Johnson Controls conducts an annual Energy Efficiency Indicator survey tracking current and planned investments, key drivers, and organizational barriers to improving energy efficiency in facilities. Since the first survey was released in 2007, almost 24,000 energy and facility management leaders have been surveyed.

Highlights from the 2017 Singapore Survey:

- Energy efficiency is increasing in importance and investment remains high. 83% of organizations are paying more attention to energy efficiency than they were one year ago, which is translating into investment. 83% of organizations plan to increase energy efficiency and renewable energy investments in the next year, with an additional 14% planning to keep their investment level the same.

- Energy cost savings was the most important driver in energy investment decisions in Singapore. 84% of organizations rated energy cost savings as very or extremely important in driving investment decisions. Other important drivers included customer attraction and retention (73% of respondents rating it as very or extremely important), greenhouse gas footprint reduction (70% of respondents rating it as very or extremely important), and government/utility incentives and rebates (65% of respondents rating it as very or extremely important).

Drivers of energy efficiency investments:
Organizations rating as very or extremely significant

<table>
<thead>
<tr>
<th>Driver</th>
<th>Singapore (%)</th>
<th>Global (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy cost savings</td>
<td>84%</td>
<td>77%</td>
</tr>
<tr>
<td>Customer attraction/retention</td>
<td>73%</td>
<td>59%</td>
</tr>
<tr>
<td>Greenhouse gas footprint reduction</td>
<td>70%</td>
<td>67%</td>
</tr>
<tr>
<td>Government/utility incentives/rebates</td>
<td>63%</td>
<td>50%</td>
</tr>
<tr>
<td>Increasing energy security</td>
<td>65%</td>
<td>59%</td>
</tr>
<tr>
<td>Attracting, retaining employees</td>
<td>56%</td>
<td>56%</td>
</tr>
<tr>
<td>Enhanced brand or public image</td>
<td>55%</td>
<td>54%</td>
</tr>
<tr>
<td>Increased building resilience to weather and energy system disruptions</td>
<td>52%</td>
<td>54%</td>
</tr>
</tbody>
</table>

- The top energy efficiency measures adopted over the past twelve months include heating, ventilation, and air conditioning improvements (79%), energy focused behavioral or educational programs (70%), building controls improvements (67%), onsite renewable energy (62%), and thermal energy storage (62%).

- When asked about planned investment over the next twelve months, onsite renewable energy led the way with 67% of respondents indicating they would invest. It was followed by heating, ventilation, and air conditioning improvements (56%), electric energy storage (54%), and energy focused behavioral or educational programs (51%).
For 28% of respondents, the top barrier to pursuing energy efficiency is lack of technical expertise to evaluate or execute projects. Other common barriers include lack of funding to pay for improvements (25%) and uncertainty regarding savings and performance (14%).

As the demand for green buildings increases, the demand for net zero energy buildings is also on the rise. 68% of organizations already have or plan to have at least one certified green building in the future and 36% of organizations are willing to pay a premium for space in a certified green building. Many organizations plan to achieve near zero, net zero or energy positive status for at least one building in the next 10 years, with 66% indicating it is very or extremely likely.

Resiliency is an increasingly important consideration for building infrastructure investments. 72% of organizations stated that maintaining critical operations during severe weather events or extended power outages is very or extremely important when considering future infrastructure investments. In addition, 59% of organizations are very or extremely likely to have one or more facilities able to operate off the grid in the next 10 years.

Building systems integration continues to build momentum as the focus on smart buildings increases. 43% of organizations invested in systems integration in the past 12 months and 42% plan to invest in the next 12 months. Integration with external data sources, such as weather and utility information, is leading the way with 37% of respondents indicating it has already been integrated with other building technology systems. This is followed by energy management (integrated with other building technology systems for 36% of respondents), life safety systems (integrated with other building technology systems for 35% of respondents), and lighting systems (integrated with other building technology systems for 34% of respondents).

In Singapore, performance benchmarking and certifications are seen as the most effective policy driving energy efficiency improvements with 84% of respondents ranking them as very or extremely important. Other policies that are effective in driving energy efficiency improvement include government leadership in leasing, building design, and retrofits (83% of organizations rated as very or extremely important), public and private sector building efficiency targets (81% of organizations rated as very or extremely important), and financial incentives and programs (78% of organizations rated as very or extremely important).

Policies driving energy efficiency improvements:
Organizations rating as very or extremely important

- Performance benchmarking and certifications: 84%
- Government leadership in leasing, building design, and retrofits: 83%
- Public and private sector building efficiency targets: 81%
- Financial incentives and programs: 78%
- Building energy codes and product standards: 64%
- Building owner and occupant engagement and partnerships: 52%
- Utility data access, tariffs, incentives, and programs: 53%
- Private sector engagement in workforce development, performance contracting, and financing: 49%

In Singapore:
- Performance benchmarking and certifications: 84%
- Government leadership in leasing, building design, and retrofits: 83%
- Public and private sector building efficiency targets: 81%
- Financial incentives and programs: 73%
- Building energy codes and product standards: 64%
- Building owner and occupant engagement and partnerships: 54%
- Utility data access, tariffs, incentives, and programs: 48%
- Private sector engagement in workforce development, performance contracting, and financing: 47%