RETHINKING NATURAL VENTILATION

→ A healthy indoor climate ensures indoor comfort. With the e-stack system, an optimal indoor climate is achieved with minimal energy consumption.

ECONOMIC

E-stack systems provide an energy-efficient alternative to traditional ventilation systems.

SOCIAL

Well-functioning ventilation systems ensure better air quality, which helps combat diseases and other allergies.

ENVIRONMENTAL

E-stack's systems offer a cost-effective solution compared to traditional ventilation systems.

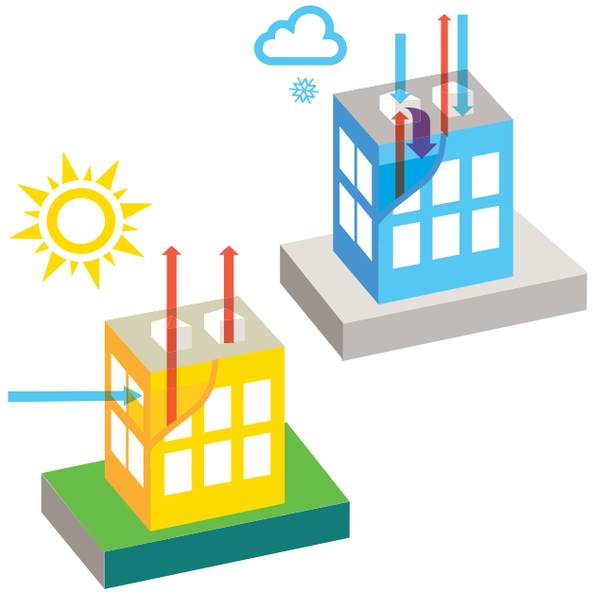
THE SOLUTION

! Using the principles of natural mixing ventilation in winter and natural upward displacement ventilation in the summer, Breathing Buildings offers a cost-effective and energy-efficient alternative to traditional ventilation systems.

The e-stack system is controlled by a device that responds to variations in temperature and CO_2 levels. The system also includes low-energy fans, which may be used to enhance the flow in extreme conditions and thereby provide a reliable, engineered low-energy ventilation system.

WHY A SUSTAINIA100 SOLUTION?

? Ensuring optimal indoor comfort requires a healthy indoor climate. A poor indoor climate is a common cause of poor health and low productivity. Using a patent-pending technology developed by the University of Cambridge, the e-stack system maintains a minimum rate of air change between a building and the outdoors, while minimizing the heating energy required. Throughout the process, the e-stack system ensures that the air quality remains very high.



UNITED KINGDOM

www.breathingbuildings.com

SOLAR POWER WITH STORAGE

ECONOMIC

Gemasolar reduces the deficit in Spain's balance of payments by $25 million at today's crude oil prices by preventing the import of 217,000 barrels of oil each year.

ENVIRONMENTAL

Gemasolar is capable of reducing annual CO_2 emissions by more than 30,000 tons, thereby avoiding the need to burn 89,000 tons of lignite.

→ 2011 saw Spain inaugurate the world's first power plant to combine a tower receiver for concentrated solar power with a molten salt thermal storage system.

THE SOLUTION

! In October 2011, the Gemasolar Concentrated Solar Power (CSP) plant was inaugurated in Spain. 2,650 mirrors called heliostats track the sun and reflect its light onto a central point at the top of the tower receiver where a molten salt fluid circulates. This fluid is pumped up to the tower from a "cold tank"; it retains heat from the tower, and is returned to a "hot storage tank." The heated salt is used to produce steam, which drives a turbine that generates electricity.

The heated salt can be stored in a heat tank for up to 15 hours. This allows Gemasolar to deliver power to the grid based on demand. Gemasolar delivers enough power to supply 27,500 households.

WHY A SUSTAINIA100 SOLUTION?

? Each day, the Earth receives on the order of 6,000 times its total energy needs from the sun. CSP is one of several ways to harness that energy for heat and electricity production. The Gemasolar plant is unique in its combination of CSP and thermal storage.

SPAIN

www.torresolenergy.com

Photo: Torresol Energy