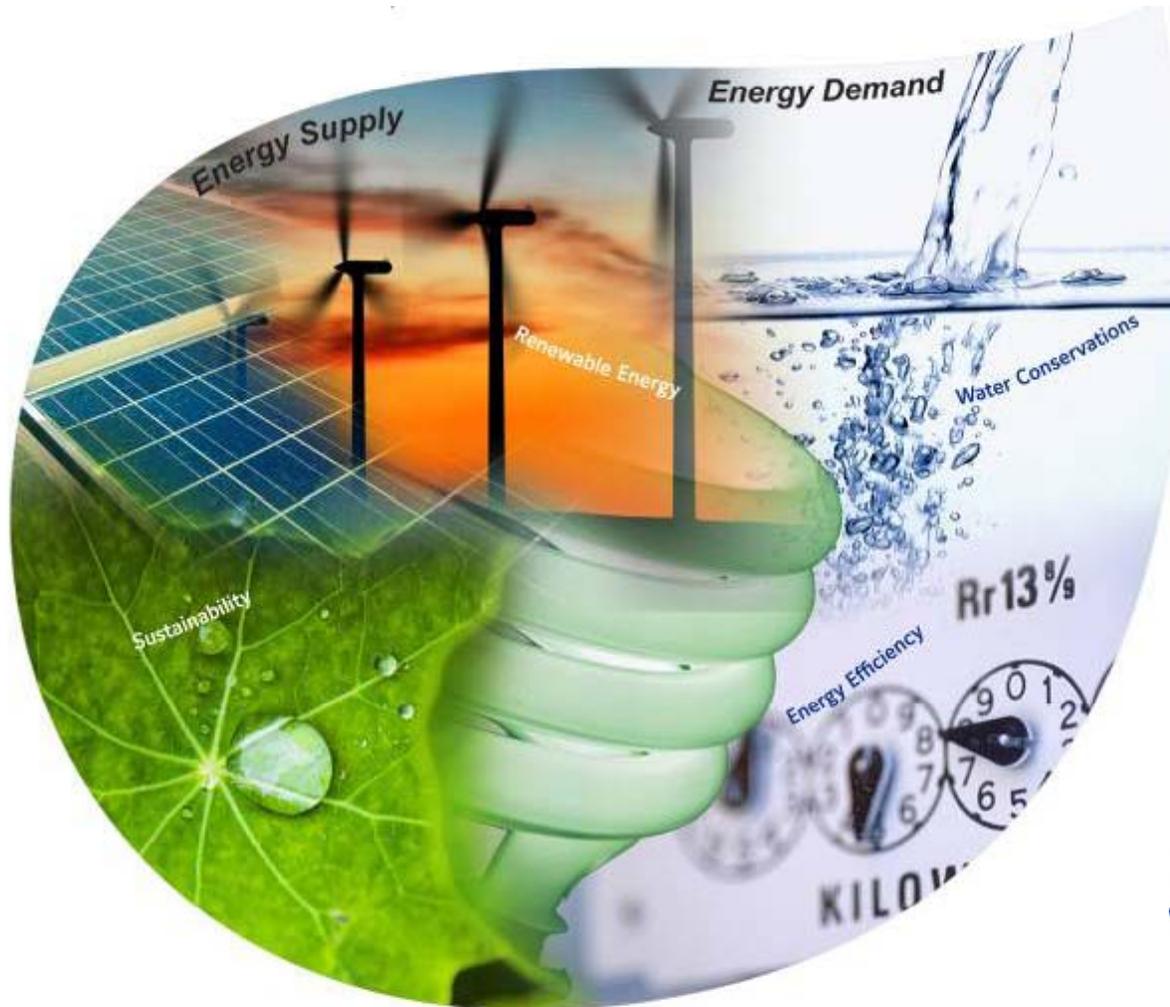


Be a leader. Use less energy. Use smart energy.

