



24th Annual Conference on the Environment
OSCEOLA 25 X 2025

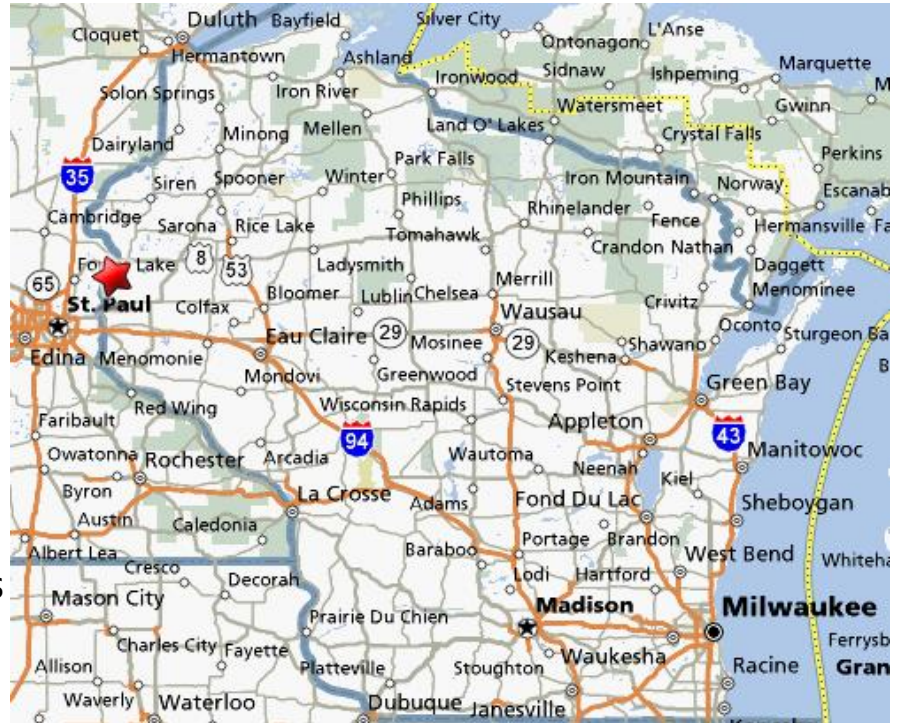
Timm Johnson, Osceola School Board President
Earle Brown Heritage Center
Brooklyn Center, MN.
November 12, 2009



Osceola Background

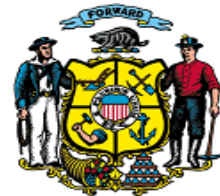


- Osceola is located NW Wisconsin
- Population: 2,750
- School Pop: 1,900
- Total School District Pop: 10,000
- 60% of Residents Commute to Twin Cities Metro Area
- Industrial Park Employs 1,800



Overview

- **Osceola Schools Researching Green Issues**
- **Natural Step Study Circles**
- **Village of Osceola approved 25 x 25 Resolution**
- **Received OEI Grant**
 - One of ten grants received in the state
 - Reduce energy usage 25% by 2025
- **Energy data collected for 2006,07,08 calendar years**
 - KWH's
 - Therms
 - Liquid Fuels
- **School has utilized FOE programs**





Village and School Energy Usage

Your 2008 energy usage baseline is **42,624** million (MM) Btus.

That baseline is comprised of 3,990,644 kWh,
214,800 therms,
16,716 gallons of gasoline,
and 39,247 gallons of diesel.

By assuming an annual growth rate of **0.00%** ,
in 2025 your energy use baseline will be **42,624** MMBtu.

Your 25% energy reduction goal
for 2025 is therefore **10,656** MMBtu,
or 25% of your 2008 consumption.

This translates into 3,123,109 kWh or
106,560 therms or
85,936 gallons gas or
76,662 gallons diesel or
some combination
of those fuels.

