DOE Zero Energy Ready Home

Tech Training Webinar Series

U.S. DEPARTMENT OF

Energy Efficiency & Renewable Energy



Building Energy Optimization Tool (BEopt)



The Home of the Future....Today

U.S. DEPARTMENT OF

Energy Efficiency & Renewable Energy







KEY DOE Zero Energy ReadyHome ENERGY STAR Certified Home Existing Home

ADVANCED TECHNOLOGY

ULTRA EFFICIENT

DURABILITY

This label indicates relative performance of this DOE Zero Energy Ready Home to existing homes (built between 1990 and 2010) and ENERGY STAR Certified Homes. Actual performance may vary.



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DOE Zero Energy Ready Home Resources

U.S. DEPARTMENT OF

Energy Efficiency & Renewable Energy

Website

- www.buildings.energy.gov/zero/
- Events:
 - Upcoming in-person ZERH Trainings
 - Technical Training webinars
 - Conference Presentations
- Partner Locator
- Program Specifications
- Webinar Recordings

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Building America Solution Center

http://basc.pnnl.gov/



Energy Efficiency & Renewable Energy

Thank You



For More Information:

www.buildings.energy.gov/zero

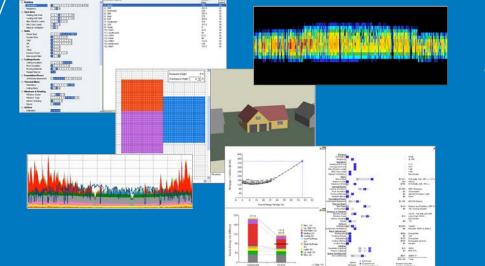
Email:

