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**Some interesting facts  
about Zero Energy Building  
(ZEB) Design**





## Passive solar design

- a) Optimize orientation, window placement, and shading
- b) Reduce artificial lighting needs and heating costs

## High-performance glazing windows

- a) Minimize heat transfer
- b) Reduce energy demand for heating and cooling





**High-efficiency HVAC systems** with geothermal heat pumps and radiant heating mechanism

- b) Efficient air handling units
- c) Significantly lowers energy use
- d) Maintains optimal indoor air quality





## **Building integrated photovoltaic (BIPV) and energy storage systems**

- a) Integrate solar cells into structures
- b) Generate and store more energy than consumption

## **Advanced insulation materials (aerogel and phase-change materials)**

- a) Improve thermal resistance
- b) Maintain indoor temperatures with minimal energy





# Why PMG Engineering?

PMG's multidisciplinary expertise in design, project management, and sustainable engineering can support efficient execution of ZEB projects, leveraging advanced and renewable technologies, and smart systems.

**PMG can be an ideal partner for delivering your ZEB solutions, tailored to meet your specific needs!**