**Installing Development Tools for System Simulator Core (SSC) - Windows**

**Updated 2010.10.12, Aron P. Dobos**

**Overview**

System Simulator Core (SSC) is the second generation simulation engine used in the System Advisor Model (SAM) and other desktop and web-based renewable energy system modeling applications. It is a standalone cross platform C++ library that is typically compiled into a dynamic link library (.dll) for Windows platforms, a shared object (.so) on Linux, and a shared dynamic library (.so.dylib) on Mac OS X. It designed for use on both 32 and 64 bit target architectures, and depends only on the standard C++ library (ISO-C++) along with the commonly available additional hash\_map<> data structure (provided by default with GNU/C++ and Visual C++).

The steps below outline the steps needed to install the development toolchain for Windows systems.

1. Download and install **Microsoft Visual C++ 2010 Express**. Make sure it installed with all available options.
   1. <http://www.microsoft.com/express/Downloads/#2010-Visual-CPP>
2. Download and install the **Window SDK**. At the time of writing, the current version was Windows 7 – V7.1. Again, make sure it installed with all available options. This is required for proper building of 64-bit targets.
   1. <http://msdn.microsoft.com/en-us/windows/bb980924.aspx>
3. Download the GNU MinGW toolchain for w32 and w64 targets. This is only needed for building SSC on Windows without VC++.
   1. 32-bit MinGW: <http://surfnet.dl.sourceforge.net/project/mingw-w64/Toolchains%20targetting%20Win32/Automated%20Builds/mingw-w32-1.0-bin_i686-mingw_20101011.zip>
   2. 64-bit MinGW: <http://surfnet.dl.sourceforge.net/project/mingw-w64/Toolchains%20targetting%20Win64/Automated%20Builds/mingw-w64-1.0-bin_i686-mingw_20101011.zip>