



EPA Portfolio Manager as a Viable Management Tool
for American Reinvestment and Recovery Act
(ARRA) – Energy Efficiency & Conservation Block
Grants

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(Please see handouts)

Mark H. Clevey...



- Trainer, EPA *Portfolio Manager* Program
- Community Energy Management (CEM)
 - Community Energy Manager, City of Kalamazoo
 - CEM Consultant, City of Ann Arbor
 - Managed Renewable Energy Demonstration Program, County of Muskegon
- Past Director, State of Michigan, ENERGY STAR Promotion Program
- Specialist in Alternative Energy, Energy Efficiency & Green Entrepreneurship
 - Consultant and College Instructor in Alternative Energy & Green Entrepreneurship.
 - Industry Association experience in Alternative Energy and Energy Efficiency.
 - Grant Manager on Renewable/Energy Efficiency grants from DOL, EPA, DOEn, State of Michigan (MPSC, Energy Office, DNR).
 - SBIR Grant Reviewer for U.S. DOE and EPA.

Portfolio Manager



- Basic Premise – *You can't manage what you can't measure.*
- “State and local officials can leverage EPA’s no-cost ENERGY STAR Portfolio Manager tool to assess the energy use of buildings to **identify their best opportunities for improvement, track immediate and cost effective reductions over time and document savings results.**”

Communities can specify Portfolio Manager in their EECBG Plan as the management tool for:



Getting baseline energy use and GHG emissions inventory, and forecasting future energy use

Setting goals/objectives & action plans/strategies and expected outcomes and benefits

- **Energy saved**
 - **Renewable energy capacity**
 - **GHG emissions reduced**
-
- Evaluation, monitoring and verification planning
 - Use as a framework for **Aggregated Purchasing** of Energy Efficient products.
 - Lay **foundation** for
 - **LEED EB** (Existing Buildings)
 - **Alternative Energy** Use (Wind, Solar, BioFuels, etc.)

Using Portfolio Manager



Implementation Choices:

- Train in-house/community staff to use Portfolio Manager as an EECBG tool...
- Contract with a Portfolio Manager Trainer/Consultant...
- Combination of above...

Using Portfolio Manager



In the main, communities have two choices for how to use the PM program:

- *Individual Use* - Encourage individual building owners to work *independently* with PM
- *Sector Strategy* - Organize *sector-wide* PM programs so that data can be tracked and verified on a comprehensive, aggregate basis for individual *sectors*.

Portfolio Manager Sector Strategy



Example of a Sector Strategy...

- Government Buildings, Schools, Hospitals.
- Industrial/Commercial
- Residential
- *Faith Based...*



Putting Energy into Stewardship Congregations Guide

Guide for Congregations

This Guide is designed to educate and assist the faith community in taking advantage of the benefits of energy efficiency. Your house of worship typically needs lighting, heating, air conditioning, power for office equipment, and other services to serve your mission and members' needs. This Guide can help you identify building equipment and systems that can be upgraded and maintained to save you money, as you prevent pollution.

We call this energy optimization; you will just call it smarter stewardship.



Get Started



Sure Energy Savers



Larger Opportunities



Sanctuary/Worship Space




Calculate Savings




Green Your Congregation



Download the Guide

[Putting Energy Into Stewardship, The ENERGY STAR Guide for Congregations](#)  (1.3MB)

▪ [Get Started](#)  (300KB)

Steps...



Step 1: Join ENERGY STAR

Individual users can join a ENERGY STAR sector program that provides information and resources tailored to their needs.

www.energystar.gov

Steps...



Step 2: Measure Your Energy Use

Set up an Account in Portfolio Manager, enter monthly energy use and to track energy use over time.

www.energystar.gov/benchmark

Gaining Access to Required Data



Required data varies with building type, core data for competent building management

- Building square footage
- One year (minimum) monthly energy consumption from each source (e.g. electricity and natural gas)
- Zip code
- Occupancy rates
- Occupancy hours
- Computers or other key equipment (only for rateable spaces)

What Does My Bill Tell Me?