Introduction to Energy Services



Johnson Controls

INGENUITY WELCOME

“Perfect Storm”

Commodity Prices

Water Contaminants

Challenging Global Economy

GHG Emissions

Water Scarcity

Climate Change



Customer Concerns

Energy Prices Increasing
Water Rates Increasing
Demand for “Green” Increasing



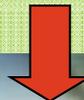
ESCO Value Proposition

Water Efficiency

Energy Efficiency

Renewable Energy

Asset Renewal



Customer Benefits

SAVE Money
SAVE Resources

Sustainable, Green Environment

Customer Discussion to Identify Goals:

energy efficiency, emissions reduction, operational savings, water savings, etc.

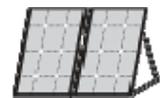
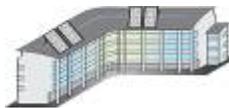
Preliminary audit/Site visit

Customer commitment

Detailed audit
Sophisticated analysis tools used to gather data and develop customized solution

Energy Performance Contract with Savings Guarantee

Improvements
such as:



Lighting, water, HVAC, renewable energy, building upgrades, wireless, meters/controls

Lower
Water Use

Lower
Utility Use

Reduce
Waste

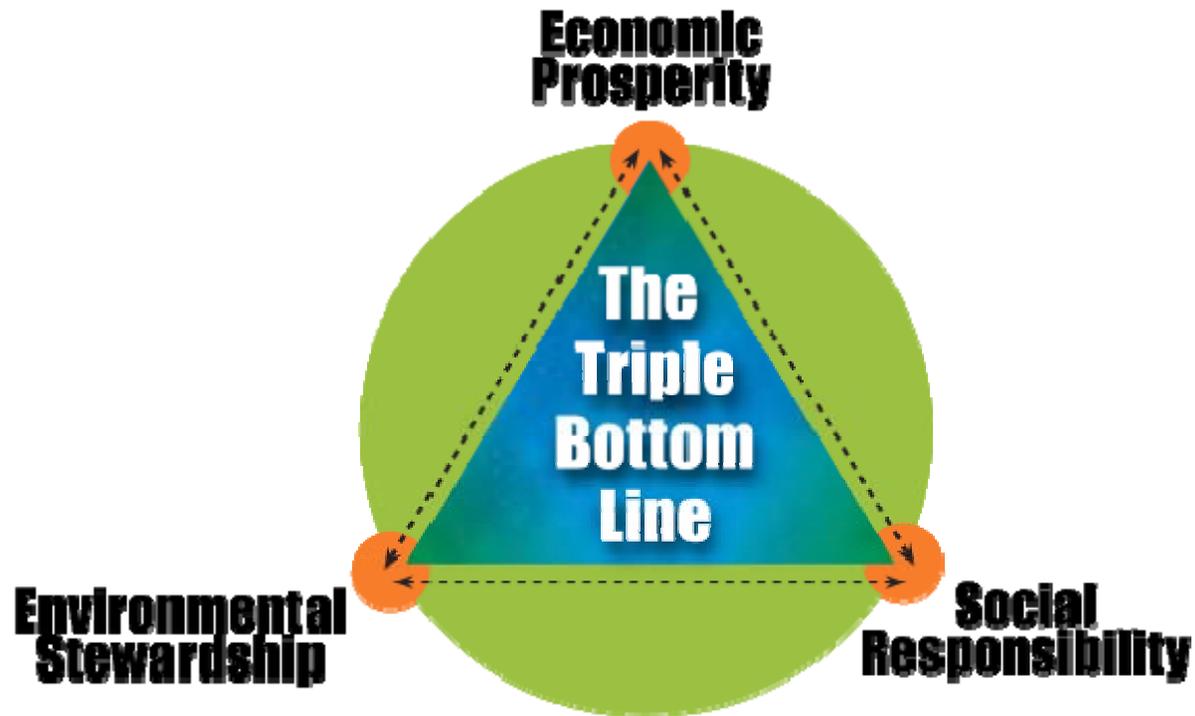
Reduce
Emissions

Reduce
Ops Budget

Reduce
Maintenance

Meet Customer Goals

Start with Sustainability



**Sustainability doesn't require sacrifice;
it requires a new frame of mind**

Sustainability and Green are Competitive Drivers

Recent global survey of CEOs on the topic of sustainability:

