

# Research Findings



## School Energy and Environment Survey

**Honeywell**

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EDUCATION WEEK  
RESEARCH



# Better Buildings. Better Achievement.

In August 2010, Honeywell Building Solutions and *Education Week* Research conducted an online survey of *Education Week* subscribers identified as district administrators or school board members.

Results of the second annual “School Energy and Environment Survey” from Honeywell reveal that almost 90 percent of school leaders see a direct link between the quality and performance of school facilities, and student achievement. But, unless they find solutions to address the required energy and infrastructure improvements, they’ll have to dedicate more money to utility bills, and less to teachers, supplies and other critical needs. As one of the world’s leading energy companies, Honeywell is poised to help educators overcome these budget challenges with strategic, effective solutions.

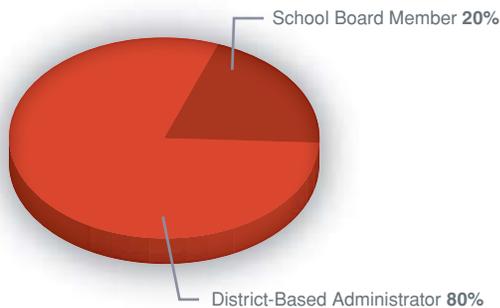
*The survey consisted of 794 respondents from across the United States.*

## RESPONDENTS ARE HIGH-LEVEL DISTRICT DECISION-MAKERS

Respondents to the “School Energy and Environment Survey” were qualified based on their connection to K-12 education. All qualified respondents were district-based administrators or school board members. Nearly one in four (24%) qualified respondents were superintendents or assistant superintendents.

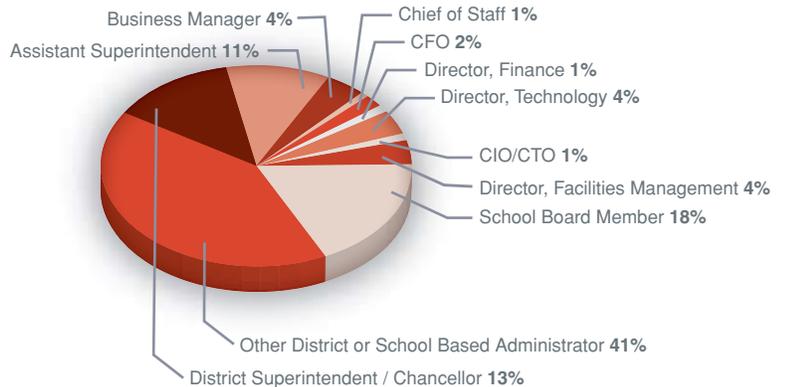
### What is your connection to education?

*Share of respondents by connection*



### Which title best describes your role within your organization?

*Share of respondents by title*

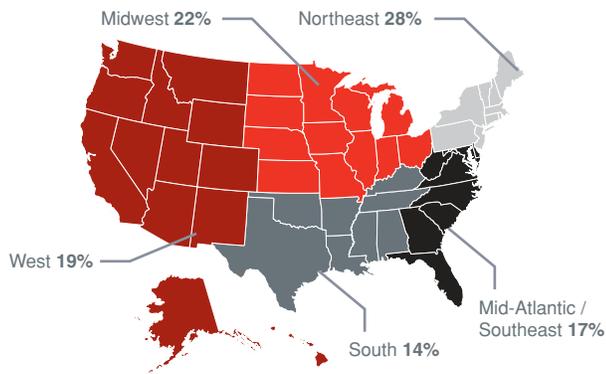


## SURVEY CAPTURED A NATIONAL AND DIVERSE SAMPLE

Responses came from across the United States and were well suited to national averages for district type.

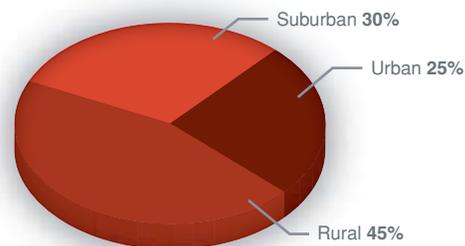
### In which state is your district located?

