Tax Deduction Qualified Software
EnerSim version 9.02

On this page you'll find information about the EnerSim version 9.02 qualified computer software (buildings.energy.gov/qualified_software.html), which calculates energy and power cost savings that meet federal tax incentive requirements for commercial buildings.

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Statements in quotes are from the software developer.

Internal Revenue Code §179D (c)(1) and (d) Regulations Notice 2006-52, Section 6 requirements as amplified by Notice 2008-40, Section 4 requirements.	
(1) The name, address, and (if applicable) web site of the software developer;	Southern Company Services 241 Ralph McGill Boulevard Atlanta, Georgia 30308
(2) The name, email address, and telephone number of the person to contact for further information regarding the software;	Mr. Ambavi Bhimani arbhiman@southernco.com +1 (404) 506-3717
(3) The name, version, or other identifier of the software as it will appear on the list;	EnerSim version 9.02
(4) All test results, input files, output files, weather data, modeler reports, and the executable version of the software with which the tests were conducted; and	Provided to DOE.
(5) A declaration by the developer of the software, made under penalties of perjury, that—	"On behalf of the EnerSim development team I certify the following:"
(a) The software has been tested according to ANSI/ASHRAE Standard 140-2007 Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs;	"EnerSim version 9.02 has been tested according to ANSI/ASHRAE Standard 140-2007 Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs."
(b) The software can model explicitly—	"The EnerSim is fully compliant with ASHRAE 90.1-2001 and meets all of the below requirements."
(i) 8,760 hours per year;	"EnerSim version 9.02 complies with this requirement."
(ii) Calculation methodologies for the building components being modeled;	" EnerSim version 9.02 complies with this requirement."
(iii) Hourly variations in occupancy, lighting power, miscellaneous equipment power, thermostat setpoints, and HVAC system operation, defined separately for each day of the week and holidays;	" EnerSim version 9.02 complies with this requirement."
(iv) Thermal mass effects;	" EnerSim version 9.02 complies with this requirement."

(v) Ten or more thermal zones;	" EnerSim version 9.02 complies with this requirement."
(vi) Part-load performance curves for mechanical equipment;	" EnerSim version 9.02 complies with this requirement."
(vii) Capacity and efficiency correction curves for mechanical heating and cooling equipment; and	" EnerSim version 9.02 complies with this requirement."
(viii) Air-side and water-side economizers with integrated control.	" EnerSim version 9.02 complies with this requirement."
(c) The software can explicitly model each of the following HVAC systems listed in Appendix G of Standard 90.1-2004:	
(i) Packaged Terminal Air Conditioner (PTAC) (air source), single-zone package (through the wall), multi-zone hydronic loop, air-to-air DX coil cooling, central boiler, hot water coil.	"EnerSim version 9.02 does not model this specific system configuration (EnerSim version 9.02 can model PTACs, but not combined with multi-zone hydronic loop/boiler/hot water coils)."
(ii) Packaged Terminal Heat Pump (PTHP) (air source), single-zone package (through the wall), air-to-air DX coil heat/cool.	" EnerSim version 9.02 models this system configuration."
(iii) Packaged Single Zone Air Conditioner (PSZ-AC), single-zone air, air-to-air DX coil cool, gas coil, constant-speed fan.	"EnerSim version 9.02 models this system configuration."
(iv) Packaged Single Zone Heat Pump (PSZ-HP), single-zone air, air-to-air DX coil cool/heat, constant-speed fan.	"EnerSim version 9.02 models this system configuration."
(v) Packaged Variable-Air-Volume (PVAV) with reheat, multi-zone hydronic loop, air-to-air DX coil, VAV fan, boiler, hot water VAV terminal boxes.	"EnerSim version 9.02 does not model this specific system configuration (EnerSim version 9.02 can model a packaged VAV system with air-to-air DX cooling coil, but VAV terminal reheat is restricted to electric or gas heater)."
(vi) Packaged Variable-Air-Volume with parallel fan powered boxes (PVAV with PFP boxes), multi-zone air, DX coil, VAV fan, fan-powered induction boxes, electric reheat.	"EnerSim version 9.02 does not model this specific system configuration (EnerSim version 9.02 can model this system, but fan-powered boxes are modeled as 'series' instead of 'parallel')."
(vii) Variable-Air-Volume (VAV) with reheat, multi-zone air; multi-zone hydronic loop, air-handling unit, chilled water coil, hot water coil, VAV fan, chiller, boiler, hot water VAV boxes.	"EnerSim version 9.02 models this system configuration except all heating is provided by the hot water VAV boxes (no hot water coil modeled in the air handler unit)."
(viii) Variable-Air-Volume with parallel fan powered boxes (VAV with PFP boxes), multi-zone air, air-handling unit, chilled water coil, hot water coil, VAV fan, chiller, fan-powered induction boxes, electric reheat.	"EnerSim version 9.02 does not model this specific system configuration (fan powered boxes are modeled as 'series' instead of 'parallel', and all heating is provided at the VAV terminals and is restricted to a single source [e.g., electric strip or hot-water boiler])."