doechallengehome@newportpartnersllc.com



DOE Zero Energy Ready Home BEopt Training





Craig Christensen Scott Horowitz

5/15/2014

beopt.nrel.gov

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Outline

Background

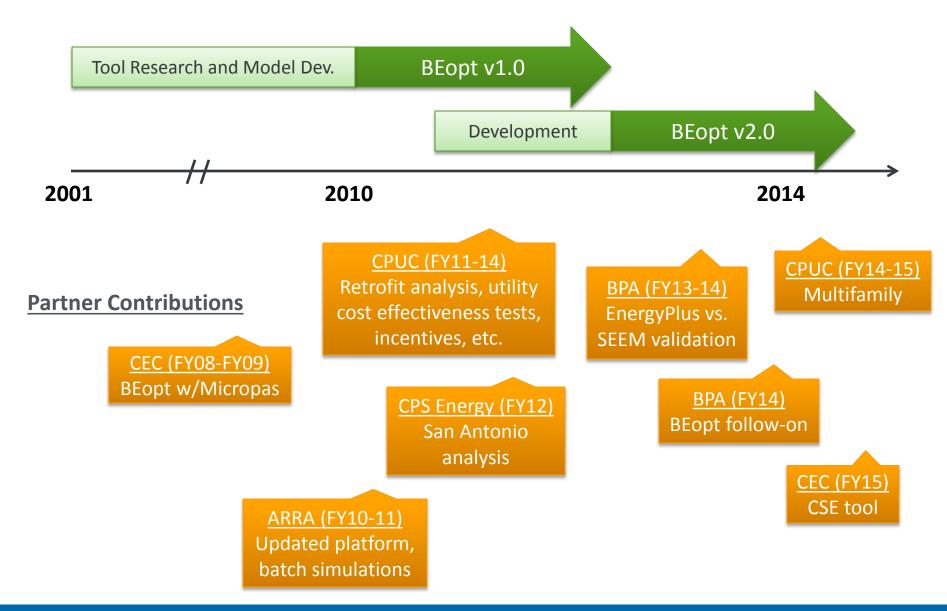
Design Analysis

- Geometry Screen
- Options Screen
- o Site Screen
- o Run
- Output Screen

Optimization Analysis

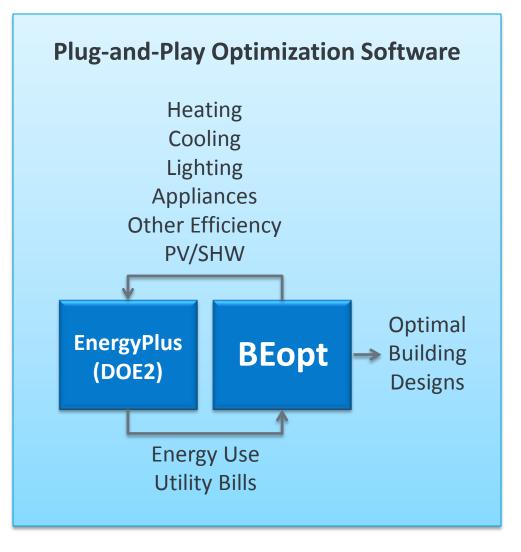
- Path to ZNE
- Validation
- o Options Screen
- o Run
- Output Screen
- Library Manager
- DView Hourly Visualization

Schedule



What is **BEopt**?

(beopt.nrel.gov)



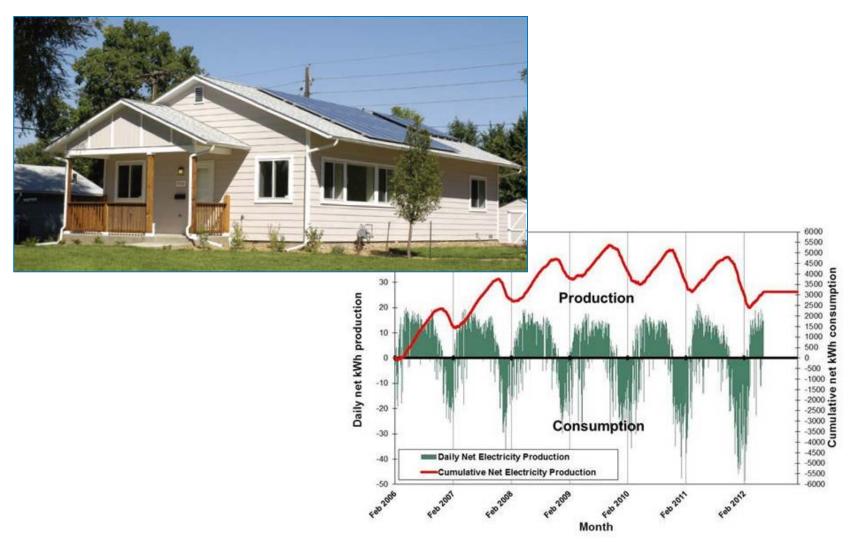
Features:

- Design, parametric, optimization
- New construction and retrofit
- Detailed cost database
- Rapid building drawing tool
- Detailed utility rates (tiered, time-ofuse, real-time pricing)
- PV compensation (net-metering, feed-in tariffs)
- Utility cost effectiveness tests
- PV/efficiency incentives
- Demand response
- HPXML export
- Schedule wizard
- Output visualization
- Metrics: LCC, NPV, SPP, LCOE, CO2
- Batch simulations
- Library manager