JUN 04, 2003

Customer Bill

JOHN Q. CUSTOMER

1234 ANY ST
ANY CITY, VA 12345



Billing and Payment Summary

Account # 0123456789 Due Date: Jun 27, 2003

Total Amount Due: \$ 68.91

To avoid a Late Payment Charge of 1.5% please pay by **Jun 27, 2003**

Previous Amount Due: \$ 51.79
Payments as of Dec 03: \$ 51.79CR

For Dominion Virginia Power service emergencies and power outages, please call 1-888-667-3000. Visit us at www.dom.com.

Meter and Usage

Current Billing Days: 30

Billable Usage

Schedule 1 05/05-06/04
Total kWh 742

Usage History

Mo	Yr	kWh
Jun	02	647
Jul	02	745
Aug	02	444
Sep	02	501
Oct	02	593
Nov	02	538

Explanation of Bill Detail

Dominion Virginia Power 1-888-667-3000

Previous Balance 51.79
Payment Received 51.79CR
Balance Forward 0.00

Residential Service (Schedule 1) 5/05-06/04
Distribution Service 23.57
Electricity Supply Svc 42.19

State/Local Consumption Tax 1.15
County Utility Tax 2.00
Total Current Charges 68.91

Total Account Balance 68.91

Visit our website or call our office for rate schedule prices.

