

Efficiency Glossary

CFL. Compact fluorescent light bulb. CFLs use electricity 4 times as efficiently and use $\frac{1}{4}$ the energy as conventional incandescent bulbs.

R-Value. Insulation that you put between the rafters in your walls and ceiling *resists* the flow of heat through the walls and ceiling. The R-value is a measure of this resistance to heat loss or heat gain. If the insulation in your walls is R-6 and you replace this insulation with R-18 insulation, then the flow of heat through the new wall will be $\frac{6}{18} = \frac{1}{3}$ the heat flow through the old wall.

SEER. Seasonal Energy Efficiency of a central air-conditioner. An air-conditioner with SEER = 12 is twice as efficient as an air-conditioner with SEER = 6.

Heat Pump. An air-conditioner is a heat pump used for cooling. The AC pumps heat from the air inside the house and dumps it into the outside air. An AC run backwards can be used for heating; it takes heat from the outside air and dumps it into the air inside the house. A geothermal heat pump pumps heat between the air inside the house and ground water or the soil several feet underground. Using the ground as the source for heat in the winter or as the sink for heat in the summer is much more efficient than using outside air as the source or sink. This kind of heat pump is called a geothermal heat-pump or a ground-source heat pump.

Infiltration. Outside air that enters a house through gaps around windows and doors and other poor seals is called infiltration. This air can be a significant mechanism for losing heat in the winter or gaining heat in the summer in a leaky old house or an improperly sealed new house.

Solar Energy Glossary

Passive Solar. Uses or avoids solar inputs by building orientation and architecture.

Daylighting. The use of natural sunlight to supplement or replace artificial lighting. Use of daylight seems to have some health benefits.

Solar Thermal. Uses collectors, pumps, and fans to heat water or air for space heating or hot water. Solar hot water heaters do not make electricity, they make hot water. Typically have 5 year payback period.

Solar Electric (Photovoltaic or PV). Uses PV array, an inverter, and a grid connection to produce electricity. In CT net-metering and generous state subsidy means that systems have 10 year payback period.

CT Clean Energy Options

CT Clean Energy Options is a program where you pay an extra 1 cent per kWh to get all your energy from renewable resources. This would cost the typical CT residential customer an extra \$7 per month and lets you support renewable energy production for a very low price.