



Developing An Energy Management Program to Achieve Climate Goals

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GHG Management Workshop

Energy Management & Climate Change



Strong energy management needed to achieve climate objectives:

- Service sector GHG emissions tied to building energy use
- Energy reduction requires a strong corporate energy program
 - not just technology/engineering solutions
- Management solution encompasses technical approach:
 - Manage change, set goals, make things happen, promote new ideas, motivate people.
- GHG reporting systems will need to draw from energy management tracking and monitoring data

The Management Gap



Q. Why do some organizations achieve greater results (energy performance) than others?

A. Correlation with strong energy management practices and performance.

Common Issues With Corporate Energy Management



Characteristics:

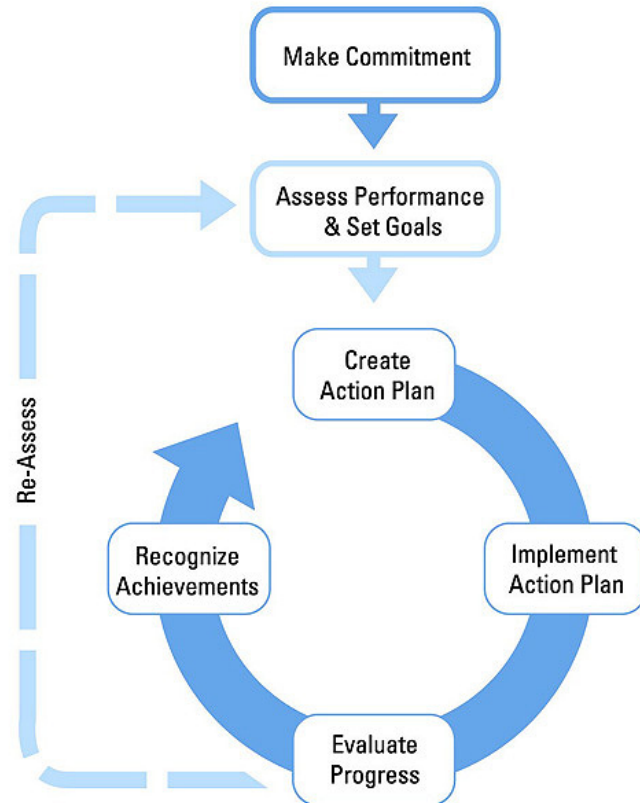
- Decentralized
 - Not a “stand alone function”
 - Technology oriented
 - Project not program oriented
 - Opportunities for savings undervalued
 - Considered capital intensive
 - Viewed as least controllable cost
- **Missed Opportunities**
 - Senior level buy-in
 - Link to bottom-line
 - Asset value
 - Shareholder value
 - NOI
 - Social responsibility
 - Resource allocation
 - Greater energy savings
 - Link to climate change and inventories

Guidelines For Energy Management



A practical approach based on the success of over 1,368 U.S. organizations

www.energystar.gov



Guidelines for Energy Management



What it does:

- Illustrates an organizational management framework for improving energy performance
- Identifies policies, procedures, and practices that facilitate continuous improvement


Where Do You Start?



Depends on where your program is at.

To find out:

Use assessment matrix to evaluate strengths, weakness, and identify areas for improvements

 ENERGY STAR® Guidelines for Energy Management Matrix			
	Little or no evidence	Some elements/degree	Fully implemented
Normalize	Not addressed	Some unit measures or weather adjustments	All meaningful adjustments for corporate analysis
Establish baselines	No baselines	Various facility-established	Standardized corporate base year and metric established
Benchmark	Not addressed or only same site historical comparisons	Some internal comparisons among company sites	Regular internal & external comparisons & analyses
Analyze	Not addressed	Some attempt to identify and correct spikes	Profiles identifying trends, peaks, valleys & causes
Technical assessments and audits	Not addressed	Internal facility reviews	Reviews by multi-functional team of professionals
Set Performance Goals			
Determine scope	No quantifiable goals	Short term facility goals or nominal corporate goals	Short & long term facility and corporate goals
Estimate potential for improvement	No process in place	Specific projects based on limited vendor projections	Facility & corporate defined based on experience
Establish goals	Not addressed	Loosely defined or sporadically applied	Specific & quantifiable at various organizational levels
Create Action Plan			
Define technical steps and targets	Not addressed	Facility-level consideration as opportunities occur	Detailed multi-level targets with timelines to close gaps
Determine roles and resources	Not addressed	Informal interested person competes for funding	Internal/external roles defined & funding identified
Implement Action Plan			
Create a communication plan	Not addressed	Tools targeted for some groups used occasionally	All stakeholders are addressed on regular basis
Raise awareness	No overt effort made	Periodic references to energy initiatives	All levels of organization support energy goals

