

EnergyPlus File Generator

The EnergyPlus Example File Generator is a free, Web-based service which makes it easier to use EnergyPlus, DOE's building energy analysis and thermal load simulation program. The Example File Generator's Web-based form allows a user to enter general information about a building. The application then automatically creates a complete EnergyPlus input file, runs an annual simulation, and emails the EnergyPlus input, output, DXF and other files along with an annual summary of the energy results. Because EnergyPlus input files contain detailed information, the building description has been reduced to a set of simple, high-level parameters. The remaining detail is generated from defaults, building energy standards, and computer routines that automatically generate a complete geometry description. This beta application is a spin-off of commercial building research and is therefore currently only available for commercial buildings.

To use the Example File Generator, follow these steps:

1. Determine how to enter information about the building by selecting input method, standard, and units.

The screenshot shows the 'EnergyPlus Example File Generator: Step 1' web form. It includes a 'Requirements' section for Internet Explorer, a 'Welcome' message, and a 'Please help us to improve this service' note. The main form has three sections: 'Input Method' with radio buttons for 'Basic', 'Detailed', and 'Fully Parameterized'; 'Standard' with radio buttons for 'ASHRAE 90.1-2004', 'ASHRAE 90.1-2001', 'ASHRAE 90.1-1999', and 'ASHRAE/IESNA/USGBC/DOE Advanced Energy Design Guide for 30% Savings (Office and Retail only)'; and 'Units' with radio buttons for 'SI (International System Metric)' and 'I-P (English Inch-Pound)'. A 'Generate Input Form' button is at the bottom.

2. Enter building location and floor area.

The screenshot shows the 'EnergyPlus Example File Generator: Step 2' web form. It includes a 'User Information' section with an 'Email Address' field. The 'Input Method, Standard, Units' section has dropdown menus for 'Input Method', 'Standard', and 'Units'. The 'Location' section has dropdown menus for 'Country', 'State', and 'City'. The 'Building Geometry' section has dropdown menus for 'Total Floor Area', 'Number of Floors', 'Roof Type', 'Insulation Entire above Deck', and 'Wall Type'. A 'Generate Input Form' button is at the bottom.

3. Select building shape.

The screenshot shows the 'EnergyPlus Example File Generator: Step 3' web form. It includes a 'Building Geometry' section with dropdown menus for 'Number of Floors', 'Roof Type', 'Insulation Entire above Deck', 'Wall Type', and 'Steel Framed'. The 'Orientation' section has a dropdown for 'Orientation (degrees)'. The 'Geometry Configuration' section has radio buttons for 'Minimum Zones' and 'Perimeter and Core Zoning'. The 'Geometry Parameters' section has radio buttons for 'Rectangle', 'Courtyard', 'L-Shape', 'H-Shape', 'T-Shape', and 'U-Shape'. A diagram shows a building footprint with dimensions 'End 1', 'End 2', 'Width 1', and 'Width 2'. The 'Floor to Floor Height' is 12.47 ft. The 'Length 1' is 131.23 ft, 'Length 2' is 0.00 ft, 'Width 1' is 131.23 ft, and 'Width 2' is 131.23 ft.

4. Enter building dimensions.

The screenshot shows the 'EnergyPlus Example File Generator: Step 4' web form. It includes a 'Geometry Parameters' section with radio buttons for 'Minimum Zones' and 'Perimeter and Core Zoning'. A diagram shows a building footprint with dimensions 'End 1', 'End 2', 'Width 1', and 'Width 2'. The 'Floor to Floor Height' is 12.47 ft. The 'Length 1' is 131.23 ft, 'Length 2' is 0.00 ft, 'Width 1' is 131.23 ft, and 'Width 2' is 131.23 ft. The 'Offset 1' is 49.21 ft, 'Offset 2' is 49.21 ft, and 'Offset 3' is 0.00 ft.

5. Enter information about building activity.

6. Enter information about fenestration.

7. Enter information about the roof, skylights, and daylighting.

8. Select HVAC system type and components efficiency.

9. Enter information about service water heating and photovoltaics.

10. The file generator form is now complete, and results will be emailed to the address indicated.

Thank you for using EnergyPlus. Your results are attached to this email. Below is the description of each file attached.

- .xml : High level parameter file used to generate EnergyPlus input file.
- .idf : EnergyPlus input file.
- .htm : Document with detailed results of simulation.
- .err : Errors/warnings encountered while running simulation.
- .rkg : SketchUp rendering of building.
- .dxf : Rendering of building.
- .xls : Excel spreadsheet with building description and end use results.

If you have any questions, please contact:
 EnergyPlus Example File Generator Team
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End Uses		
	Electricity (GJ)	Natural Gas (GJ)
Heating	0.00	463.94
Cooling	215.85	0.00
Interior Lighting	230.09	0.00
Exterior Lighting	0.00	0.00
Equipment	451.32	0.00
Equipment	0.00	0.00
Fans	206.12	0.00
Pumps	0.00	0.00
Heat Rejection	0.00	0.00
Humidification	0.00	0.00
Heat Recovery	0.00	0.00
Water Systems	0.00	0.00
Refrigeration	0.00	0.00
Generators	0.00	0.00
Total End Uses	1103.37	463.94

