Demonstration greenhouse

Three years' worth of practical experience with 2SaveEnergy® in the demonstration greenhouse housed on the WUR Greenhouse Horticulture business unit grounds in Bleiswijk have already been documented. In 2015 tomatoes were grown there (yearround cultivation, not illuminated) and cucumber in 2016 (high-wire cultivation) according to the principles of 'Next Generation Cultivation'. The results confirmed that the theoretical values can be easily achieved in practice. The test results are given on the preceding page.

2SaveEnergy® has been developed by a consortium of leading suppliers in collaboration with WUR Greenhouse Horticulture business unit. The partners are:

- VDH Plastic Greenhouses B.V.
- Van der Valk Horti Systems B.V.
- BOAL Systems
- AGC Chemicals Europe Ltd.

This project was realised with support provided by the 'Greenhouse as source of energy' programme, the innovative action programme of LTO Glaskracht Nederland (Dutch Federation of Agriculture and Horticulture), and the Ministry of Economic Affairs.

For more information, go to www.2saveenergy.nl or contact:

VDH PLASTIC GREENHOUSES BV — www.foliekassen.com

VAN DER VALK HORTI SYSTEMS — www.valkhortisystems.com

BOAL SYSTEMS — www.boalsystems.com

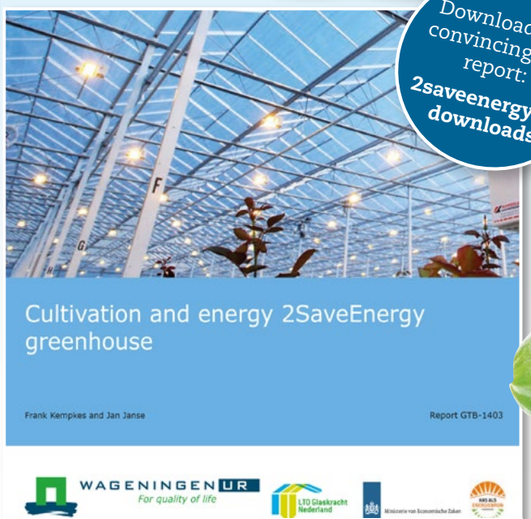
AGC — www.agcce.com

2 SAVE® ENERGY
GREENHOUSE SYSTEMS

www.2saveenergy.nl

2 SAVE® ENERGY
GREENHOUSE SYSTEMS

- √ All-purpose cavity covering for all types of Venlo greenhouses
- √ More production with 50% lower energy consumption
- √ Already 3 years' worth of convincing test results
- √ Payback time <5 years
- √ Available to all greenhouse builders and growers