Why Assess Performance



- ✓ Necessary for understanding organization-wide resource use
- ✓ Establishes a baseline from which to measure progress
- ✓ Enables benchmarking and goal setting
- ✓ Prioritize energy efficiency investments

Benchmarking Performance



- There are many ways to benchmark energy and water performance
 - Internal Benchmarks – e.g., month-month, year-year, energy/sq', energy/student, etc
 - External Benchmarks – EPA's Energy Performance Rating
 - Compares energy use to national stock
 - Normalizes for building and operational parameters and weather

Benefits of Assessing Energy Use



- Business:
 - Charge-backs
 - Cost recovery
 - Overhead analysis
 - Verify savings
- Engineering:
 - Target performance improvements and measure savings
 - Quick response-identify failure mode
 - Set contractual terms
- Management:
 - Upgrade opportunities across portfolio
 - Compare similar facilities
 - Focus accountability
 - Identify O&M opportunities
 - Recognition

“Can’t manage what is not measured”

Do You Know How Your Facilities Perform?

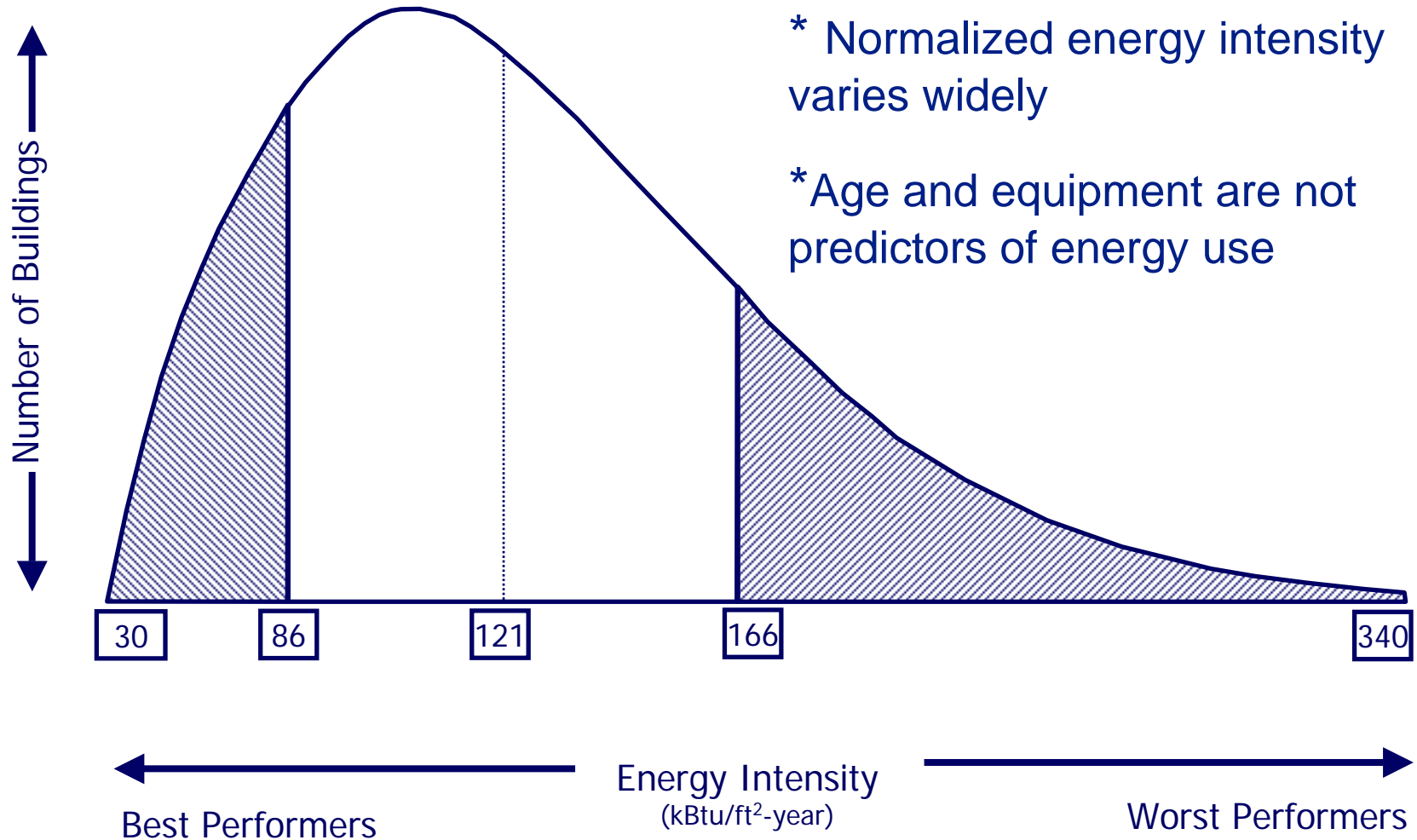


U.S. EPA introduced the *Energy Performance Rating System*

to provide

a standardized, comparable
metric of whole building *energy performance*

Huge Variation in Energy Performance



EPA Energy Performance Rating System



Normalizes building energy consumption

Weather, hours of operation, number of occupants, plug load
Whole building "mpg" rating

Benchmarks for comparison

Similar buildings in national stock
Building assigned 1-100 score

Recognizes top performing buildings

Top 25% qualify for ENERGY STAR

Recognizes portfolio improvement

Baseline improvements of 10, 20 and 30 points

Eligible Space Types



Offices



Hospitals



K-12 Schools



Supermarkets



Hotels



MOBs



Others include: Warehouse, Residence Halls, Courthouses, Financial Centers

U.S. Market Activity



Nationwide:

- 30,000 Buildings Benchmarked; 5 billion sq/ft
- Over 3,200 Buildings have earned the ENERGY STAR





- PRODUCTS
- HOME IMPROVEMENT
- NEW HOMES
- BUSINESS IMPROVEMENT
- PARTNER RESOURCES
- + WHAT IS ENERGY STAR?
- + NEWS ROOM

Home > [Business Improvement](#) > Assess Building Performance

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- Guidelines for Energy Management
- Tools & Resources
- + Portfolio Manager
- + Target Finder
- Find Labeled Buildings
- Find Expert Help:
- + Service & Product Provider Directory
