

# Maryland State Agency Energy Planning



Welcome

## KEY

This map is only intended to be a general representation of the State. For a comprehensive map, consult the *Maryland Official Highway Map* published by the Maryland State Highway Administration.

## REGIONS OF MARYLAND

- Western
- Capital
- Central
- Southern
- Eastern Shore

- A ?** Maryland Welcome Centers
- Interstate Highway
- US Highway
- State Highway

**Maryland  
Energy  
Administration**

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# Maryland State Agency Mandate

(includes University of MD System, Colleges and Universities)

SB267 – requires all state agencies to reduce their  
energy consumption  
(10% by FY2010)

# Agency Energy Plan

( Living Breathing Document )

Understanding How Your Agency Consumes Energy



# Create Detailed Energy Plan

Identify Inventory of Buildings  
Identify Leased Space Opportunities  
Include All Energy Consuming Entities

# Have You Established Your Team

## DGS Energy Management Team

Energy Team	Team Role	Phone	Email	Function
Lauren Buckler	AEC	(410) 7673174	<a href="mailto:Lauren.Buckler@maryland.gov">Lauren.Buckler@maryland.gov</a>	Manages, Plans, and Leads Energy Team
Lionel Hill	Energy Records and Verification	(410) 767-4386	<a href="mailto:Lionel.Hill@maryland.gov">Lionel.Hill@maryland.gov</a>	Principal Energy Statigist
Barry Powell	Energy Coordinator	(410) 767-4375	<a href="mailto:Barry.Powell@maryland.gov">Barry.Powell@maryland.gov</a>	Assist AEC in collection of data and info
Emily Hunter	DGS Energy Records & Verification	(410) 333-5026	<a href="mailto:Emily.Hunter@maryland.gov">Emily.Hunter@maryland.gov</a>	Bill, Invoice and Database Management
Akrem Awad	DGS Energy Engineer	(410) 7677970	<a href="mailto:Akrem.Awad@maryland.gov">Akrem.Awad@maryland.gov</a>	Project Manager
Masoud Roomi	DGS Energy Engineer	(410) 767-4603	<a href="mailto:Mousoud.Roomi@maryland.gov">Mousoud.Roomi@maryland.gov</a>	Project Manager
Karen Tolley	Director of Fiscal Services	(410) 767-4279	<a href="mailto:Karen.Tolley@maryland.gov">Karen.Tolley@maryland.gov</a>	Bill, Invoices, and Project Costs
Dan Campbell	Facility Operations (State Complex)	(410) 767-4426	<a href="mailto:Daniel.Campbell@maryland.gov">Daniel.Campbell@maryland.gov</a>	Director of DGS Facilities
Sam Cook	Facility Operations (Annapolis)	(410) 260-2903	<a href="mailto:Sam.Cook@maryland.gov">Sam.Cook@maryland.gov</a>	Director of DGS Facilities
Gary Gray	Facility Operations (Inner Harbor)	(410) 767-2275	<a href="mailto:Gary.Gray@maryland.gov">Gary.Gray@maryland.gov</a>	Director of DGS Facilities
Barbara Bauman	Multi-Service Center Superintendent	(410) 480-7990	<a href="mailto:Barbara.Bauman@maryland.gov">Barbara.Bauman@maryland.gov</a>	Superintendent of Remote Centers

# Energy Consuming Entities

- What Are They?
- Where Are They?
- How Do We Compile Them?

