

# LEED 2009 EA Credit 1 Summary Report

WTO\_Eff\_VT  
Kohler and Lewis

11/06/2014  
10:47AM

## General Information

Simulation Program Name and Version ..... **Hourly Analysis Program v4.61**  
Simulation Weather File Name ..... **Burlington, Vermont (TM2)**

## Building Designations

Proposed Building ..... **Waitsfield Town Office**  
Baseline - 0 degrees ..... **[B000] Waitsfield Town Office**  
Baseline - 90 degrees ..... **n/a**  
Baseline - 180 degrees ..... **n/a**  
Baseline - 270 degrees ..... **n/a**

## Floor Areas and Window-to-Wall Ratios

	Proposed Design	Baseline
Total Conditioned Floor Area (ft²)	3,991	3,991
Total Floor Area (ft²)	3,991	3,991
Window to Wall Ratio	20 %	20 %
Gross Wall Area (ft²)	3,902	3,902
Vertical Window Area (ft²)	774	774

## Advisory Messages

	Proposed Building	Baseline Building (0 deg. rotation)	Difference
Number of hours heating loads not met	0	0	0
Number of hours cooling loads not met	618	2	+616

## Energy Type Summary

Energy Type	Utility Rate Description	Units of Energy	Units of Demand
Electric	Electric Rate	kWh	kW
Propane	Propane Rate	Gal	MBH

### Energy Units:

1 kBtu = 1,000 BTU  
1 kWh = 3.412 kBtu  
1 Gal = 92.000 kBtu

### Demand Units:

1 MBH = 1,000 BTU/h  
1 kW = 3.412 MBH

## Baseline Performance - Performance Rating Method Compliance

End Use	Process	Baseline Design Energy Type	Units of Annual Energy & Peak Demand	Baseline (0 deg rotation)	Baseline (90 deg rotation)	Baseline (180 deg rotation)	Baseline (270 deg rotation)	Baseline Design
Interior Lighting	No	Electric	Energy kWh	8,603	0	0	0	8,603
			Demand kW	3.1	0.0	0.0	0.0	3.1
Space Heating	No	Electric	Energy kWh	0	0	0	0	0
			Demand kW	0.0	0.0	0.0	0.0	0.0
Space Heating	No	Propane	Energy Gal	987	0	0	0	987
			Demand MBH	99.9	0.0	0.0	0.0	99.9
Space Cooling	No	Electric	Energy kWh	1,434	0	0	0	1,434
			Demand kW	3.5	0.0	0.0	0.0	3.5
Pumps	No	Electric	Energy kWh	0	0	0	0	0
			Demand kW	0.0	0.0	0.0	0.0	0.0
Heat Rejection	No	Electric	Energy kWh	0	0	0	0	0
			Demand kW	0.0	0.0	0.0	0.0	0.0
Fans - Interior	No	Electric	Energy kWh	7,026	0	0	0	7,026

# LEED 2009 EA Credit 1 Summary Report

WTO\_Eff\_VT  
Kohler and Lewis

11/06/2014  
10:47AM

			Demand kW	2.5	0.0	0.0	0.0	2.5
Receptacle Equipment	Yes	Electric	Energy kWh	2,424	0	0	0	2,424
			Demand kW	0.9	0.0	0.0	0.0	0.9
Domestic Hot Water	Yes	Electric	Energy kWh	569	0	0	0	569
			Demand kW	0.1	0.0	0.0	0.0	0.1
<b>Baseline Energy Totals</b>	Total Annual Energy Use kBTU			159,211	0	0	0	159,211
	Annual Process Energy kBTU							10,212
	Process Energy Modeling Compliance							N

(1) This form determines compliance using cost calculations from Section 1.9. Process Energy Costs should be modeled to accurately reflect the proposed building. Process Energy must be the same in the baseline and proposed cases, unless an exceptional calculation is used. Process energy costs must be at least 25% of the total baseline energy costs. Any exceptions must be supported by a narrative and/or other supporting documentation.

(2) In this project Process Energy is 8% of total baseline energy cost.