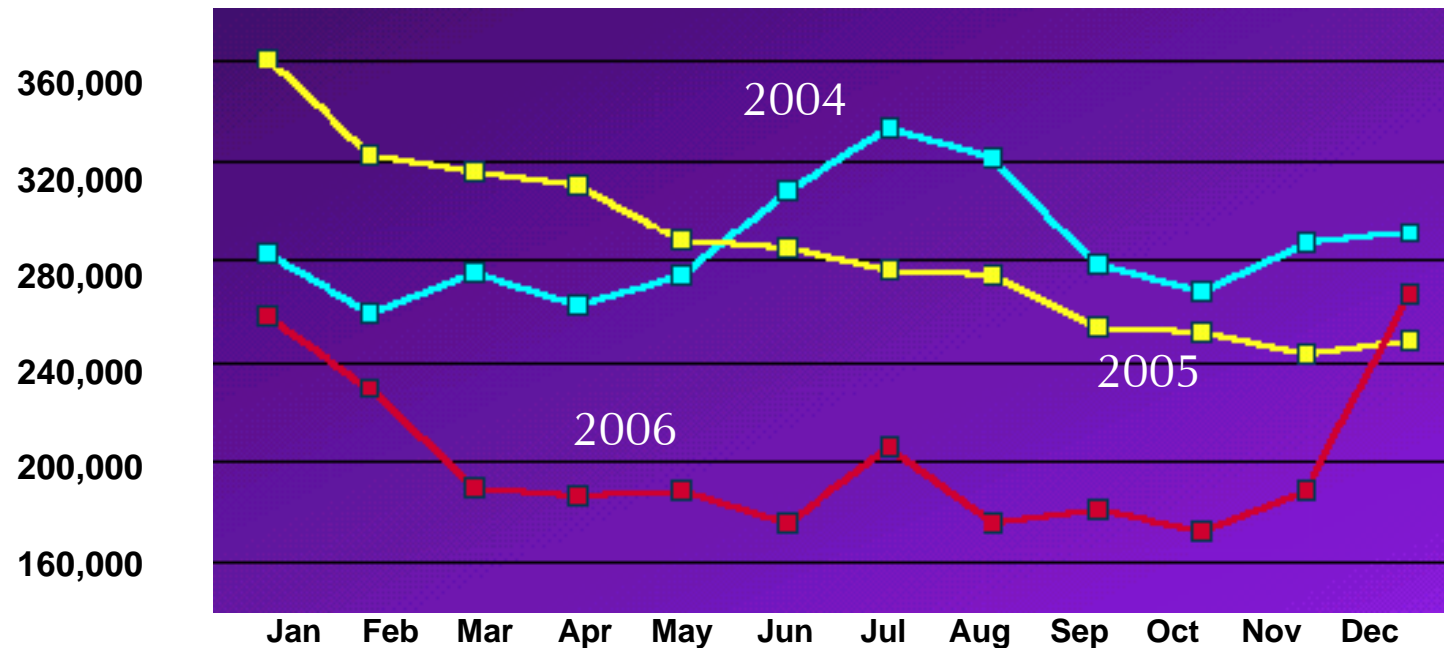
Price To Compare ¢/kWh

Jun-Sep 4.71 ¢
Oct-May 3.55 ¢
Annual Average 4.01 ¢

Trends in Energy Use



Trends Can Identify Areas Of High Energy Use Requiring Investigation



Perceived Barrier: Benchmarking is Time Consuming



Estimated time = 1 – 2 ½ hours

Phase I. Initial Benchmarking

- Data collection—up to 1-2 hours
- Data input—15-30 minutes

Phase II. Monthly updates

- 5 to 15 minutes

Setting Up an Account in Portfolio Manager



The screenshot displays the ENERGY STAR website interface. At the top, there is a navigation bar with links for 'About ENERGY STAR', 'News Room', and 'FAQs', along with a search box. The main header features the ENERGY STAR logo and a banner for 'SUPERIOR ENERGY MANAGEMENT CREATES ENVIRONMENTAL LEADERS'. Below the banner are navigation tabs for 'PRODUCTS', 'HOME IMPROVEMENT', 'NEW HOMES', 'BUILDINGS & PLANTS', and 'PARTNER RESOURCES'. The 'BUILDINGS & PLANTS' tab is selected, leading to the 'Portfolio Manager Overview' page. The page content includes a breadcrumb trail, a title 'Portfolio Manager Overview', a sub-header 'Assess and Track Building Performance', and a descriptive paragraph. A 'Portfolio Manager Login' form is visible on the right, with fields for 'Username' and 'Password', and buttons for 'Forgot your username?', 'Forgot Your Password?', 'New User? Register', and 'Login'. A 'Selected Resources' section at the bottom right lists 'Learn How The Rating System Works'. A left sidebar contains various links such as 'Buildings & Plants', 'Guidelines for Energy Management', 'Tools & Resources Library', 'Expert Help', 'New Building Design', 'Green Buildings', and 'Getting Started for...' with sub-links for 'Commercial Real Estate', 'Corporate Real Estate', 'Government', and 'Healthcare'.

[About ENERGY STAR](#) | [News Room](#) | [FAQs](#) Search

ENERGY STAR

[PRODUCTS](#) | [HOME IMPROVEMENT](#) | [NEW HOMES](#) | [BUILDINGS & PLANTS](#) | [PARTNER RESOURCES](#)

[Home](#) > [Buildings & Plants](#) > Portfolio Manager Overview

Portfolio Manager Overview

Assess and Track Building Performance

Take control of your energy and water consumption by managing your entire portfolio of buildings in a secure online environment. Whether you own, manage, or hold properties for investment, Portfolio Manager can help you make smart choices.

Portfolio Manager Login

Username:

[Forgot your username?](#)

Password:

[Forgot Your Password?](#)

[New User? Register](#)

Selected Resources

- Learn How The Rating System Works

Buildings & Plants

[Guidelines for Energy Management](#)

[Tools & Resources Library](#)

[Expert Help](#)

[New Building Design](#)

[Green Buildings](#)

Getting Started for...

- [Commercial Real Estate](#)
- [Corporate Real Estate](#)
- [Government](#)
- [Healthcare](#)

Manage Energy and Water Consumption for All Buildings.



Efficient management of resources requires effective data management. Portfolio Manager helps you streamline your portfolio's energy and water data, and track key consumption, performance, and cost information portfolio-wide. For example, you can:

- Track multiple energy and water meters for each facility
- Customize meter names and key information
- Benchmark your facilities relative to their past performance
- View percent improvement in weather-normalized source energy

Setting up a New Account: New User Registration



Write down your Username/ Password for future reference. You should receive an email confirming your information and registration.

