



MEMORANDUM

September 10, 2010

TO : Board of School Directors
FROM : Dr. Joseph J. Roy, Superintendent of Schools
SUBJECT: Monday, September 13, 2010

Listed below is the schedule for Monday, September 13, 2010, at the Education Center. The meetings will take place in the Dining Room.

Agenda

- 6:00 p.m. Board Facilities Committee Meeting – Dr. Roy**
1. Courtesy of the Floor (15 minutes allowed)
 2. Energy Update – Mr. Fazil
 3. Cell Tower Lease Update at Transportation Department
 4. Agenda Items for September 27, 2010, Regular Board Meeting
 - A. Transportation Schedule
 - B. Bid Award – Deicing Salt and Antiskid Materials
 - C. Bid Award – Snow Removal
 - D. Bid Award – Fuel Oil
 - E. Bid Award – School Buses
 - F. Approval of the Emergency Operations Plan
 5. Courtesy of the Floor (15 minutes allowed)
 6. Open Forum

Should you have any questions or comments regarding the items, please do not hesitate to contact me.



BASD Energy Plan Update

Facilities Committee Meeting

9.13.10

D'Huy Engineering, Inc.



Schedule

Description	Work Days	Planned Finish	PCT Comp.	2010												2011												2012												2013											
				J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J																
Contract Award				<ul style="list-style-type: none"> District Reviews Proposals & Conducts Interviews District Awards Contract & Assembles Contract Notice to Proceed 																																															
District Reviews Proposals & Conducts Interviews	20	11JUN10 A	100																																																
District Awards Contract & Assembles Contract	20	02JUL10 A	100																																																
Notice to Proceed	0		100																																																
Perform Energy Audit of All Facilities				<ul style="list-style-type: none"> Collect Log and Analyze Energy Bills Conduct Facility Surveys & Interviews Assemble Facility Summaries Provide Summary Report and Prelim list of ESO's Conduct Charette with District to Review ESOs 																																															
Collect Log and Analyze Energy Bills	15	19JUL10 A	100																																																
Conduct Facility Surveys & Interviews	40	31AUG10 A	100																																																
Assemble Facility Summaries	15	21SEP10 *	50																																																
Provide Summary Report and Prelim list of ESO's	15	12OCT10 *	10																																																
Conduct Charette with District to Review ESOs	0	12OCT10 *	0																																																
Prioritize Savings Opportunities by Building				<ul style="list-style-type: none"> Perform Cost/savings analysis for each ESO Investigate Alt. Energy Options & Technologies Investigate & provide recommendations on grants Project Summary with Recommendations for ESOs Present Findings to the District Board 																																															
Perform Cost/savings analysis for each ESO	20	06DEC10 *	5																																																
Investigate Alt. Energy Options & Technologies	20	07DEC10 *	75																																																
Investigate & provide recommendations on grants	15	21DEC10 *	50																																																
Project Summary with Recommendations for ESOs	20	18JAN11 *	0																																																
Present Findings to the District Board	0	18JAN11 *	0																																																
Review Energy Rate Structures				<ul style="list-style-type: none"> Compile Data by Utility Type Analyze for anomalies & billing errors Energy Purchase RFP 																																															
Compile Data by Utility Type	20	03AUG10 A	100																																																
Analyze for anomalies & billing errors	20	20AUG10 A	100																																																
Energy Purchase RFP	60	23NOV10 *	0																																																
Energy Policy and Departmental Guidelines				<ul style="list-style-type: none"> To be adjusted based on Board schedule 																																															
To be adjusted based on Board schedule	300	13FEB12 *	0																																																
Energy Education and Team Building				<ul style="list-style-type: none"> To be adjusted based on Board schedule 																																															
To be adjusted based on Board schedule	400	13FEB12 *	20																																																
Portfolio Set-up & Energy Baseline Measurements				<ul style="list-style-type: none"> This is a continuous process 																																															
This is a continuous process	400	13FEB12 *	40																																																
Cont. Implementation & Monitoring				<ul style="list-style-type: none"> This is a continuous process 																																															
This is a continuous process	320	13FEB12 *	0																																																

