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DesignBuilder Team Wins ASHRAE Energy Modelling Conference's 'Best Innovative Workflow' Award

DesignBuilder's advanced cost-benefit analysis tools enabled the team to produce a cost-optimal net-zero energy building in a fraction of the normal time.

Santa Rosa, CA – October 23, 2015 – Team DesignBuilder was thrilled to be announced winners of the Lowdown Showdown competition's "Best Innovative Workflow" category at the recent ASHRAE Energy Modeling Conference.

The competition was designed to showcase the work of teams pushing the boundaries of mainstream modelling software tools to create a net zero energy (or below) building. ASHRAE's requirement was to design a 53,600 sq. ft. 3-storey office building with a number of constraints, but left other criteria such as the building location, form, fabric and HVAC systems open to stimulate creativity and innovation.

Cost is an important part of most projects so the team was keen to test DesignBuilder's optimization capability and decided on a 3-step advanced cost-benefit analysis approach. DesignBuilder Optimization uses a genetic algorithm which mimics the "survival of the fittest" principle of natural evolution to efficiently identify the best combination of design variables (such as orientation, insulation, glazing, lighting, HVAC). This makes it possible to find optimum solutions much more quickly than traditional methods, providing the design team and client with an added level of confidence that all viable solutions have been identified. Using DesignBuilder Optimization, which is unique among mainstream software tools, enabled the team to identify the optimum net-zero solution and also to quantify the cost-benefit of higher and lower performing solutions.

"Given the team's desire to use this innovative cost-benefit approach to modelling, we were all delighted to win this particular award for innovation," said Dave Cocking, one of the DesignBuilder coaches. "This was a great opportunity for us to work with some very talented and enthusiastic team members and gave us all the opportunity to present something cutting-edge and a little different at the conference. It is fantastic that the team's effort resulted in this accolade from the voting ASHRAE audience."

Thanks again to the DesignBuilder team members:

- Architect: Dr. Khee Poh Lam (Carnegie Mellon University)
- Designers: David Polson and Holly Stevenson (Arup)
- Engineers: Gonzalo Lema, Dante Garcia, Billy Condor (SUMAC)
- Energy Modelers: Mike Tillou (Atelier Ten); Mitchell Gleason (Building Performance Team); Weili Xu, Adrian Chong, Dr. Omer Karaguzel (Carnegie Mellon University); Ignacio Martinez (Revitaliza Consultores).

In addition to the ASHRAE competition web page, the team's work (which provides a useful overview of the optimization process) is summarized here: <http://designbuilderusa.com/lowdown-showdown-competition-ashrae-energy-modelling-conference-2015>

[ASHRAE competition website](#)
[DesignBuilder Team Entry Poster](#)

Company Profile

DesignBuilder Software Ltd. (Stroud, UK) specializes in developing high-quality, easy-to-use and affordable simulation software tools for assessing the environmental performance of building designs. The flagship product DesignBuilder provides data to building designers on energy consumption, carbon emissions, occupant comfort, daylight availability as well as the status of the building with regard to several national building regulations and certification standards. Leading services engineers and energy modelers across the world use DesignBuilder to gain an insight into the impact of their design strategies on building environmental performance. The software is the result of considerable investment in user interface technology and an uncompromising approach to software design.

The DesignBuilder software is distributed throughout the world by a network of reseller Partners.