

OpenStudio Version 2.2.0

Release Notes – 6/30/2017

These release notes describe version 2.2.0 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 10.10 – 10.11, and 64-bit Ubuntu 14.04.

OpenStudio 2.2.0 supports EnergyPlus Release 8.7.0, 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 2.2.0.

OpenStudio 2.2.0 supports Radiance 5.0.a.12, which is bundled with the OpenStudio installer; users no longer have to install Radiance separately, and OpenStudio will use the included Radiance version regardless of any other versions that may be installed on the system. Other builds of Radiance are not supported by OpenStudio 2.2.0.

Installation Steps

- The OpenStudio SketchUp Plug-in requires [SketchUp 2017](#) (not available for Linux). The OpenStudio SketchUp Plug-in does not support older versions of SketchUp.
 - 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](#). Select components for installation.
- 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

With the release of OpenStudio 2.2.0, users will find additional refinements and continued increases in capability.

OpenStudio Application

OpenStudio Application now provides a newly implemented 3D geometry preview tab.

DView

Historically, DView has been used for residential building modeling data visualization, and provides a significant increase in capabilities relative to ResultsViewer. DView is now being released beside OpenStudio, and we encourage user feedback. NREL anticipates including DView in the next major release package of OpenStudio, and deprecating ResultsViewer.

OpenStudio Model

OpenStudio Model received the following updates:

- Exposed SetpointManager:FollowGroundTemperature - Reference Ground Temperature Object Type to the OpenStudio API
- Added OS:UnitarySystemPerformance:Multisided object
- Allowed Availability Manager to be attributed to Plant Loop
- Permitted glycols to be used in Plant Loop
- Added SWIG wrappers for GroundHeatExchanger:Vertical gFunctions

Additionally, the following objects have been wrapped:

- OS:GeneratorFuelCell
- OS:GeneratorFuelCellPowerModule
- OS:GeneratorFuelCellAirSupply
- OS:GeneratorFuelCellWaterSupply
- OS:GeneratorFuelCellAuxiliaryHeater
- OS:GeneratorFuelCellExhaustGasToWaterHeatExchanger
- OS:GeneratorFuelCellElectricalStorage
- OS:GeneratorFuelCellInverter
- OS:GeneratorFuelCellStackCooler
- OS:GeneratorFuelSupply

The OS:GeneratorFuelCellExhaustGasToWaterHeatExchanger object works in the OpenStudio Application and when added to a plant loop, adds all necessary OS:GeneratorFuelCell and related components to the model and is user-configurable in the OpenStudio Application.

OpenStudio Standards Gem

OpenStudio Standards Gem was updated 0.1.14.

OpenStudio Workflow Gems (WFG)

OpenStudio Workflow Gems have been updated to 1.3.0 which offers the following refinements:

- ScriptError subclasses, including LoadError and SyntaxError, as well as NoMemoryError are now handled by the WFG and persisted to the log

- New method `runner.haltWorkflow(completedStatus)` stops the execution of additional measures and the simulation, and sets the datapoint's completion status appropriately

OpenStudio Server

OpenStudio Server's robustness has been improved with the following updates:

- Fixed an issue where output variables would overwrite each other if the same measure was run multiple times
- Ensured that all results are available in the csv results list, not just those which were completed successfully
- Changed algorithm retry procedures to ensure no infinite looping of datapoints
- Support datapoints being halted using the `runner.haltWorkflow` method
- Minor extensibility improvements
- Ensured all deployment environments support configuration of the R queue size
- Variable distribution plots are working again for LHS analyses

[Issue Statistics Since Previous Release](#)

- 111 new issues were filed since the 2.1.0 release of OpenStudio (not including opened pull requests).
- 154 issues were closed since the 2.1.0 release of OpenStudio (not including closed pull requests).