

Energy Efficiency Jobs & Policy Needs

Economic Impacts of Energy Efficiency Policies and Investments

2011

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Schneider Electric – the global specialist in energy management

21

billion € sales
(last twelve months)

38%

of sales in new economies
(last twelve months)

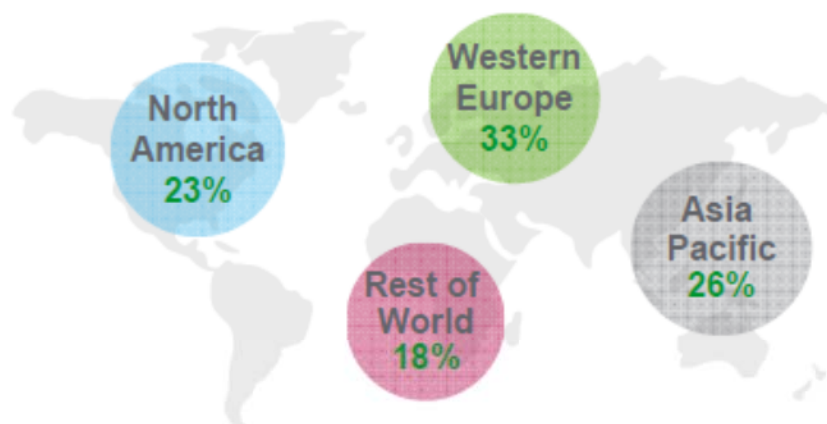
120 000+

people in 100+ countries

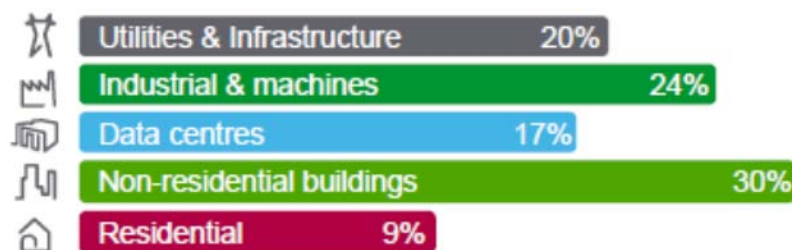
4–5%

of sales devoted to R&D

Balanced geographies – H1 2011 sales



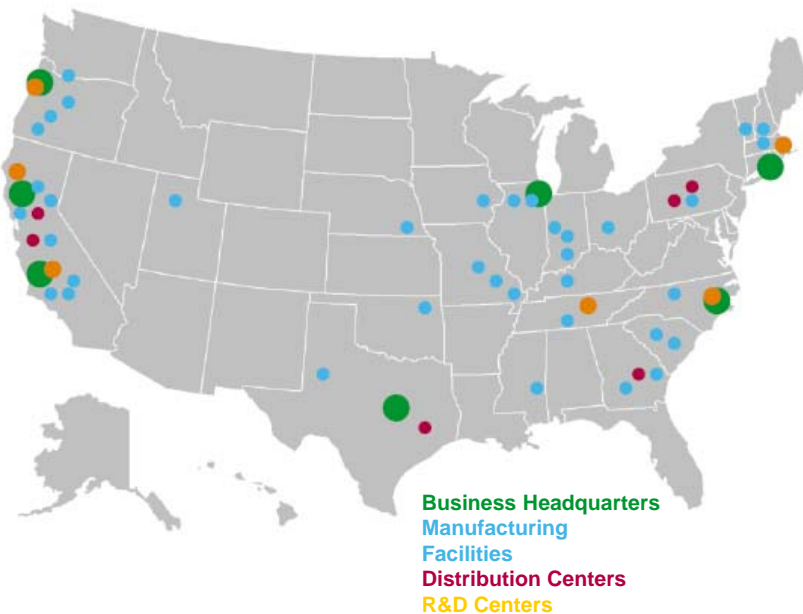
Diversified end markets – FY 2010 sales¹



¹ On a comparable basis with 12- months of Areva D

Schneider Electric USA

- 17,000+ employees
- Sales of \$6B+ in 2010
- 40 manufacturing facilities,
- 6 distribution centers,
- 6 R&D centers



California

- Facilities: Field Sales & Services
Business Offices
Manufacturing Facilities
R&D Centers
Distribution Centers
- Employees: 2600