*Share of respondents by region*



### Which best describes your district?

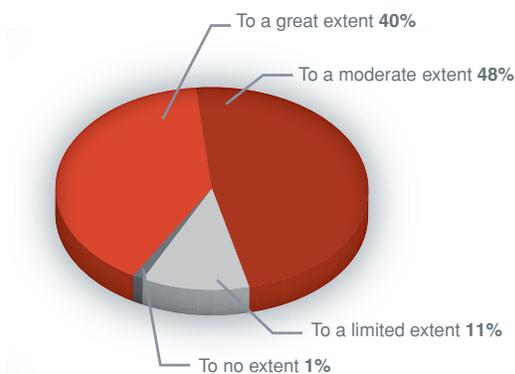
*Share of respondents by district type*



## FACILITY HEALTH IMPACTING LEARNING ENVIRONMENT

Virtually all respondents (99%) recognized that the quality and performance of school facilities affect student achievement. The vast majority of participants (88%) indicated that facilities influence achievement to a “great” or “moderate” extent.

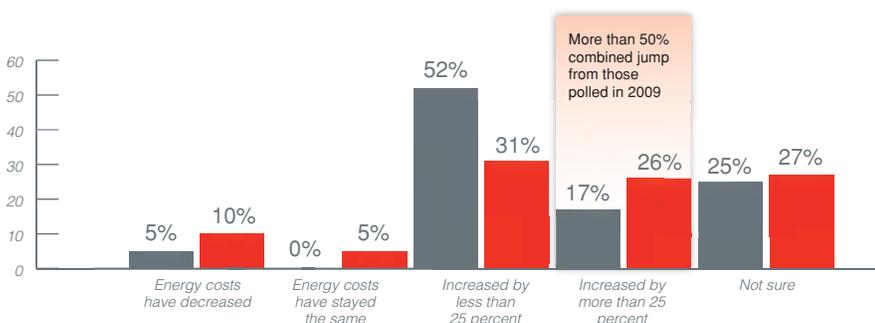
**In your opinion, to what extent does the quality and performance of school facilities improve student achievement?**



## ENERGY COSTS CONTINUE TO RISE

Findings suggests that a majority of districts’ energy costs have increased substantially over the past three years.

**How have your total energy costs changed in the past three years?**  
*Share of respondents by school district population*



It’s clear school leaders see a direct link between the quality and performance of school facilities, and student achievement. However, districts face several obstacles – including rising energy costs – when it comes to keep their buildings up to date and well maintained.

# Escalating Problems



The rise in energy costs is, ironically, hurting many school districts' efforts to increase energy efficiency. After salaries, utility costs are typically the second largest and most variable district expense, making them a focal point for administrators.

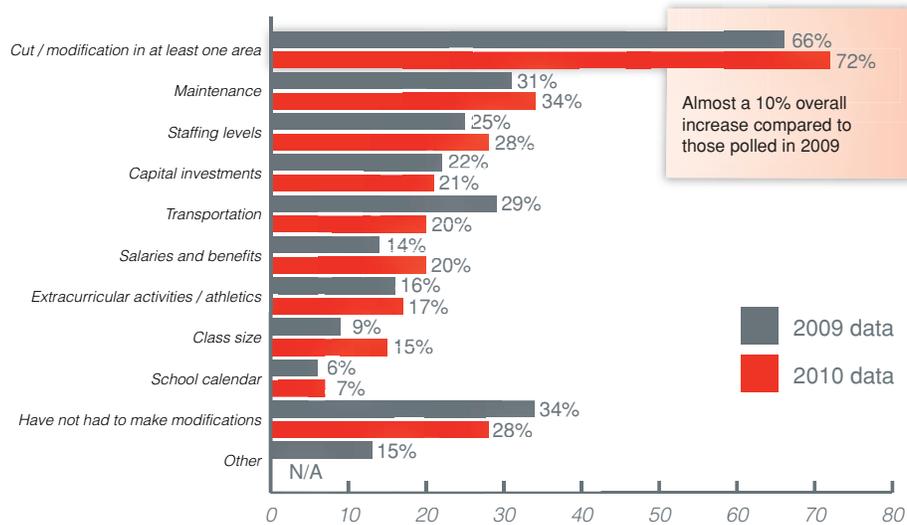
By reducing spending in these areas, many districts find themselves caught in a vicious cycle: deferred maintenance and upgrades lead to less efficient equipment, which leads to higher energy bills, which ultimately leads to more strain on budgets. Unless districts find ways to address the required energy and infrastructure improvements, they will likely continue to struggle and be forced to make additional cuts.

