IDEAS project

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Living in community is a broader concept than our current vision of neighbourhood or even of the city we live in. When the community concept crosses borders, specifically in the European Union, the quest for directives and laws which can bring the interacting countries closer is a crucial need.

The renewable energy sector in one of the sectors in which the EU has been investing. Not only regarding the identification and development of the available resources in each Member State, but also the harmonization of the legal framework towards achieving a more European legislation, less centred within the domestic borders.

The Horizon 2020 Program was developed with this purpose, supporting study projects of the several characteristics presented by each Member State in order to create rules, bring them closer and promote the exchange between the parties.

APESF is proud to look for opportunities to participate in projects aimed at identifying the domestic framework, determine the workflow in other Member States and contribute to mould the legal framework within the EC that later will also translate in results at the domestic level.

Currently, alongside the already divulged project PVProsumers4Grid (PVP4Grid), centred on the *prosumer* concept, encompassing the residential and the industrial sectors, APESF also participates in the project IDEAS (*Novel building Integration Designs for increased Efficiencies in Advanced climatically tuneable Renewable Energy Systems*).

The consortium of this project is composed by 6 countries (the United Kingdom, Ireland, Spain, Italy, Portugal and Serbia) in a total of 14 participants. Portugal is represented by APESF and by LNEG.

The scope of the IDEAS project is the energetic dynamics of the buildings in all its components. The buildings play a significant role in the balance of global energy. Generally they are responsible for 20-30% of the total primary energetic needs of the industrialised countries, representing the EC 40%. The intended application of a RES (Renewable Energy System) integrated system in buildings is a major step for a bigger integration and development of renewable energy in order to achieve the objective set by the EC, i.e., reducing the greenhouse gas emissions at least 40% by 2030.

The objective of the study is the creation of an affordable RES integrated system maximizing the result for the

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the different climatic conditions, through the use of new techniques of luminescent and geometric concentration, leading to optimized energetic efficiency systems.

The improvement in thermal performance will be achieved through organic phase change materials (PCMs), with passive mechanisms of heat transfer biometric materials for heat storage and discharge.

A heat pump electric system, using several sources, will use the major energy sources at the level of the building (system waste of heat, air and soil) to provide access to an integrated system of radiant floor and water heating, generating the thermal storage. This RES integrated system will use advanced control techniques to maximize the energetic performance, both at electric and thermal levels, towards self-sufficient buildings. The technology will be optimized and presented for use in multifamily residential, commercial and public buildings.

The IDEAS project is still in the data collection stage by the elements which constitute the consortium, thus there aren't any published documents yet. The reports of the collected data encompassing public content will be published in the official page of the project. The web address of the project will be announced in the APESF page when available.

Visit our website (www.apesf.pt) to find out more information about the projects and other useful information. rm

IDEAS

www.horizon2020ideas.eu