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Case Study

Denver Habitat for Humanity Zero Energy Home



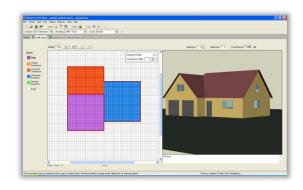
BEopt GUI

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Input

Geometry

Site



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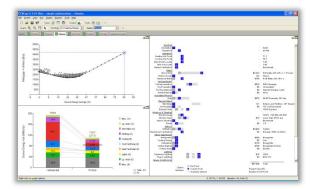
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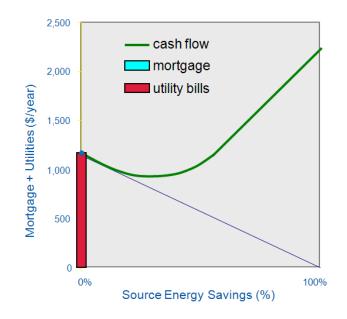
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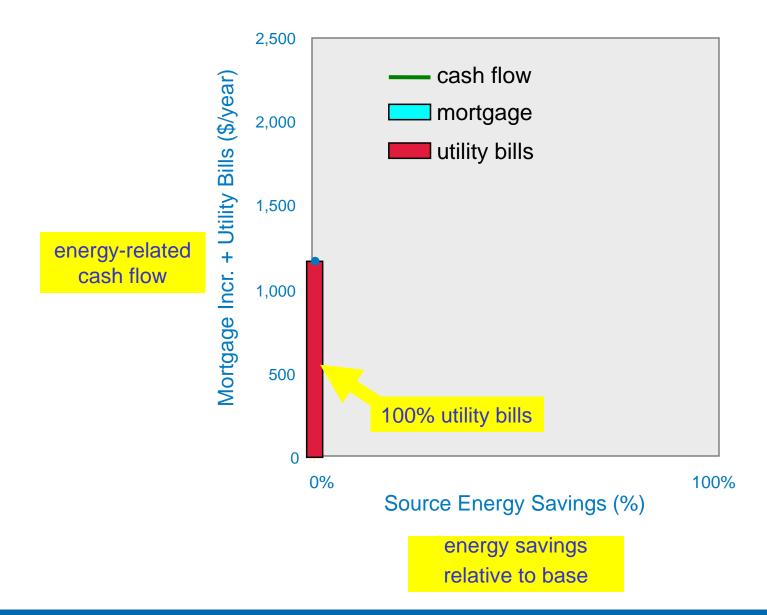
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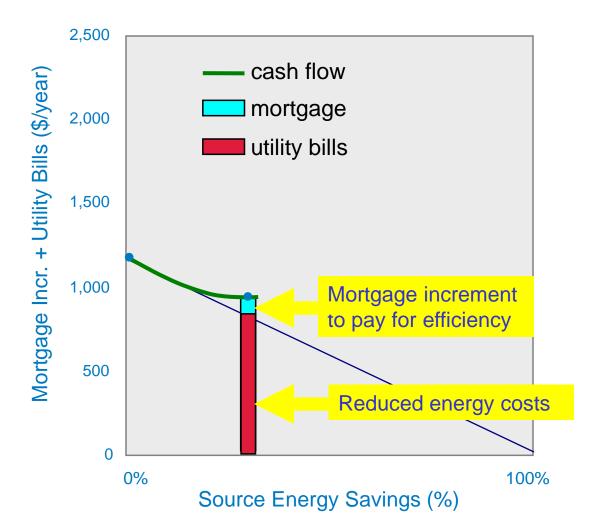


