Energy modeling

3 Most Common Energy Modeling Mistakes & How to Avoid Them

Whether you're a commercial property owner or building engineer, the global sustainability movement along with rising costs throughout the supply chain mean it's more important than ever to ensure your commercial buildings are running efficiently. Energy savings directly contribute to corporate profits. But it can be difficult to identify efficiency gaps or areas for improvement, especially in large commercial building plans.

Building energy modeling helps teams review, aggregate, and analyze building energy and financial data to determine life-cycle costs, comparative performance, and efficiency design and construction decisions. Manual energy modeling is a complex process that requires significant bandwidth and technical expertise. But with automated energy modeling software, users need only basic building and mechanical system information to generate a detailed model.

Commercial buildings across industries can be very complex, requiring highly contextual and accurate data to make effective changes. There are many factors that can affect the energy consumption of a commercial building, which can be even more complicated based on the building industry and use type. Because of these complexities, we've developed a list of the three most common energy modeling mistakes and how to avoid them so you and your team can make smarter planning and optimization decisions.

Mistakes
Limited or Ineffective Analyses

With so much data available in a robust energy model, it can be difficult to identify the most critical metrics and maximize your results. Often the first analytical mistake many teams make is only looking for large, unavoidable issues such as noncompliance with codes and regulations. But by only focusing on "must-dos" you may be missing out on critical insights for efficiency optimization and prevention of future issues.

Similarly, your team should be reviewing the model at different levels. Analyze the results from the perspective of energy consumption, costs, and long-term sustainability. In doing so, you can easily identify areas for improvement that will help you streamline inefficiencies for the short and long term.

Ultimately, a building energy model is only as valuable as its analyses. Energy modeling by hand can substantially reduce the breadth and depth of your analysis. Instead, look for an energy modeling tool that will highlight a wide range of strategies, measures, and mechanical systems to consider.

Likewise, analytics are not valuable if they aren't relevant to you or you don't know how to apply them to your building type or industry. Because of this, your manual or automated energy modeling tool must provide easily consumable metrics that paint a clear picture of the best next steps.

Reactive Maintenance

Just as it's important to broaden your analytical perspective, it's also critical to use energy modeling for proactive, rather than reactive,

maintenance. By only leveraging ad-hoc reporting, you are grossly limiting your visibility. This makes the possibility of catching trends early to stop burgeoning issues less likely. More so, the less you run modeling reports, the fewer opportunities you have to improve your energy efficiency continually.

At NEO, we recommend standardizing a frequent cadence for energy modeling across all your buildings (yes, even smaller buildings!) to achieve maximum results. A more proactive approach sets your team up for success by setting a precedent of continuous improvement. This ensures any trends or small issues will be addressed early, further reducing the costs of necessary maintenance, upgrades, or changes.

Time Spent on Development & Analysis

Effectively executing an energy model is a complex process. Manually, this can take 70-100 hours and requires hours to review for quality assurance. Each change to the model representing a different efficiency measure also needs to be checked. Commercial building teams can waste significant resources energy modeling by hand, suffocating team bandwidth and increasing the risk of human error.

Automated energy modeling software can accelerate the development and analysis process and reduce time spent by 75%. Perhaps more importantly, an automated, standardized approach means your time was spent wisely since standard operating procedures minimize risk and ensure more consistent results. Designers often use an "it was a good enough decision on the last project" approach to new building development, but this approach ignores better options and can fail to keep up with evolving equipment efficiencies or incremental costs since the last project.

With automated modeling, the best decisions are more clear and consistent.

Why You Should Invest in Energy Modeling Software

Whether you're struggling with team bandwidth, reactive maintenance, or ineffective analyses, commercial energy modeling software can help accelerate and standardize the entire process to reduce manual labor, encourage proactive analysis, and maximize reporting accuracy. Investing in energy modeling software can save your business thousands in energy costs annually.

NEO's automated, real-time approach provides results in seconds with the accuracy of models that typically take days to produce. Our robust system provides measures for 40+ building types, 150+ HVAC systems, 250+ operational and capital improvements, dozens of baseline protocols and RS Means cost data for computing ROI. NEO specializes in optimizing any new or existing commercial, mixed-use, or multifamily building.

For property owners, architects, engineers, manufacturers, or utility managers, our tiered software subscription packages give you the option to choose the level of service that's right for you. Schedule a demo with our team to learn how NEO can transform your commercial building development and optimize your energy efficiency and maintenance.

To schedule a demonstration:

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For more information:

Contact Ryan at rschwartz@willdan.com

netenergyoptimizer.com

877.939.1872