

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). |