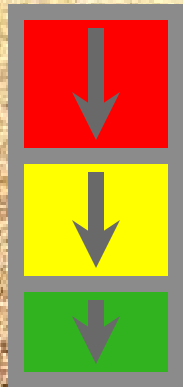




Clean Energy Strategies for Healthcare Facilities



Reduce.
Renew.
Offset.

Clark Reed, US EPA
CleanMed

May 19, 2009

ENERGY STAR is...



A voluntary partnership
with EPA

A strategic approach to
energy management

Recognized by 75% of U.S. Households

Widely Recognized



Many
Think
Of

Products



Buildings

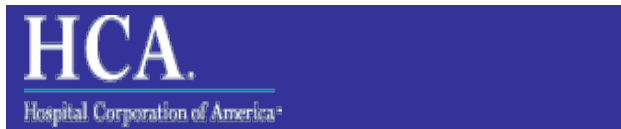


Homes



.... when **ENERGY STAR** comes to mind

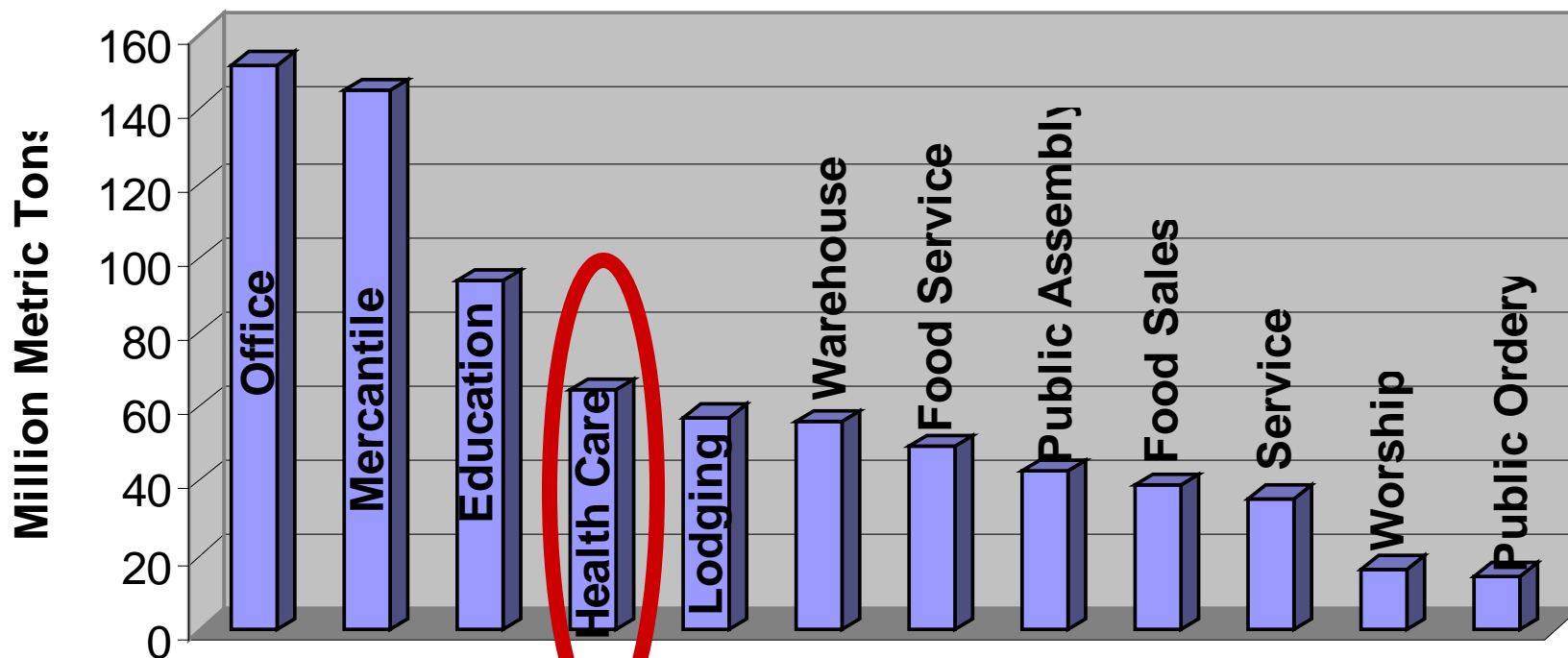
Energy Star Healthcare Partners



Distribution of U.S. Commercial Building Emissions



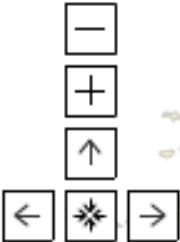
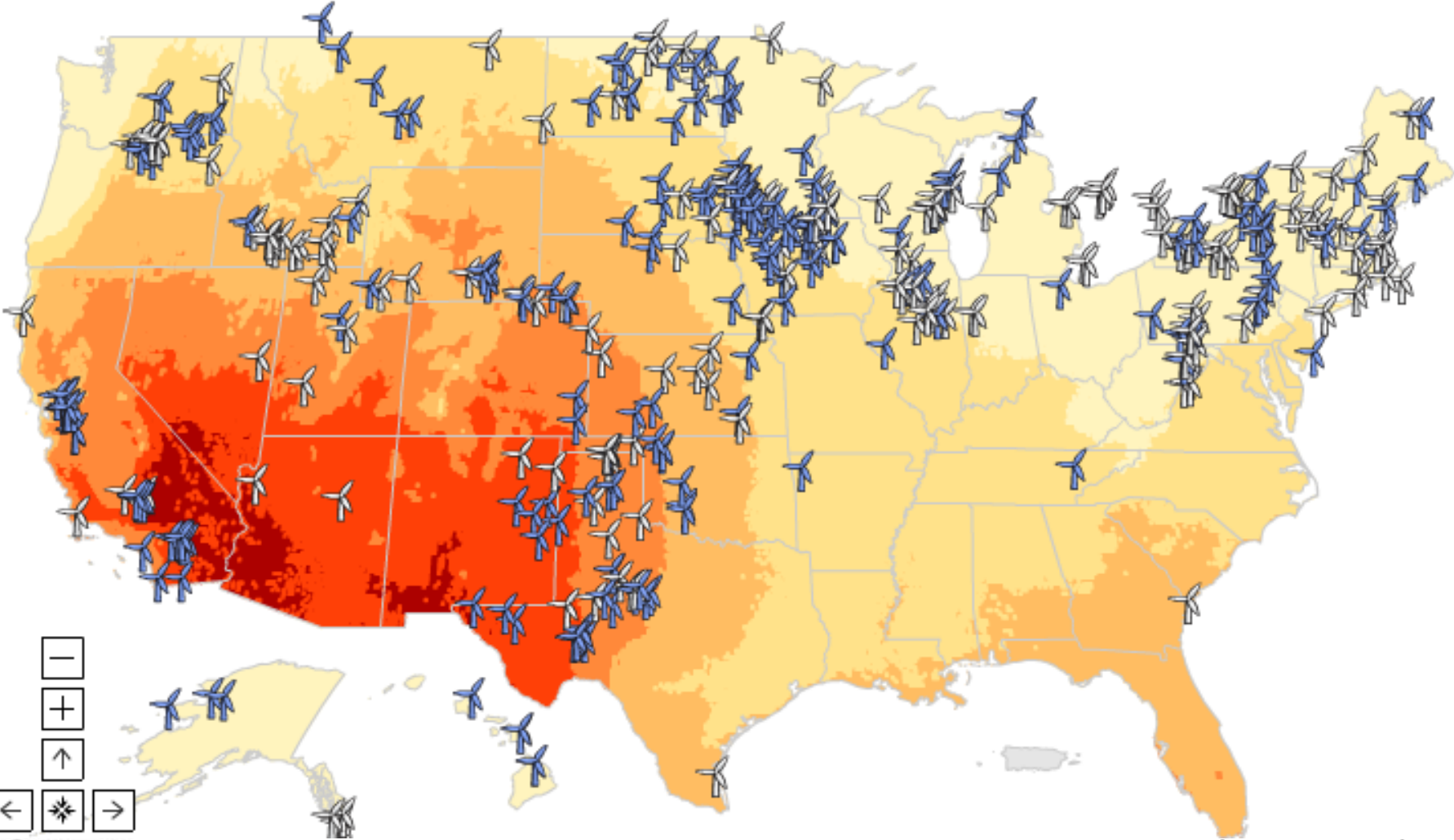
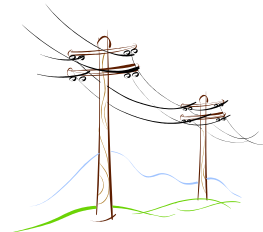
U.S. Carbon Emissions by Sector