Start date	01APR10
Finish date	13FEB12
Data date	01SEP10
Run date	08SEP10
Page number	1A
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D'Huy Engineering, Inc.
Bethlehem Area School District Energy Plan

	Early bar
	Progress bar
	Critical bar
	Summary bar
	Start milestone point
	Finish milestone point

Progress



- Perform Energy Audit
 - Utility Direct Implementation 98% Complete
 - Facility Surveys – 98% complete
 - Coordinating Data Collection with Partners:
 - Lutron – Lighting Surveys - Complete
 - Comverge – Primary Evaluations - Ongoing
 - JCI – HVAC systems study – 80% Complete
 - On Schedule to conduct Charette in October!

Progress

■ Lutron – Lighting Surveys

- Results indicate potential for short term (5-7 yr) payback for lighting and control upgrades in large core spaces in many buildings.
- Replacement of existing lights with new high efficiency lighting can achieve savings and will use PPL Incentives to offset initial costs.
- DEI would like to facilitate two prototype retrofits for short payback projects. Results will be used to verify overall costs and payback assumptions.
 - 1 – Typical ES Gymnasium
 - 1 – Typical MS Gymnasium

Progress

- **Comverge – Demand Response**
 - Identified High Demand (>150kW) facilities.
 - Demand Profiles being formulated for further analysis.
 - ATC & HVAC configurations being evaluated for suitability with DR equipment.

Progress

(Buchanan, Spring Garden, East Hills, Farmersville, Freedom)

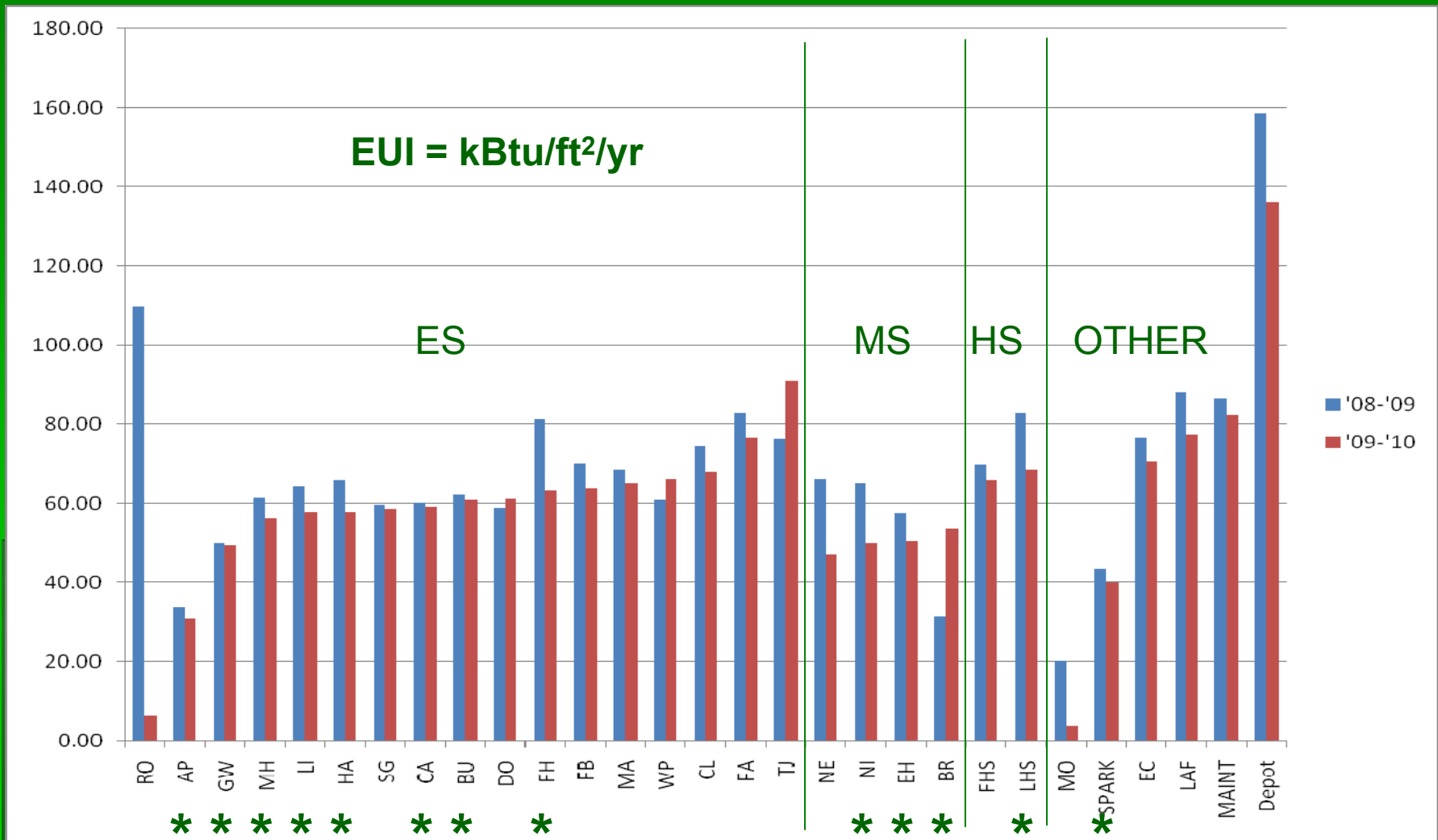
- Investigate Alternative Energy Options
 - Tangent – Solar Installations:
 - Permitting for the first five schools is in process.
 - The PPAs have been finalized and executed
 - The designs are complete and material has been ordered. (East Hills roof analysis requires further study.)
 - If permitting proceeds site preparation work will begin before the end of September.
 - Groundbreaking Ceremony will be scheduled

