



Energy Consulting and Slipstream Sketchbox

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SCIENCE



HAS THE
SOLUTIONS

GENERIC
SNEAKER
S

GENERIC SNEAKERS

What makes a great energy consultant?

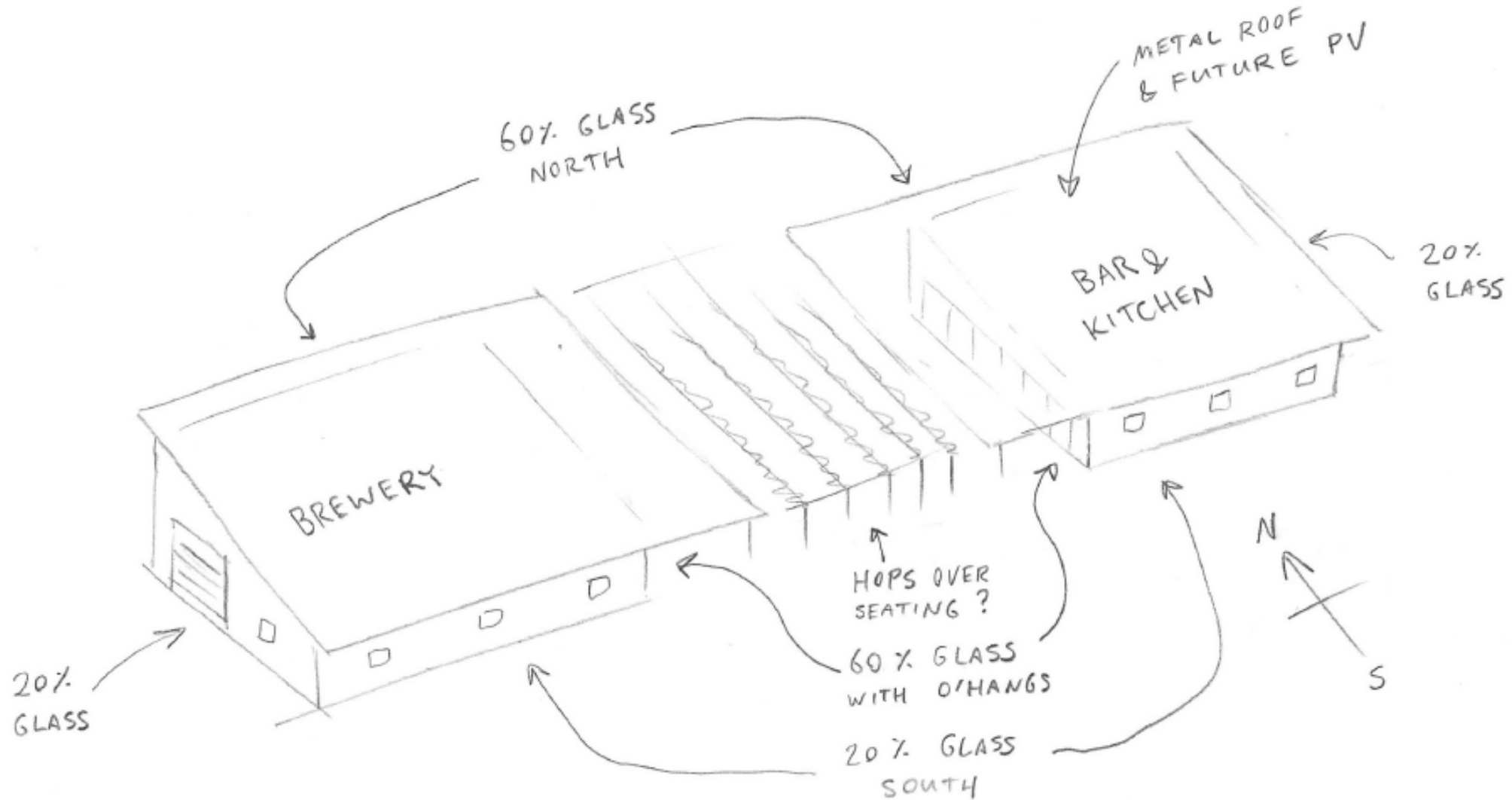
A good energy consultant...