75% said sustainability is either an **important part** of corporate strategy or expect it to be important in the future

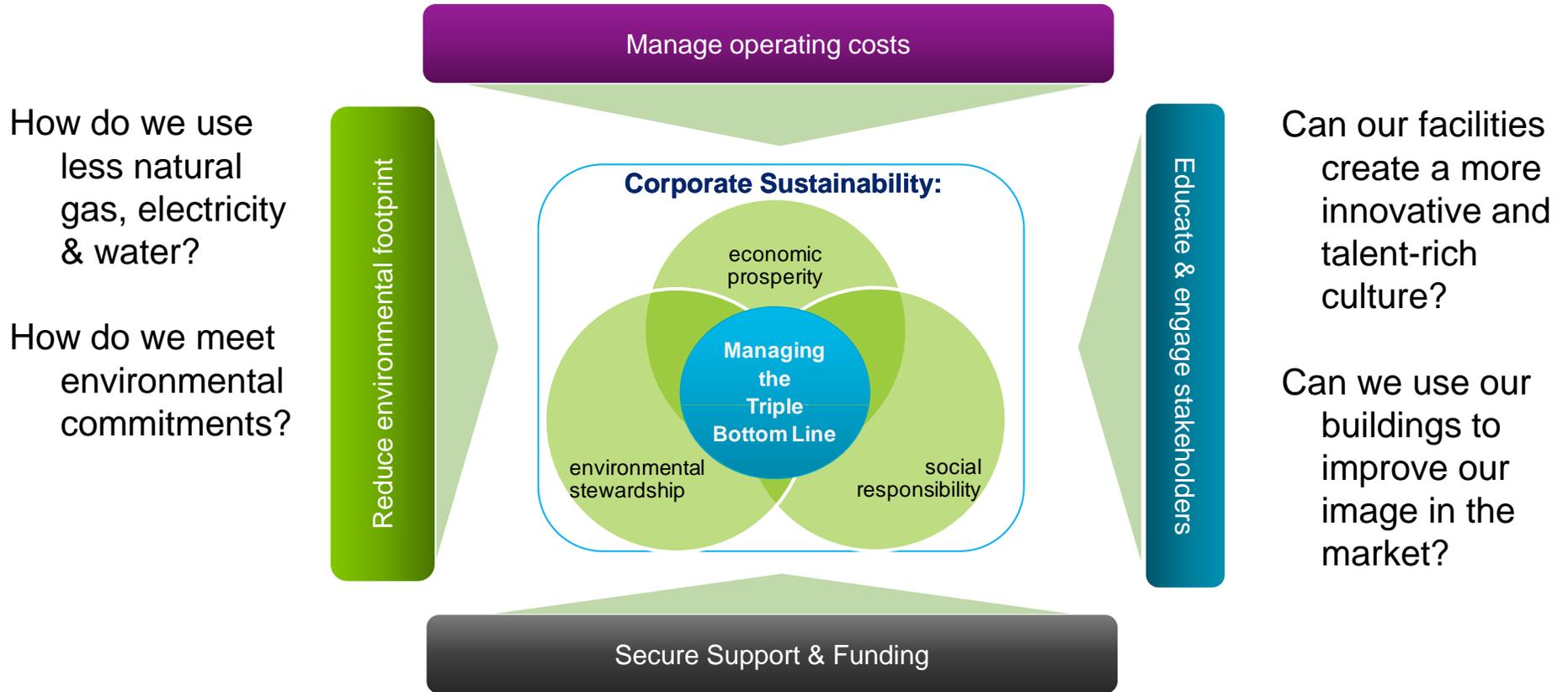
Why have a sustainability strategy?