Progress

- **Utility Bill Analysis: Utility Direct**
 - All Energy Bills input for 08-09 and 09-10 school year.
 - Discovered Tax issue on new Consortium Supplier invoices (Excelon) – Issue being resolved and information will be updated.
 - Water/sewer information being input to finalize database.

Energy Intensity (aka EUI = Energy Use Index)

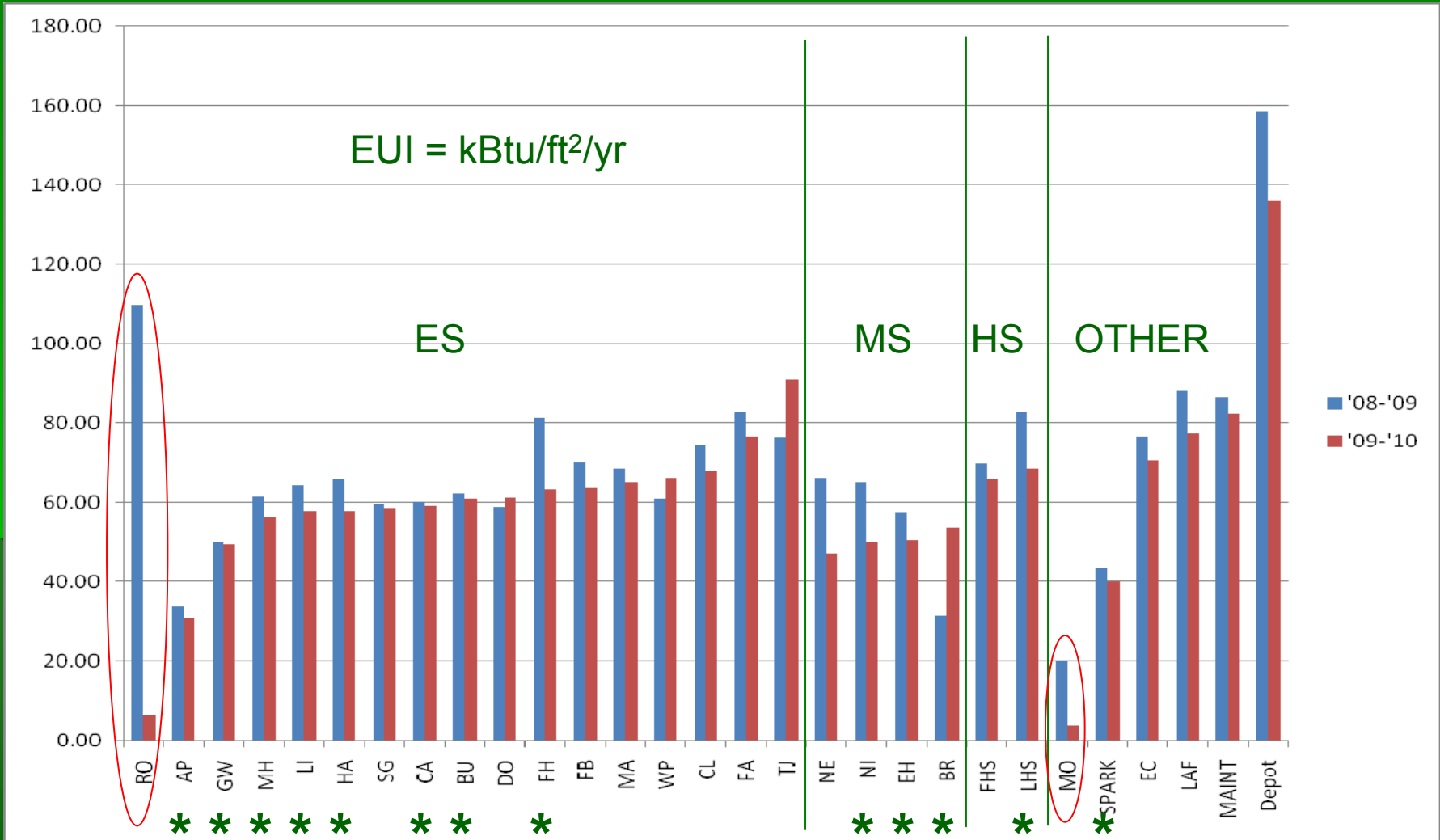
Sorted by 09-10 school year results



* Indicates Energy Star Label Compliant 2010

Energy Intensity (aka EUI = Energy Use Index)