**PORTFOLIO MANAGER**
EPA's system for helping you track and improve energy efficiency across your entire portfolio of buildings.

Account Information

Please complete the following information to set up your account in Portfolio Manager.

REQUIRED

*Username:

Your password must be between 8 and 32 characters in length (letters and numbers only; no special characters).

*Enter Password:

*Re-Enter Password:

*First Name:

*Last Name:

*E-mail:

Title:

Organization:

Address:

City:

State:

ZIP Code:

Navigating Portfolio Manager: “My Portfolio”



The “My Portfolio” page summarizes the performance of your entire portfolio of buildings.

PORTFOLIO MANAGER
 EPA's system for helping you track and improve energy efficiency across your entire portfolio of buildings.

ACCOUNT INFORMATION CONTACTS CONTACT US HELP LOGOUT

[Home](#) > [My Portfolio](#)

Welcome: Steve Bell

Summarized below are the facilities in your account assigned to the **NADA Group** group. Groups and Views are provided below to help you customize the way in which you view your Portfolio. To improve system performance, users are strongly encouraged to create multiple Groups to help manage large Portfolios of facilities. **Select a facility to view or edit more detailed information about it.**

To view a column's definition, select the icon next to the column header.

Group Average Rating

Baseline Rating: N/A Facilities Included: 0	Current Rating: N/A Facilities Included: 0
---	--

Group Adjusted Percent Energy Reduction

10.6%
Facilities Included: 1

Averages are weighted by Total Floor Space.
[More about Baselines](#)
[More about Adjusted Percent Energy Reduction](#)

[Add Facility](#) | [ENERGY STAR Leaders](#) | [Share Facilities](#) | [Update Multiple Meters](#) | [Request Energy Performance Report](#)

[Download this View in Excel](#)

GROUP: **NADA Group** [Create Group](#) | [Edit Group](#) | [View All](#) VIEW: **alternate view** [Create View](#) | [Edit View](#) | [View All](#)

Result 1 of 1 Search Facility Name:

All # A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Facility Name	Current Energy Period Ending Date	Baseline Site Electric Use (kWh (thousand Watt-hours))	Baseline Source Energy Intensity (kBtu/Sq. Ft.)	Adjusted Energy Reduction (kBtu (thousand Btu))	Annual Energy Cost (US Dollars (\$))	Adjusted Energy Reduction per Sq. Ft. (kBtu/Sq. Ft.)	Adjusted Percent Energy Reduction
TC Home	04/30/2007			456,511.11	\$32,372.95	5.1	10 F Lock: OFF

Adding a Building



NOTE: In order to help you get familiar with the Portfolio Manager tool, you can create a sample facility. Once you are familiar with the tool, this sample facility may be deleted.

PORTFOLIO MANAGER

ACCOUNT INFORMATION CONTACTS CONTACT US HELP LOGOUT

Home > My Portfolio

Welcome: State of Clean Energy

Summarized below are the facilities in your account. Groups and Views are provided below to help you customize the way in which you view your Portfolio. To improve system performance, users are strongly encouraged to create multiple Groups to help manage large Portfolios of facilities. **Select a facility to view or edit more detailed information about it.**

Portfolio Average Rating	
Baseline Rating: 70 Facilities Included: 0	Current Rating: 60 Facilities Included: 0

Portfolio Percent Energy Reduction
3% Facilities Included: 0

Averages are weighted by Total Floor Space.
[More about Baselines](#)
[More about Percent Energy Reduction](#)

[Add Facility](#) | [ENERGY STAR Leaders](#) | [Share Facilities](#) | [Update Multiple Meters](#) | [Request Energy Performance Report](#)

Download this View in Excel

GROUP: All Facilities [Create Group](#) | [View All](#) VIEW: Summary: Facilities [Create View](#) | [Edit View](#) | [View All](#)

PORTFOLIO MANAGER

ACCOUNT INFORMATION CONTACTS CONTACT US HELP LOGOUT

Home > My Portfolio > **Sample Facility**

Facility Summary: **Sample Facility**
[How do I use this page?](#)

