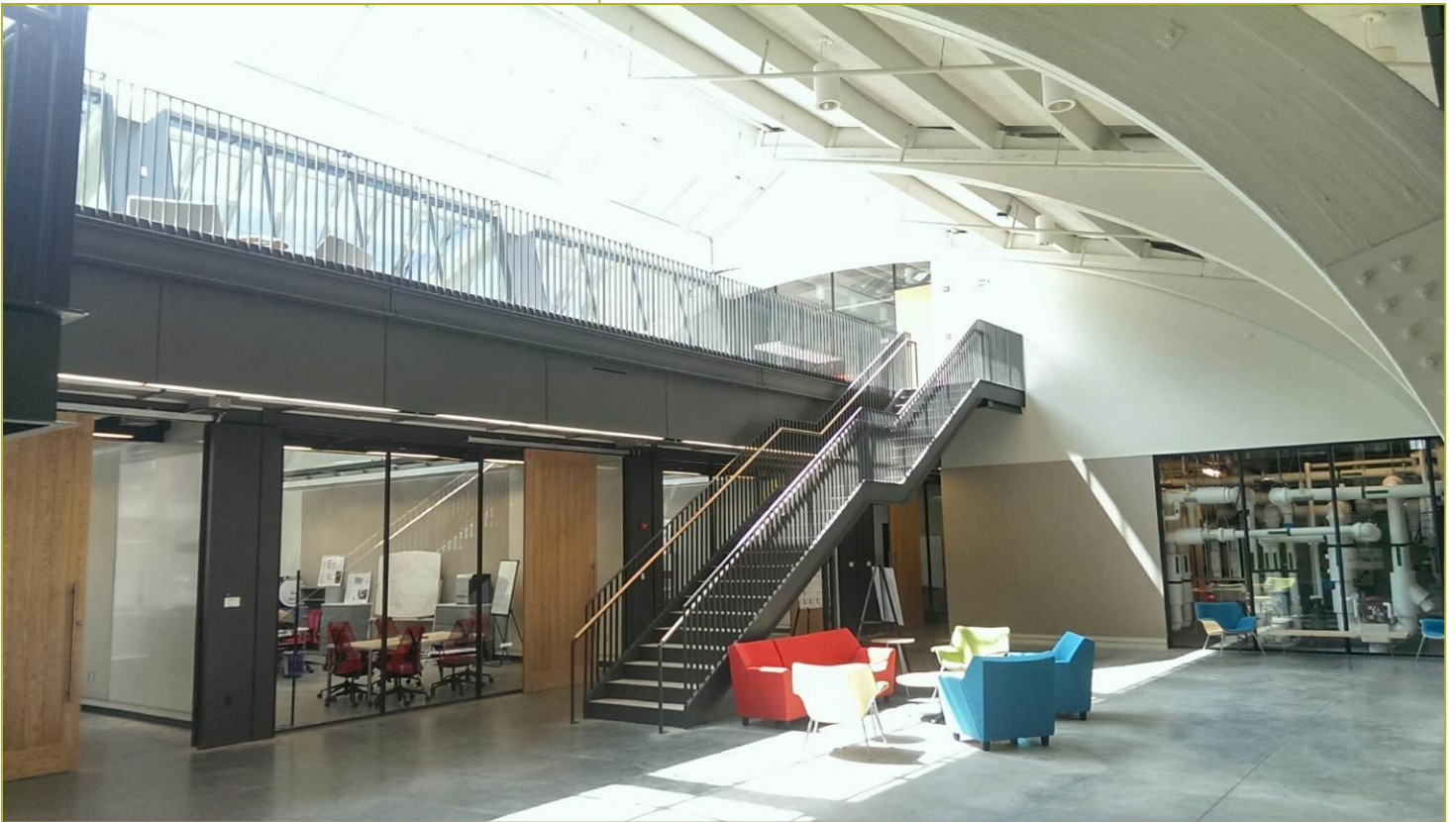


**Title: Demonstration of a rapid and reliable
advanced energy retrofit decision support tool**

Report Date: January 2013

Report Author(s): Khee Poh Lam



CBEI was referred to as the Energy Efficiency Buildings HUB at the time this report was developed.



Report Abstract

CBEI developed a web-based integrated design decision support tool which utilizes energy performance data generated through coupling of whole building energy simulation models with systematic search procedures and advanced data analysis techniques. This coupling process was extended with the introduction of a simulation-based numerical optimization framework for the minimization of life cycle costs for building enclosure materials and operational energy consumption for office retrofit cases. This integrated optimization program is highly automated (thereby saving user effort) and utilizes non-commercial, open-source and readily extensible existing toolkits.

Contact Information for Lead Researcher

Name: Khee Poh Lam

Institution: Carnegie Mellon University

Email address: kplam@cmu.edu

Acknowledgement

This material is based upon work supported by the Consortium for Building Energy Innovation (CBEI) sponsored by the U.S. Department of Energy under Award Number DE-EE0004261.

Disclaimer

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

