# OpenStudio Version 1.12.0

Release Notes - 7/1/2016

These release notes describe version 1.12.0 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 <a href="https://www.openstudio.net/">https://www.openstudio.net/</a>.
- C++ API documentation is available at <a href="https://openstudio-sdk-documentation.s3.amazonaws.com/index.html">https://openstudio-sdk-documentation.s3.amazonaws.com/index.html</a>.
- Measure development documentation is available at <a href="http://nrel.github.io/OpenStudio-user-documentation/reference/measure\_writing\_guide/">http://nrel.github.io/OpenStudio-user-documentation/reference/measure\_writing\_guide/</a>.

### **Installation Notes**

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

OpenStudio 1.12.0 supports EnergyPlus Release 8.5.0, 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 1.12.0.

OpenStudio 1.12.0 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 <a href="https://github.com/NREL/Radiance/releases/tag/5.0.a.8">https://github.com/NREL/Radiance/releases/tag/5.0.a.8</a>. Other builds of Radiance are not supported by OpenStudio 1.12.0.

#### Installation Steps

- The OpenStudio SketchUp Plug-in requires <a href="SketchUp 2016">SketchUp 2016</a> (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

Starting with 1.11.1, OpenStudio has included a new Ruby library called openstudio-standards. This library allows users to create the DOE Prototype Building and DOE Reference Building models in OpenStudio format. These models represent 16 different building types across all of the US climate zones for 6 vintages: pre-1980, 1980-2004, 90.1-2004, 90.1-2007, 90.1-2010, and 90.1-2013. These models can be used for tasks like portfolio-scale studies and energy code change impact analysis. These models also provide examples of how to model a wide variety of 90.1 energy code requirements in OpenStudio.

Model coverage has been expanded in OpenStudio 1.12.0, with the addition of 3 new OpenStudio model classes (SiteGroundTemperatureDeep, SiteGroundTemperatureShallow, and SiteGroundTemperatureFCfactorMethod), and the extension of the existing class ChillerElectricEIR with the addition of heat recovery.

OpenStudio 1.12.0 includes many bug fixes. For a full list of changes included in OpenStudio 1.12.0, please see the <u>complete changelog</u>.

#### Issue Statistics Since Previous Release

- 65 new issues were filed since the 1.11.0 release of OpenStudio (not including opened pull requests).
- 38 issues were closed since the 1.11.0 release of OpenStudio (not including closed pull requests).