- Is familiar with project details
- Answers hard questions about design
- Knows codes and rating systems
- Works quickly
- Has mastered her favorite tool
- Meets quality requirements
- Communicates results effectively
- Inspires confidence

A great energy consultant...

- Understands the project's raison d'être
- Asks hard questions about design
- Envisions future energy policies
- Supports the team in real time
- Uses the right tool for the job
- Works to right level of accuracy
- Uses results to refocus design
- Inspires behavior change

Great ideas happen in the hand-sketch phase



Tools are optimized for different things



Tools are optimized for different things



Planning

Schematic
Design

Design
Development

Construction
Documents

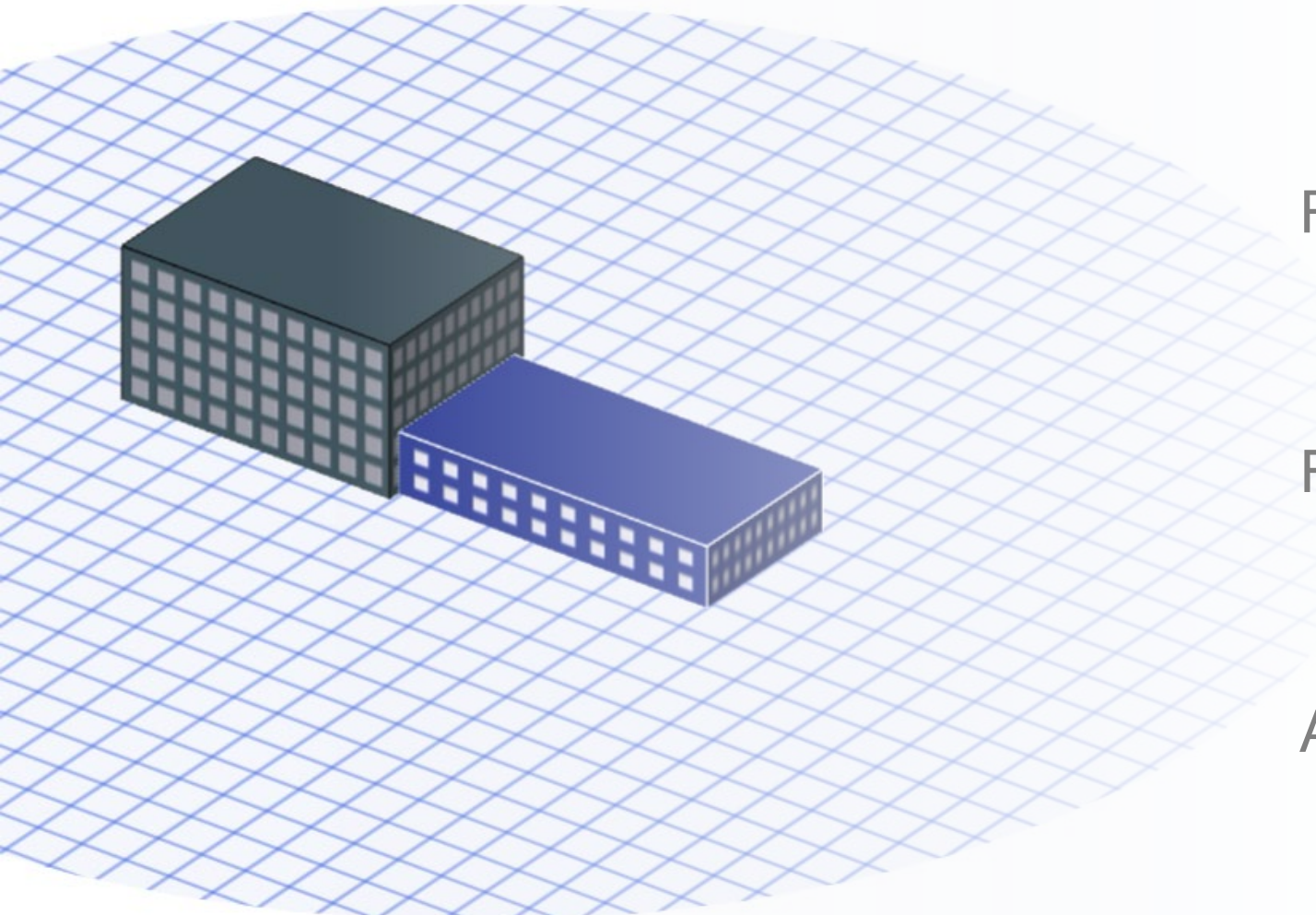
Operation

Concept model

Model for HVAC loads and details

Model for compliance/certification

Sketchbox design requirements



Accessible

- Minimize jargon
- Intuitive workflow
- Mobile

Robust

- Applicable for 90% of projects
- Does not break or error
- Results “pre-validated”

Fast

- Simplify geometry
- Good default values
- Fast run time

Actionable

- Minimize pre and post processing