Building ID: 1131231
 Level of Access: Building Data Administrator

[Generate Summary Report](#)

General Information	
Address: Arlington, VA 22201	
Year Built:	
Baseline Rating: N/A	Current Rating: 81

Facility Performance [Set Baseline Period](#) | [Set Energy Performance Target](#)

Select View: Facility Performance [Create View](#) | [Edit View](#)

12 Months Ending	Actual Annual Site Energy Intensity (kBtu/Sq. Ft.)	Annual Energy Cost (US Dollars (\$))	Rating (1-100)	Target Rating	Annual Site Energy Intensity (for Avg. Rating of 50) (kBtu/Sq. Ft.)
December 2005	40.9	\$2,400.00	81	N/A	57.7

Add Building Characteristics



Space Use Add Space				
Space Name	Space Type	Floor Area (Sq. Ft.)	% Floor Area	Alert
Sample Space Name	Office (General)	15,000	100	
Total		15,000	100 %	

Due to rounding, the % F ***Please select the Other space type category that best describes your facility.**

Energy Meters Add	
Meter Name	Element
Sample Meter	Ele We

***Space Name:**

Current Space Attribute Values				
Space Attribute	Space Attribute Value (Temporary values should only be used if an Actual value is not currently known) <small>What is this?</small>	Use Default Value	Units	Effective Date (when this Attribute Value was first true) <small>What is this?</small> (MM/DD/YYYY)
Gross Floor Area (required for benchmarking)	89000.00	N/A	Sq. Ft.	01/01/1971
Operating Hours/Week (required for benchmarking)	78.00		Hours	01/01/1971
Number of PCs				01/01/1971
Occupants				01/01/1971

Add Energy Use-Type



PORTFOLIO MANAGER



ACCOUNT INFORMATION



CONTACTS



CONTACT US



HELP



LOGOUT

[Home](#) > [My Portfolio](#) > [Sample Facility](#) > **Add Meter**

Add Meter

To add a meter, enter the name and select the appropriate characteristics for the meter.

If you are entering temporary values for energy data, please indicate so by selecting "Yes" and entering the date range the values will be considered as temporary.

REQUIRED

Add Energy Meter

*Enter the Meter Name:

*Apply this meter to the following (check all that apply):

- Entire facility
- Sample Space Name

Select the Meter Type:

*Energy Type:

*Units:

Add this Meter to Total Facility Energy Use?

- Yes, calculate this facility's total energy use by including this meter
- No, adding this meter to this facility's total energy use will inflate the actual value



Add Billing Information



PORTFOLIO MANAGER



ACCOUNT INFORMATION



CONTACTS



CONTACT US



HELP



LOG OUT

[Home](#) > [My Portfolio](#) > [TC Home](#) > [Edit Energy Use](#)

Edit Energy Use: tc meter x

Please enter the energy use for each meter entry below. Portfolio Manager requires that entries are for consecutive time periods; only one day of overlap or one day of gap can exist between meter entries to be eligible to generate an Energy Performance Rating.

If you are accounting for "sold" energy, indicate this by entering a negative energy use for the appropriate time period.

Meter Information [Edit](#)

Fuel Type: Electricity (kWh (thousand Watt-hours))

Space(s): Entire Facility

[Download Meter Data in Excel](#)

Edit Energy Use:

[Add Meter Entries](#)

Remove Entry	Start Date (MM/DD/YYYY)	End Date (MM/DD/YYYY)	Energy Use (kWh (thousand Watt-hours))	Cost - US Dollars (optional)	Last Updated By
<input checked="" type="checkbox"/>	04/01/2007	04/30/2007	20000.00	\$ 2,000.00	ESGMASTERACC
<input type="checkbox"/>	03/01/2007	03/31/2007	20000.00	\$ 2,000.00	ESGMASTERACC
<input type="checkbox"/>	02/01/2007	02/28/2007	20000.00	\$ 2,000.00	ESGMASTERACC
<input type="checkbox"/>	01/01/2007	01/31/2007	20000.00	\$ 2,000.00	ESGMASTERACC
<input type="checkbox"/>	12/01/2006	12/31/2006	20000.00	\$ 2,000.00	ESGMASTERACC

Steps...



