



## National Labs and White Box Technologies Updating the Roof Savings Calculator

**December 12, 2013:** The Roof Savings Calculator (RSC) is a joint initiative of Oak Ridge National Laboratory, Lawrence Berkeley National Lab, and White Box Technologies that models the energy use impact of various residential and commercial roof structure choices via a simple online interface. Building owners, contractors, and manufacturers use the RSC to support roof decision-making, and as part of marketing materials. It is important, therefore, to understand the current state of the RSC.

The RSC was launched in April 2010 but was taken offline to investigate why it was producing results that were not in line with those of other models (DOE-2, EnergyPlus, MICROPAS). The RSC is reporting winter heating penalties that are much larger than those predicted by earlier models and, in some cases, cooling energy savings that are much smaller than those predicted by earlier models.

Some issues currently under investigation include the treatment of radiative heat transfer, HVAC sizing, communication between DOE-2 and model component called AtticSim, and prototype descriptions.

The RSC was brought back online earlier this year with a warning for users that the investigation and validation process is still ongoing. Expectations are that it will be complete by mid-2014 with a roll-out of a new engine, website, and web service to facilitate integration of simulation results with existing business systems.

Given the difference between results reported by RSC and those reported by other established models, we recommend that the RSC not be used until the validation and update are finished. After the RSC is re-launched, we encourage users to share their modeling assumptions alongside their results, so that roof products can fairly compete on their merit.

*The Global Cool Cities Alliance is a non-profit organization dedicated to reducing excess urban heat. Learn more at [www.GlobalCoolCities.org](http://www.GlobalCoolCities.org) and [www.CoolRoofToolkit.org](http://www.CoolRoofToolkit.org). Please direct inquiries to Kurt Shickman, [kurt@globalcoolcities.org](mailto:kurt@globalcoolcities.org), or 202-550-5852.*

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San Francisco Office

150 Post St. Suite 342  
San Francisco, CA 94108  
415-421-3774 x11

Washington, DC Office

1603 New Jersey Ave NW  
Washington, DC 20001  
202-550-5852