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Conference Paper Session 11 Energy Modeling vs. Actual Building Energy Consumption

Architecture, Cartography and Energy: Mapping the Way We Share Information to Build Better Buildings

2013 Annual Conference, Denver, Colorado

Learning Objectives

- Explain misaligned expectations between architects and buildings . engineers
- Describe how customized workflow maps can optimize the energy modeling process.
- Have gained knowledge from experience from an evaluation of nine properties with energy efficient multi-family dwellings. Have an insight to what might be the reasons to the gap between measurements and simulation results.
- Distinguish between the two general factors causing the discrepancy between predicted energy performance and actual energy consumption.
- Recognize that even projects following the LEED process do not always perform as well as predicted.

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Acknowledgements

- · Dr. Rosamund Hyde Stantec
- · Nicole Collins Stantec
- David Scheer Autodesk
- Adam Menter Autodesk
- Asbjorn Levring Danish Technology Institute
- Daniel Nielsen Danish Technology Institute

Outline/Agenda

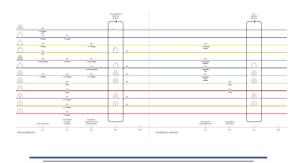
- · Issues with current design tools and practices.
- Misaligned expectations between architects and buildings engineers.
- · Customized workflow maps to optimize the energy modeling process.

Energy Targets & Global Trends

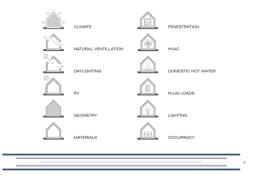




Creating Workflow Maps



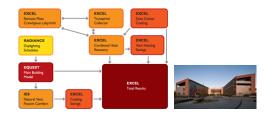
Types of Exchanged Information



Design Tools vs. Holistic Analysis



Design Tools vs. Holistic Analysis



Types of Exchanged Information

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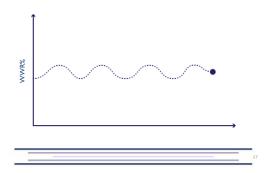
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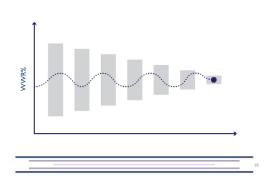
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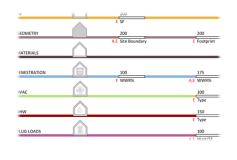
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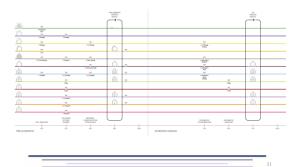


Specific Details

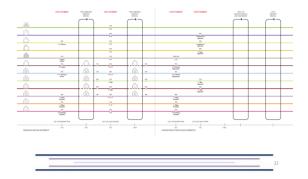


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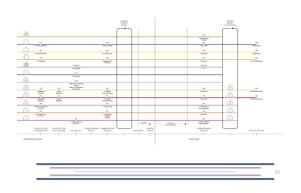
Pre-Schematic & Schematic Design



Design Development & Construction Documents



Construction & POE / M&V



Conclusions

- The language of information exchange
- Implications for other disciplines
- Challenges of implementation
- Next steps

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Questions?

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