Colorado

- Facilities: Field Sales & Services
- Employees: 110

Florida

- Facilities: Field Sales & Services
- Employees: 120

Georgia

- Facilities: Field Sales & Services
- Employees: 130

Iowa

- Facilities: Field Sales & Services
Manufacturing Facilities
- Employees: 400

Illinois

- Facilities: Field Sales & Services
Business Offices
Manufacturing Facilities
Distribution Center
- Employees: 1600

Indiana

- Facilities: Field Sales & Services
Manufacturing Facilities
Distribution Center
- Employees: 850

Kentucky

- Facilities: Field Sales & Services
Business Offices
Manufacturing Facilities
- Employees: 750

Massachusetts

- Facilities: Field Sales & Services
Business Offices
R&D Centers
- Employees: 675

Maryland

- Facilities: Field Sales & Services
- Employees: 110

Michigan

- Facilities: Field Sales & Services
- Employees: 155

Missouri

- Facilities: Field Sales & Services
Business Offices
Manufacturing Facilities
- Employees: 525

North Carolina

- Facilities: Field Sales & Services
Business Offices
Manufacturing Facilities
R&D Centers
- Employees: 1150

Nebraska

- Facilities: Field Sales & Services
Manufacturing Facilities
- Employees: 300

New Jersey

- Facilities: Field Sales & Services
- Employees: 200

New York

- Facilities: Field Sales & Services
- Employees: 125

Ohio

- Facilities: Field Sales & Services
Manufacturing Facilities
R&D Centers
- Employees: 650

Oregon

- Facilities: Field Sales & Services
Manufacturing Facilities
- Employees: 250

Pennsylvania

- Facilities: Field Sales & Services
Manufacturing Facilities
Distribution Center
- Employees: 775

Rhode Island

- Facilities: Field Sales & Services
Business Offices
- Employees: 1000

South Carolina

- Facilities: Field Sales & Services
Manufacturing Facilities
- Employees: 1200

Tennessee

- Facilities: Field Sales & Services
Business Offices
Manufacturing Facilities
- Employees: 1300

Texas

- Facilities: Field Sales & Services
Business Offices
Distribution Center
- Employees: 1000

Utah

- Facilities: Field Sales & Services
Business Offices
- Employees: 100

Additional Field Sales, Services & Telecommuter Locations

- Alabama, Arkansas, Arizona, Connecticut, Idaho, Kansas, Louisiana, Minnesota, Mississippi, Montana, North Dakota, New Hampshire, New Mexico, Nevada, Oklahoma, South Dakota, Virginia, Vermont, Washington, Washington, DC, Wisconsin, West Virginia, Wyoming
- Employees: 2100

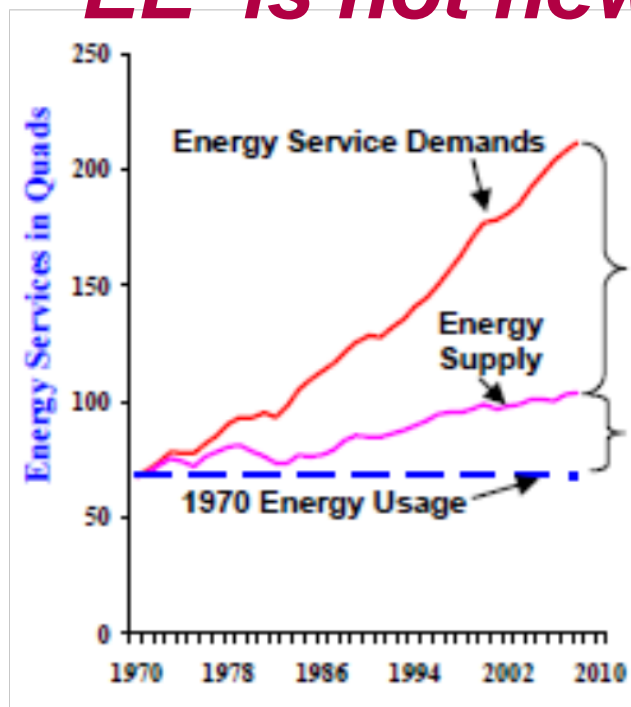
The EE Industry

Where are the jobs



EE.... A new opportunity?

EE is not new....



.... but it is underutilized

What is available in EE?