## ENERGY COSTS IMPACTING INVESTMENTS

Almost three-quarters (72%) of respondents' districts have had to cut spending in at least one key area. In particular, rising energy costs are negatively impacting maintenance schedules, staffing levels and capital investments.

**Have rising energy costs directly forced your district to cut spending or make modifications in any of the following areas? (Please check all that apply.)**

Share of respondents by areas cut

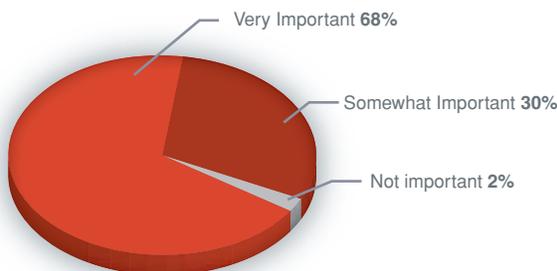


## ENERGY MANAGEMENT CRUCIAL, BUT LACK OF LONG-TERM PLANNING

While 98% of survey respondents consider energy management important to their district's long-term success, 36% reported that they do not have a strategic plan for managing energy consumption and costs, similar to findings in 2009.

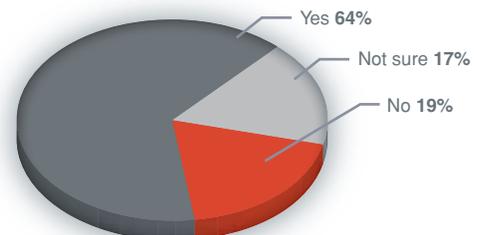
**How critical is energy management to your district's long-term success?**

Share of respondents by response



**Has your district developed or implemented a long-term strategic plan for managing energy consumption and costs?**

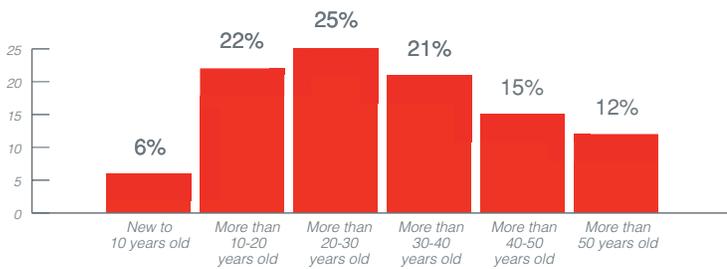
Share of respondents by response



### AGING INFRASTRUCTURE PERPETUATING DEFERRED MAINTENANCE

With 73% of respondents reporting that the typical age of buildings in their districts is more than 20 years old, school leaders are facing a vicious cycle of deferred maintenance and rising energy costs that are inhibiting their ability to fulfill their educational missions.

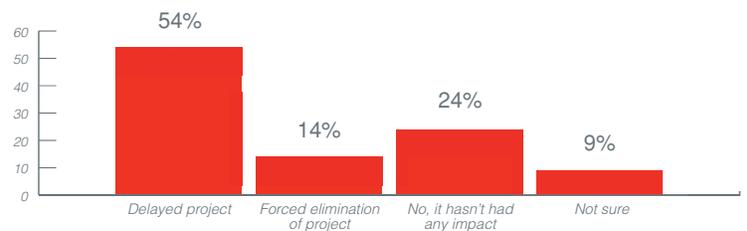
How old is the typical school building in your district?



### RECESSION: SIGNIFICANT IMPACT ON FACILITY IMPROVEMENTS

The majority of respondents (68%) reported that the economic downturn has either delayed or forced the elimination of facility improvement projects in their district.

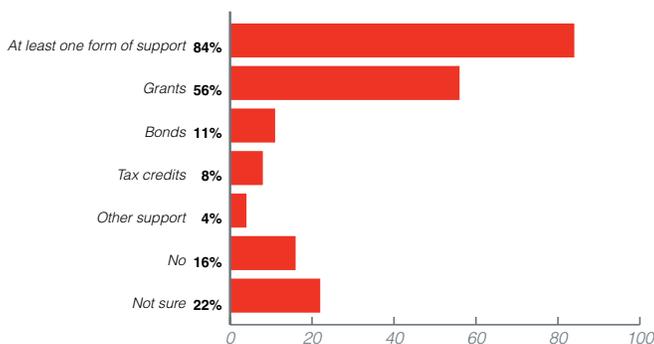
Has the economic downturn changed any planned facility improvements?