### Energy Consuming Entities (ECE) Table

## Sample (Facility) Data Sheet

Facility: \_\_\_\_\_  
 Location: \_\_\_\_\_ Address: \_\_\_\_\_ DPSCS Owned or Leased DPSCS City/County: \_\_\_\_\_

Number	ECE (Building or Leased Space) <sup>1</sup>	Size (Square Footage)	Occupancy					Age of Building (in Years)	Date of last renovation (month - year)	Does this building/entity have a shared utility account? <sup>4</sup>	Are there any sub-meters?	Total Energy Usage (List all accounts) <sup>5</sup>					
			Use of Space (List all that apply) <sup>2</sup>	Type of occupants <sup>3</sup>	# Inmates (Residing or Working)	# Visitors (Clients) per day	# Staff per day					Electricity kWh	Natural Gas Therms	Water Gallons	Fuel Oil Gallons	Steam	
1	Housing Unit # 1	48,900	Housing, Assembly, Day rooms, control center and offices	Inmates and correctional officers	192	0	52	25	Jul-11	Yes	No	Vendor Account # 123456 Meter # 05070 Quantity 380033.64	BGE Vendor Account # 305903 Meter # X0997 Quantity 12667.63	Vendor Account # XX02890 Meter # J028405 Quantity 4691611.3	AA Co Vendor Account # B10937 Meter # N/A Quantity 5880.2	Carroll Vendor Account # Z20987 Meter # N/A Quantity 448.73	Vendor Account # Z20987 Meter # N/A Quantity 448.73
2	Housing Unit # 2	48,900	Housing, Assembly, Day rooms, control center and offices	Inmates and correctional officers	192	0	52	25	Jul-11	Yes (See HU # 1)	No	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	
3	Support Services Building	109,000	Medical, Reception, Offices, Library, Classrooms, Kitchen, Visitation Mech/Elect/Data	Correctional Officers, Office Personnel, Inmates, Chaplain, and Visitors	45	20	20	23	May-09	Yes (See HU # 1)	No	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	
4	Support Services Building	25,000	Kitchen	Correctional Officers and Inmates	10	0	5	23	May-09	Yes, except there is a separate Gas line for the kitchen only. See HU # 1	No	Vendor Account # Meter # Quantity	BGE Vendor Account # 305904 Meter # X0998 Quantity 693.5	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	
5	Gatehouse	15,000	Control Center, Reception, Sallyport, Assembly Area, Waiting Area, Bathrooms, Storage	Correctional Officers and Visitors	0	20	52	10	Dec-12	Yes (See HU # 1)	No	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	
6	Laundry/Warehouse	35,600	Laundry Facilities, Supply Storage and Maintenance Offices	Correctional Officers and Inmates	14	0	15	25	Jun-08	No, except for Elect see HU # 1.	No	Vendor Account # Meter # Quantity	BGE Vendor Account # 305921 Meter # X0103 Quantity 4587.83	Vendor Account # XX02891 Meter # J028405 Quantity 91611.27	AA Co Vendor Account # B10937 Meter # N/A Quantity 2500	Carroll Vendor Account # Z20987 Meter # N/A Quantity 448.73	Vendor Account # Meter # Quantity
7	Perimeter Fence and Parking Lot Lighting	N/A	Recreation, paved walkways and staff/visitor parking	Inmates, correctional officers and visitors	374	30	52	25	Jun-12	Yes (See HU # 1)	No	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	Vendor Account # Meter # Quantity	

- Notes:*
- 1 - List all buildings which consume energy, including, garage, tool sheds, security yard post, etc. (Inside or outside the fence)
  - 2 - List all the different spaces and areas in the building (including cells, bathrooms, mechanical, etc.)
  - 3 - List all types of individuals (inmates, correctional officers, medical personnel, teachers, religious, visitors, office personnel, etc.)
  - 4 - If there is more than one account for the same utility (for the same building) please list it on a separate line.
  - 5 - If this building shares any utility accounts with another building, input "Yes" and note either the building or the vendor/account number
  - 6 - Indicate the quantity of energy consumed per year, (as noted by the meter or bills.)
  - 7 - For Leased spaces clients is defined as individuals who are on parole or probation. Please indicate the number per day in this column





# ECE Evaluation

(Potential Energy Conservation Measures)