21st Century Imperative: Carbon Neutral Buildings



Clean Power Grid Expanding



Source: NRDC

Cleanest Energy is Efficiency



The kilowatt
that is never
produced

- Buys us time
- Cheapest way to reduce carbon
- It's profitable now



Energy is not a Fixed Cost of Business

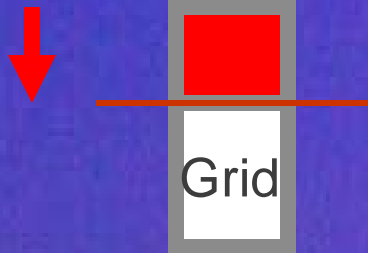


The most energy efficient businesses in America use about **30% less** energy than their competitors.

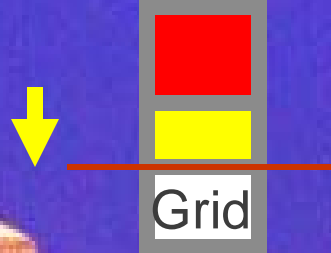
How to Make Your Buildings Carbon Neutral



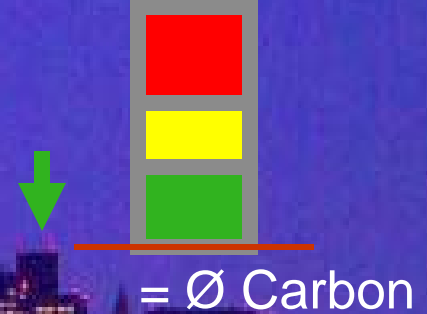
Reduce



Renew



Offset

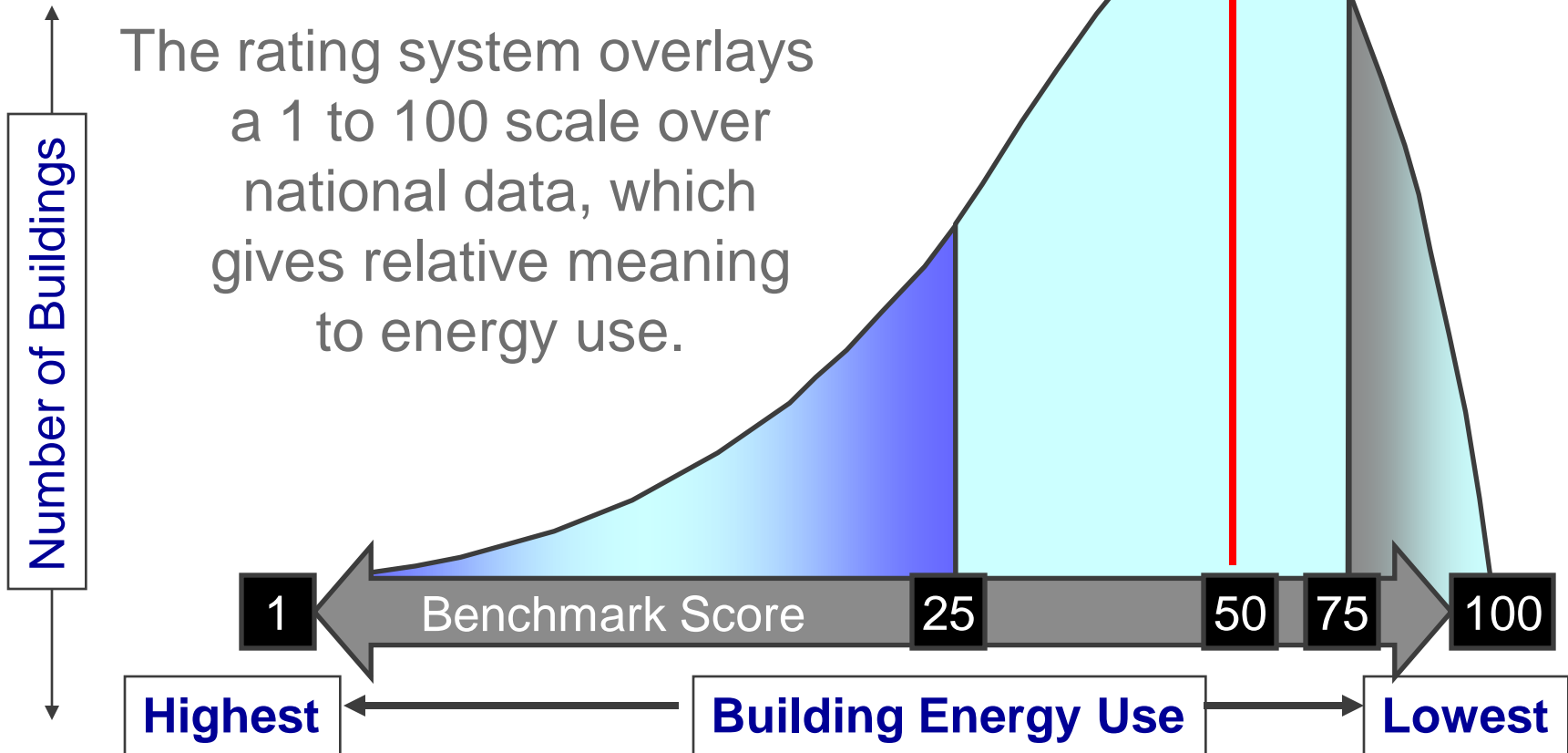


Reduce energy use by increasing energy efficiency

Renewable energy generated on-site

Offset the rest with renewable energy certificates