Step 3: Identify, Prioritize, Purchase and Install ENERGY STAR Rated & Renewable Energy Products

Many technical resources are available from ENERGY STAR.

www.energystar.gov

Step 3: Identify, Prioritize, Purchase and Install, Monitor & Verify



Based on “*payback*” (how long it takes for the energy savings to pay for the initial purchase)...

- Identify, prioritize, purchase and install energy efficient emissions reducing products...
 - ... Appliances, Machines, HVAC, Lighting, Office Equipment, Restaurant Equipment, Buildings, Weather-stripping/Insulation, Water Heating

AFTER ENERGY EFFICIENCY ONLY - Utilize COST EFFECTIVE renewable energy...

- Install Renewable Energy Products on an individualized basis.
- Purchase Green Energy from 3rd. Party
- Community Installs Centralized Renewable Energy

Steps...



Step 4: Verify and Track Energy & Emission Reductions

Tracking Campaigns



- **Allow organizations to identify individual participants, consolidate participants and aggregate energy and carbon savings for all participants.**
- **Process:**
 - Organization creates a Master Account
 - Individual users can share facilities with Master Account if they choose
 - Master Account holder can view progress for all facilities that have been shared

Tracking Campaigns



PORTFOLIO MANAGER



[Home](#) > [My Portfolio](#) > **Share Facilities (Step 1)**

Select User or Master Account

Users with whom you share facilities will now be able to see your name and e-mail address on their Facility Summary page for that shared facility. In addition, users will also have the option to select your name and email address to appear in their custom views. Select Cancel if you do not wish to share any facilities.

Portfolio Manager provides the ability to share multiple facilities from your account with other users of the system in a single transaction. Users with whom access is being shared or removed MUST have a Portfolio Manager user account. To share facilities, select a Portfolio Manger user in Step 1.

If you are only removing access to facilities in your account, select "Remove this User's Access" in Step 1 after selecting a user from the Current Access List or enter a username in the textbox. You will then be able to select all of the facilities from which you want to remove this user's access.

STEP 1: Select the account to which you want to grant access, modify existing access or remove access rights.

Portfolio Manager User:

User from my current access list:

- OR -

Enter Portfolio Manager Username:

- OR -

Select a Portfolio Manager Master Account: [Learn more](#) about Master Accounts

Percent Energy Reduction



- Objective: Provide a metric to show a percent change in energy use over time
 - Creates tracking capability for non-ratable spaces
- Process:
 - No additional information required from user
 - The tool compares energy use between two periods adjusting for weather only

Facility Performance Set Baseline Period Set Energy Performance Target							
Select View: <input type="text" value="alternate view"/> Create View Edit View							
12 Months Ending	Current Energy Period Ending Date	Baseline Site Electric Use (kWh (thousand Watt-hours))	Baseline Source Energy Intensity (kBtu/Sq. Ft.)	Adjusted Energy Reduction (kBtu (thousand Btu))	Annual Energy Cost (US Dollars (\$))	Adjusted Energy Reduction per Sq. Ft. (kBtu/Sq. Ft.)	Adjusted Percent Energy Reduction
April 2007 (Current)	04/30/2007	727,525.3	84.0	456,511.11	\$32,372.95	5.1	10.6%
April 2006	04/30/2007	727,525.3	84.0	No Savings	\$27,379.58	No Savings	N/A
Change		0.0	0.0		(\$4,993.37)		

F Lock: OFF

Statement of Energy Performance



Statement of Energy Performance FACILITY SUMMARY REPORT TC Home

For 12-month Period Ending: April 30, 2007
Date Generated: May 31, 2007

This document was generated using EPA's Portfolio Manager system. All information shown is based on data provided by the Portfolio Manager account holder. Depending on the use of the SEP Facility Summary, building owners or managers may want to have a professional engineer (PE) verify that the underlying data is accurate. Blank space has been left intentionally on the SEP Facility Summary for a PE stamp.