- Existing Conditions
- Proposed Retrofits
- Proposed Funding
- Timeline

# Energy Consuming Entities and Energy Data

- Utility Bills
- Square Footage
- Quality Data

# EnergyCAP.

Username:

Password:

Datasource:

Select your language:

**Login**

Remember Me

[Support](#)

# EnergyCap Database Achievements

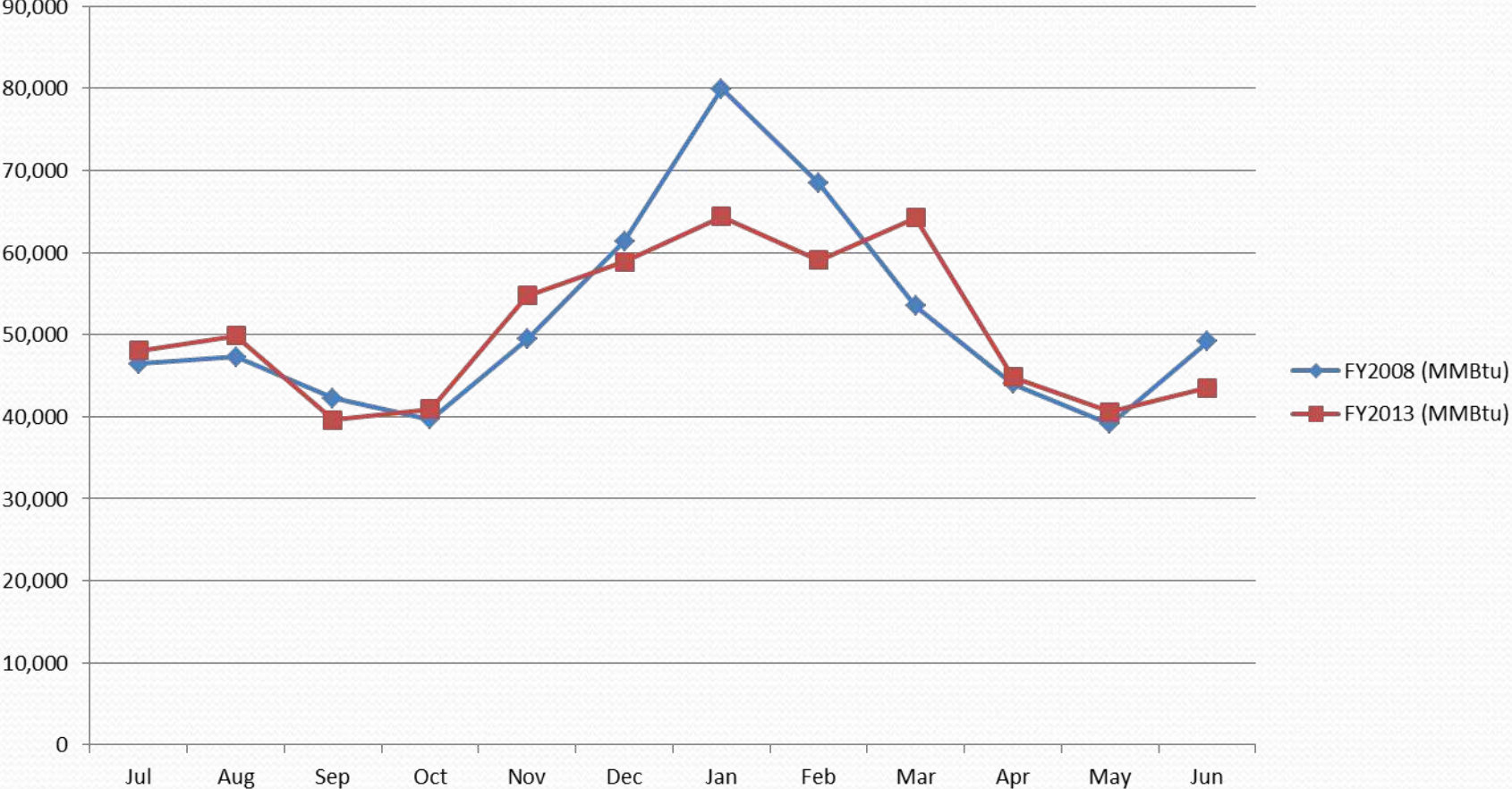
- Tracks 58 state agencies (includes the university system of MD)
- Includes over 1 million bills (# of bills in the database to date: 1,158,187)
- # of accounts: 22,209
- Monthly bills added by BITH : approximately 12,000 a month