U.S. EPA Energy Performance Rating System



Set up your account at www.energystar.gov/benchmark

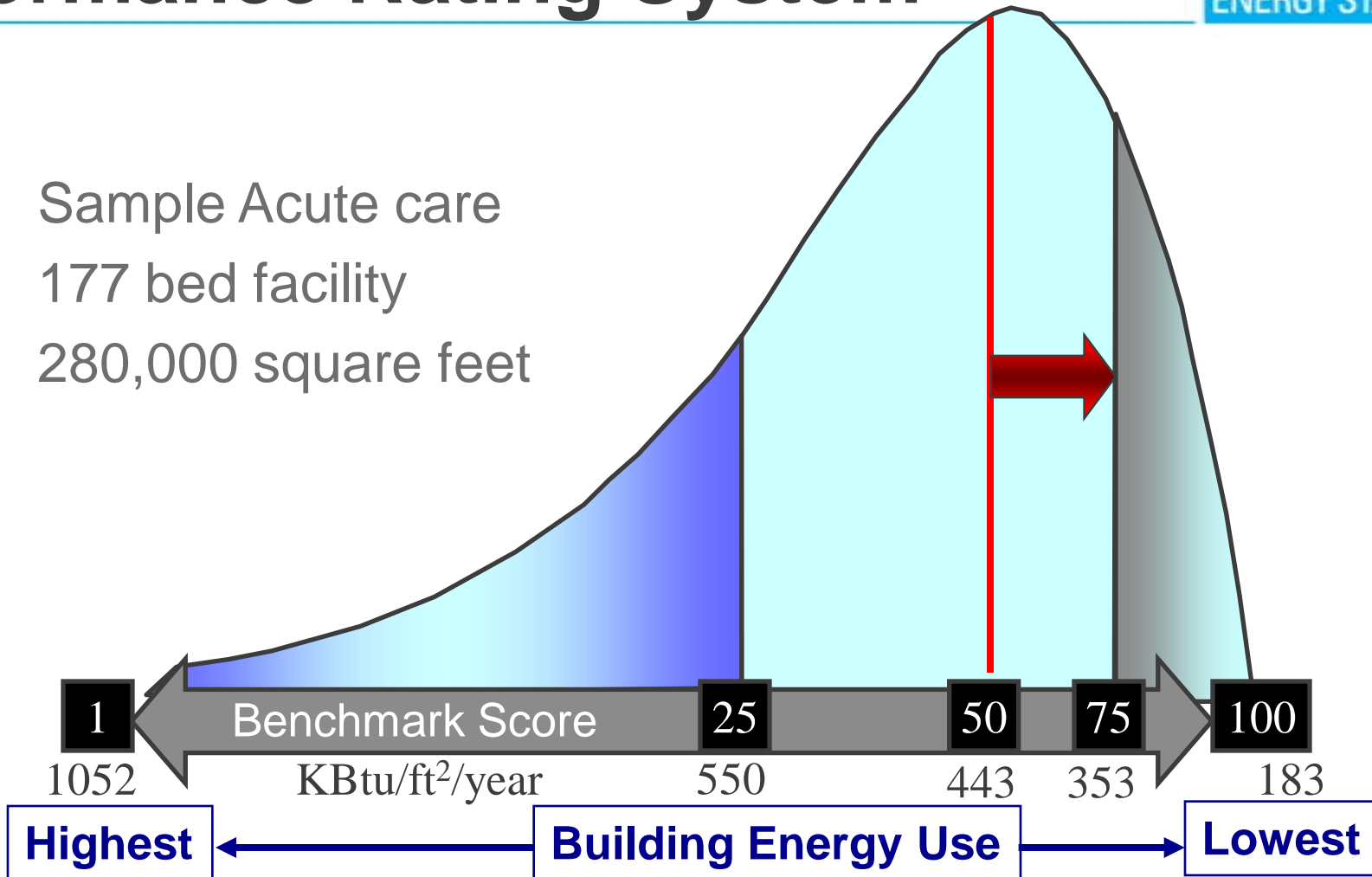


U.S. EPA Energy Performance Rating System



Number of Buildings

Sample Acute care
177 bed facility
280,000 square feet



Building Recognition



Top 25% of energy-efficient buildings nationwide.

Emit 35% less carbon dioxide and use 40% less energy than their peers, on average



Carbon Emissions Tracking



STATEMENT OF ENERGY PERFORMANCE Sample Facility

Building ID: 1013702

For 12-month Period Ending: October 31, 2003¹

Date SEP Generated:
January 09, 2004

Sample Facility
123 Notreal St.
Arlington 22201

Gross Building Area: 15,000 ft²
Year Built: 1980

Facility Space Use Summary