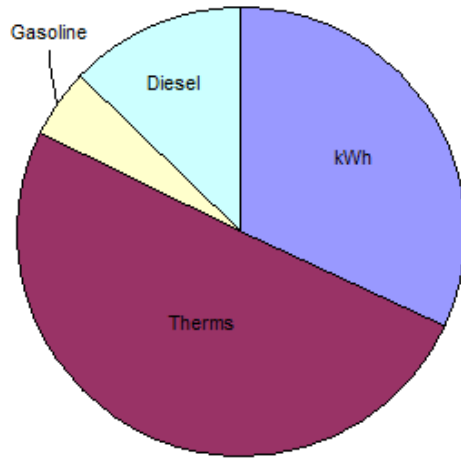


Osceola 2008 Energy Baseline: Additional Info



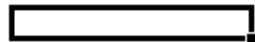
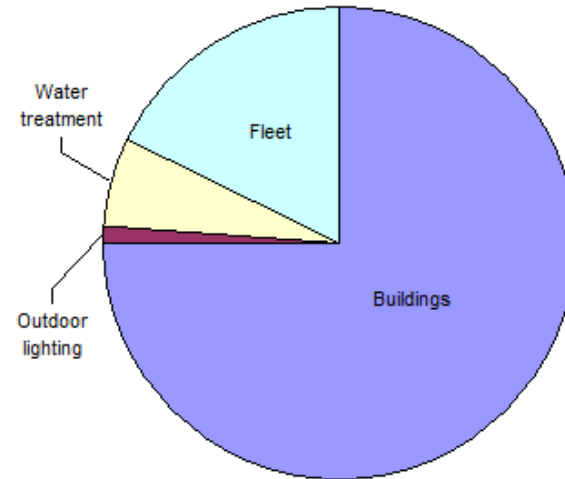
Total Consumption by Energy Type

Energy type	Percent of total Btus
Electricity	32%
Natural Gas	50%
Gasoline	5%
Diesel	13%



Total Consumption by End Use

Energy end use	Percent of total Btus
Buildings	75%
Infrastructure	7%
Lighting	1%
Water	6%
Fleet	18%

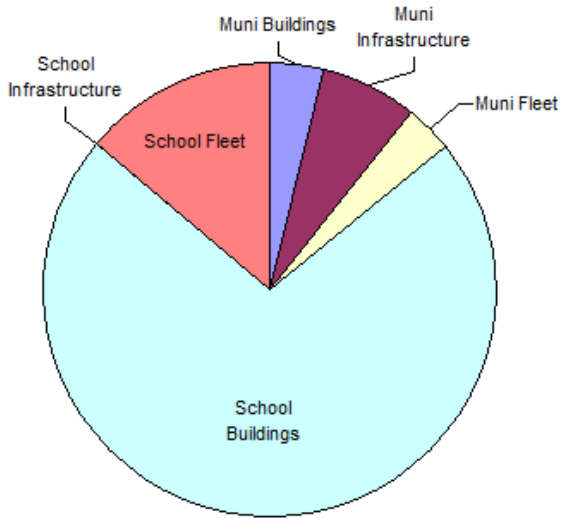


Osceola 2008 Energy Baseline: Additional Info



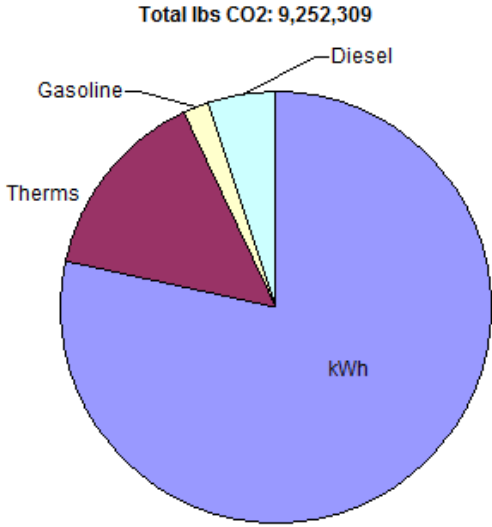
Total Consumption by End Use and Sector

Sector + Energy end use	Percent of total Btus
Muni Buildings	4%
Muni Infrastructure	7%
Muni Fleet	3%
School Buildings	72%
School Infrastructure	0%
School Fleet	14%



