Energy Efficiency

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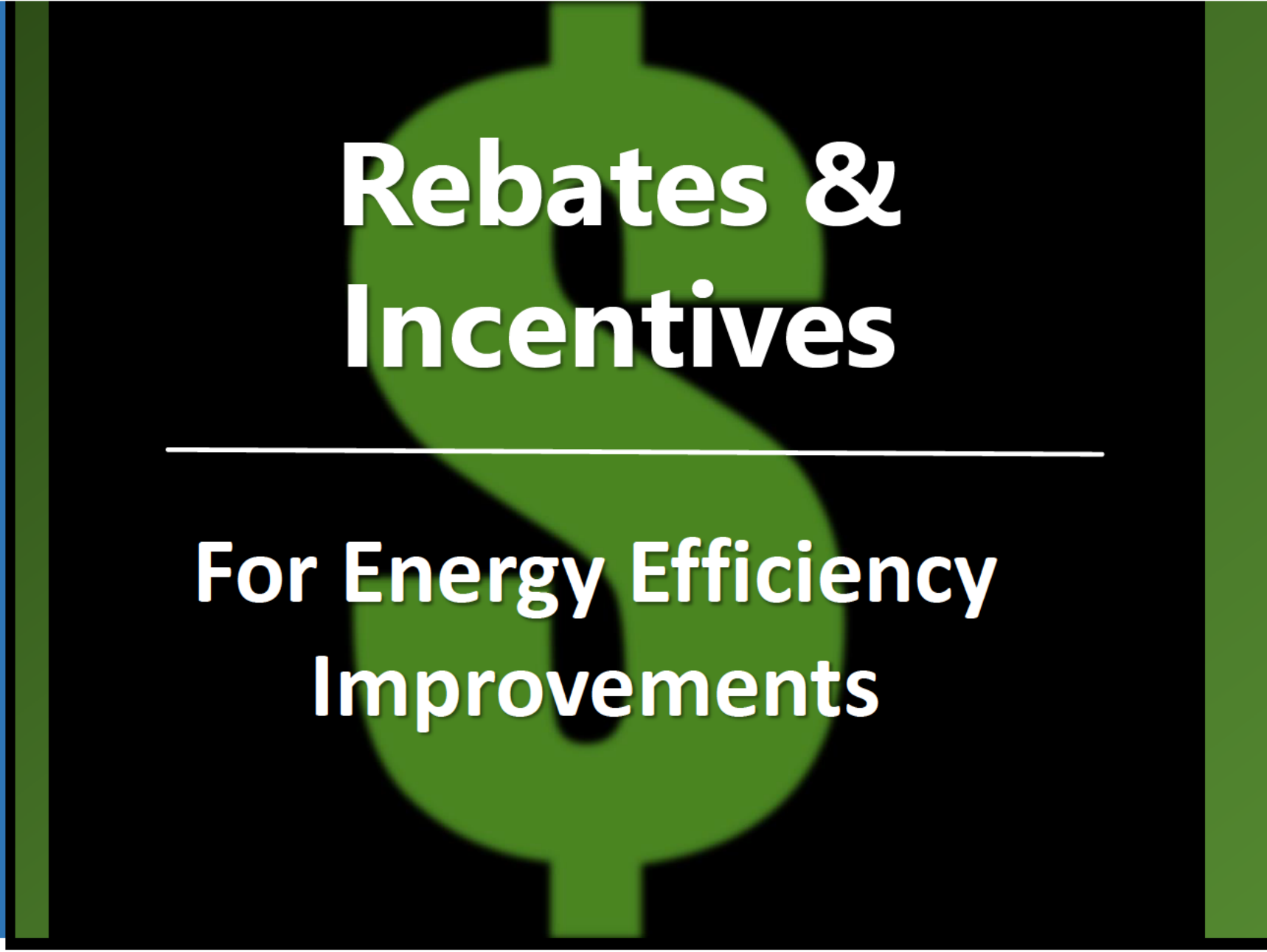
What is Energy Efficiency?