Space Type	Area(ft ²)	Occupants	Operating hours/week	Number of PCs
Office (General)	15,000	35	55	32

Site Energy Use Summary

Electricity (kBtu)	484,504
Natural Gas (kBtu)	0
Total Energy (kBtu)	484,504

Results

Energy Performance Rating² (1-100) **91**

Energy Intensity³

Site (kBtu/ft ² -yr)	32.4
Source (kBtu/ft ² -yr)	97.3

Emissions

CO ₂ (1000 lbs/yr)	1.01
SO ₂ (1000 lbs/yr)	
NO _x (1000 lbs/yr)	2

Energy Cost

Cost (\$/yr)	\$0
Intensity (\$/ft ² -yr)	\$0.00

Indoor Environment Criteria⁴

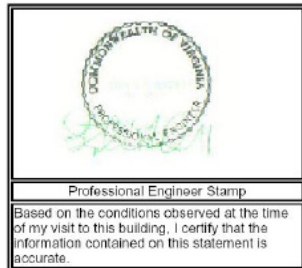
Indoor air pollutants controlled?	Yes
Adequate ventilation provided?	Yes
Thermal conditions met?	Yes
Adequate illumination provided?	Yes

Owner
Sample Owner
Contact: Jane Doe
123 Sample St.
Sampleville VA 22201
888-888-8888