# Energy Use Index

Table 2. Building EUI

Building	Energy Usage	Square Footage	Energy Use Index	EUI of Comparable Building	RANK
	(Total MMBtu)	GSF	MMBtu\GSF\Yr		
Name and/or address					

# Total Energy Usage



# Maintenance

- Do You Have A Good Foundation
- What Are Your Challenges
- What Support Do You Need
- How Does Maintenance Impact Your Energy Use

# Retro-commissioning

- Understanding Original Design Criteria
- Equipment Eventually Requires Repair
- Indicators





# Questions and Answers

(On What We Have Discussed So Far)

# What is SALP?

The State Agency Loan Program (SALP) is a revolving loan program administered by the Maryland Energy Administration (MEA). It provides loans for energy efficiency improvements in state owned facilities.

- State agencies pay zero interest and a small 1% administration fee
- Loans are repaid using the avoided energy costs resulting from the project.

# Who should Participate?

SALP is open to any state agency seeking a source of funds to make energy-saving investment. SALP funds are available for use in state-owned and leased properties.

# Who Can Assist You?

The SALP program is managed by MEA. The point of contact is:

David St. Jean

Program Manager

Maryland Energy Administration

410-260-7182

[David.stjean@maryland.gov](mailto:David.stjean@maryland.gov)

# Application & Loan Period

Applications can be approved in thirty days. Ideally, agencies will apply by February 1 and receive a decision in March for the following fiscal year (starting July 1). Loans are normally 5 to 6 years in length, but can be longer.

# Project and Funding Range

SALP typically supports lighting retrofits and heating/cooling system replacement projects. Most loans are \$50,000 to \$250,000, although several projects exceed \$1 million. MEA generally has \$1.5 million available to loan annually.

