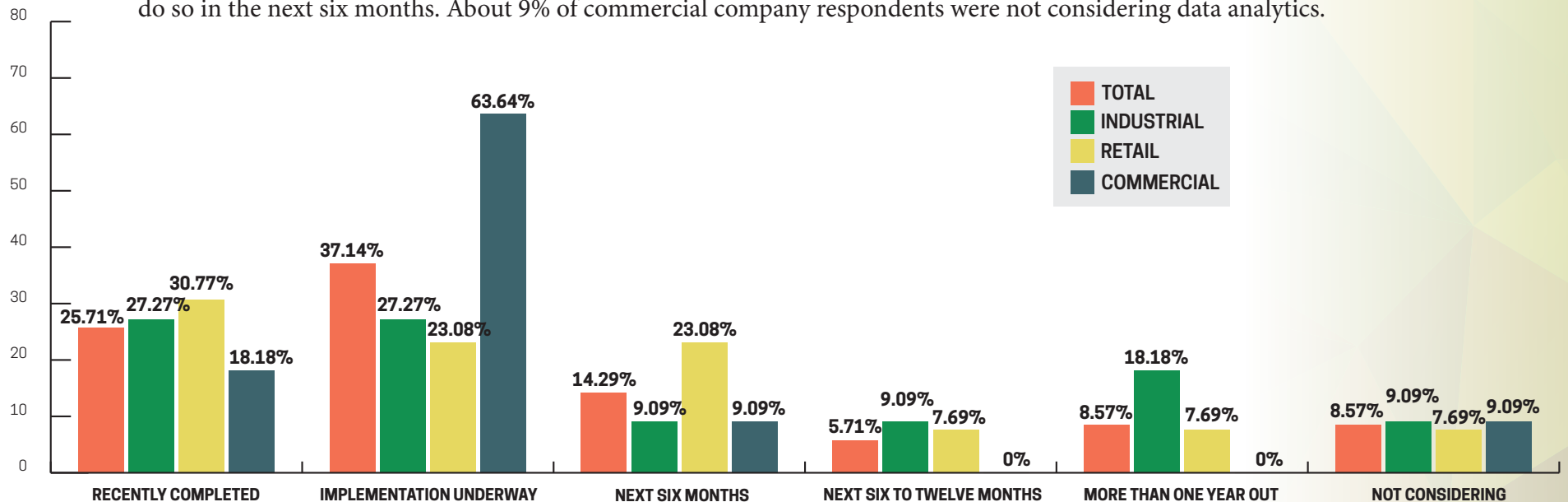
### PLANS FOR DATA ANALYTICS SYSTEMS:

Much like the last category, there is short-term interest around data analytics systems at the companies surveyed. About 26% of respondents just installed a system while 37% were currently installing one. The remaining companies said they had plans to install data analytics between six months and more than a year. Fewer than 10% of the survey companies are not considering data analytics programs.

Among the **industrial** respondents, 27% recently installed data analytics and another 27% were currently installing a data analytics system. Approximately 18% had data analytics plans that are more than a year out and 9% were not considering installing data analytics.

The **retail segment** surveyed was moving forward with data analytics over the short term, with 30% of respondents having recently installed analytics, 23% reported doing so currently and an additional 23% had plans to install a data analytics system within the next six months. Only 8% of the retail segment surveyed was not considering data analytics.

Filtered by sector, **commercial firms** jump out as the strongest adopters of data analytics systems, with 64% of the companies surveyed saying they were currently installing a system. About 18% had recently installed data analytics and 9% planned to do so in the next six months. About 9% of commercial company respondents were not considering data analytics.