Total CO2 Emissions by Energy Type

Energy type	Percent of total CO2
Electricity	78%
Natural Gas	15%
Gasoline	2%
Diesel	5%



2008 Energy Usage



Your 2008 **schools-only** energy usage baseline is
That baseline is comprised of

and

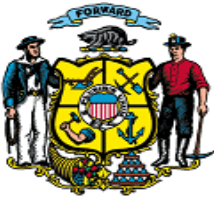
By assuming an annual growth rate of
in 2025 your energy use baseline will be

Your 25% energy reduction goal
for 2025 is therefore
or
This translates into

37,673 million (MM) Btus.
2,955,388 kWh,
214,800 therms,
6,924 gallons of gasoline,
37,773 gallons of diesel.

0.00%
37,673 MMBtu

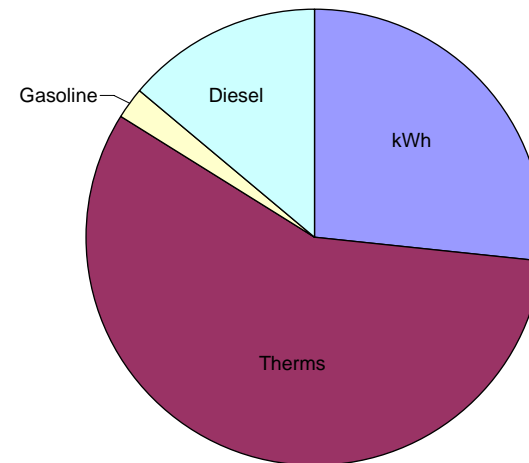
9,418 MMBtu,
25% of your 2008 consumption.
2,760,317 kWh or
94,182 therms or
75,953 gallons gas or
67,757 gallons diesel or
some combination
of those fuels.





Osceola 2008 Total Consumption by Energy Type

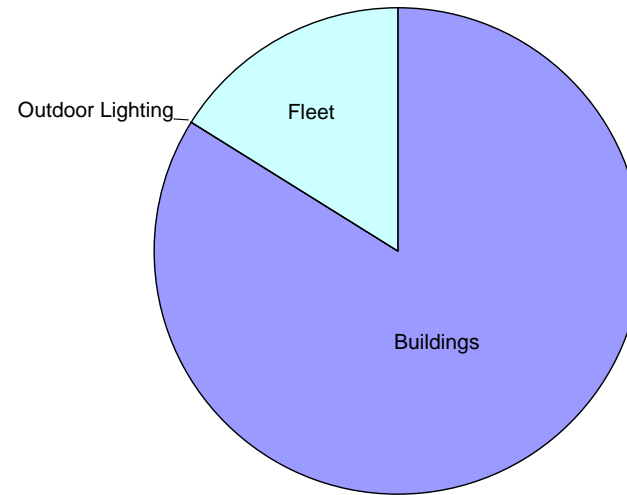
<i>Energy type</i>	<i>Percent of total Btus</i>
Electricity	27%
Natural Gas	57%
Gasoline	2%
Diesel	14%



