



Delhi receives 2,688 hours of sunlight annually while London receives only 1,480 hours of it. What is suitable in those countries is not recommended here

Glass buildings make the aesthetic cut, miss the environment mark

The day the Northern grid tripped in July there was disorder at the CBI headquarters. Though diesel gensets sprang into action, it was highly uncomfortable to stay inside. The central air conditioner was not working and the glass walls were allowing sunlight to enter and increase the heat. The glass panels were designed in such a way that the windows would not open. The officials didn't even know that there were windows!

Box shaped design and glass walls are a common and popular form of architecture in modern cities especially in commercial towers. Being transparent, glass gives a sense of open space. It also enables natural light to come in while keeping dust and insects out. The demand for glass is also there because of its aesthetic appeal. It is another kind of fashion that we have acquired from western countries.

Moreover, glass sellers highlight their product as being energy efficient and environment friendly. Even Saint-Gobain Glass, the world leader in glass manufacturing, has a website called glassisgreen.com. The company's Indian wing is the founding member of the green building council that awards green ratings to buildings. The main sales pitch of glass now rides on its green character. But the questionis--how green is glass?

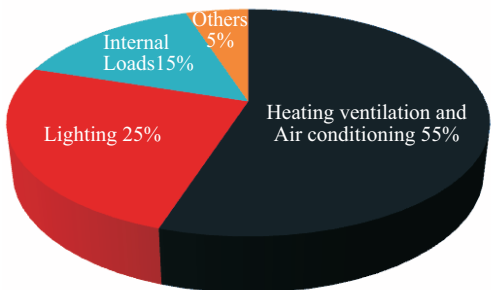
Glass traps heat inside the room and increases its temperature. This is the principle on which greenhouse works. To keep cool, almost every glass building uses air conditioners. Types of glasses are available in the market that cut down heat and glare transmission. But at any time, heat transmission through glass

is higher compared to other building materials. So air conditioners are being used in full swing and that is not something, which is green.

Another problem is that to control heat, offices use venetian blinds to cover up glass walls. That restricts natural light. As a result, artificial lights are put on. The more electric lights are on, the more carbon emissions occur. That again is not green.

Surprisingly, old buildings consume less energy than new and green buildings. Traditional Indian building architecture was conceived with a central courtyard. Big doors, windows and wide balconies are its common features. These reduce energy consumption.

In commercial areas, 55 % electricity consumption is through AC



Source: Environmental design solutions 2010

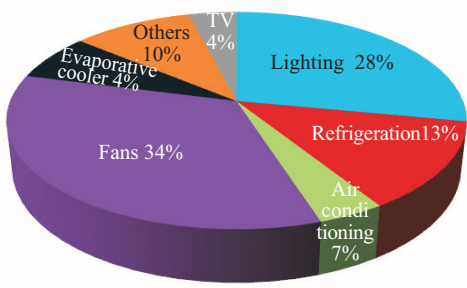
For a hot and humid climate,courtyard houses are best options according to the logic of environment. It helps cross ventilation through its deep arcaded areas and allows summer breezes to pass and keep it cool. Windows designed to provide shade from the south sun but allow southern breeze. And they also illuminate rooms with natural light

ECBC allows a maximum wall-to-window ratio (WWR) of 60%. Another point to be noted is that modern cities are designed with broader roades and scattered buildings. It helps car riders rather thanpedestrians. It influences people to ride cars and that multiplies environmental pollution. In old cities provision for car riding is less because of narrow lanes. That is why carbon emission is less.

However, even though old buildings and old cities are not user friendly they are environment friendly. Now experts need to rethink on making modern facilities really green.

BE Bureau

Energy consumption by household



Source: Environmental design solutions 2010

Courtyard Houses

AnumitaRoychowdhury, Executive Director- Research & Advocacy, Centre for Science and Environment, Delhi said that for a hot and humid climate,courtyard houses are best options according to the logic of environment, during 'Orientation Workshop on Agenda for Sustainable Buildings' co -organized by New Town Kolkata Development Authority (NKDA), Housing Infrastructure Development Corporation Ltd (HIDCO) and Centre for Science & Environment.

Courtyard houses help cross ventilation through its deep arcaded areas and allows summer breezes to pass and keep it cool. Windows are designed to provide shade from the south sun but allow southern breeze. And they also illuminate rooms with natural light.

Winter is very short in India compared to western countries. Delhi receives 2,688 hours of sunlight annually while London receives only 1,480 hours of it. What is suitable in those countries is not recommended here. Glass wall is thus not recommended.Yet

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