



# Energy and CO<sub>2</sub> Emissions Survey for West Vincent Township Chester County PA

- 1) Summary for municipal facilities & operations
- 2) Conservation strategies for top emitters,  
kW interval 'heat map' analysis
- 3) Township-wide summary (DVRPC)



# Energy and CO<sub>2</sub> Emissions Survey for West Vincent Township Chester County PA

## 1) Summary for municipal utilities & operations (Aug 2019 - Jul 2020)

### West Vincent Township Energy Use

Emissions measured in metric tons CO<sub>2</sub> - MTCO<sub>2</sub>

Facility Nickname	Total Annual Electric Consumption (kWh)	Total Annual Gas Consumption (Ccf)	Liquid Fuels (gallons)	Street Address	City	Carbon Emissions from Electricity	Carbon Emissions from NG	Liquid Fuel Emissions	Total Carbon Emissions	% of Total Emissions	Cum. % of Total Emissions	Total Cost
Diesel			8,322					84.66	84.66	45.9%	45.9%	\$24,550
Gasoline			7,353					59.09	59.09	32.0%	77.9%	\$25,000
WEST VINCENT TWP	92,699			729ST-MATTHEWS RD	CHESTER SPRINGS	35.23			35.23	19.1%	97.0%	\$7,879
WEST VINCENT TWP	14,482			729ST-MATTHEWS RDGARAGE	CHESTER SPRINGS	5.50			5.50	3.0%	100.0%	\$1,231
WEST VINCENT TWP	50			729ST-MATTHEWS RDPARK	CHESTER SPRINGS	0.02			0.02	0.0%	100.0%	\$4
								0.00	0.00	0.0%	100.0%	\$0
	107,231	0	15,675			40.76	0.00	143.75	184.51	100.0%		\$58,665

3 sources account for 97% of all municipal emissions. Emissions dominated by:

- Municipal vehicles
- Township building

Does not include LPG (≈ 1,500 gal/yr) to heat Bldg (≈ 1,000 gal/yr) to power the generator and for p offices. This would add 18 MTCO<sub>2</sub> to total emissi

1,500 g LPG ≈ 7.8 MTCO<sub>2</sub>  
 1,000 g fuel oil ≈ 10.2 MTCO<sub>2</sub>

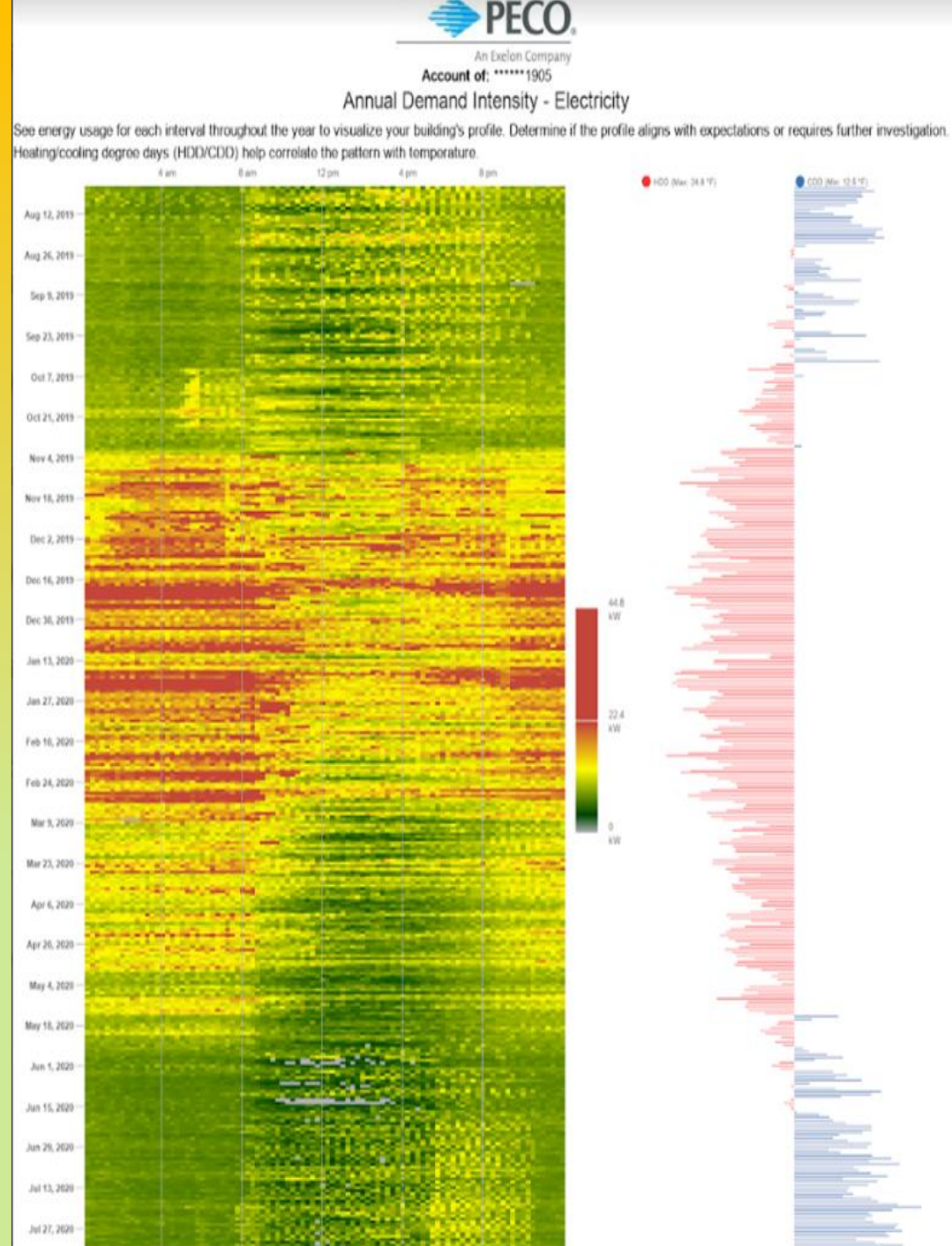
## 2) Conservation strategies for top emitters:

### Township building

92,699 kWh (86% muni elec)  
costing \$7,879/year

35 MTCO<sub>2</sub> (19% muni emissions)

- Electric resistance heating not controlled well
- Using thermostats for better control
- Better control of on and off times of heating
- Switch out system to heat pump with thermostats
- Better control of start time and shutoff



## 2) Conservation strategies for top emitters:

Diesel fuel usage - Bldg. Dept.(trucks, tractors, grader)

Cost: \$24,550

Emissions: 85 MTCO<sub>2</sub> (46% municipal)

Strategies: alternative fuels, exhaust controls, engine refit, idle reduction, vehicle or engine replacement

Gasoline fuel usage - Police, code vehicles

Cost: \$25,000

Emissions: 59 MTCO<sub>2</sub> (32% municipal)

Strategies: alternative fuels, idle reduction, hybrids, EV

# Energy and CO<sub>2</sub> Emissions Survey

## West Vincent Township, Chester County PA

### 3) Township-wide summary (DVRPC) - based on corrected 2015 data

	Residential	Commercial	Transport.	Total	
Energy Source	Emissions (MTCO <sub>2</sub> )	Emissions (MTCO <sub>2</sub> )	Emissions (MTCO <sub>2</sub> )	Emissions (MTCO <sub>2</sub> )	
Electricity	7,938	5,891	147	13,976	37%
Natural gas	1,980	379		2,359	6%
Fuel oil	3,497	1,677		5,174	14%
LPG	2,475	975		3,450	9%
Other Fuels	0	0	13,236	13,236	35%
<b>Total</b>	<b>15,890</b>	<b>8,922</b>	<b>13,383</b>	<b>38,195</b>	100%
	42%	23%	35%	100%	

#### Emissions dominated by Residential accounts

- Residents (weatherization, LED lighting, renewable energy companies, Energy Star appliances, PECO home energy audits, home solar, modernized HVAC). Sustainability incentives for new developments?
- Commercial sector (PECO audits and efficiency incentives, solar generation, modernized HVAC systems, power purchase agreements-PPA, explore C-PACE)
- Electricity and transportation (alt. fuels, hybrids, electric vehicles and charging stations)
- Municipal CO<sub>2</sub> emissions → 185 MTCO<sub>2</sub> is 0.5% of township emissions but 2% commercial

This presented data is from a larger data set developed by the DVRPC with the aid of PECO in 2015. An error in the data for West Vincent Township was discovered recently but it has been fixed in this presentation.

Original DVRPC data can be found here:

<https://www.dvrpc.org/webmaps/MunicipalEnergy/mcdDetail.aspx?mcdcode=4202984160>

Presentation presented by the West Vincent Clean Energy Transition Team (WVCETT)

- Kathryn McDevitt
- Ted Otteni
- Kirk Reinbold
- David Weber
- Ken Witek

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