Studies by ACEEE and others suggest that the United States can **cost-effectively reduce energy consumption by 25-30%** or more over the course of the next 20-25 years.

- From 1970 to 2008 US EE gains met 75% of new energy demands
- New energy supply contributed only 25% demand

Source: Laitner 2008



The Global Specialist

in Energy Management

Energy production
& transmission







- Wind energy 
- Solar energy 
- Hydro 
- Biofuels 
- Hydrocarbons 
- Nuclear 

**Energy
Management**

Making energy...

- Safe
- Reliable
- Efficient
- Productive
- Green

Energy
Usage

- Appliances 
- Climate control 
- Security 
- Lighting 
- Machines 
- IT servers 

...with 30-70% savings everywhere



Chiller compressor control optimization

Solution in brief

- The chiller compressor is automatically controlled through a variable speed drive and a PLC.



Value proposition

- Up to 20% energy savings thanks to a dedicated control software.



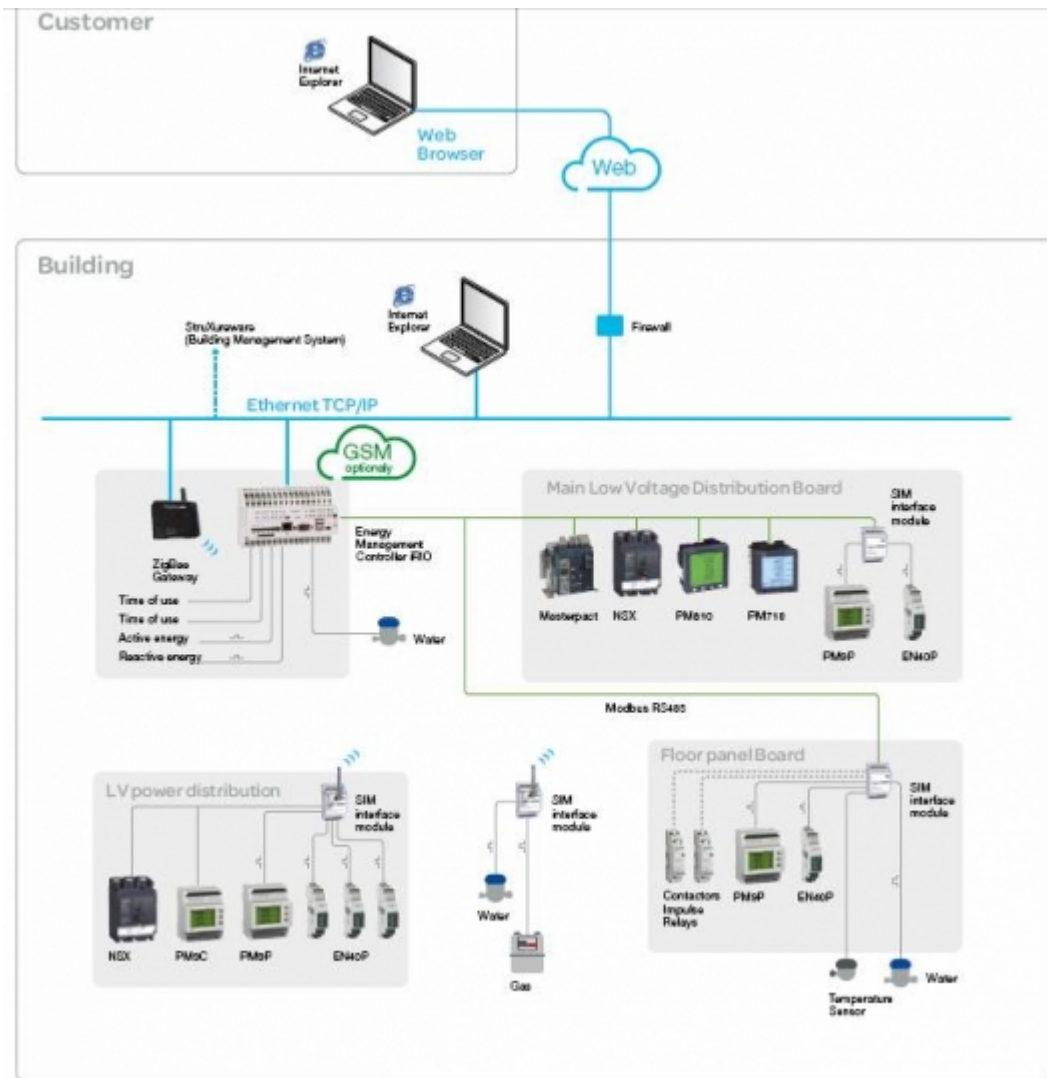
Small Building Energy Management

Energy Management Solution for small/medium buildings

- Monitoring & control solutions reduce consumption
- Energy reporting data supports compliance and certification requirements.
- improves electrical installation operation and maintenance, hence reducing OPEX.
- helps increase property value, maximize asset value and ease selling/renting.

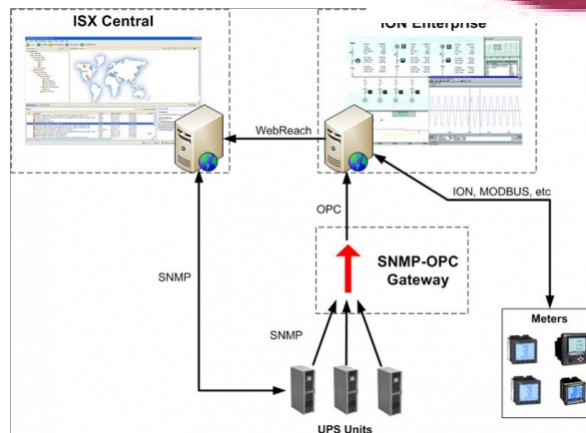
Value Proposition

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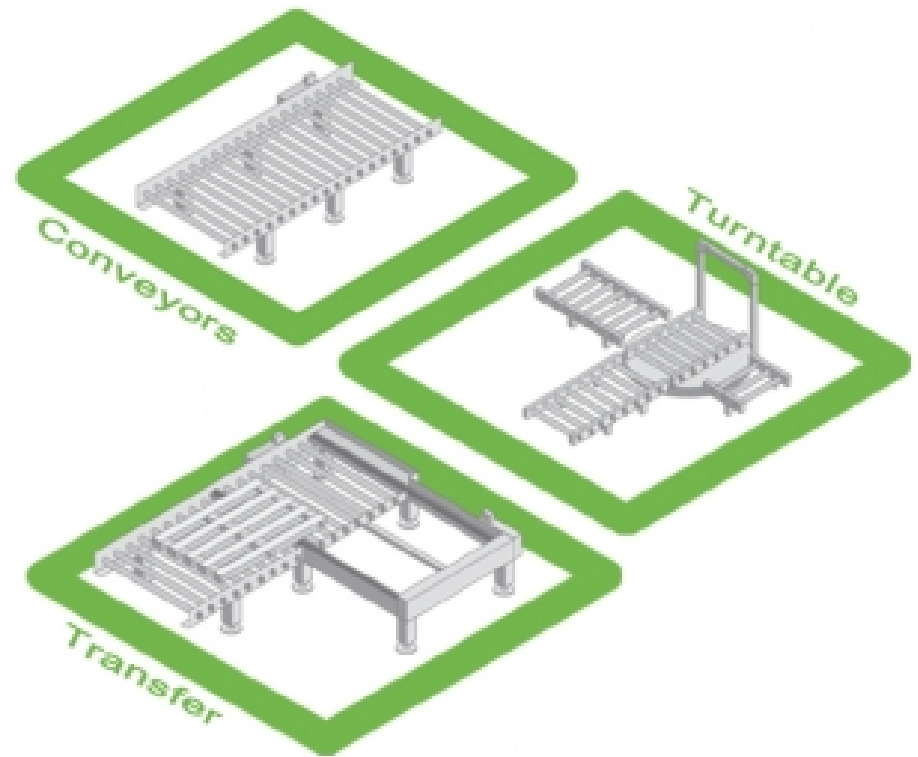
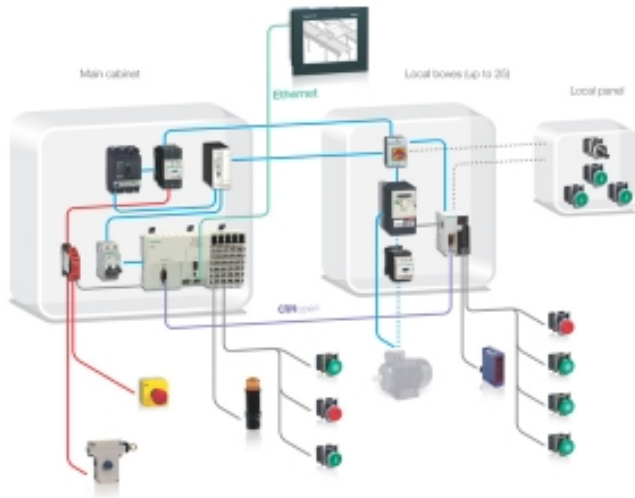
Power Usage Effectiveness Solution for Data Centers

