

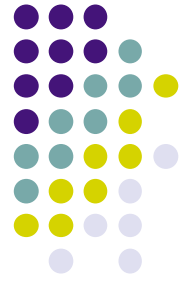


COMNET: Supporting Existing Commercial Building Energy Rating Systems

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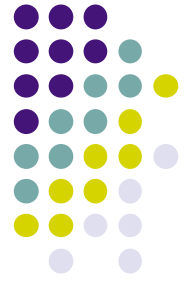


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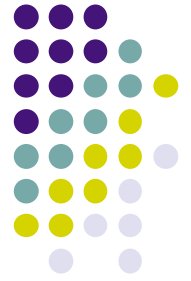
The Problem

- Several important energy policies to improve efficiency in new commercial construction are thwarted by lack of a consensus methodology for consistently and affordably calculating
 - energy savings compared to code
 - total energy use
- For example, Commercial Buildings Tax Incentive, 2005 Energy Policy Act (EPAct 05)
 - \$1.80/sf Tax deduction for 50% savings over ASHRAE 90.1 2001
 - Demonstrating compliance often costs more than the value of the incentive!
 - Congress recently extended deduction through 2013



The Solution

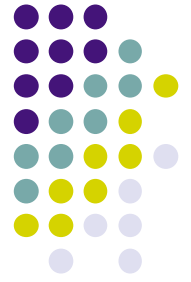
- Technical standards for software that
 - automatically generates multiple reference buildings (90.1, 189.1, Title 24, etc.) and compares energy use to reference building
 - Generates more realistic and standardized total energy use (including unregulated energy)
 - Incorporates ENERGY STAR technical methodology (e.g. for normalization and comparison to CBECS median)
- Certification and training standards for energy modelers and field inspectors
- Flexibility to serve multiple needs



Potential Applications

Document compliance to qualify for

- EPACT 2005 Commercial Buildings Tax Deduction (recently extended through 2013)
- USGBC's LEED™ program prerequisites and energy points
- Designed to Meet Energy Star™ certification



Potential Applications (cont.)

- COMNET specs can be used in producing EUI outputs specifically for ENERGY STAR's Target Finder™
- COMNET specs could be integrated into ASHRAE technical specs including the ASHRAE Building Energy Labeling (ABEL) program



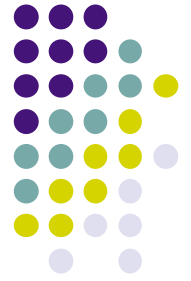
Other Possible Applications

- Performance-based energy code compliance
- Generating estimates of operating costs for commercial building appraisals
- Enabling comparison of “designed-performance” energy efficiency ratings among buildings
- Designed-performance energy ratings that provide a target/goal for actual energy use and cost
- Utility, State or Federal performance-based incentive programs



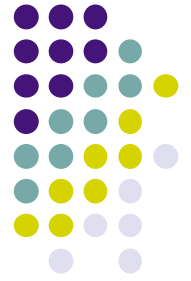
Implementing The Solution

- Developing a common methodology for rating the designed energy efficiency of commercial buildings based on ASHRAE 90.1, modeled in part on the California Alternative Calculation Method (ACM) and similar to the successful RESNET/HERS program for homes.



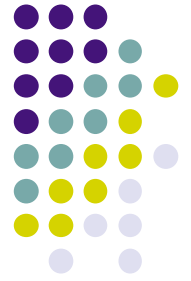
What Do We Have To Do?

- Develop an Alternative Calculation Method including a rules and procedures manual for use in building energy simulation software
- Develop and field test an initial framework for accrediting commercial building rating professionals
 - Make maximum use of existing training and accreditation organizations, systems and credentials



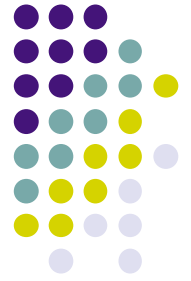
What are the Benefits?

- Allows designer to perform one energy calculation that is recognized by multiple rating systems
- Saves time of energy modelers & evaluators
- Increases predictability in energy ratings
- Apples-to-apples comparisons between the requirements of different programs
- Allows market-based programs to complement each other
- Enhances code compliance through third-party rater inspections



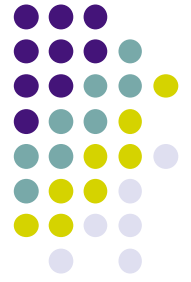
What are the Barriers?

- Sheer variety of commercial buildings requires multiple skill sets for modeling and inspection
- Requires development of new verification and testing criteria (similar to blower door and duct blaster)
- Different types of commercial buildings each require distinct rating classes?
- Process loads...



Status

- New Buildings Institute (NBI) has received funding from the Energy Foundation for this project.
- NBI has organized a team of sub-consultants and experts to begin development.
- RESNET has assembled a High-Rise Residential Task Force



Project Team

- New Buildings Institute – Project Manager
- Institute for Market Transformation
- RESNET
- Architectural Energy Corporation – Technical Lead
 - Energy Soft
 - Florida Solar Energy Center
 - Energy and Environmental Economics
 - McHugh Energy Consultants
 - NRDC