THE ENERGLIK GREENHOUSE

THE ROAD TO CLIMATE NEUTRAL GREENHOUSE SYSTEMS

Greenhouse horticulture enables efficient production under controlled conditions. Reducing the use of fossil fuels to decrease CO_2 emission is one of the biggest challenges for future-resilient greenhouse production. The ENERGLIK project wants to demonstrate how climate-neutral greenhouse horticulture can be achieved and combined with economic profitability by focusing on four innovation processes.

THE 4 ENERGLIK INNOVATION TRACKS

WHAT? GOALS!

Screens

Save energy by using insulating materials to reduce heat losses through the roof

- Development of robust, consistent and meaningful norms for screen characterization.
- Co-creation of market ready, high energy-saving, durable and affordable screens

Mechanical dehumidification

Reduce heat losses caused by ventilation and optimize production by controling humidity inside the greenhouse

Year-round humidity control with a lower thermal energy demand. Test of:
- cross flow heat exchanger
- condensation heat pump
- vapor-to-heat pump

CO_2 Capture, storage and dosage

Provide optimal conditions for photosynthesis and plant growth

-Separation of heat and CO_2 demands

-High purity CO_2

Spore sensor

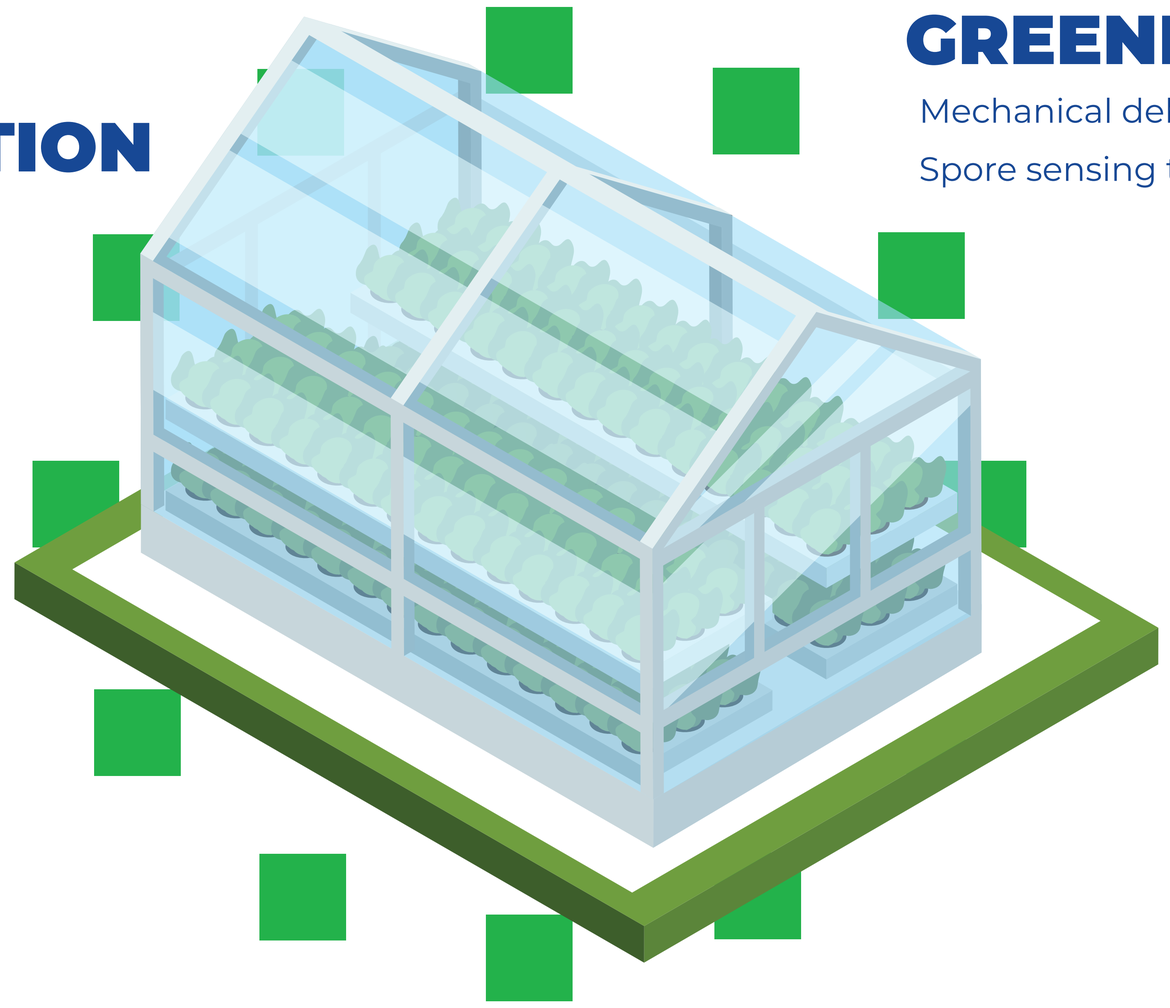
Keep risk for diseases under control at high humidity levels

- Monitor of spore pressure at high humidity levels
- Continuous monitoring to ensure performance

CO_2 FERTILIZATION

Dosage only when and as much as required

Separate heat and CO_2 demand



GREENHOUSE SYSTEM

Mechanical dehumidification

Spore sensing technology

DAY AND NIGHT SCREENS

Maximum use of screens

Automated control

Highly insulating screens

OPTIMAL CLIMATE CONTROL
Bringing together all innovation tracks

Optimal control: smart use of sensible heat by combining high insulation with mechanical dehumidification. Obtaining a high productivity and high energy efficiency and at the same time control disease pressure.

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Interreg Vlaanderen-Nederland
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Energlik

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