



The AmBIENCE Consortium during the kick-off meeting held on July 2019 in Brussels



AmBIENCE – *Active managed Buildings with Energy performaNce Contracting* – is a H2020 project funded by the European Commission with about 2 million Euro, coordinated by the Belgian research institute VITO and counting on the participation of ENEA, in addition to INESC TEC and EDP CNET from Portugal, IK4 from Spain and ENERGINVEST and BPIE from Belgium. The project started on June 2019 and will involve the ENEA researchers of the *Smart Grid and Energy Networks Laboratory* of the *Energy Technologies Department* for 30 months.

The main goal of this project is to enhance and refine the energy performance contracting (EPC) models and extend the models to Active Building Performance Contracts by embedding ICT and IoT smart solutions.

“The outcomes of such project – highlights Dr. Giorgio Graditi, the Vice-Director of the Energy Technologies Department – will be mainly used as guidelines and frameworks for regulatory bodies and high-level stakeholders. Therefore, the project will enable ENEA to strengthen its role in energy research at European level, with particular reference to the development and implementation of innovative Demand Side Management models and tools”.

The majority of the current energy performance contracting approaches and concepts considers only the building's 'passive' energy efficiency and it is applied mainly in tertiary use and public buildings. There clearly is an untapped potential to apply these practices to a wider range of buildings with enhanced capabilities in building levels by enhancing the active role of end users in the management and active control of their loads.

“The idea in AmBIENCE is to dynamically monitor the energy performance of the buildings that are equipped with active control systems. In such a framework, AmBIENCE not only proposes an extended dynamic EPC concept and model but also provides the business model for its implementation by valorising the flexibility in the buildings”, explains Dr. Marialaura Di Somma, as the person in charge of ENEA activities in the project.

These contracts will support both energy and non-energy services (security & access control, comfort & health, maintenance & building condition, trouble shooting, environmental compliance and information management), together with the possibility to enrich an inherent flexibility from the demand side.

The Smart Grid and Energy Networks Laboratory is part of the Solar Thermal and Smart Networks Division of the Energy Technologies Department of ENEA. The Lab's activities focus on research and development on technologies, methodologies and devices for applications in the field of Smart Grids and energy networks and micro-grids in the presence of poly-generation and distributed cogeneration and energy storage. It also addresses the problems of distributed generation and smart grids, by developing the related management, control and optimization strategies through multi-objective approaches also in relation to the different requests for the supply of energy services. It also conducts research activities on technologies and methodologies for the development of multi-carrier energy hubs and renewable energy communities in the presence of energy storage and active demand.

