

# What a building could do to reach super low-energy status

To be considered a super low-energy building, the structure must have systems that make it at least 60 per cent more energy efficient compared with 2005 building codes. The Straits Times looks at the Building and Construction Authority's Zero Energy Building to see examples of the measures that could be implemented.



This personalised ventilation system delivers fresh air directly to each occupant through pipes attached to a desk, which resemble speakers. This reduces energy usage because there is no longer a need for the entire floor or room to be cooled to a low temperature.



Light pipes set up on the building's roof collect sunlight and, through reflection via mirrors, throw this harvested daylight into the room below. The light is spread evenly throughout the room by diffusers, reducing the need for artificial lighting.



Specially developed for tropical climate, solar chimneys are made of metal that absorbs solar radiation. Placed on top of the roof or up high in a non-air-conditioned room, they suck out warm air from the room. Through convection, cool air will then rush into the room.



Strategically placed shading contraptions can shield the building from the sun while bouncing natural lighting into the interiors of the building. And plants planted vertically on the walls can shade them from the sun and lower indoor temperatures.