- Measure-by-measure results
- Accurate enough

<https://slipstreaminc.org/sketchbox>

Name: Office

Color: [Dark Blue]

Building Type: Office - Medium

Parent Shell: None | Adjacency: Not Used

Area: 50000 ft² | Aspect Ratio: 1.5

Floors: Number: 5 | Height: 13 ft

Perimeter Zone Depth: 15 ft

Roof Type: Insulation entirely above deck

Wall Type: Metal framed

Glazing Type: Fixed fenestration

Window-to-Wall Ratio (%): North: 40, South: 40, East: 40, West: 40

Skylight Type: Plastic Curb

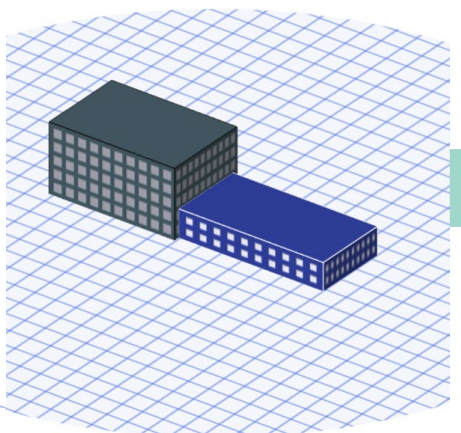
Skylight-to-Roof Ratio: 0 %

Heating Fuel Type: Electricity

Air-Side System: Variable Refrigerant Flow

Cooling System: Air Source VRF

Heating System: Air Source VRF



1 – Upgrade Roof Insulation

2 – Upgrade Wall Insulation

3 – Improve Glazing U-Value

4 – Improve Glazing SHGC

5 – Efficient Interior Lighting

Interior Lighting Power (W/ft²)

No Change	Better	Best	Custom	Office	×
0.711	0.52	0.45			
No Change	Better	Best	Custom	Warehouse	×
0.432	0.28	0.18	0.16		

6 – Upgrade Cooling Equipment

Average Cooling Equipment Efficiency (EER)

No Change	Better	Best	Custom	Office	×
10.6	11.2	12			
No Change	Better	Best	Custom	Warehouse	×
9.5	10.5	11.5			