Download the convincing test report: **2saveenergy.nl/downloads**

2SaveEnergy®: the new boon to energy-efficient growers

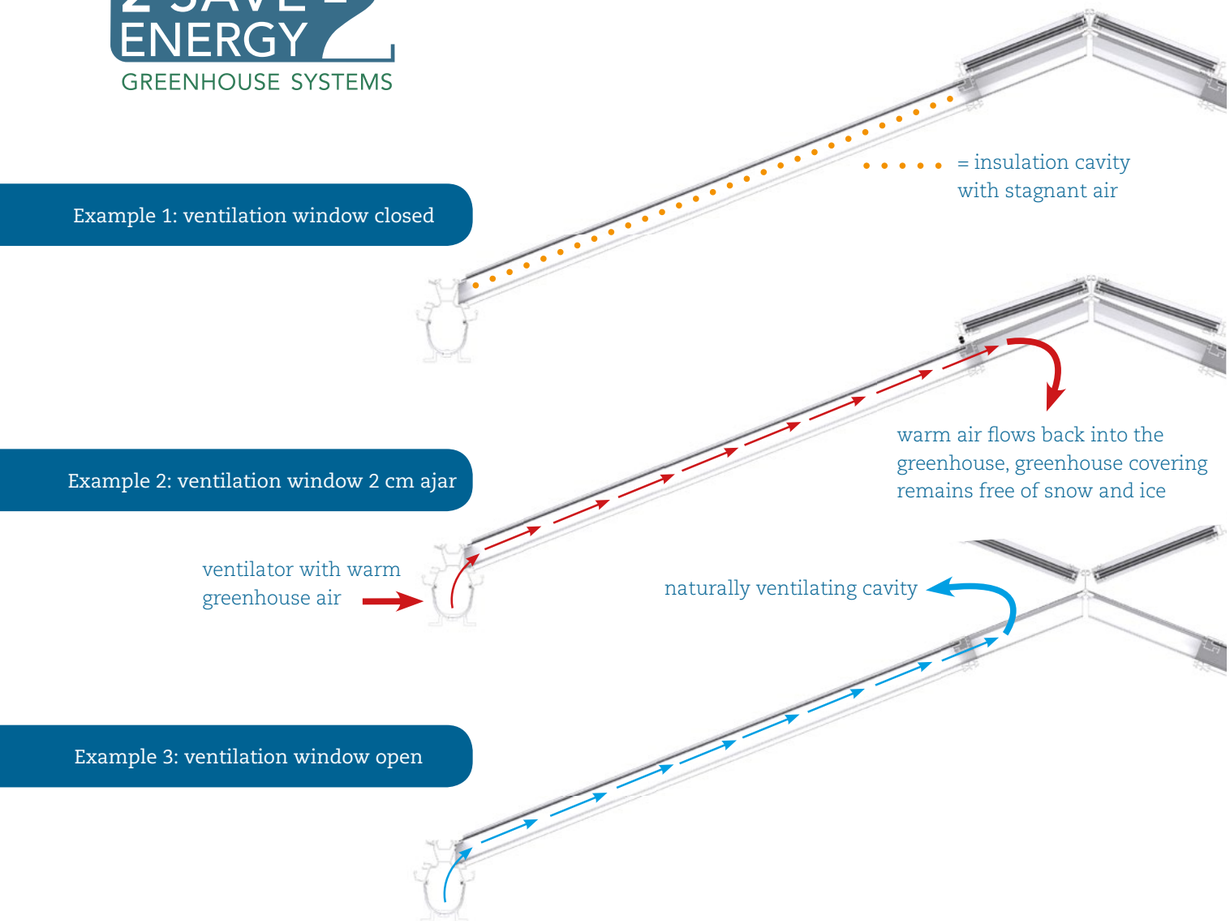
2SaveEnergy® is a new, practical and economical solution for energy-efficient growers. This all-purpose greenhouse covering contains an outer layer of transparent glass with a double anti-reflective coating and an under layer of extremely durable, diffuse F-CLEAN film. In between there is a cavity that can be ventilated.

This combination has similar insulation properties as multi-coated double glazing, but in a format that is lighter and easier to use. Above all, it allows the same amount of light through as a standard single-pane covering, which is unable to scatter light.

2SaveEnergy® has been developed by a consortium of expert suppliers in collaboration with research institute Wageningen University & Research Glastuinbouw. The combined expertise and capacity for innovation has resulted in 2SaveEnergy®, the first greenhouse covering that combines a high insulation value and light transmission with an affordable price.

2SaveEnergy® means:
High insulation + high light transmission + haze + light, affordable construction

2 SAVE ENERGY®
GREENHOUSE SYSTEMS



Cavity covering

The high insulation value of the covering is largely thanks to the cavity (5cm) between the glass and the F CLEAN® film. This special diffuse film is very durable and maintains its anti-condensation properties for at least ten years.

The advantage of ventilation

An exceptional feature of 2SaveEnergy® is the active greenhouse air cavity ventilation. This is desirable to keep the covering free of ice and snow in the winter. To ensure optimum ventilation, the ducts have openings to the cavity and small ventilators can be connected to them.

Light transmission and energy saving

2014-2017:

WUR Glastuinbouw has investigated and calculated numerous aspects of this revolutionary greenhouse covering. This research found that it was possible to achieve hemispherical transmission of 80.7% and vertical transmission of more than 90.6% for a glass/film combination, which is comparable with a standard covering.

Practical test:

From the beginning of 2015 intensive testing was done with a year-long practical test in the demonstration greenhouse (500 m²) in the grounds of Wageningen UR in Bleiswijk. This has confirmed that the theoretical values can be easily achieved in practice. The final report by Frank Kempkes of WUR Glastuinbouw containing the results of the practical test, can be downloaded from the www.2savenergy.nl website.

Preliminary results of the practical test:

- Dimensions of the greenhouse: span size 4.8m, section size 5m and post height 6m
- Covering system: 2SaveEnergy® with clear glass with double AR and diffuse F-Clean
- Screen system: double Luxous 1347 FR cavity screen

Tomatoes 2015:

- Variety: Cappricia (middle-size cluster)
- Year-long energy use: approx. 16m³/m² (goal was 19m³/m²)
- Year-long production: approx. 65kg/m² (goal was 63kg/m²)

Cucumbers 2016:

- Variety: Hi-Jack
- Year-long energy use: approx. 17,5m³/m²
- Year-long production: approx. 110kg/m² (260 cucumbers)

Tomatoes 2017:

Start new research project: 'A strong crop with little gas'.

- Variety: Cappricia
- Goal: exceptional further reduction in energy consumption.