

The main objective of SunHorizon is to demonstrate innovative and reliable Heat Pump solutions (thermal compression, adsorption, reversible) that acting properly coupled and managed with advanced solar panels (PV, Hybrid, thermal) can provide heating and cooling to residential and tertiary building with lower emissions, energy bills and fossil fuel dependency.

SUNHORIZON TECHNOLOGIES

The project will analyze heat pumps and building integrated solar solution. Such integration aims to cover the whole H&C demand of the building. The technologies that will be installed are:



Hybrid PV/T panels



Hybrid adsorption
Compressor cascade chiller



Hybridation of HP, solar,
thermal and PV



Thermal Compression HP



Vacuum solar thermal panels



Stratified thermal storage tank

SUNHORIZON TP		SOLAR/HP INTEGRATION CONCEPT
TP1	TVP+BH	Parallel Integration
TP2	DS+BH	Mixed Solar/assisted - Parallel Integration
TP3	TVP+FAHR	Solar-Driven HP for Cooling
TP4	DS+BDR	Parallel Integration
TP5	TVP+BH+FAHR	Mixed Solar-Driven - Parallel Integration

DEMO ACTIVITIES

SunHorizon Demo activities will be held in different EU contexts to evaluate different climatic and energy market solutions.





SunHorizon innovative technologies will be deployed in small and large scale residential (single house and apartment blocks) and tertiary buildings (public buildings, sport centers).



THE MONITORING PLATFORM

SunHorizon consortium will develop also a cloud based functional monitoring platform that will act as the "performance data mine" for the development of Data Driven/KPI oriented optimized algorithms and tools for predictive maintenance. In this way, it will be possible to optimize the management towards maximisation of solar exploitation and give to the manufacturer inputs for enhancing the design of their components.

CONSORTIUM





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