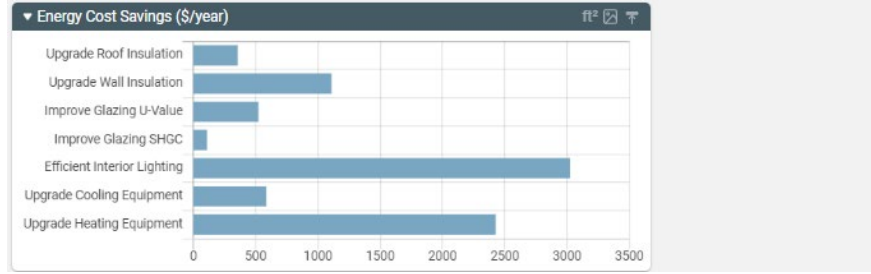
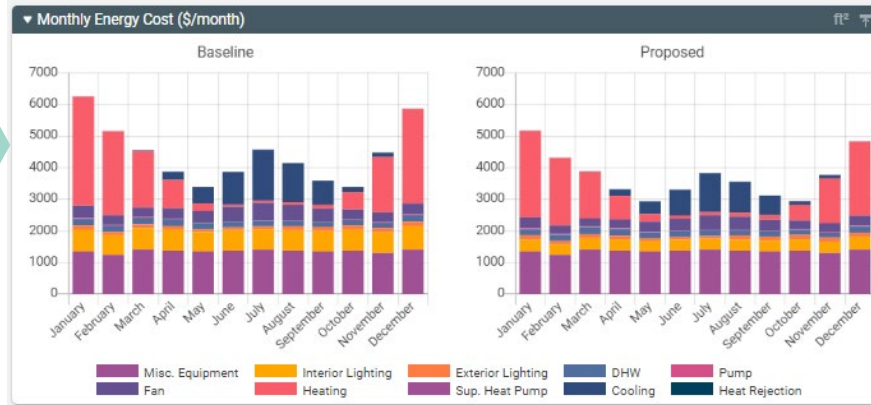
7 – Upgrade Heating Equipment

Average Heating Equipment Efficiency (COP)