- + Directory of Energy Efficiency Programs
- + Find a Professional Engineer
- Small Business
- Congregations
- Partner List
- Join Now

Portfolio Manager

Assess Building Performance

Manage your entire portfolio of buildings online and take control of your energy performance. Whether you own, manage, or hold properties for investment, Portfolio Manager can help you to make smart energy choices. Portfolio Manager's many functions include:

- + **Benchmarking:** Rate the performance of your buildings on a scale of 1-100 relative to similar buildings nationwide using EPA's national energy performance rating system. The rating system accounts for the impacts of year-to-year weather variations, as well as building size, location, and several operating characteristics. Buildings rating 75 or greater may qualify for the ENERGY STAR.
 - See [eligibility requirements](#) for use of the national energy performance rating system
 - See [How to Apply for the ENERGY STAR](#)
- Eligible space types, representing over 50% of US commercial floor space (with more to follow soon):
 - Offices (general offices, financial centers, bank branches, and courthouses)
 - K-12 Schools
 - Hospitals (acute care and children's)

ANNOUNCING

The New Portfolio Manager

- [Take Portfolio Manager Tour](#)
- [APPLY for the ENERGY STAR for Your Buildings](#)
- [Statement of Energy Performance](#)
- [Support Documents on Benchmarking](#)
 - + [Professional Engineer's Guide](#) (425KB)
 - + [Indoor Air for Schools](#)
- [Frequently Asked Questions](#)

Login to Portfolio Manager How

PORTFOLIO MANAGER

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Management Tools to Help

- **Establishing Organizational Commitment**
 - ✓ Partnership Letter
 - ✓ Communication resources
- **Measuring Energy Performance**
 - ✓ Objective, accessible, 3rd party rating system
- **Demonstrating Financial Value**
 - ✓ Earning/share, Asset value, NOI, cost of delay
 - ✓ Calculators to estimate
 - ✓ Analysis to confirm financial performance link
- **Recognition for Leadership**
 - ✓ ENERGY STAR Label
 - ✓ Awards
 - ✓ Portfolio improvements

Technical Tools to Help



- Building Upgrade Manual:
 - Building Tune-up Chapter
 - Load Reductions Chapter
- Operations and Maintenance Reports
- Case Studies/Registry of Energy Star qualified buildings
- Monthly networking meeting
 - Energy Star Partner exchange around best practices

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