- 1.** To have a **competitive advantage**
- 2.** To be seen as **leaders**
- 3.** **Public interest** in the environment

Source: Vandiver Group and Pinnacle Worldwide, 2008

Our Perspective on Sustainability

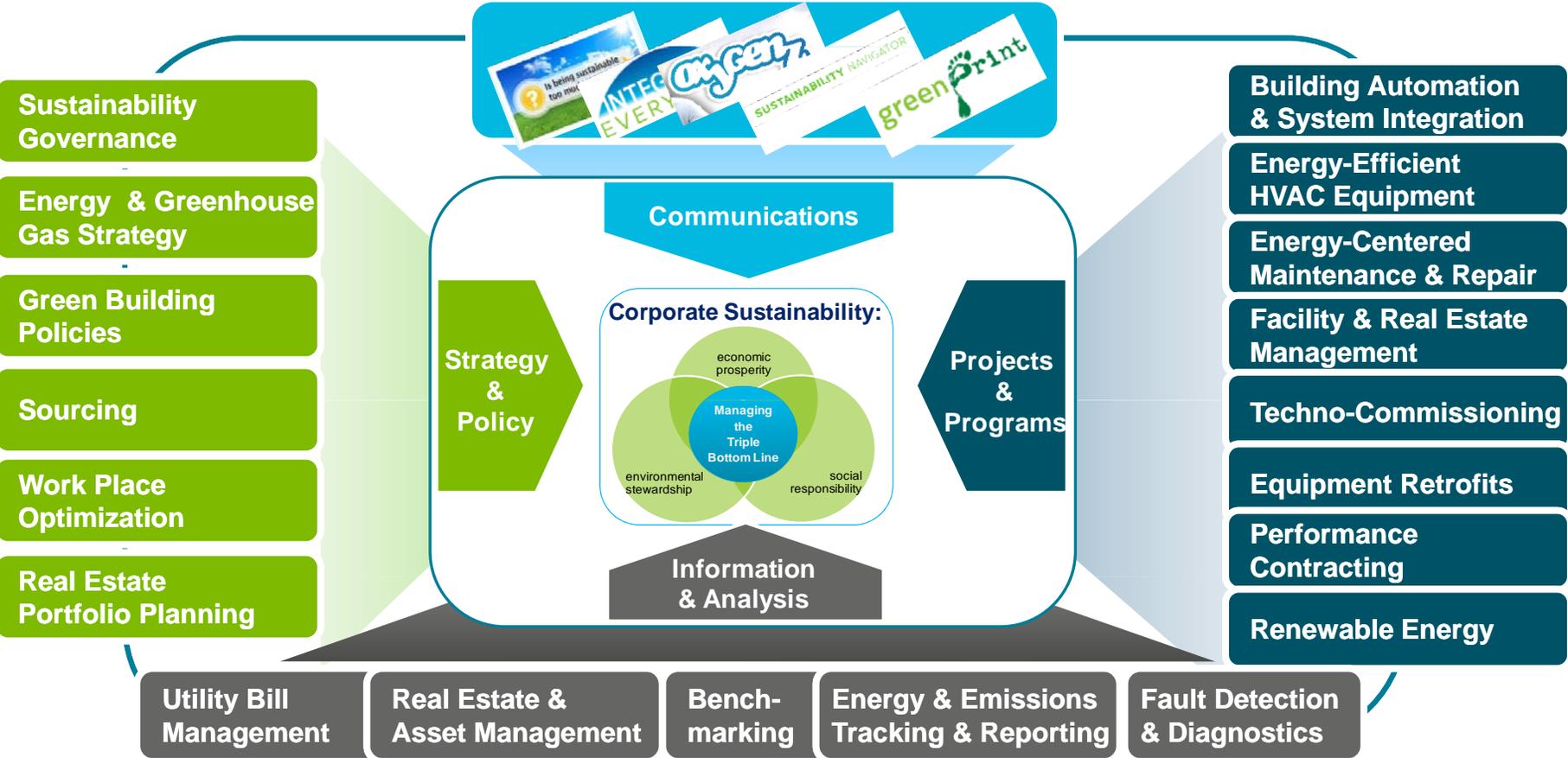
How do we lower our \$/square foot costs?



How do I pay for these programs?

How we help our Customers with Sustainability?

Managing to the triple bottom line by **connecting** the work of managing your operating costs, reducing your environmental footprint, and engaging and educating your stakeholders



How we our Customers reduce Energy?