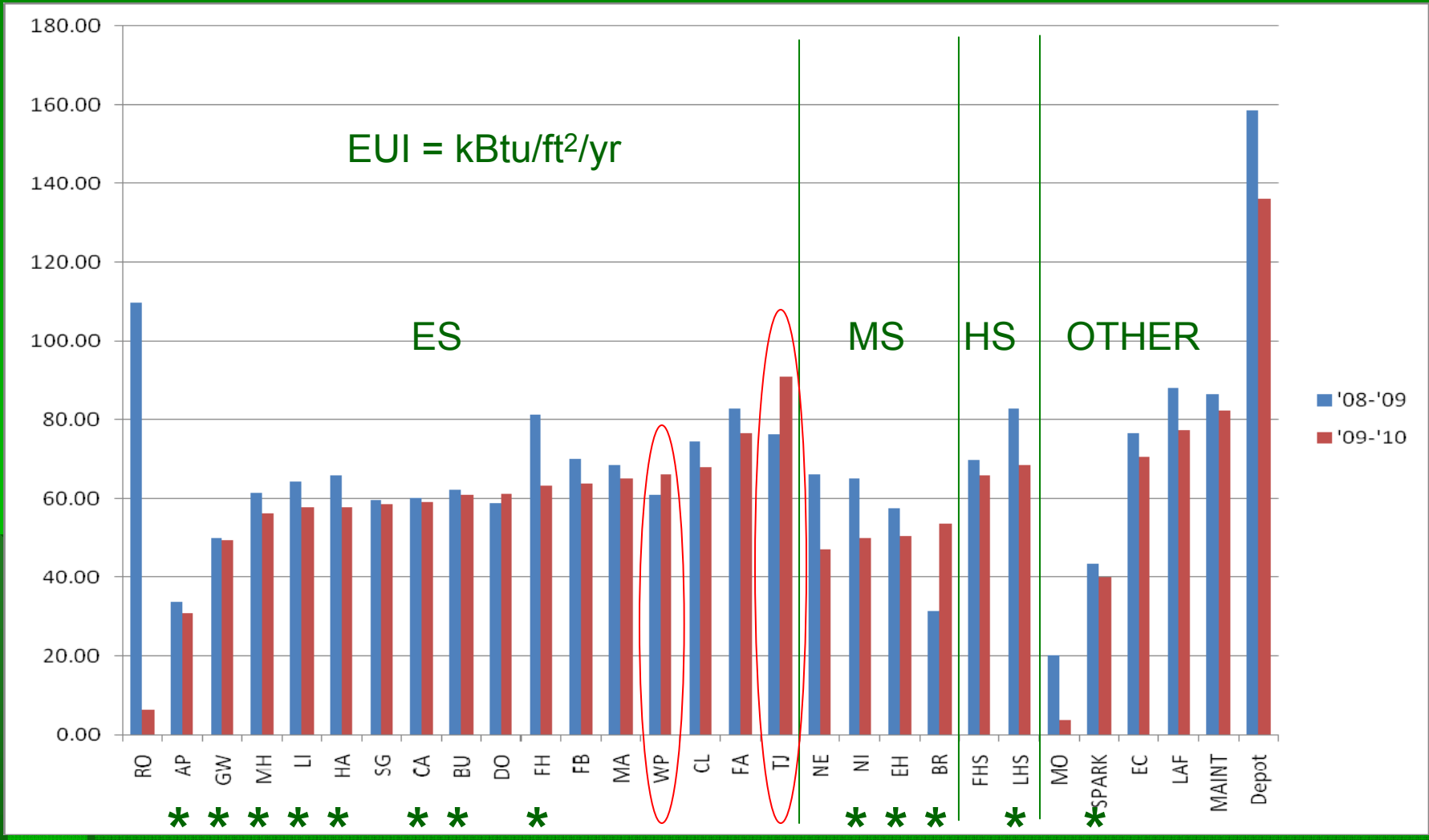
Sorted by 09-10 school year results



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Energy Intensity (aka EUI = Energy Use Index)

Sorted by 09-10 school year results



* Indicates Energy Star Label Compliant

Progress

- Utility Bill Analysis (cont.)
 - EUI provides standard performance measure to focus initially on best and worst performers.
 - Review of Demand (kW), Energy (kWh) and blended unit costs provides focus on cost anomalies.
 - Review of individual bills used for detailed analysis of anomalies.

Progress – Jumping Ahead

- Utility Bill Analysis ENERGY STAR Portfolio Manager:



- All Energy data uploaded – Initial analysis appears to show 9-12 facilities meet or exceed Requirements for ENERGY STAR Label!
- Information to be verified and Energy Star Labels will be applied for!

Energy Star Snapshot

- Facilities are compared with other K-12 schools having similar characteristics.
- To achieve label, facility must perform better than 75% of similar buildings.
 - 28,713 K-12 facilities currently in system
 - Over 3 Billion SF measured
 - 4,310 received the Energy Star Label for 2010
 - 108 Energy Star schools are in PA
 - 9 BASD Schools applying for Energy Star Label

Energy Star Facilities 2010

■ **BASD Facilities meeting data qualifications:**

- Asa Packer
- Governor Wolf
- Hanover
- Calypso
- Lincoln
- Buchanan
- Miller Heights
- Broughal
- Liberty
- ** East Hills
- ** Nitschmann
- ** Fountain Hill



** Do not comply because of Current Standards for outside air ventilation, illumination and thermal comfort.

Progress – Jumping Ahead



■ Energy Education & Team Building

- Academy of Energy Education modules with lesson plans, guidebooks and classroom materials have been forwarded to the Administration for review to determine potential for inclusion into district curriculum or special programs.

■ Probable Benefits:

- Conservation/Environmental Clubs
- HS Electives and ES Science Units
- Existing program enhancements
- Integration with future district-wide energy policy

Other Tasks – future work

- **Prioritize Savings Opportunities (ESO's)**
 - Use Charette as Kickoff for this process
 - Tentative Schedule for Oct 12th & 19th.
 - Agenda being formulated.
- **Energy Policy & Departmental Guidelines**
 - On schedule for February start based on Board direction.
 - Sample policies will be provided for review and discussion.

