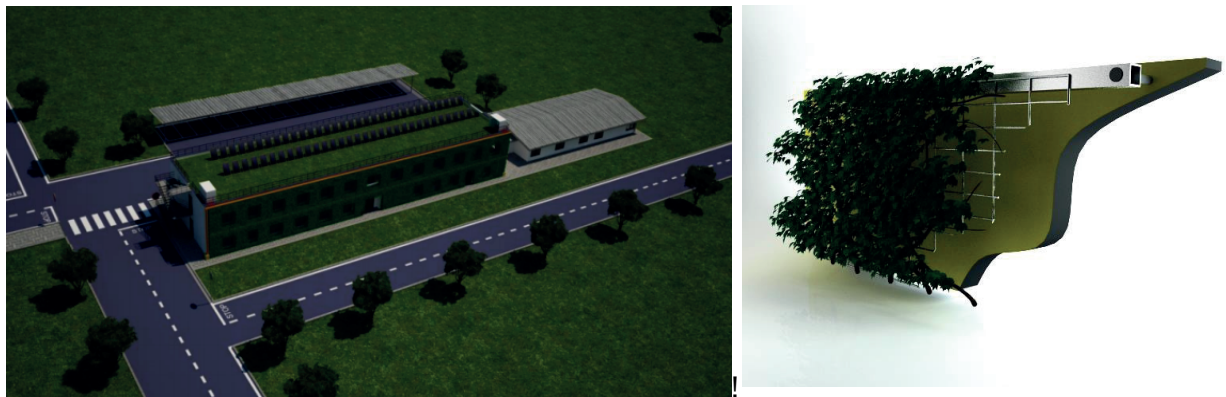


# CREATION OF VERTICAL (FAÇADES) AND HORIZONTAL (GROUND FLOORS, ROOFS AND BALCONIES) GREENERY SYSTEMS

**Innovations and Benefits** - Design of passive systems for air conditioning of buildings covered with green walls (Vertical Greenery System) and Green Roofs in order to create an insulating barrier between outer walls and the surrounding space. The application of such systems allow to increase energy savings related to both air conditioning and air heating in buildings.

**Uses** - Technological solutions for constructors and professional designers for energy efficiency and construction of environmentally-friendly buildings. Not only has the application of VGS-GR (Vertical Greenery System- Green Roof) systems a decoration or food-providing function, but it also creates an insulating barrier between the external floor and the surrounding space. Therefore, the VGS-GR reduce the energy consumption either for cooling buildings in summer or for heating in winter. Further, this innovative application of vegetable systems for improving microclimatic comfort of buildings in the towns it is part of a design strategy aimed at reducing the environmental impact of buildings on the surrounding area.

**Past and Present Activities** - Testing is underway at the ENEA Casaccia Research Centre, aimed at studying the bioagronomic and phenotypic characteristics of plants suitable for green coatings and the relevant load-bearing structures (MISE-ENEA framework agreement on Electric System Research, three-year plan 2012-2014).



Rendering vertical greenery system and green roof of building F51 at the ENEA Casaccia Research Centre: Load-bearing structure

