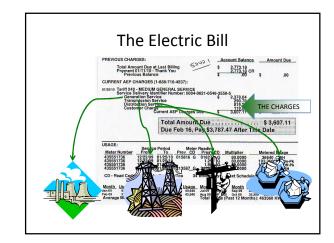
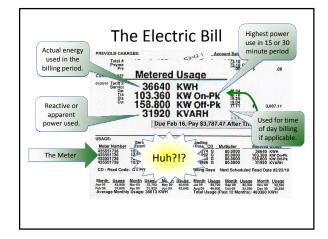
Utility Bills 101

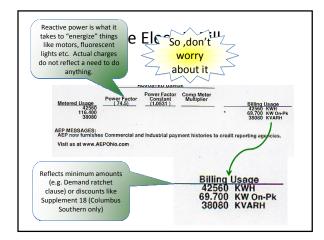
Or What does all that mean?

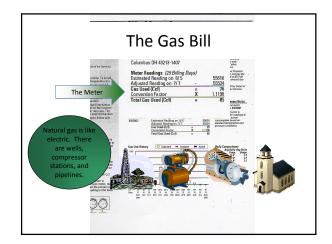


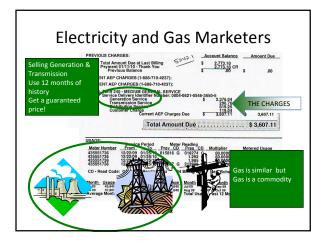
So what is the difference between KW (Demand) and KWH (Consumption)?????

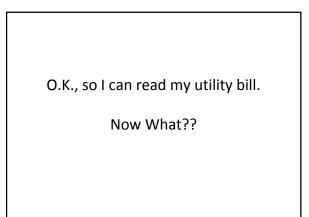
- Electric demand or KW represents what needs to be available on a peak day (power plants, transmission systems, distribution systems).
- Electric Consumption or KWH reflects the actual energy consumed (coal, natural gas, fuel oil) and other operating costs.
- Demand costs are controlled by turning off lights in the day time, raising A.C. temperatures during the day, shutting off unneeded equipment, and more efficient equipment.
- Consumption costs are controlled by turning things off when not needed and more efficient equipment.











Make a Long-term Commitment

- •Assessment (utility bill review, benchmarking, audit)
- •Develop a plan and set goals
- •Take action
- •Track savings (with Portfolio Manager)

Benchmarking

Why Benchmark?

- •Know your starting point
- •Set goals
- •Track changes and recognize achievements
- •Funding tool
- Auditing first step

Benchmarking tells organizations:

How they use energyWhere they use itWhat factors drive its use



Why use EPA Portfolio Manager?

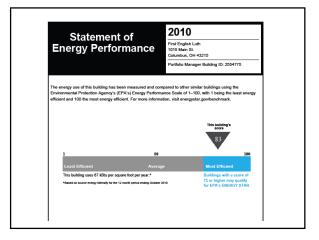
- •Free simple analytical tool
- Industry Standard
- •Comprehensive development process
- •Symbol of energy performance
- •Streamlines reporting and quantifies results

What does Portfolio Manager tell you?

- •Efficiency improvements over a baseline
- •GHG emissions
- •Consumption rate and Energy intensity
- •Water use
- Energy Star Rating