## Baseline Energy Costs

Energy Type	Baseline Cost (0 deg rotation) (\$)	Baseline Cost (90 deg rotation) (\$)	Baseline Cost (180 deg rotation) (\$)	Baseline Cost (270 deg rotation) (\$)	Baseline Building Performance (\$)
Electric	3,560	0	0	0	3,560
Propane	3,167	0	0	0	3,167
<b>Total Baseline Costs</b>	<b>6,727</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,727</b>

## Performance Rating Table - Performance Rating Method Compliance

End Use	Process ?	Baseline Building Units	Baseline Building Results	Proposed Design Energy Type	Proposed Design Units	Proposed Building Results	Percent Savings
Interior Lighting	No	Energy kWh	8,603	Electric	Energy kWh	8,603	0 %
		Demand kW	3.1		Demand kW	3.1	0 %
Space Heating	No	Energy kWh	0	Electric	Energy kWh	2,367	n/a
		Demand kW	0.0		Demand kW	2.9	n/a
Space Heating	No	Energy Gal	987	Propane	Energy Gal	0	100 %
		Demand MBH	99.9		Demand MBH	0.0	100 %
Space Cooling	No	Energy kWh	1,434	Electric	Energy kWh	1,370	4 %
		Demand kW	3.5		Demand kW	2.0	42 %
Pumps	No	Energy kWh	0	Electric	Energy kWh	0	n/a
		Demand kW	0.0		Demand kW	0.0	n/a
Heat Rejection	No	Energy kWh	0	Electric	Energy kWh	0	n/a
		Demand kW	0.0		Demand kW	0.0	n/a
Fans - Interior	No	Energy kWh	7,026	Electric	Energy kWh	2,834	60 %
		Demand kW	2.5		Demand kW	1.6	35 %
Receptacle Equipment	Yes	Energy kWh	2,424	Electric	Energy kWh	2,424	0 %
		Demand kW	0.9		Demand kW	0.9	0 %
Domestic Hot Water	Yes	Energy kWh	569	Electric	Energy kWh	569	0 %
		Demand kW	0.1		Demand kW	0.1	0 %
<b>Energy Totals</b>	Baseline Total Energy Use (kBTU)		159,211	Proposed Total Energy Use (kBTU)		61,986	61 %
	Baseline Annual Process Energy (kBTU)		10,212	Proposed Annual Process Energy (kBTU)		10,212	0 %

# LEED 2009 EA Credit 1 Summary Report

WTO\_Eff\_VT  
Kohler and Lewis

11/06/2014  
10:47AM

## Energy Cost and Consumption by Energy Type - Performance Rating Method Compliance

Energy Type	Proposed Design		Baseline Design	
	Energy Use	Cost (\$)	Energy Use	Cost (\$)
Electric	18,167 kWh	3,225	20,056 kWh	3,560
Propane	0 Gal	0	987 Gal	3,167
<b>Subtotal (Model Outputs)</b>	<b>61,986 kBTU</b>	<b>3,225</b>	<b>159,211 kBTU</b>	<b>6,727</b>
	<b>Energy Generated</b>	<b>Renewable Energy Cost Savings (\$)</b>		
<b>Total On Site Renewable Energy</b>				
	<b>Energy Savings</b>	<b>Cost Savings (\$)</b>		
<b>Exceptional Calculation Totals</b>				
	<b>Energy Use</b>	<b>Cost (\$)</b>		
<b>Net Proposed Design Total</b>	<b>61,986 kBTU</b>	<b>3,225</b>		
	<b>Percent Savings</b>		<b>Energy Use Intensity</b>	
	<b>Energy</b>	<b>Cost</b>	<b>Proposed Design (kBTU/ft<sup>2</sup>)</b>	<b>Baseline Design (kBTU/ft<sup>2</sup>)</b>
<b>Summary Data</b>	<b>61.1 %</b>	<b>52.1 %</b>	<b>15.53</b>	<b>39.89</b>

## LEED 2009 EA Credit 1 Points Reference Table

New Construction % Cost Savings	Existing Building Renovations % Cost Savings	LEED 2009 Points Awarded
12%	8%	1 pt
14%	10%	2 pt
16%	12%	3 pts
18%	14%	4 pts
20%	16%	5 pts
22%	18%	6 pts
24%	20%	7 pts
26%	22%	8 pts
28%	24%	9 pts
30%	26%	10 pts
32%	28%	11 pts
34%	30%	12 pts
36%	32%	13 pts
38%	34%	14 pts
40%	36%	15 pts
42%	38%	16 pts
44%	40%	17 pts
46%	42%	18 pts
<b>48%</b>	<b>44%</b>	<b>19 pts</b>