### CUMULATIVE RESULTS

|  | RECENTLY COMPLETED | IMPLEMENTATION UNDERWAY | NEXT SIX MONTHS | NEXT SIX TO 12 MONTHS | MORE THAN A YEAR OUT | NOT CONSIDERING |
|--|--------------------|-------------------------|-----------------|-----------------------|----------------------|-----------------|
| Onsite solar   | 34.29%<br>12       | 14.29%<br>5             | 5.71%<br>2      | 17.14%<br>6           | 11.43%<br>4          | 17.14%<br>6     |
| Offsite renewable PPA or utility program                           | 14.29%<br>5        | 0%<br>0                 | 8.57%<br>3      | 31.43%<br>11          | 22.86%<br>8          | 22.86%<br>8     |
| Battery storage or fuel cell                                       | 11.43%<br>4        | 2.86%<br>1              | 0%<br>0         | 11.43%<br>4           | 37.14%<br>13         | 37.14%<br>13    |
| HVAC retrofit  | 22.86%<br>8        | 34.29%<br>12            | 11.43%<br>4     | 11.43%<br>4           | 11.43%<br>4          | 8.57%<br>3      |
| Lighting retrofit  | 31.43%<br>11       | 34.29%<br>12            | 8.57%<br>3      | 22.86%<br>8           | 2.86%<br>1           | 0%<br>0         |
| Equipment-specific replacement of retrofit — chiller, boiler, etc. | 20.00%<br>7        | 17.14%<br>6             | 20.00%<br>7     | 5.71%<br>2            | 22.86%<br>8          | 14.29%<br>5     |
| Building automation system   | 31.43%<br>11       | 25.71%<br>9             | 8.57%<br>3      | 8.57%<br>3            | 5.71%<br>2           | 20.00%<br>7     |
| Data analytics system  | 25.71%<br>9        | 37.14%<br>13            | 14.29%<br>5     | 5.71%<br>2            | 8.57%<br>3           | 8.57%<br>3      |

### CONCLUSIONS:

The survey responses were supported by comments and information provided by an array of companies that attended the **Smart Energy Decisions** Innovation Summit, where the growing complexity of the energy manager's role within large commercial and industrial companies emerged as a major theme.

Our survey results indicated that within corporate energy management and procurement strategies, renewable energy procurement has moved beyond the early-adopter phase and is now being focused on by a much wider array of companies. This was clearly visible in write-in responses from the 23% of total survey participants who selected "other" as their option for the single most important factor driving their 2017 programs; 63% of those respondents listed renewable energy in their answer.

#### Key takeaways that emerge from the survey results:

- ◆ **While cost reductions** are a driving force behind 2017 energy management plans, the need to meet sustainability goals also scored highly.
- ◆ **Energy managers also find a high degree of crossover** between sustainability and energy management goals. Cost reduction alone is not the only driver despite its importance.
- ◆ **Onsite solar is being adopted more quickly than offsite PPAs**, though based on the survey results, we can expect several such deals to be announced later this year and next.
- ◆ **Battery storage has yet to fully blossom**, but if cost reduction estimates are accurate, this is an important space to watch. The U.S. Department of Energy's Advanced Research Projects Agency-Energy division (ARPA-E)'s Grid-Scale Rampable Intermittent Dispatchable Storage, or GRIDS, program set a goal of less than \$100 per kilowatt-hour of storage and companies in the space are currently at work to achieve it.<sup>3</sup>
- ◆ **Lighting retrofits are 100% mainstream.** All respondents are at least considering a lighting upgrade, with companies across all three segments surveyed either moving ahead in the short term, having recently completed a lighting upgrade, or currently implementing one.
- ◆ **HVAC retrofits remain a popular energy management tool deployed by the companies surveyed.** The trend is toward short-term execution, with most firms having recently completed an upgrade or currently upgrading HVAC systems. Only 9% of total respondents said they are not considering an HVAC upgrade.
- ◆ **The decision to upgrade critical equipment was evenly mixed among the respondents.** Industrial firms led the way in this category, with 46% of the industrial companies surveyed having recently completed an equipment upgrade.

<sup>3</sup> *Scientific American*, "Is the Secret to Cheap Energy Storage Hiding in Harlem?" December 23, 2013.





**Save the Dates for the 2018**



 **SMART ENERGY**  
**DECISIONS**  
**INNOVATION SUMMIT**

**February 25 - 28, 2018**

**Barton Creek Resort in Austin, Texas**

To request an invitation to attend email [John@SmartEnergyDecisions.com](mailto:John@SmartEnergyDecisions.com)



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