We use a host of products and services:

- Lighting upgrades
 - Building management systems
 - Water conservation measures
 - Temperature controls
 - Chiller and boiler upgrades
 - Facility repairs and upgrades
 - Renewable energy (solar PV electricity, solar thermal heating, geothermal, etc.)
 - Green building solutions
 - Wireless infrastructure
 - Others
-

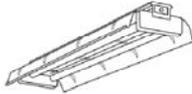
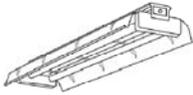


Typical Industrial Lighting Solutions



- **HID *Replacements*** to Fluorescent T5HO or T8 technology

- Up to 50% energy savings
- 130% or more increase in rated lamp life
- 31% increase in color rendering (*measure of light quality*)
- For some applications, Pulse-Start Metal Halide may be preferred over fluorescent technology



- **8' T12 *Replacements/Retrofits*** to 4' Super T8 technology

- Up to 45% energy savings
- 200% or more increase in rated lamp life
- 37% increase in color rendering (*measure of light quality*)
- “Tandem” use of 4' Super T8 lamps, delivers maximum energy and maintenance savings



- **Fluorescent *Retrofits*** from T12 to Super T8 technology

- Up to 60% energy savings
- Up to 200% increase in rated lamp life
- 37% increase in color rendering (*measure of light quality*)
- *Re-lamping standard T8 fixtures with Super T8 lamps also delivers great energy & maintenance savings*



Additions of Occupancy Sensors and/or Lighting Control Systems

- 10-75% reduction in operating hours
- Corresponding reduction in energy consumption
- Longer lamp life and extended replacement schedules

Available Rebates & Incentives

DSIRE

www.dsireusa.org

NC Solar Center | IREC | Contacts | About Us | NCSU

DSIRE
Database of State Incentives for Renewables & Efficiency

DSIRE is a comprehensive source of information on state, local, utility, and federal incentives that promote renewable energy and energy efficiency. Choose one or both databases to search:

Renewable Energy Energy Efficiency

Federal Incentives

US Territory Incentives

FAQs | Summary Maps | Summary Tables | Search By | Glossary | Links | Library | New / Updated Incentives

Last Updated: 04/18/08

FAQs | Summary Maps | Summary Tables | Search By | Glossary | Links

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EPACT

www.lightingtaxdeduction.org

Simple Payback (years): 2.57

Energy Act of 2005 Tax Deductions:

ASHRAE 90.1-2001 Standard Allowance Lighting Power Density (watts/sf)	1.30
Total Allowed Watts per ASHRAE standards	813,654
Proposed Watts as result of lighting retrofit (See lighting load analysis)	402,933
Total Watts Reduced as result of lighting retrofit project	410,721
Total Percentage Reduction from ASHRAE 90.1-2001 Standard Allowance	50.48%
Estimated Potential Tax Deductions	\$302,472
Tax Rate of Facility 35.0%	Estimated benefit of tax deduction \$105,865
Per Square Foot	\$0.169

Adj. Simple Payback (years): 1.83

How we help our Customers reduce Energy?

Customer Needs

- Save Energy & Reduce Maintenance Costs
- Improve Lighting Quality to positively impact production process

Program Scope

- Program initiated in 2006, continues today
- 48 Sites, representing 19M Square Feet
- \$ 10M + Capital Project

Turnkey Approach

- Lighting Audits & Analysis
- Solution & Proposal Development
- Turnkey Implementation
- Warranty & Rebate Management

Program Results

- \$4M Annual Energy & Maintenance Savings



How we help our Customers reduce Energy?



Customer Needs

- Save Energy
- Reduce Maintenance Costs
- Improve Lighting Quality positively impacting production process

Program Scope

- Program initiated in 2008
- 22 Sites, representing 2.1M SF
- \$2M + Capital Project



Customer Needs

- Save Energy
- Reduce Maintenance Costs
- Improve Lighting Quality positively impacting production process

Program Scope

- Program initiated in 2010
- 2 Sites, representing 500K SF
- \$500K + Capital Project



Questions and Answers

I ♥ Sustainability!  Johnson Controls