### STIMULUS: GRANTS MOST POPULAR FORM OF SUPPORT

The vast majority of respondents reported that their district pursued at least one form of stimulus funding support. Over half of respondents (56%) indicated that their district pursued grants, which was the most commonly chosen form of stimulus funding of the options surveyed.

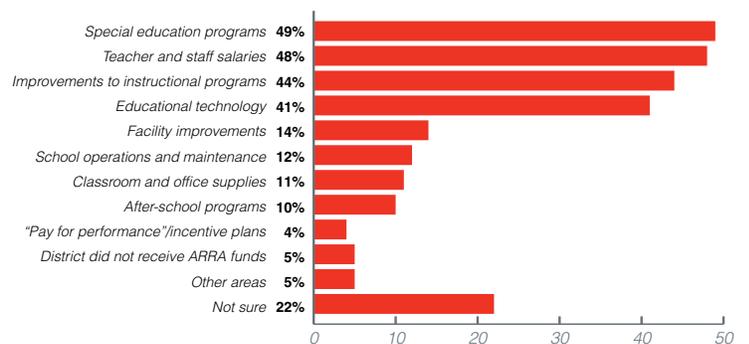
Did your district pursue grants, bonds, tax credits or other forms of support?



### STIMULUS: FUNDS NOT TYPICALLY ALLOCATED TO FACILITIES

While nearly all respondents (95%) indicated that their district received ARRA funds, only 14% of districts devoted funding to facility improvements, and only 12% used funds for school operations and maintenance.

In which of the following areas has your district invested ARRA funds?



# Renewable Confusion



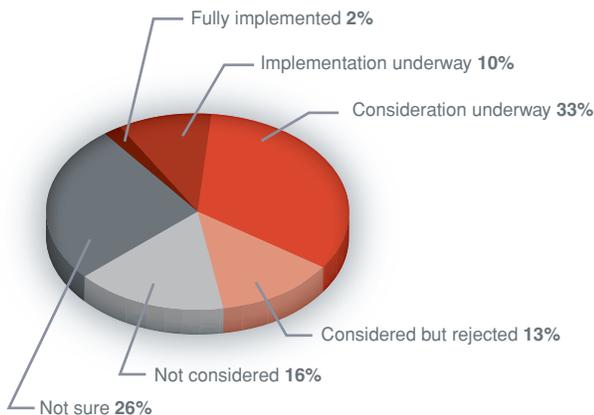
Although school districts have evaluated renewable energy sources as a potential solution to key challenges, many do not have the internal resources or expertise to pinpoint the technology that can deliver the greatest return on investment. But the greatest obstacle is limited funding, which for over half of respondents has prevented energy retrofits and renewable energy projects from moving forward.

## WIDE VARIATION IN CONSIDERATION OF RENEWABLES

The results suggest that nearly 60% of respondents' districts have considered or are considering using renewable resources.

### Has your district considered using a renewable resource to help meet its energy needs?

Share of respondents by consideration status



## ... BUT MAY NOT DELIVER BEST ROI

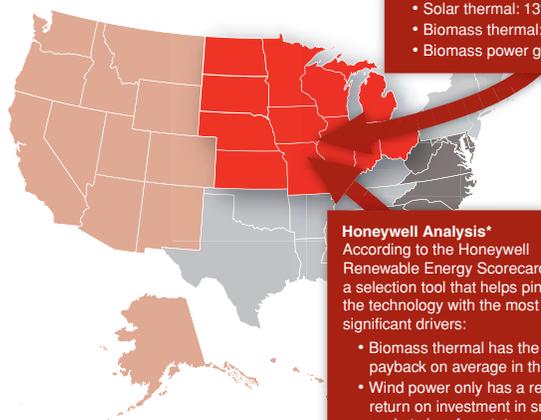
While solar photovoltaic is the most common option with 34% of districts nationwide considering the technology, it may not provide the greatest financial payback. The results from the Midwest region provide an interesting case in point.