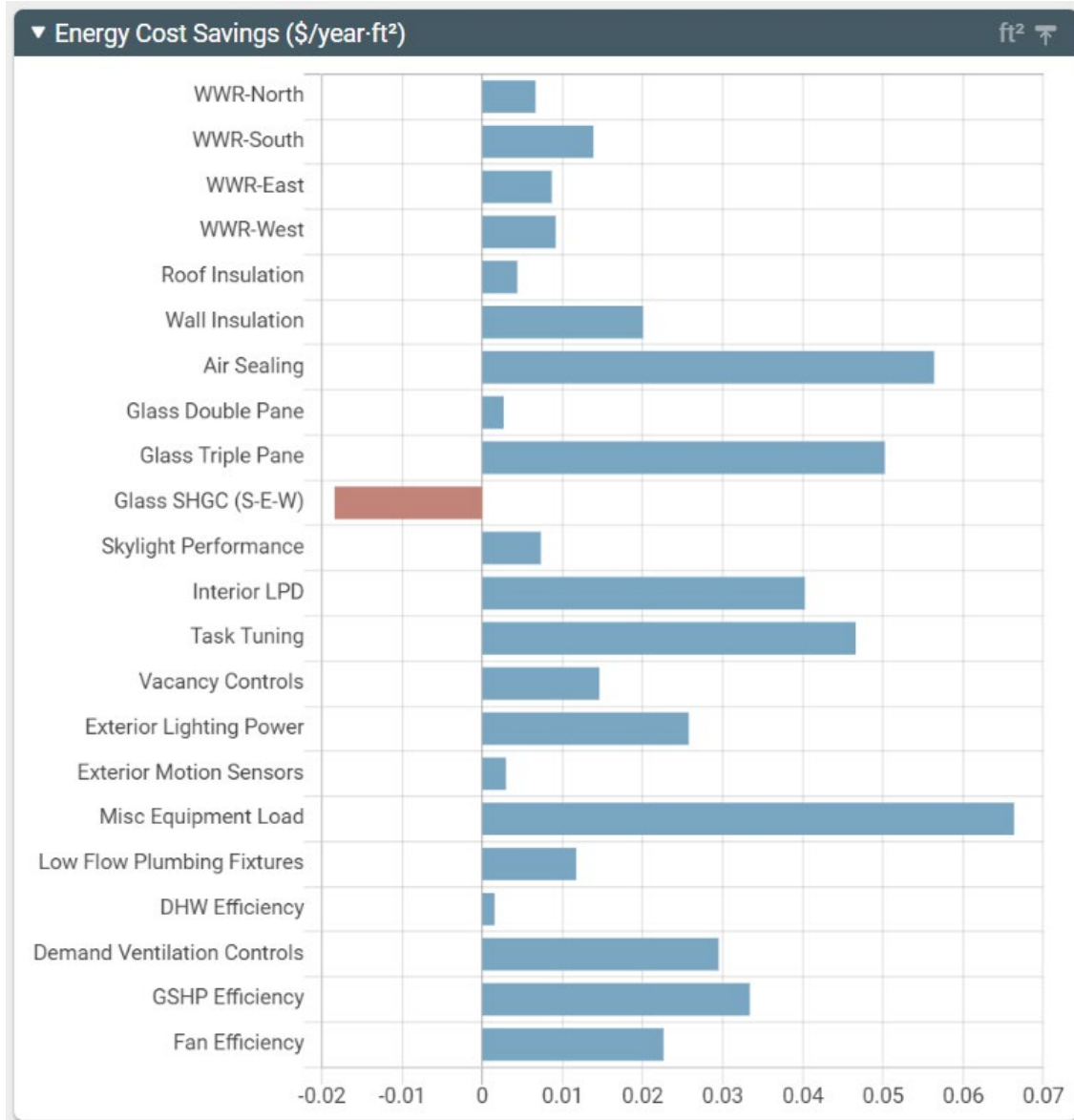
No Change	Better	Best	Custom	Office	×
3.2	3.6	4			
No Change	Better	Best	Custom	Warehouse	×
80	88	95	92		