(d) The software can—	
(i) Either directly determine energy and power costs or produce hourly reports of energy use by energy source suitable for determining energy and power costs separately; and	"EnerSim version 9.02 complies with this requirement."
(ii) Design load calculations to determine required HVAC equipment capacities and air and water flow rates.	"EnerSim version 9.02 complies with this requirement."
(e) The software can explicitly model:	
(i) Natural ventilation.	"EnerSim version 9.02 can model variations in ventilation/infiltration based on schedules and/or outdoor temperature."
(ii) Mixed mode (natural and mechanical) ventilation.	"EnerSim version 9.02 cannot model mixed mode ventilation and shall not be used for projects that employ this technology."
(iii) Earth tempering of outdoor air.	"EnerSim version 9.02 cannot model earth tempering of outdoor air and shall not be used for projects that employ this technology."
(iv) Displacement ventilation.	"EnerSim version 9.02 cannot model displacement ventilation and shall not be used for projects that employ this technology."
(v) Evaporative cooling.	"EnerSim version 9.02 cannot model evaporative cooling and shall not be used for projects that employ this technology."
(vi) Water use by occupants for cooking, cleaning or other domestic uses.	"EnerSim version 9.02 allows interior latent (moisture) loads to be specified and varied via schedules. But EnerSim version 9.02 does not sum up and report water usage by occupants as an output from the program."
(vii) Water use by heating, cooling, or other equipment, or for on-site landscaping.	"EnerSim version 9.02 cannot model water use by heating/cooling/other equipment or for on-site landscaping."
(viii) Automatic interior or exterior lighting controls (such as occupancy, photocells, or time-clocks).	"EnerSim version 9.02 can model interior lighting control based on user-defined schedules (e.g., vary with occupancy and/or time of day [time clock]). Exterior lighting can also be scheduled (e.g., time clock) and/or controlled based on exterior lighting levels (e.g., photocell)."
(ix) Daylighting (sidelighting, skylights, or tubular daylight devices).	"EnerSim version 9.02 models heat gains/losses through skylights. However, EnerSim does not calculate interior lighting levels and vary lighting energy use based on predicted lighting levels."

(x) Improved fan system efficiency through static pressure reset.	"EnerSim version 9.02 cannot explicitly model static pressure reset."
(xi) Radiant heating or cooling (low or high temperature).	"EnerSim version 9.02 cannot explicitly model radiant heating or cooling systems."
(xii) Multiple or variable-speed control for fans, cooling equipment, or cooling towers.	"EnerSim version 9.02 allows users to specify part-load curves and specify multiple components (for staging) for fans, pumps, and cooling equipment. For cooling towers, only single-speed cycling fans can be modeled."
(xiii) On-site energy systems (such as combined heat and power systems, fuel cells, solar photovoltaic, solar thermal, or wind).	"EnerSim version 9.02 cannot model on-site energy systems and shall not be used for projects that employ this technology."

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