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LEED Default Renewable Energy Calculations

Key: = input
= Key Result

STEPPING STONES MUSEUM, NORWALK CT

Inputs	Value	units			
Building Type	Office	drop down	Building Type	Public Assembly	drop down
State	Connecticut	drop down	State	Connecticut	drop down
Building Square Footage	9,350	SF	Building Square Foota	9,350	SF
Electricity Cost	$0.0900	$/kWh	Electricity Cost	$0.0900	$/kWh
Natural Gas Cost	$0.0110	$/kBtu	Natural Gas Cost	$0.0110	$/kBtu
Electricity Demand Charge?	no	y/n	Electricity Demand Ch	no	y/n
Natural Gas Demand Charge?	no	y/n	Natural Gas Demand	no	y/n

Baseline/Default Energy Information	Value	units			
Building Median Electrical Intensity	11.7	kWh/sf-yr	Building Median Elect	6.8	kWh/sf-yr
Building Median Non-Electrical Fuel Intensity	58.5	kBtu/sf-yr	Building Median Non-I	72.9	kBtu/sf-yr
Total Energy Intensity	98.4	kBtu/sf-yr	Total Energy Intensity	96.1	kBtu/sf-yr
Default Electrical Consumption	109,395	kWh		63,580	kWh
Default Non-Electrical Fuel Consumption	546,975	kBtu		681,615	kBtu
Energy Costs					
Electricity Cost	$9,846	/ yr		$5,722	/ yr
Natural Gas Fuel Cost	$6,022	/ yr		$7,505	/ yr
Electricity Demand Charge	$0	/ yr		$0	/ yr
Natural Gas Demand Charge	$0	/ yr		$0	/ yr
Default Energy Cost	$15,868	/ yr		$13,227	/ yr
TOTAL ENERGY COST	**$29,095**	/ yr			

CO2 Emissions	lbs CO2 / year	tons CO2 / year
Annual CO2 Emissions from Electricity Consumption	82,504	41
Annual CO2 Emissions from Natural Gas Combustion	63,660	32
Total Annual CO2 Emissions	146,164	73

Onsite PV	Value	units		
Annual Energy Costs Before PV	$29,095			$29,095
% Annual Energy Cost Supplied by Renewables Target	7.5%			2.5%
Annual Energy Cost Supplied by Renewables Target	$2,182			$727
Solar Hot Water offset	$789			$789
Annual Energy Cost To Be Supplied by Photo Voltaic	$1,394			$0
kWh of production to meet % RE Target	**15,484**	**kWh**		**0**
kWh production from 1 kW of PV (source from PVWatts)	770	kWh		770
Estimated PV System Size (assuming South Facing, 45%)	**20.1**	**kW**		**0.0**

Solar Hot Water provides 2.5% of energy cost or EAc2.1 point

Annual Cost Savings from PV	$1,394	
Associated Square Footage of PV system	2,011	SF
Annual Energy Costs After PV	$27,701	/ yr
EAc1 % Reduction	-75%	
Raw Cost of PV System per Watt Installed	$9.00	per watt
Rebate (http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=CT10F&state=CT&CurrentPageID=1&RE=1&EE=1)	$3.00	per watt
Federal Tax Incentive	30%	
Net Cost per Watt	$4.20	per watt
Net System Cost	$84,459	
Simple Payback	61	

CO2 Emissions	lbs CO2 / year	tons CO2 / year
Annual CO2 Emissions from Electricity Consumption	37,825	19
Annual CO2 Emissions from Natural Gas Combustion	38,196	19
Total Annual CO2 Emissions	76,020	38
CO2 Emissions Reductions	48.0%	