

ENERGY EFFICIENT GREENHOUSES FOR SUSTAINABLE PLANT PRODUCTION

Innovations and Benefits - Development of low energy consumption systems related to greenhouses, plant nursery and horticulture. This technology developed by ENEA allows to benefit from energy efficiency and energy saving by sustainable acclimatization, CO2 emission reduction, improved production performance in terms of quantity and quality, and higher use of renewables applied to acclimatization air conditioning.

Uses - Applicable to protected farming (glasshouses, plastic greenhouses, tunnels) and food industry (IV and V range production). The great variety of materials allow to meet different requirements: photovoltaic greenhouses for plant production; building greenhouse, zero-soil greenhouse system for plant production; solar-cooling greenhouse system, geothermal greenhouses; multilevel food plant production.

Past and Present Activities - Collaborations and demonstration activities developed with: Sicily Region (MODEM Project funded under PON 2006-2010); Sicily Region (Innova Project-funded under Rural Development Programme 2006-2010); Apulia Region (Adriacold Project – funded under IPA-Adriatic Cross-border Cooperation 2007-2013); Antarctica (PULSA Project, in the framework of PNRA) and Thermie programme.



MODEM Project
(photovoltaic greenhouse)



PULSA Project
(closed greenhouse)



INNOVA Project
(soil-less technique)



ADRIACOLD Project (solar cooling)



THERMIE Project (geothermal greenhouses)