Rebates & Incentives

For Energy Efficiency Improvements

Identifying Savings in Energy Efficiency

Whole House
(Program)

Air Conditioner* *(measure)*

Lighting* *(measure*)*

Heat Pump Water Heater *(measure)*

Energy Star Refrigerator *(measure)*

* 16 SEER air conditioner uses 13% less energy than a 14 SEER.
** A LED uses 25% of the energy used by an incandescent bulb

Current Programs

Residential Sector

- Efficient Products
- Existing Homes
- Low Income Weatherization
- Multi-Family
- Residential Load Management Pilot
- Residential New Construction
- Shade Tree

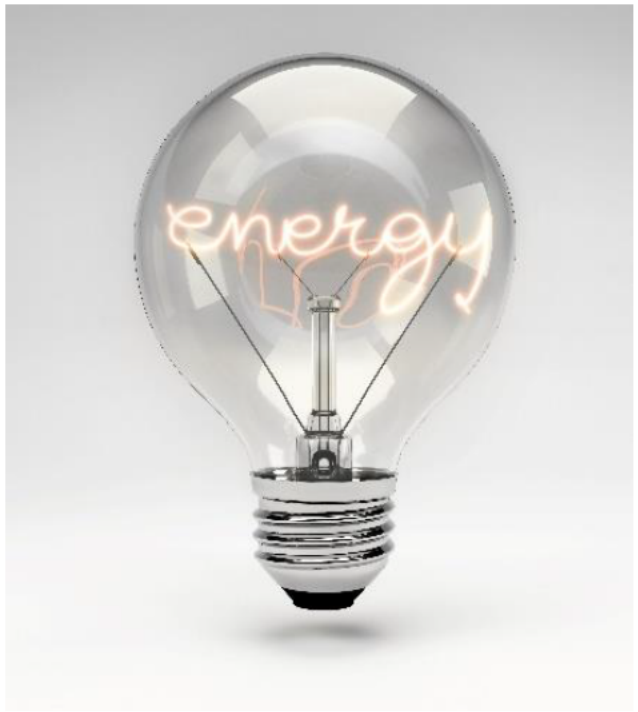
Non-Residential Sector

- C&I Comprehensive Program
- CHP Joint Program
- Commercial Direct Load Control
- Commercial New Construction
- Commercial Schools
- Small Business Direct Install
- Behavior Sector