Total Consumption by End Use



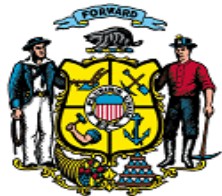
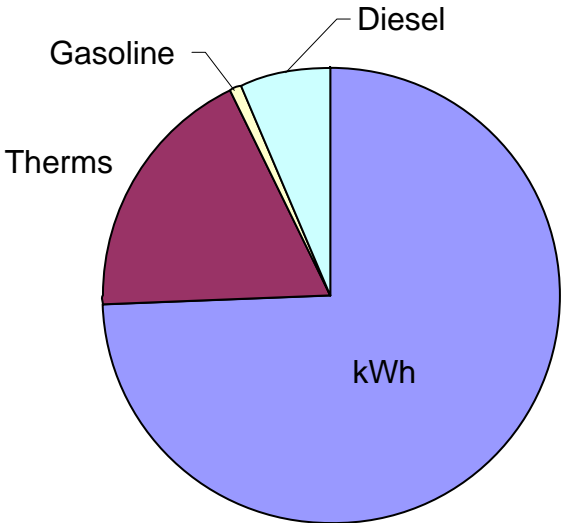
<i>Energy end use</i>	<i>Percent of total Btus</i>
Buildings	84%
Infrastructure	0%
<i>Lighting</i>	0%
Fleet	16%



Total CO2 Emissions by Energy Type

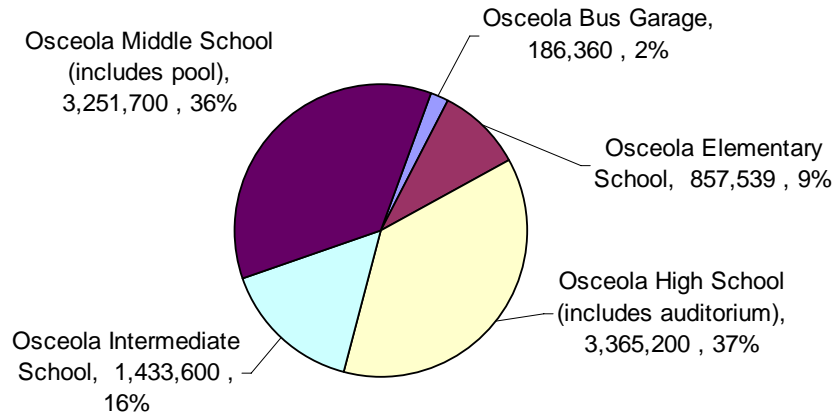


<i>Energy type</i>	<i>Percent of total CO2</i>
Electricity	74%
Natural Gas	19%
Gasoline	1%
Diesel	6%