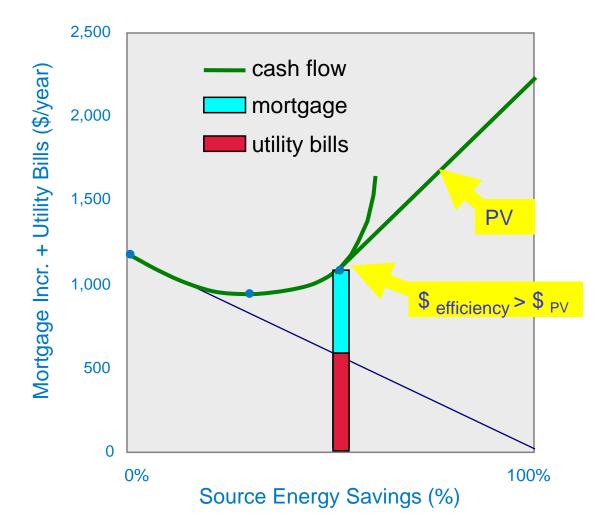
Live Demo

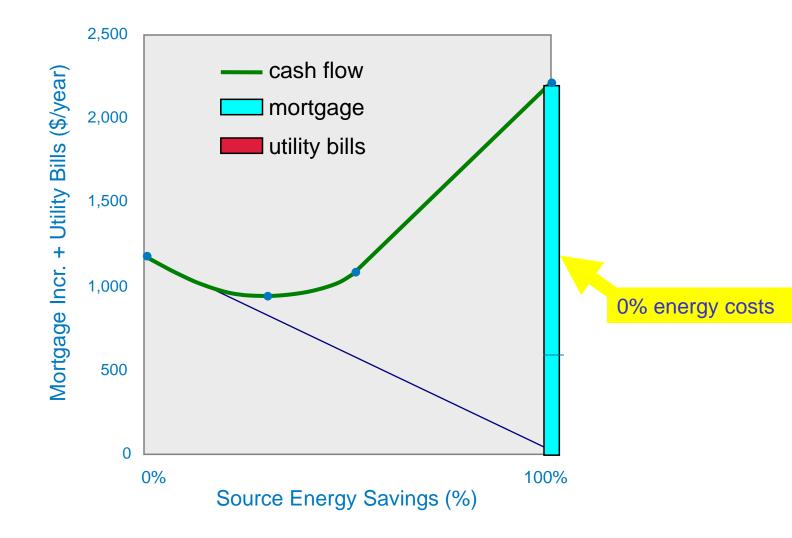
Minimum-cashflow designs at various energy-savings levels

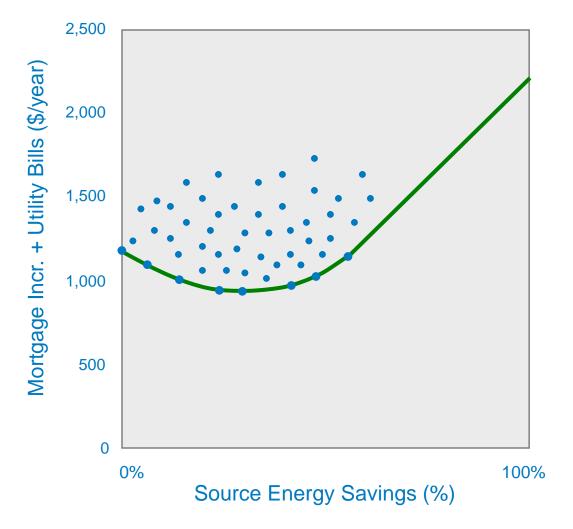




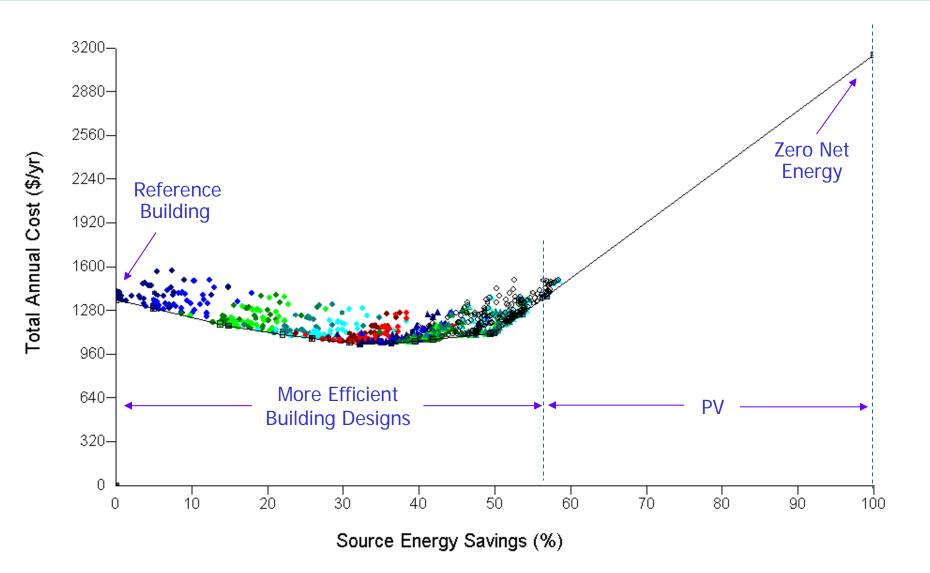








Validation



Validation