100 Golf way
Pebble Beach, CA 93953

Year Built: 1971
Gross Floor Area: (ft²) 89,000

Facility Space Use Summary

Other

Space Name	Gross Floor Area (ft ²)	Operating Hours/Week
Showroom and Office	89,000	78

Statement of Energy Performance



Energy Performance Comparison

Results	Current	Baseline	Delta	Target	Industry Average	ENERGY STAR
Energy Performance Rating	N/A	N/A	N/A		50	75
Energy Intensity (kBtu/ft ²)						
<i>Site</i>	22.76	27.89	-5.13		0.00	0.00
<i>Source</i>	68.58	84.04	-15.46		0.00	0.00
Energy Cost						
<i>\$/year</i>	32,372.95	45,752.53	-13,379.58		0.00	0.00
<i>\$/ft²/year</i>	0.36	0.51	-0.15		0.00	0.00
CO ₂ Emissions (1,000 lbs/year)	736.00	902.00	-166.00		0.00	0.00



Step 5: Aggregated Purchasing of ENERGY STAR Products (See Handout)



Portfolio Manager identifies ENERGY STAR Rated and Renewable Energy products that could be purchased in **bulk** to **reduce front-end costs and accelerate payback...**

EPA ENERGY STAR Funded a *Model Aggregation Project* in Michigan.

- See: Michigan Interfaith Power and Light: Model Aggregated Purchasing Approach to Reducing Greenhouse Gas Emissions, March 2008.

Communities can organize & manage an Aggregated Purchasing Program as part of their EECBG...

Steps...



Step 6: ENERGY STAR Building Designation

Facilities can gain recognition as a leader in reducing energy consumption.

(EECBG Ref: plans to coordinate and share information with the state in which the eligible unit of local government is located regarding activities carried out using the grant)



To qualify as an ENERGY STAR rated building, a building or manufacturing plant must score in the top 25 percent based on EPA's National Energy Performance Rating System.

EPA compares energy use among other, similar types of facilities on a scale of 1-100...

... buildings that achieve a score of 75 or higher may be eligible for the ENERGY STAR.

http://www.energystar.gov/index.cfm?c=business.bus_bldg



The EPA has released its list of the US cities with the most commercial buildings earning Energy Star ratings in 2008. These buildings both use 35% less energy than average buildings and emit 35% less CO₂.

Los Angeles
San Francisco
Houston
Washington DC
Dallas-Fort Worth
Chicago
Denver
Minneapolis-St Paul
Atlanta
Seattle

Step 7 - Green Jobs result from a viable *Green Entrepreneurship Strategy.*



Dedicated effort to enhance local Entrepreneurial Culture & Climate:

- Green Business *Creation, Retention, Expansion* (“Economic Gardening”)
- Green Business *Attraction*

Define “entrepreneurs” not as “small business” but as those with a combined “intent” and “capacity” for growth

Incentivize Green Innovation

Implement a Multi-Sector Green Entrepreneurship Community/Economic Development Strategy:

- Green **Small Business** Entrepreneurs
- Green **Social** Entrepreneurs
- Green **Intrapreneurs** (Social & Business)

(See: “Michigan Entrepreneurship Score Card, 2008-09”,
www.sbam.org. and SVSU Economic Gardening Institute)

Summary:



Communities can identify EPA Portfolio Manager in their EECBG Program plan.

- Sector Strategy – Organize, train and assist sectors to use Portfolio Manager.
- Baseline, EE Planning and Implementation, Verification and Tracking
- ENERGY STAR Buildings and Community Designation
 - Lay foundation for LEED EB (Existing Buildings) if desired.