Average Heating Equipment Efficiency (% E_t)

No Change	Better	Best	Custom	Warehouse	×
80	88	95	92		

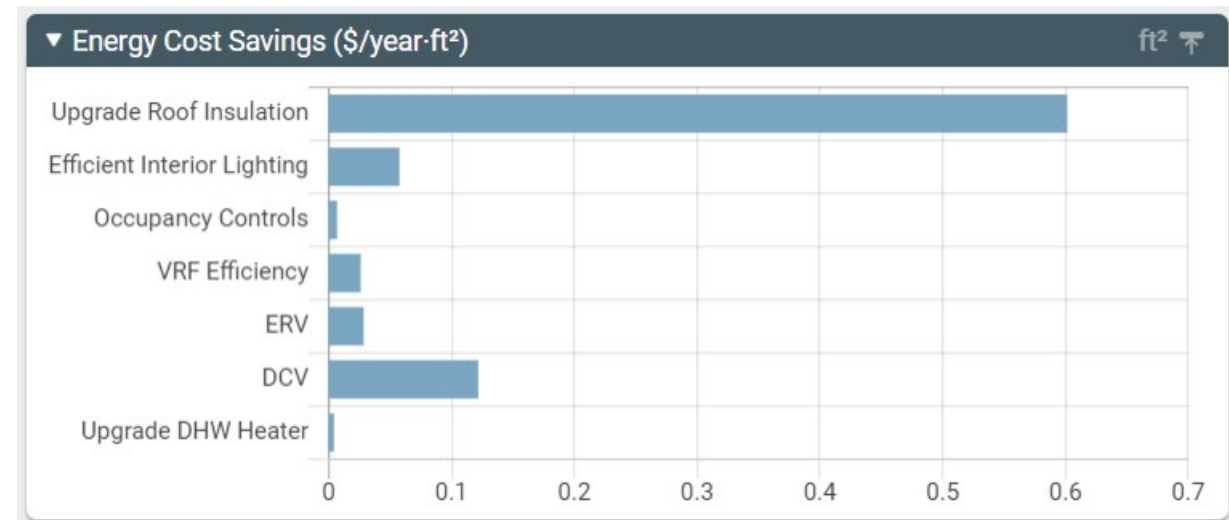


Concept modeling case studies

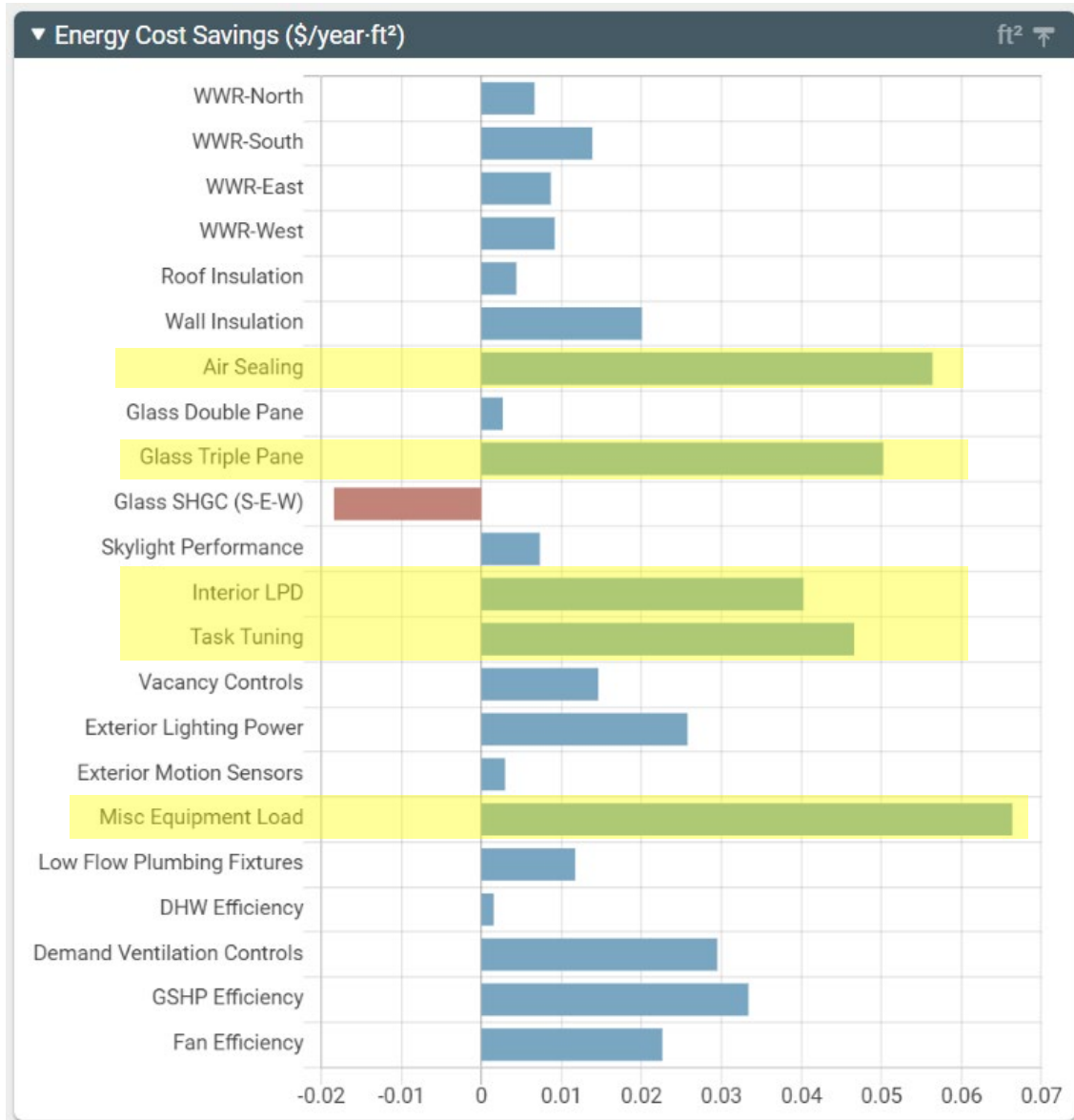


New construction elementary school in Massachusetts

Adaptive reuse of historic courthouse and jail in Illinois

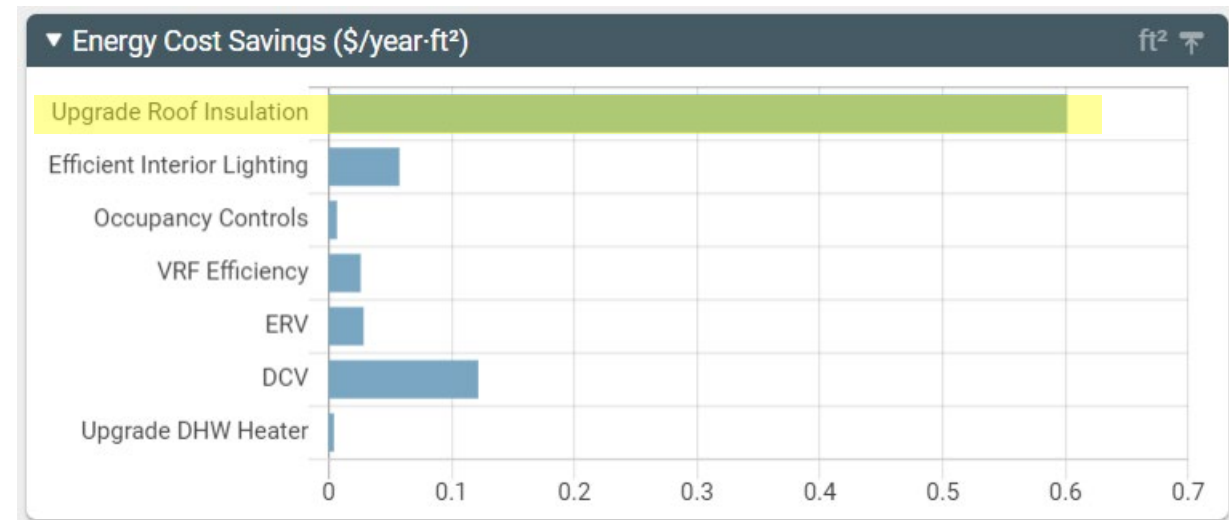


Concept modeling case studies



New construction elementary school in Massachusetts

Adaptive reuse of historic courthouse and jail in Illinois



Tools enable program innovations

Developed Curated packages of high-value, low-complexity measures for simple developer-led buildings like Warehouses, Office, Retail/Grocery, and Multifamily/Assisted Living

INCENTIVE SUMMARY

REQUIREMENTS ¹	INCENTIVE ²
ComEd® Warehouse Best Practices	\$0.09/gsf³
Advanced Wall Assembly	+ \$0.02/gsf
Advanced Interior Lighting	+ \$0.03/gsf
Demand-Controlled Ventilation	+ \$0.02/gsf
Design Team Participation	See design team workbook

Offering free tools and cash incentives for design teams to encourage concept modeling for more complex and institutional projects

ENERGY MODELING AND DOCUMENTATION: **\$1,000 + 2% of owner incentive**

To receive the incentive, the design team representative must, at a minimum:

- **Complete energy modeling** at all major milestones including schematic design, design completion, and as-built condition. Use the free web-based modeling tool provided by the ComEd technical assistance representative or, where applicable, adapt other energy models to meet ComEd Energy Efficiency Program modeling requirements.

Simplified PRM opportunity