Behavioral Comprehensive Program

- Home Energy Reports

Traditional Energy Efficiency Goals



Based on Energy

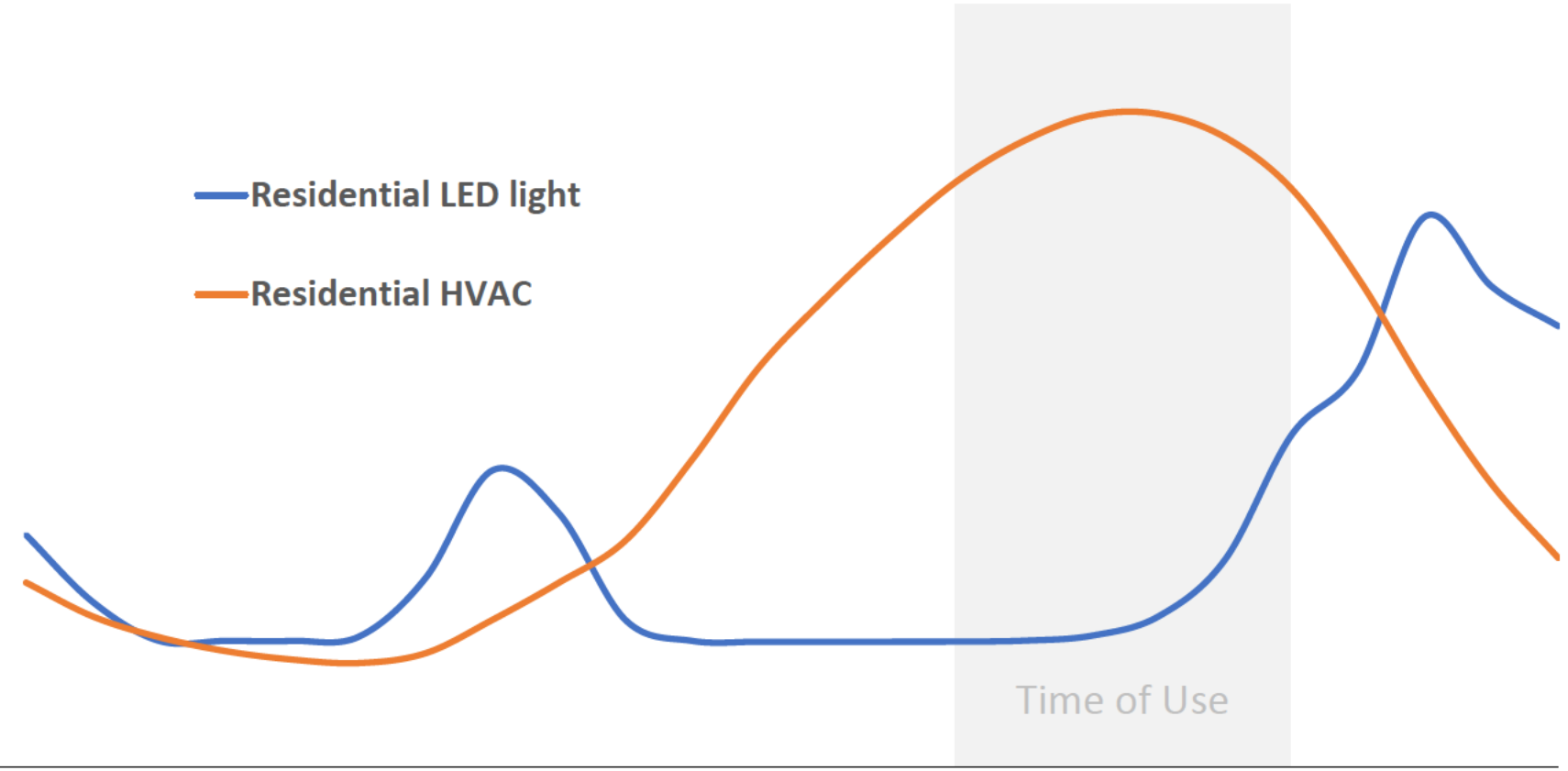
kWh = kWh

Creating Savings Goals & Budgets using Historical Methods

Year	Cumulative EE Requirement	Sales Forecast (MWh)	Cumulative EE at Standard (MWh)	Annual EE to Hit Standard (MWh)
2010	0.00%	9,291,788		
2011	1.25%	9,332,107	116,147	
2012	3.00%	9,264,818	279,963	163,816
2013	5.00%	9,278,918	463,241	183,278
2014	7.25%	8,520,347	672,722	209,481
2015	9.50%	8,431,556	809,433	136,711
2016	12.00%	8,387,869	1,011,787	202,354
2017	14.50%	8,415,003	1,216,241	204,454
2018	17.00%	8,359,804	1,430,551	214,310
2019	19.50%	8,420,870	1,630,162	199,611

Moving Beyond Traditional Energy Efficiency Programs

Time of Day Matters



Hour of the Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Example System Avoided Cost ($/MWh)	$ 20.26		$ 18.65		$ 17.48		$ 19.58		$ 20.26		$ 22.86		$ 30.37		$ 39.71		$ 52.88		$ 50.43		$ 47.31		$ 30.09		

Lighting Example

	Measure Count	1st Year Annual MWh Savings	Lifetime MWh Savings	1st Year $/MWh	Average Lifetime (Years)	LT $/MWh
2013	1,471,017	77,160	540,118	$ 37.40	7.00	$ 5.34
2014	1,529,566	95,742	670,195	$ 28.53	7.00	$ 4.08
2015	1,800,009	74,353	538,033	$ 39.11	7.24	$ 5.40
2016	1,399,640	59,120	729,948	$ 49.24	12.35	$ 3.99
2017	470,018	32,194	548,934	$ 37.88	17.05	$ 2.22
2018	896,178	43,483	753,595	$ 42.82	17.33	$ 2.47

$/MWh Table

	Commercial Lighting	Residential HVAC	Residential Lighting	Residential Pool Pumps
2020	$ 114.19	$ 452.91	$ 45.03	$ 215.80

Modeling

1. The modeling will compare resources including Energy Efficiency.
2. The most impactful Energy Efficiency measures are picked.
3. Program budgets and savings goals are built.

Results

- Our programs will focus on lowering production costs and capacity needs by targeting energy savings at the most impact times of the day and year.
- Resulting in optimization of an individual customer's actions with the demands of all customers on our system.