OpenStudio Version 1.13.0

Release Notes – 10/1/2016

These release notes describe version 1.13.0 of the OpenStudio software suite developed by the National Renewable Energy Laboratory (NREL), Buildings and Thermal Systems, Commercial Buildings Research Group, Tools Development Section, and associated collaborators. The notes are organized into the following sections:

- Where to Find OpenStudio Documentation
- Installation Notes
- Overview

Where to Find OpenStudio Documentation

- OpenStudio release documentation, including these release notes, tutorials, and other user documentation, is available at https://www.openstudio.net/.
- C++ API documentation is available at https://openstudio-sdk-documentation.s3.amazonaws.com/index.html.
- Measure development documentation is available at http://nrel.github.io/OpenStudio-user-documentation/reference/measure_writing_guide/.

Installation Notes

OpenStudio is supported on Windows 7 – Windows 10, OS X 10.9 – 10.10, and 64-bit Ubuntu 14.04.

OpenStudio 1.13.0 supports EnergyPlus Release 8.6.0, which is bundled with the OpenStudio installer. It is no longer necessary to download and install EnergyPlus separately. Other builds of EnergyPlus are not supported by OpenStudio 1.13.0.

OpenStudio 1.13.0 supports Radiance 5.0.a.8, which is bundled with the OpenStudio installer. It is no longer necessary to download and install Radiance separately. However, an installer is available at https://github.com/NREL/Radiance/releases/tag/5.0.a.8. Other builds of Radiance are not supported by OpenStudio 1.13.0.

Installation Steps

- The OpenStudio SketchUp Plug-in requires SketchUp 2016 (not available for Linux). The OpenStudio SketchUp Plug-in does not support older versions of SketchUp. SketchUp 2016 is available in 32 and 64-bit versions; the 32-bit version of OpenStudio on Windows will only work with the 32-bit version of SketchUp 2016, and the 64-bit version of OpenStudio will only work with the 64-bit version of SketchUp 2016.
  - If the OpenStudio Plug-in does not automatically load in SketchUp, open the Window->Preferences->Extensions window in SketchUp and enable the OpenStudio plug-in if it is listed.
- Download and install OpenStudio.
- Setup a Building Component Library (BCL) account to access online building components and measures. View instructions on how to setup your account and configure the key in OpenStudio.

Overview

Generating code baseline models (aka Appendix G, LEED, Performance Rating Method) is a big part of an energy modeler's job because many things (LEED certification, utility incentives, etc.) are based on the difference between the proposed and baseline model. Historically, this process has been performed largely by hand, leaving room for errors in manual data entry or interpretation of the modeling requirements. These errors cause delays and cost money because, when identified, they must be corrected by the modeler. In an effort to reduce the time modelers spend on this process (and free them up for more design work), the OpenStudio team has automated this baseline model generation process via a Measure, which will be available on BCL. This Measure modifies the envelope, loads, HVAC efficiencies, controls, etc. in the proposed model to transform it into the baseline. While it may not cover all situations (specific limitations are listed when the Measure is run), it is expected to work for a large majority of projects. Because the result is an OpenStudio model, anything not covered by the Measure can be modified by hand. This Measure was funded by Xcel Energy's Energy Design Assistance Program, and was based on previous work to create the DOE Prototype Buildings.

OpenStudio is now a Level 2 certified gbXML authoring tool, http://gbxml.org/OpenStudioCertification_Latest. A variety of enhancements and bug fixes were made to support the certification effort, see the full changelog for details.

The OS:Meter object has been renamed to OS:Output:Meter, the Meter class name remains supported in Ruby bindings but users are encouraged to move to the new name OutputMeter.

The following OpenStudio Model objects were added
•   OS:Generator:MicroTurbine
•   OS:Generator:MicroTurbine:HeatRecovery
•   OS:ElectricLoadCenter:Storage:Simple
•   OS:ElectricLoadCenter:Storage:Converter
•   OS:Meter:Custom
•   OS:Meter:CustomDecrement

GridView speed was further enhanced with the use of ConcreteModelObjects

OpenStudio 1.13.0 includes many bug fixes. For a full list of changes included in OpenStudio 1.13.0, please see the complete changelog.

Issue Statistics Since Previous Release

• 45 new issues were filed since the 1.12.0 release of OpenStudio (not including opened pull requests).
• 22 issues were closed since the 1.12.0 release of OpenStudio (not including closed pull requests).