

BUILDING ENCLOSURE

MANAGE HEAT GAIN

With their layered transparency, connection to the outdoors, and daylighting—maybe even higher productivity—all-glass buildings have their appeal. But the energy penalty of such buildings cannot be ignored.

Building Green, 2010

Exterior shading at the Burton Barr Central Library in Phoenix. (Photo: Alex Wilson)



STRATEGIES

- **Use energy efficient windows and shading devices** to maximize the insulating qualities of the building openings.
 - For homeowners
*Efficient Window Collaborative*¹
 - For large commercial structures
*Efficient Windows Collaborative*²
 - For all buildings, consider participating in the U.S. Department of Energy's High Performance Windows Volume Purchase Program³
- **Use thermal mass, or building materials that absorb heat energy.**
 - Correct use of thermal mass moderates internal temperatures by averaging day/night (diurnal) extremes. This increases comfort and reduces energy costs.

*Thermal Mass- Yourhome.gov.au*⁴

Quote: Wilson, Alex. Rethinking the All-Glass Building. Environmental Building News. June, 2010.

1 Design Guidance for New Windows in a Cold Climate. Efficient Windows Collaborative. 2013. Online resource accessed 7/15/2013. <http://www.efficientwindows.org/downloads/ColdDesignGuide.pdf>

2 Energy Efficient Windows for Mid- & High-rise Residential Buildings. Efficient Windows Collaborative. 2011. Online resource accessed 7/15/2013. <http://www.efficientwindows.org/MidHighRiseResidential.pdf>

3 <http://www1.eere.energy.gov/buildings/windowsvolumepurchase/>

4 4.9 Thermal Mass- Australia's guide to environmentally sustainable homes. Yourhome.gov.au webpage. Last Accessed 7/10/2013 <http://www.yourhome.gov.au/technical/fs49.html>