

Solar Technologies Pros & Cons

Passive Solar Building Design

Advantages	Disadvantages
Highly energy efficient: Reduces energy demands for heating, cooling and lighting (if daylighting techniques are used).	Use of daylighting techniques can increase warm-season cooling required if appropriate shading is not also provided.
Can reduce heating bills by as much as 50%.	Initial building cost can be greater.
Reduces consumption of fossil fuels.	Requires more initial thought and planning in building and furniture layout to reduce glare.
Reduces production of greenhouse gases.	Must use appropriate glass to maximize benefit.
Reduces production of various pollutants.	Can require engineering expertise, particularly if daylighting is used.
Uses a renewable energy source.	Too much passive solar gain can be very difficult to control by active means.

Solar Water Heating Systems

Advantages	Disadvantages
Many systems are easy to install.	Requires space for collectors and storage tanks.
Reduces utility bill.	Higher initial cost than conventional systems.
Reduces consumption of fossil fuels and electricity.	Some systems require engineering expertise to design and install.
Reduces production of greenhouse gases.	Systems require maintenance.
Reduces production of various pollutants.	To maximize efficiency, must be designed / chosen for specific climate.
Uses a renewable energy source.	Some systems use toxic chemicals (such as antifreeze).