How we built a Net Zero Energy Building!

Airtight Construction and Efficient Insulation

A high-performance building envelope reduces the amount of energy to heat and cool the building.

- Airtight construction reduces air that can infiltrate the building by 10-fold
- Variable R-value insulation provides a protective barrier to block the infiltration of outside air and the escape of inside air
- Roof and walls contain insulation that exceeds current codes, which
- 100% thermally broken facility uses high-performance insulation material between conductive metals to reduce thermal energy loss

Triple Pane Windows

Three panes of glass with air between each keep the building warm in the winter and cool in the summer.

- 25% more efficient than double pane windows; 50% more efficient than single pane windows
- Heating and cooling systems don't have to work as hard
- Excellent at preventing sound transmission
- Helps maintain consistent year-round temperature no cold pockets of air due to leakage



provides a more efficient barrier for maintaining the temperature inside



High Efficiency HVAC Equipment

A 100% electric HVAC system that is paired with heat pumps to provide a very efficient system.

- · Large-scale, ductless Variable Refrigerant Flow (VRF) HVAC system that uses refrigerant as the cooling and heating medium
- Higher energy efficiency than traditional HVAC systems (over 50%)
- Simultaneous heating and cooling
- than traditional systems

Maximize Natural Light and Minimize Electrical Light

- The abundance of windows on every side of the building reduces the need for lighting
- Daylight sensors reduce the brightness of the lights
- Occupancy sensors for lighting and electrical outlets turn off energy supplied when no one is in the space
- LED lights throughout the building use 75% less energy than traditional bulbs





• Dedicated Outdoor Air System (DOAS) that is up to 40% more efficient



