Climate, Energy Active Vegetable Roof STERED®
Road to Building Energy Efficiency in Accordance with Low Carbon Strategy - Energy Saving and CCUS
(European Union decarbonisation policy)

- Low carbon footprint of materials in the composition
board STERED is made of 80% recycled, consumption only 1 kWh per 1 kg of new product (1m2 = 10 kg = 10 kWh = 1.350 kg CO2)
- **board performs several functions, thermal insulation, retention, drainage, growing - growth**
This reduces the need for multiple materials and the amount of vegetation special ground substrate, less building material (fuel consumption)
- **the only composition that can work in active energy mode - detained, subsidized**
water rises and evaporates (2-8 l / m2 / day) (due to low diffusion resistance slabs STERED)
Note. the wetter and colder the roof, the better the photosynthesis - absorbing function CO2.

Indicative calculations per 1 m2 per year of climatic, energetically active STERED® vegetation roof

Energy savings for cooling (approx. 42%) *	**Reduction of CO2 production**
103 - 133 kWh / m2 / year (hall in = 6 m)	14 - 18 kg CO2 / m2 / year
42 - 55 kWh / m2 / year (H = 2.5 m)	6 - 7,5 kg CO2 / m2 / year

Energy saving re-heating (approx. 20%) *	**Reduction of CO2 production**
44 - 59 kWh / m2 / year (H = 6 m)	6 - 8 kg CO2 / m2 / year
18 - 24 kWh / m2 / year (H = 2.5 m)	2,5 - 3,2 kg CO2 / m2 / year

* thickness of thermal insulation is 300 mm, mineral wool

Cooling the air around the building	**cooling energy would produce CO2**
evaporation 650 l / m2 / year	
(2-8 l / m2 / day (250 days)) = 422 kWh	57 kg CO2 / m2 / year

The cooling effect corresponds to 1.5 m2 of grown deciduous forest !!!

Photosynthesis of vegetation area	**reduction of CO2 production**
Permanent irrigation has a positive effect on high photosynthesis	of 4-5 kg CO2 / m2 / year

In Krajné, 12.2.2020, Juraj Plesník