Professional Verification

John Doe
111 Fake St.
Faketown VA 22201
888-888-8888

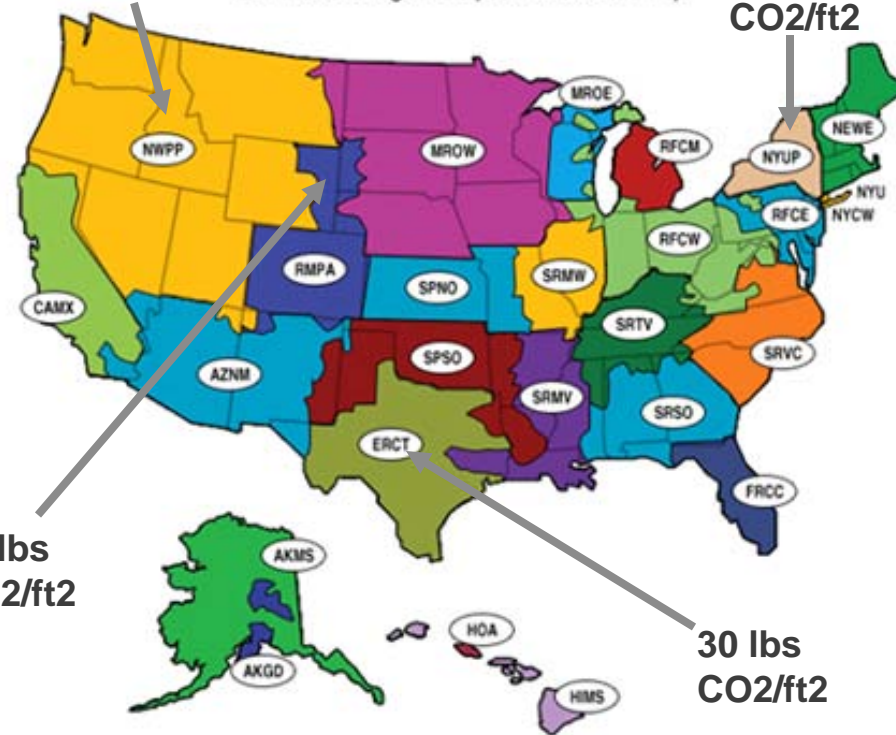
Licensed Number: Test-Lic
State: VA



20 lbs
CO₂/ft²

eGRID Subregion Representational Map

19 lbs
CO₂/ft²



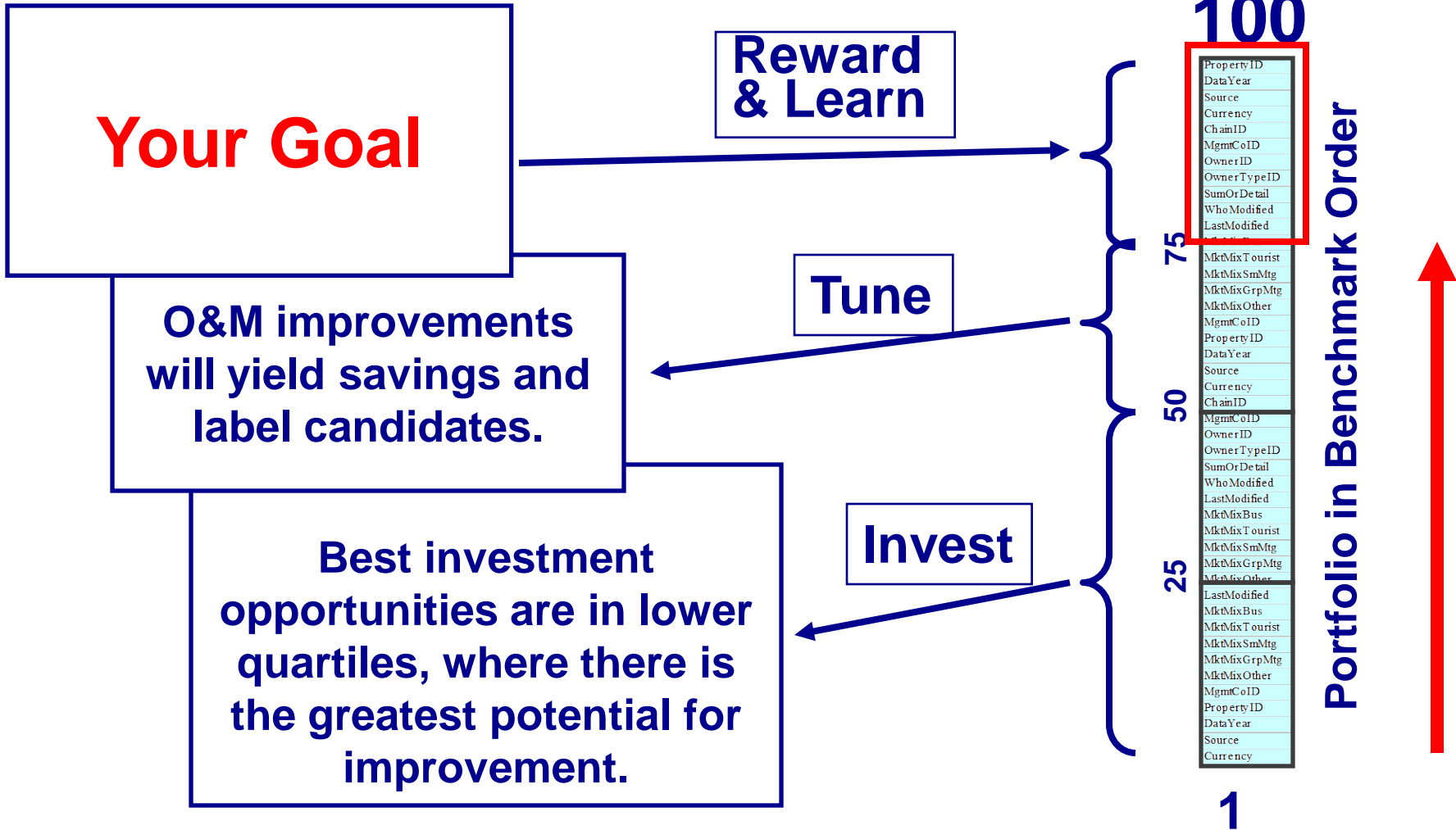
41 lbs
CO₂/ft²

30 lbs
CO₂/ft²

Emissions factors consistent with major GHG Reporting Protocols (e.g. WRI/World Business Council Protocol)



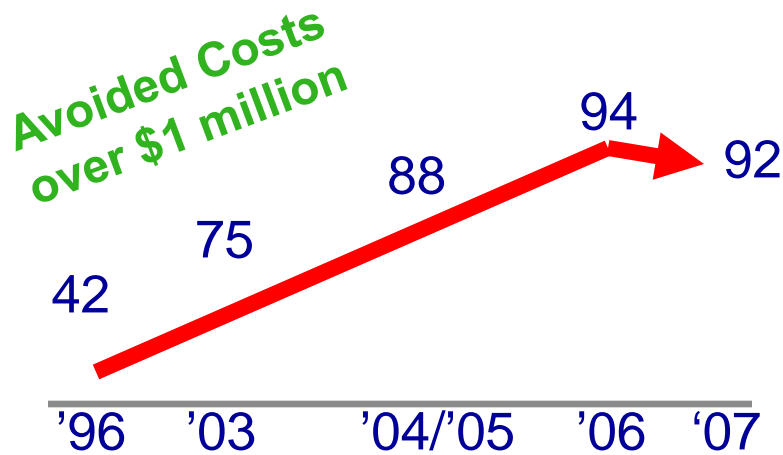
Earn the Energy Star for every facility you own



Low Carbon Hospital Case Study #1



- Cut electricity use 18%
- Reduced chilled water consumption 30%
- Reduced steam demand 37%



Shriners Hospital for Children in Houston, Texas



- First healthcare facility to achieve “Designed to Earn the ENERGY STAR”
- Uses geothermal heating
- Expected to perform in the top 20%



How Does Your Design Compare?



EPA's Target Finder

Your Design



Existing Buildings





On-site Renewable Energy

1 - 3%
Sun



Modesto Medical Center, CA



Boulder Community Hospital, CO

70%
Wind



Antrim Area Hospital in Northern Ireland.