### What types of renewable energy technologies has your district considered or implemented?

Share of respondents by technology considered

#### Survey Results - Midwest

- Wind power generation: 28%
- Geothermal heating and cooling: 27%
- None: 19%
- Solar PV: 17%
- Solar thermal: 13%
- Biomass thermal: 1%
- Biomass power generation: 0%



#### Honeywell Analysis\*

According to the Honeywell Renewable Energy Scorecard, a selection tool that helps pinpoint the technology with the most significant drivers:

- Biomass thermal has the quickest payback on average in the region
- Wind power only has a reasonable return on investment in small pockets in a few states
- Solar PV has limited financial drivers across all the states

\*Note: The analysis and forward-looking statements regarding the Honeywell Renewable Energy Scorecard are offered exclusively by Honeywell, and should not be construed as supported by nor attributed to Education Week Research.

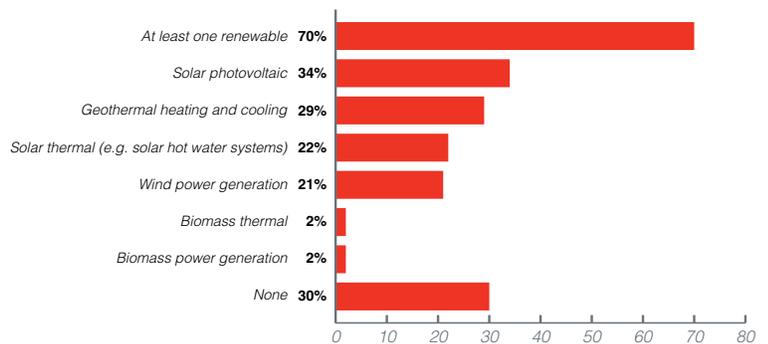
Source: Honeywell / Education Week Research "School Energy and Environment Survey" (2010).

## SOLAR, GEOTHERMAL AND WIND RECEIVE MOST ATTENTION...

Most respondents (70%) reported that their districts considered at least one type of renewable energy resource. According to the survey results, the technologies that receive the most attention are solar photovoltaic, and geothermal heating and cooling.

### What types of renewable energy technologies has your district considered or implemented?

Share of respondents by technology considered

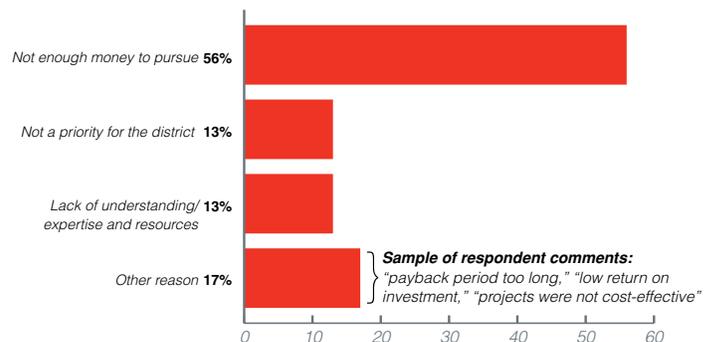


## FUNDING GAPS CONSTRAIN RETROFITS AND RENEWABLE PROJECTS

Over half of respondents (56%) reported that limited funding is the biggest obstacle to launching energy retrofit or renewable energy projects. Other open-ended answers given suggest a perception of high associated costs and a low ROI on such projects.

### If you have not gone forward with energy retrofits or renewable energy projects, what has been the biggest hurdle? (Choose one)

Share of respondents by hurdle



# Sustainability Gap



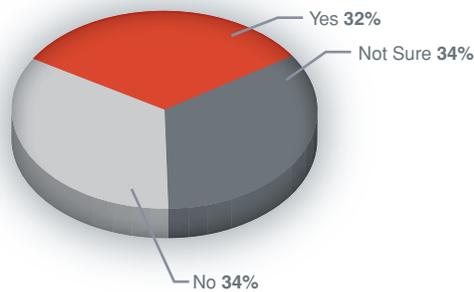
While there is growing interest for schools to incorporate sustainable practices into their building operations and curriculum, the survey showed a clear gap between environmental commitments and activity. More than 30 percent of districts have set carbon-reduction goals, for example, but only 6 percent have completed a greenhouse gas inventory to catalog emissions and create a baseline to measure the impact of related programs.

## LIMITED COMMITMENT TO CARBON FOOTPRINT REDUCTION

Only about one-third of respondents (32%) reported that their district has made commitments or set goals to reduce their carbon footprint.