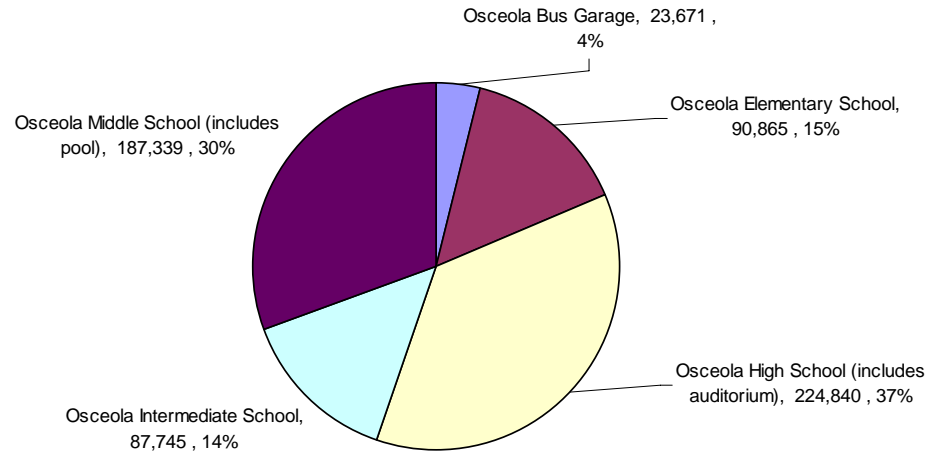
SCHOOLS 3-YEAR TOTAL ELECTRIC USAGE



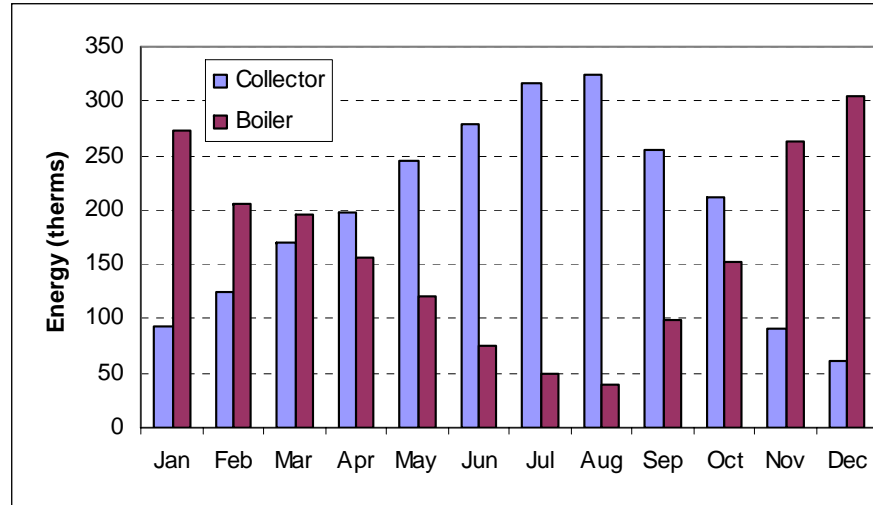
Building name/purpose	2006 total	2007 total	2008 total	3- year total	% of total
Osceola Bus Garage	58,800	63,400	64,160	186,360	2%
Osceola Elementary School	303,677	277,842	276,020	857,539	9%
Osceola High School (includes auditorium)	1,182,400	1,095,800	1,087,000	3,365,200	37%
Osceola Intermediate School	498,000	486,000	449,600	1,433,600	16%
Osceola Middle School (includes pool)	1,112,500	1,061,600	1,077,600	3,251,700	36%
Grand Total	3,155,377	2,984,642	2,954,380	9,094,399	100%



SCHOOLS 3-YEAR TOTAL NATURAL GAS USAGE



Building name/purpose	Sum of 2006 total	Sum of 2007 total	Sum of 2008 total	Sum of 3-year total	BTU/Sq Ft.
Osceola Bus Garage	6,751	8,352	8,568	23,671	0.476
Osceola Elementary School	30,328	28,687	31,850	90,865	0.398
Osceola High School (includes auditorium)	67,083	77,970	79,787	224,840	0.457
Osceola Intermediate School	28,010	28,837	30,898	87,745	0.363
Osceola Middle School (includes pool)	65,354	58,288	63,697	187,339	0.616
Grand Total	197,526	202,134	214,800	614,460	



	With Cover		
	Collector	Boiler	Load
	therms	therms	therms
Jan	93.10	272.60	365.70
Feb	124.70	205.60	330.30
Mar	170.00	195.70	365.70
Apr	197.40	156.50	353.90
May	245.00	120.70	365.70
Jun	278.10	75.90	354.00
Jul	316.80	48.90	365.70
Aug	325.20	40.50	365.70
Sep	254.10	99.80	353.90
Oct	212.50	153.20	365.70
Nov	90.70	263.30	354.00
Dec	61.50	304.20	365.70
Annual	2369.10	1936.90	4306.00

Future of Renewable Energy in Osceola



- Solar Panels and Thermal Blanket
- May 2009 Study on Potential Renewable Energy
 - osceola.k12.wi.us then log on to Go Green
- Potential 2010 Referendum on Renewable Energy
 - Geothermal applications for High, Middle and Intermediate schools
 - Solar Panels for heating at the bus garage
 - Potential wind turbine for creating electricity
 - Potential solar panels for creating electricity
 - Additional insulation to conserve energy in all school buildings



Osceola Energy Independence Team

- 11 Members from the school, village and the community
- 5 Priority items have been identified
 - Additional conservation of energy in buildings
 - Geothermal application for the schools
 - Anaerobic digester for producing electricity
 - Replacement of fossil fuel with alternative fuels
 - Replace school roof



Osceola Energy Independence Team

Any Questions?

Thank you for your time

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