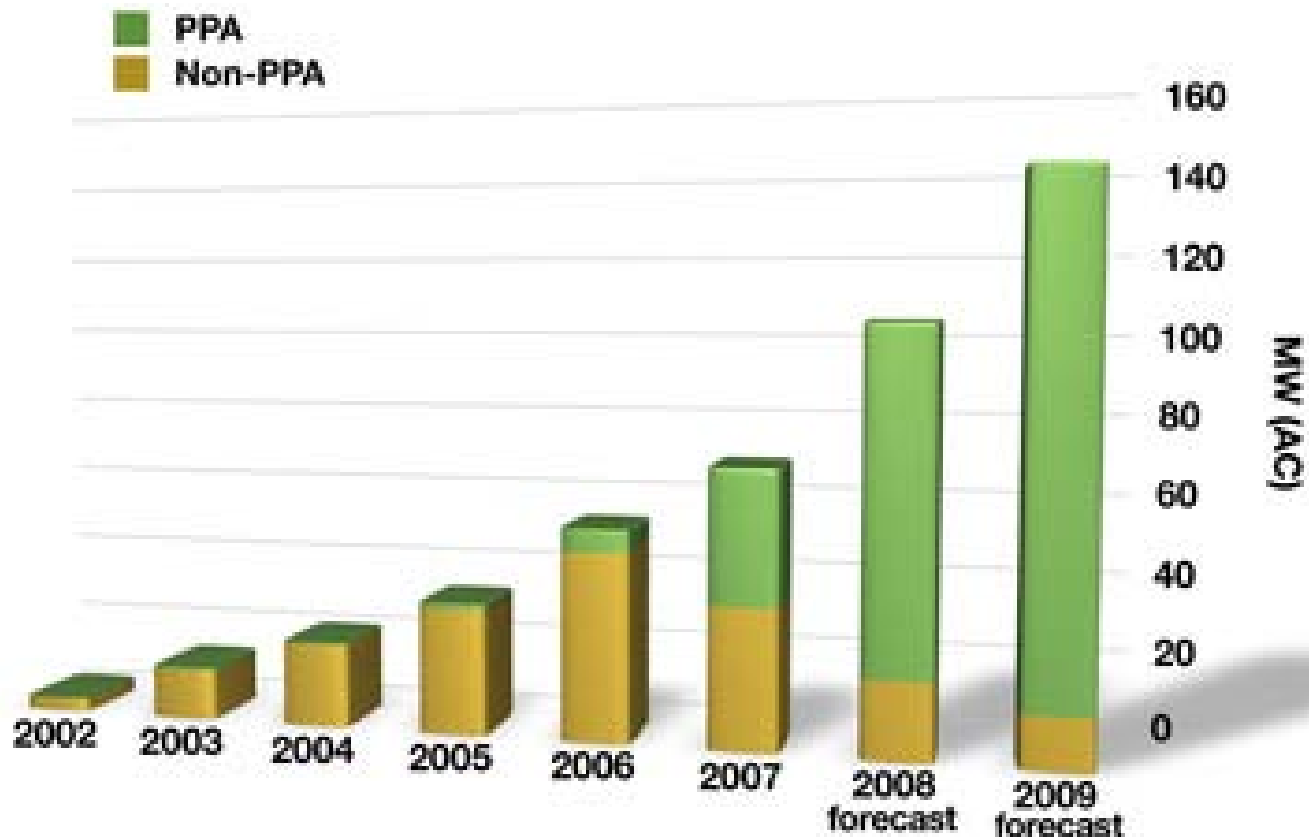


Renew

Financing Solar



US Non-Residential PV Installations



Sutter Health's Solar PPA



Sutter Auburn Faith Hospital, CA

- * 736-kilowatt solar electric system will meet **50%** of the hospital's power needs.
- * Elevated installation in the employee parking lot and a ground-mounted tracking system on adjacent property.
- * Long-term hedge against future electricity price volatility.
- * Tioga Energy will finance, own, operate, and maintain the system.

Purchase Renewable Energy Certificates



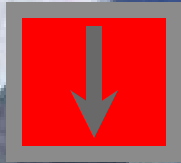
Off-site Green Power Purchase

- Offset the remaining fossil fuel use of your facility with certified “RECs” or “green tags”
- Long-term purchase can be a hedge against electricity rate increases
- Ask your utility to sell you a green power option
- Buy “Green-e” certified RECs





Clean Energy Strategy for Healthcare Buildings



Reduce.



Renew.



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Clark Reed

reed.clark@epa.gov

Director of Healthcare Facilities Division

ENERGY STAR, U.S. EPA



www.energystar.gov/healthcare