**Has your district completed a greenhouse gas inventory to catalog its current emissions and create a benchmark?**

*Share of respondents by commitment status*



*"Has your district made commitments or set goals to reduce its 'carbon footprint' (emissions)?"*

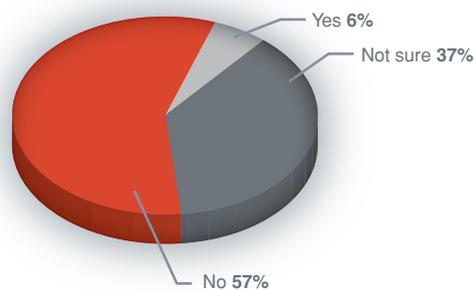
District Type	"No"	"Not Sure"	"Yes"
Rural	44%	25%	32%
Suburban	35%	30%	35%
Urban	27%	41%	32%

## FEW RESPONDENTS REPORT GHG BENCHMARKS

A mere 6% of respondents reported that their district had completed a greenhouse gas (GHG) inventory to catalog its current emissions in order to create a benchmark. The majority of respondents (57%) reported that their districts had not conducted such an inventory.

**Has your district completed a greenhouse gas inventory to catalog its current emissions and create a benchmark?**

*Share of respondents by inventory status*



*"Has your district completed a greenhouse gas inventory to catalog its current emissions and create a benchmark?"*

District Type	"No"	"Not Sure"	"Yes"
Rural	66%	30%	4%
Suburban	62%	33%	5%
Urban	41%	51%	8%

## HONEYWELL— EFFICIENT AND SUSTAINABLE FROM THE START.

Increasing efficiency and leveraging renewable resources is the right thing to do ecologically. However, it's important that environmental stewardship and conservation make good business sense too. And that's our focus at Honeywell.

Honeywell has been committed to sustainability and energy conservation as real-world goals long before "green" issues became so popular. It is this perspective that makes Honeywell uniquely qualified to help lead forward-thinking companies, organizations and homeowners around the world to energy-efficient and environmentally responsible solutions.

Honeywell provides a broad range of services and technology designed to reduce schools' utility bills and environmental impact. The company is currently helping hundreds of U.S. school districts beat the budget crunch with energy and operational savings expected to total more than \$400 million. These programs are often funded through performance contracts, which allow schools to pay for facility improvements through the savings the upgrades produce. Honeywell guarantees the results so the work doesn't impact operating budgets.

Overall, nearly 50 percent of Honeywell's product portfolio is linked to energy efficiency. If the company's existing portfolio of energy efficiency technologies were immediately and comprehensively adopted, the United States could reduce its energy demand by 20 to 25 percent.

### Find Out More

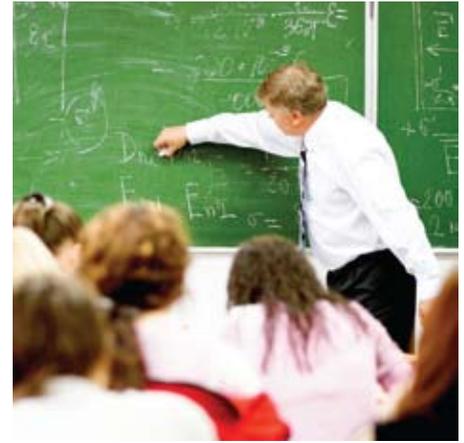
To learn more about Honeywell Building Solutions, contact your local Honeywell representative, visit [www.honeywell.com/buildingsolutions](http://www.honeywell.com/buildingsolutions) or call **1-800-345-6770, ext. 612**.

### Honeywell Building Solutions

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## OTHER SUSTAINABILITY SERVICES FROM HONEYWELL CAN HELP YOU:

- Fund improvements within existing budgets
- Improve comfort while reducing energy use
- Dramatically reduce energy costs
- Reduce greenhouse gas emissions and environmental impact
- Meet environmental regulations



Honeywell's comprehensive sustainability services offering provides customers with resources and tools to reduce greenhouse gas emissions while making smart financial decisions. Honeywell also provides sustainability training, awareness and education, and on-site staffing to help schools meet their environmental commitments and goals.



Honeywell is proud to support the Clinton Climate Initiative, USGBC, ACUPCC and other groups that encourage the responsible use of our natural resources.

Nearly 50 percent of Honeywell's product portfolio is linked to energy efficiency, and our work helps eliminate millions of pounds of carbon dioxide emissions each year.

Honeywell has been recognized with multiple awards including the "Green Innovation of the Year" award from Frost & Sullivan.

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