90 1010			Portfolio Manager - Edit Meter		
			star/pmpam/index.cfm?luseaction=energy.e Low st.john's biostimo mitta bisparc		
	mger Edit Meter Entir			n one and an angle maps of	
17A POI	RTFOLIO MANAGEI	R	ſ) NOT COMPANY CONTRACTS OF T	name a come a a come
a a Ky Per	tfolo > First English L	un > Edit Energy Use			
	Use: Elec			er Information E-R	
				r information Les Type: Electricity, Grid Porchese	(kWh (throsend Wall-hours))
onsecutive	time periods; only one	a day of overlap or one of	say of gap can exist between mater Spe	ce(s): Entire Facility	
es lu be elig	yble lu gererate an Er	eryy Performance Rati	194.		
					Download Meter Data in Excel
t Foergy U	lear				Download Meter Data in Excel
it Fnergy Li	isa:				Download Moor Octa In Excel
					Downlood Motor Data in Excel
d Motor Ent Remove	tics Start Data	Frid Data	Brangy Usa 600-104-014-0-00-01	Cost - US Dollars	Downlood Motor Data in Excel
<u>i Motor Ent</u> Iemove	tos Start Data (UMARINAVYY)	(דיייאמרושעו)	(kWh (thousand Watt-hours))	(instana)	
Motor Ent Comove Entry	100 Start Dette (MACTO/VYY) 10/21/2010	(18/11/19/11)	(kWh (thousand Watt-hours))	(retoral) S e/s.37	l aut Upristed 01/17/2011 by STJOHNOOL
<mark>i Motor Ent</mark> Icmove Entry	tos Start Data (UMARINAVYY)	(דיייאמרושעו)	(kWh (thousand Watt-hours))	(instana)	Leet Updated 01/17/2011 by STJOHNOD_ 01/17/2011 by STJOHNOD_
Motor Ent Comove Entry	100 Start Dette (MACTO/VYY) 10/21/2010	(18/11/19/11)	(kWh (thousand Watt-hours))	(retoral) S e/s.37	l aut Upristed 01/17/2011 by STJOHNOOL
Motor Ent Innove Entry	105 Start Deta (VALETS/V179) 20/21/2010 09/21/2010	(L02/11//////) 11/18/2010 10/21/2010	(KWh (thousand Watt-hours))	(retinnal) 5 6/6.37 8 791.66	Leet Updated 01/17/2011 by STJOHNOD_ 01/17/2011 by STJOHNOD_
	Start Deta (MALTEVVY) 10/23/2010 09/21/2010 08/24/2010 06/28/2010	(184/11/0/03) 11/18/2010 10/21/2010 09/21/2010 08/24/2010	(KWh (thousand Wath-hours))	(cetona) 5 676.37 8 701.66 9 813.59 5 1,762.63	1 and Hystand 1991/92911 by 81.068600 1991792911 by 81.068600 1991792911 by 81.068600 1991792915 by 81.068600
t Motor Ent komove Entry	Start Data (MALTEVYYY) 10/21/2010 09/24/2010 06/28/2010 05/21/2010	10/21/2010 10/21/2010 09/21/2010 08/21/2010 08/20/2010	(Wh (thousaid Wathhours))	rethona) 5 479.37 8 791.66 5 818.59 9 1,742.63 8 1,757.76	I and Equilated UV17/2211 by SI-CHNLOL DV17/2211 by SI-CHNLOL DV17/2211 by SI-CHNLOL DV17/2211 by SI-CHNLOL DV17/2211 by SI-CHNLOL
Motor Ent Entry	Start Deta (MALTEVVY) 10/23/2010 09/21/2010 08/24/2010 06/28/2010	(184/11/0007) 11/18/2010 10/21/2010 09/21/2010 08/24/2010	(PWIh: (thousaid Watthhours))	(cetona) 5 676.37 8 701.66 9 813.59 5 1,762.63	1 est Bysided 09/17/2011 by 91-04/NOOL 09/17/2011 by 91-04/NOOL 09/17/2011 by 81-04/NOOL 09/17/2011 by 81-04/NOOL



How do I get there?

Self Taught – Ohio Interfaith Power and Light "Cool Congregations"

http://www.ohipl.org/?q=AuditResources

Get Help – Energy Audits (OhIPL can help with reduced cost audit and/or one year loans)

Types of Energy Audit

Preliminary Energy Use Analysis.

This is a review of historic utility use and cost and a ranking of the building using $\mathsf{Btu}/\mathsf{sq.ft.}/\mathsf{year.}$

Billing errors and unusual trends are identified as well as the potential to switch to advantageous rates.

Typically this audit will include a site visit and a discussion of potential Energy Conservation Measures (ECM's) based on knowledge and experience.

Usual cost - \$250 to \$500 Benefit - Benchmark and status

Foster Energy Management Co. Providing our clients with the power to be

Types of Energy Audit

Level I - Walk-Through Analysis

This type of assessment includes a utility use analysis and a one to two day walk-through of the facility.

During the walk-through, building and process operating characteristics are identified, detailed observations are made, and potential ECM's are identified.

Cost and Benefit calculations are completed for no and low cost ECM's and longer term projects are identified with estimated paybacks.

Recommendations for operational changes are identified. All assumptions used during the analysis are identified.

Cost - \$750 to \$1500 Benefit 10% to 15% savings

Foster Energy Management Co. Providing our clients with the power to be

Types of Energy Audit

Level II - Energy Survey and Analysis

Level II assessments include a field survey where equipment and systems loads are measured and quantified, energy use is broken down into categories (lighting, heating, air conditioning, main process loads, etc.), and operating/maintenance procedures are evaluated.

OhIPL offers hybrid Level I/ Level II audit for \$350 to \$700

All ECM's are prioritized based an the economics and other client requested parameters. Calculations are included in the final report for future reference.

Cost \$1500 to \$2500 Benefit 10% to 30% savings

Foster Energy Management Co. Providing our clients with the power to be

Types of Energy Audit

Level III- Detailed Analysis of Capital Intensive Modifications

Using the results of the Level II analysis and the clients direction, specific projects are subjected to a more rigorous study.

This usually includes additional data collection to confirm energy savings potential and development of schematic designs.

Contractors of the owner's choosing are contacted to develop budgetary pricing and the report includes detailed calculations including the impact to non-energy operating and maintenance costs.

Cost - 0.25 to $0.50\ per\ sq.ft.$ Benefits – Up to 50% savings. Systems Upgrades.

Foster Energy Management Co. Providing our clients with the power to be independent

Incentives:

All investor owned electric utilities in Ohio are required to achieve energy efficiency levels and will pay you to help!

Municipal Utilities through AMP-Ohio offer electric savings programs.

Gas companies are coming around!

Foster Energy Management Co. Providing our clients with the power to be independent

Acknowledgements:

ELCA Southern Ohio Synod

Sara Ward – Interim Director of OhIPL

Amy Kaspar – Architect and LEED AP

John Fetters - CEM

