



Smart Barjeel (Wind Tower)

A modernized Barjeel (wind tower), merges traditional cooling with modern innovation. Wind is captured through air intakes at the top and guided downward, naturally cooling the interior. Bi-directional curtains help channel the air more effectively, directing it downward for improved ventilation and temperature control.

When natural wind is insufficient, motorized fans inside the tower activate, ensuring continuous airflow. These fans run on solar power, making the system both energy-efficient and sustainable. The building's earth-connected foundation further enhances cooling by absorbing excess heat, maintaining a stable indoor temperature. Reports also suggest that the overall temperature can be reduced by 7 degrees Celsius within the house.

By integrating passive cooling techniques with renewable energy, this design creates a self-sufficient, climate-responsive home that minimizes the need for artificial cooling.