# Free Energy Audits on Smaller Buildings

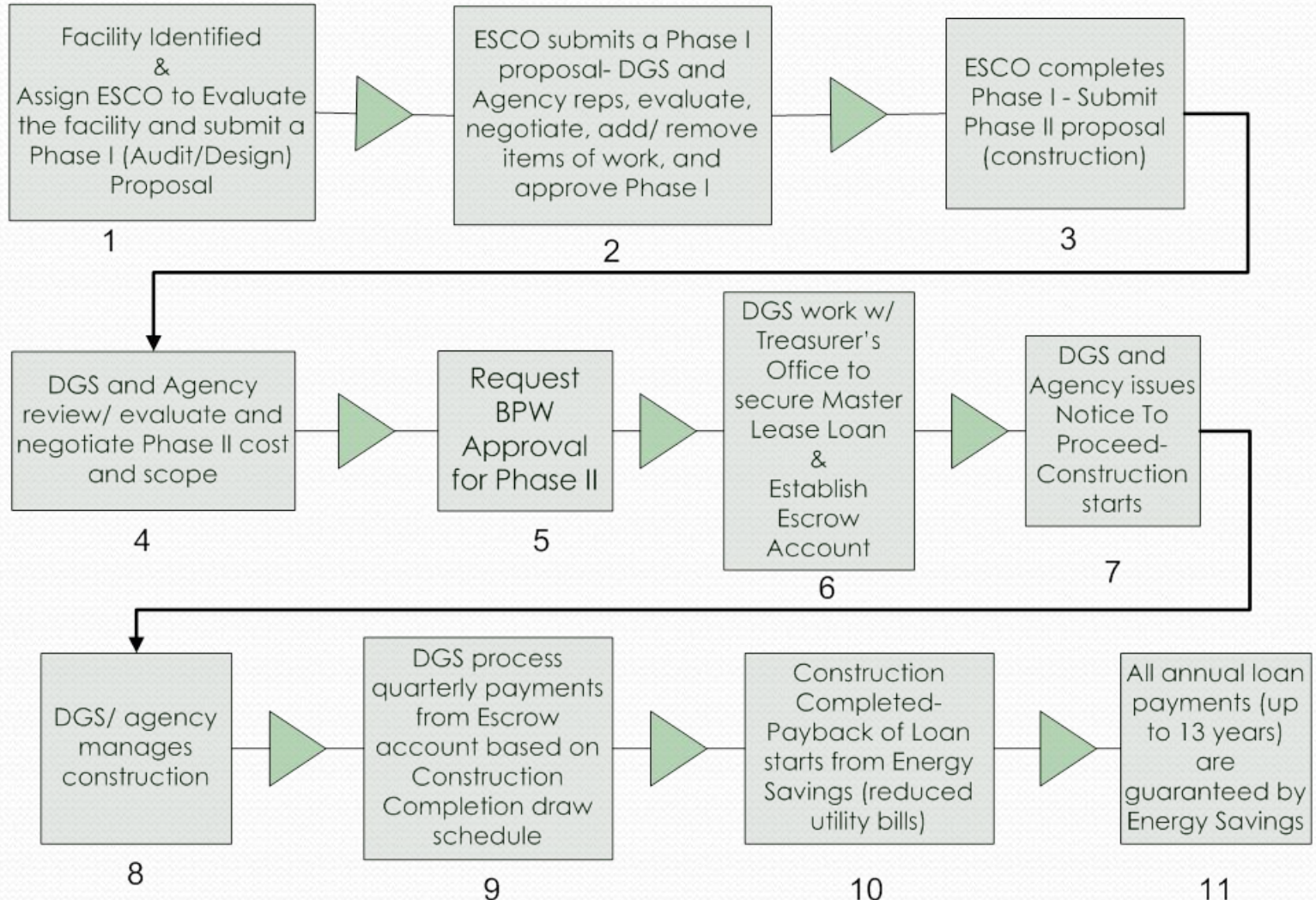
- MEA program funded through a DOE grant.
- \$60K available for audits on buildings <10,000 sf requires an MOU with your agency
- \$90K available for audits on buildings 10K to 20K sf MOU not required
- Agency needs to have developed a rudimentary inventory of buildings

# Energy Performance Contracting

- Interior & Exterior Lighting
- Lighting Controls
- Energy Management Systems
- Plug Load Management
- Water Conservation Measures
- Building Envelope Upgrades
- Control/Control Upgrades
- Inefficiency Motor Replacement
- Variable Frequency Drives
- Inefficient Heating, Ventilation, & Air Conditioning (HVAC) Equipment Replacement
- Renewable Alternatives (i.e., Solar Thermal, Biomass)



# ENERGY PERFORMANCE CONTRACTING PROCESS



# June 17<sup>th</sup>, 18<sup>th</sup> Two Day Re-tuning Training



**Large Buildings (> 100,000 sf)**

**Small Buildings (<100,000 sf)**

**U.S. DOE**

**Target and Improve Building Operations**

**Transfer “Re-tune” skills**

**Training Programs**

**Technicians**

**Building Operators**

**Building Managers**

**Energy Service Providers**

# Timeline

(How are we doing?)

- March 31<sup>st</sup> ECE Table Completion Day
- April 28<sup>th</sup> Auditing and Assessment
- May 12<sup>th</sup> First AEP Draft Due
- June 2<sup>nd</sup> Employee Training



# Webinar Questions & Answers