- Integrated rack, power and cooling systems for data centers
- Decrease your data center's PUE measure by up to **25%**



Logistic Centers Energy Management

- *Specialized conveyer control solutions*
 - Optimization of energy required
 - No reactive energy consumed.
- Up to 50% energy savings in operating mode.



School recaptured 42% of investment in the first year

Situation

- 200,000 square foot private school in Houston, TX
- Energy costs had increased 30% in two years
- Wanted to go green

Challenge

- Administrators would only approve going green—if also financially attractive.

Solution

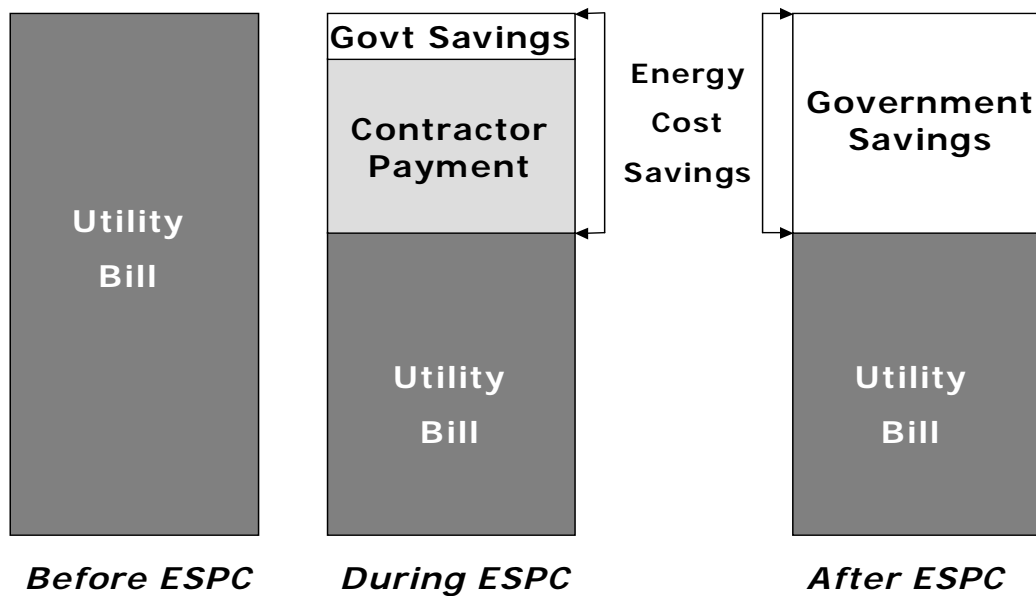
- Energy Performance Contract for
 - Optimized HVAC
 - Lighting retrofit
 - Utility bill optimization

Results

- \$101,667 projected annual energy savings
- 42% return on \$240,000 capital investment in the very first year—even without energy rebates or incentives.



Energy Savings Performance Contracting (ESPC)



Government Benefits of ESPC

- Saves energy & money
- Upgrades federal facilities
- Creates jobs
- Reduces emissions
- Guaranteed results
- No additional money needed – cost is paid out of savings
- A win-win program

How ESPCs Work

- **Before ESPC** - Federal government spends too much on utilities and O&M costs
- **During ESPC** - Energy service companies finance, install and maintain new energy efficient equipment, at no upfront cost to government (e.g. lighting, boilers, chillers, etc.)
 - Savings are guaranteed
 - Government pays back private sector investment with utility \$avings
 - By law government pays no more than it would have paid for utilities before ESPC
- **After ESPC** - Government keeps all the savings after investment is paid off