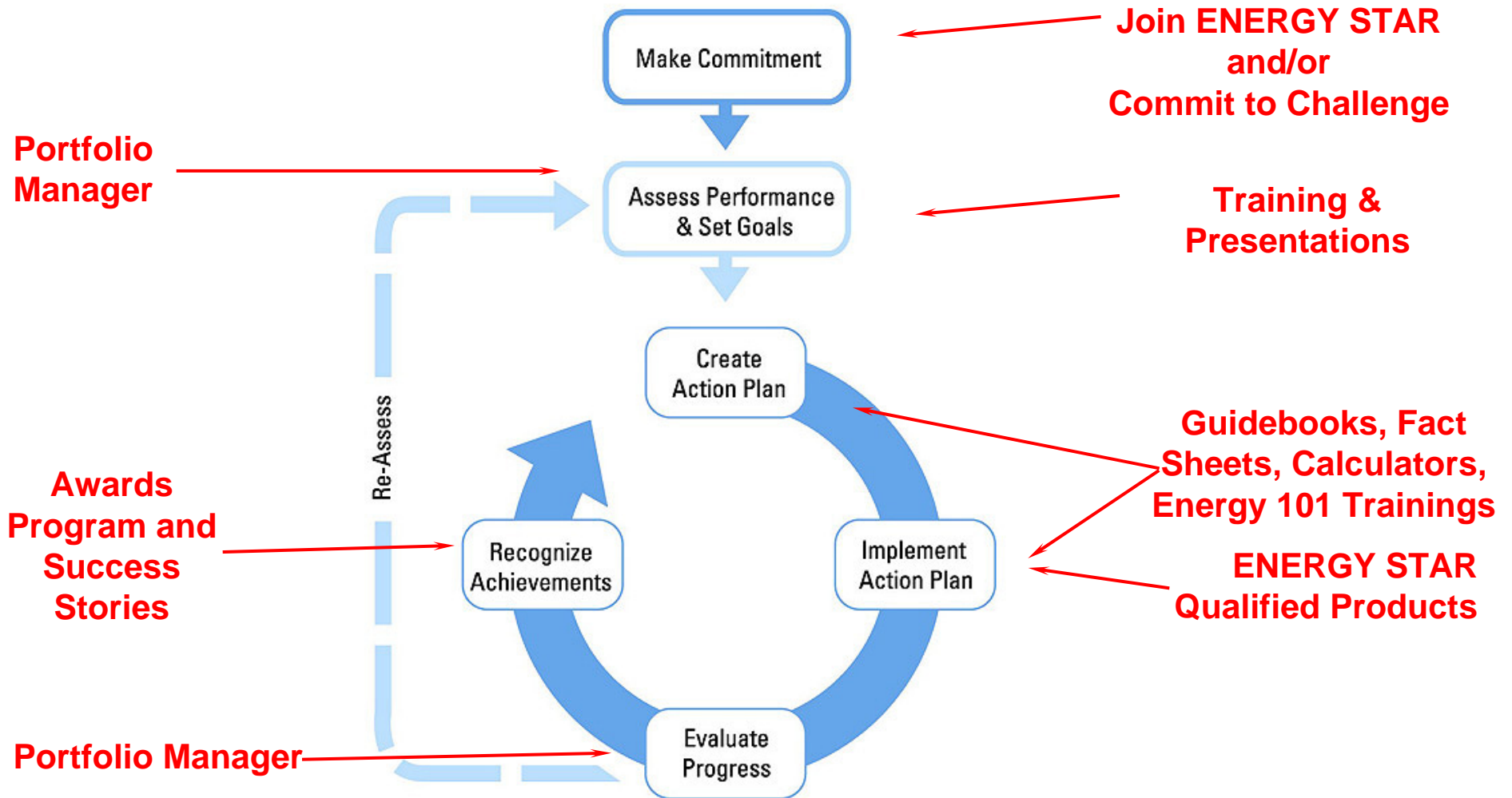
Framework for Aggregated Purchasing

Catalyst for Green Jobs Initiative

Energy Management Strategy



ENERGY STAR Resources Support Your Planning & Process



Thank you



Portfolio Manager and the Energy Efficiency Community Block Grant Program

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