Perspectives & Challenges

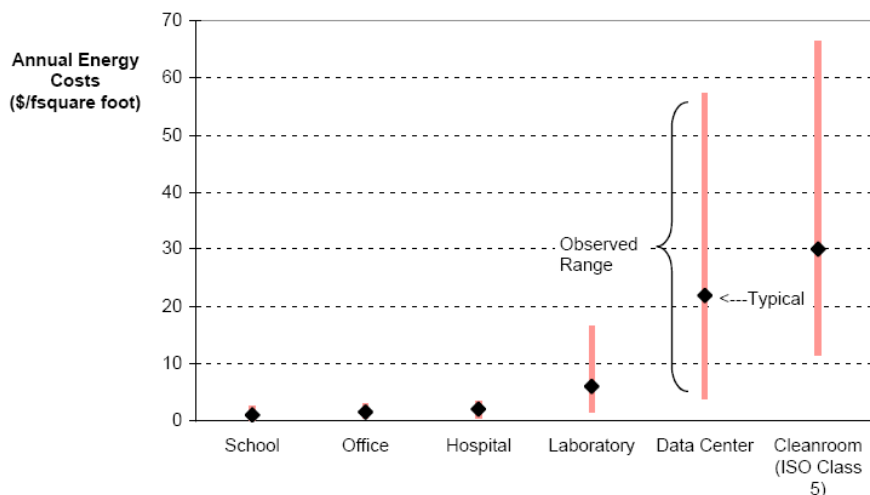
What we see



Energy is invisible. We need to make it visible!

*Benchmarking shows opportunity exists
.....in high tech facilities energy
intensity varies significantly*

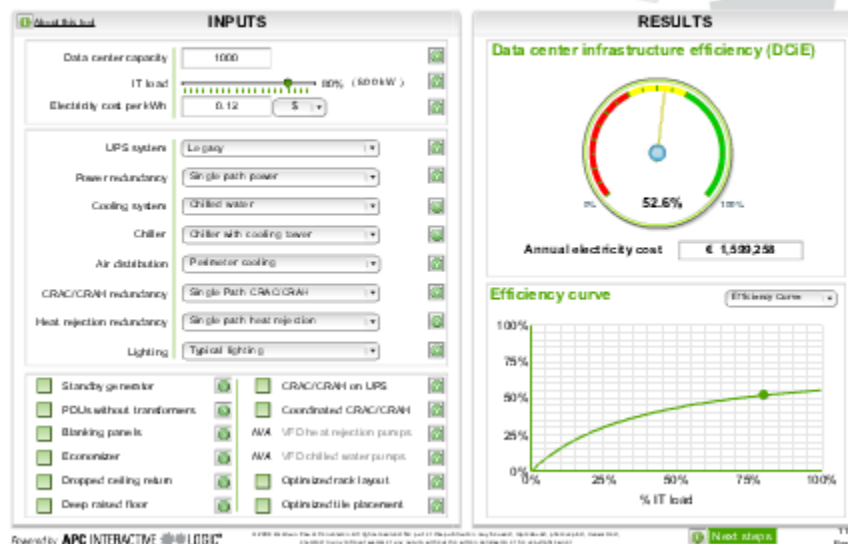
**Comparative Energy Costs
High-Tech Facilities vs. Standard Buildings**



*Integrated connectivity gives insight
.... In Data Centers Energy Dashboards
allows optimize management*

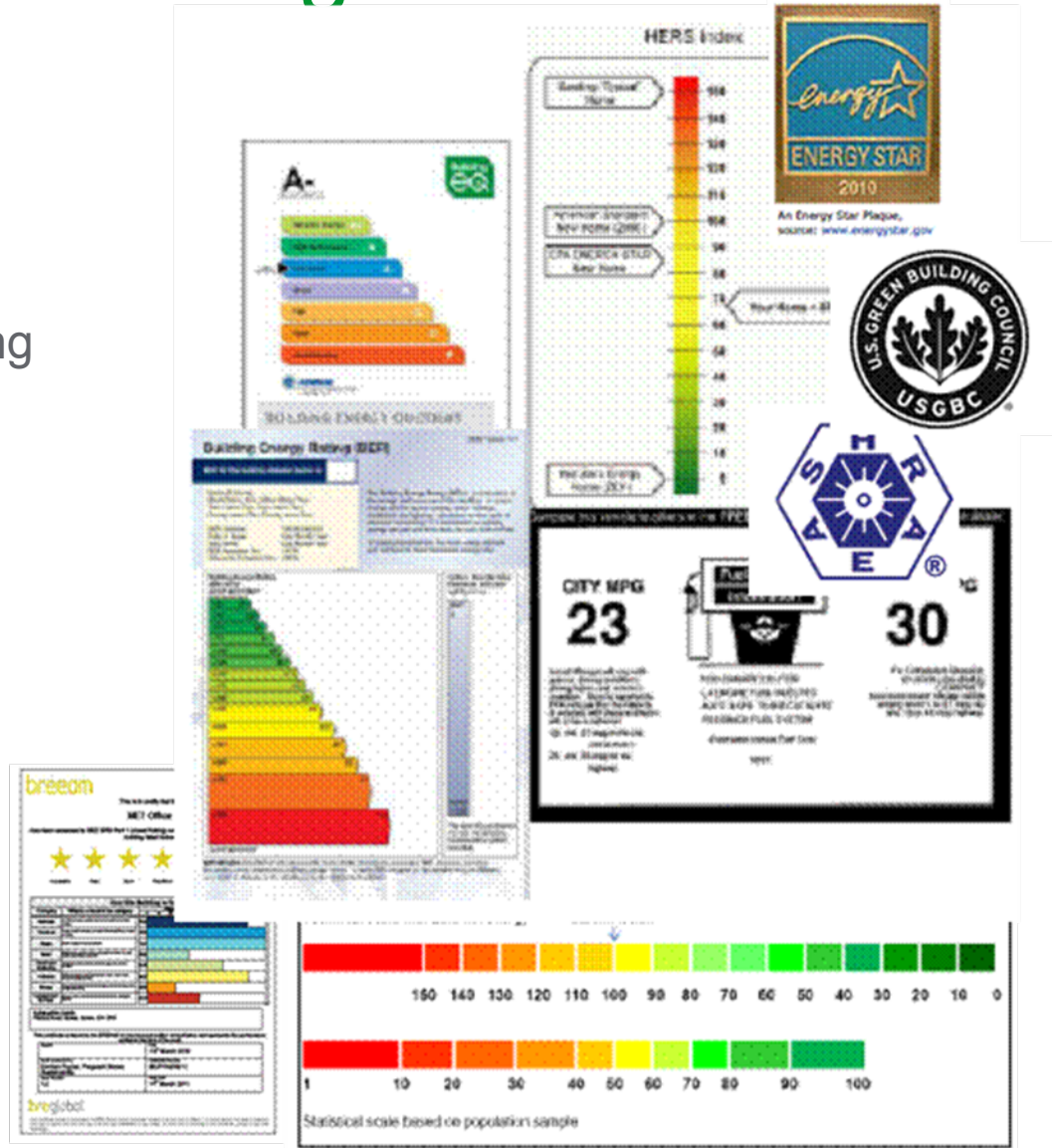
Data Center Efficiency Calculator

Impact of alternative power and cooling approaches on energy costs



Labeling is Still confusing

- Need to be clear on different labels and their proposes
 - operational versus asset rating
 - Technical versus statistical
- Need consistency between competing systems
 - Many competing labeling systems in market today
 - Many evolving



Our Perspective on Inhibitors

● Market Inhibitors

- Low awareness and inadequate skills
- Limited incentives for designers and builders
- Comparative usage understanding

● Technology Inhibitors

- Systems level solutions/integration
- Measurement & verification

● Financing Inhibitors

- Incentive misalignment
- Limited or inadequate financing

● Regulation

- Inconsistent implementation of compliance with codes & policies
- Inconsistent & immature policies
- Inconsistent utility engagement across states

What is needed?

- Policy intervention where market barriers or failures inhibit optimal investment in EE
 - Misplaced incentives such as the landlord tenant relation in buildings
 - Distorted regulations – utility engagement in distributed generation or demand response programs.
 - Unpriced costs & goods– environmental costs, education, training, research
- Assessment of the impact and effectiveness of current policies and regulations. – Many things work today but are underutilized
 - State code programs – only two states require most current codes
 - Utility programs - decoupling, EERS,
 - Equipment standards – energy star,
- Putting policy and regulation at the right place.
 - Federal, State, Local

Make the most of your energy

