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**Code:**

**Project: SYN.IKIA**

**Area: Energy Efficiency in Systems, Buildings and Communities Area**

**Area leader:**

**Group: Thermal Energy and Building Performance Group**

**Group leader: Dr. Jaume Salom Tormo**

## **Recognised / Post-doc Researcher – Energy in Buildings Thermal Energy and Building Performance Research Group**

The applicant will work as a researcher in projects related to energy efficiency in buildings and communities, Positive Energy Districts and DER (Distributed Energy Resources) integration and energy management systems in buildings. He/she will report to Head of the Thermal Energy and Building Performance Group co-leading the research projects related with Energy Efficiency in Buildings, Building Performance and Retrofitting in Buildings.

### **The Research Group**

The research will be embedded in the **Thermal Energy and Building Performance Group** which main research subject is the Integrated and Systemic approach for Zero Energy Buildings and Communities. The group's special focus is on the Mediterranean and other warm weather regions. The vision is to build an applied research group that contributes to accelerate the reduction of greenhouse gas emissions (GHG) through energy efficiency measures, production of clean energy, and integration of distributed renewable energy sources (RES).

The research group is also managing the **Semi-Virtual Energy Integration Laboratory (SEILAB)** which provides advanced expertise to assess the development and integration of renewable energy solutions and innovative thermal and electrical equipment that are designed to improve energy efficiency in buildings and energy systems. The laboratory is provided with cutting-edge technology comprising systems for energy generation, heat and cool storage and state-of-the-art facilities for testing HVAC equipment and the interaction of energy systems with the grid. The laboratory operation is based on a semi-virtual testing approach, which allows for real equipment to be operated as a function of the behaviour of a dynamic virtual model. The laboratory is pioneer in addressing the smart integration of electrical and thermal components and is a leading experimental facility for improving the development of Net Zero Energy Buildings.

### **Description**

He /she will be involved in tasks such as managing, supervising and leading projects as well of performing research in projects related to energy in buildings and HVAC systems and integration of renewable energies in buildings, IEQ in Buildings and cost-benefit analysis. Integrated in a multi-disciplinary team, the candidate is expected to run research activities as part of international projects

or projects with industrial partners. The candidate has to be used to plan resources and ensure deadlines as well of reporting and communication of technical / research results.

The candidate will work in EU international projects within the subject of Positive Energy Buildings and Positive Energy Districts. One of the projects is H2020 SYN.IKIA projecte ([www.synikia.eu](http://www.synikia.eu)). Other project is ARV project to start January 2022. The vision of the ARV project is to contribute to speedy wide scale implementation of Climate Positive Circular Communities (CPCC) where people can thrive and prosper for generations to come. The overall aim is to demonstrate and validate attractive, resilient, and affordable solutions for CPCC that will significantly speed up the deep energy renovations and the deployment of energy and climate measures in the

### Requirements

We are looking for excellent and highly motivated candidates with a PhD degree in Mechanical Engineering and/or Building Physics Science, with experience in building performance, thermal renewable systems and generally speaking energy systems in buildings and/or cities, IEQ and cost-benefit analysis. Knowledge in heat and mass transfer phenomena, renewable energy technologies and experience in computational energy systems and simulation tools is essential. Advanced knowledge of TRSNYS is required. We are looking for a methodical and rigorous person with a scientific spirit and results oriented. Teamwork and communication and management skills will also be a requirement. The candidate should also have experience in EU and international research projects. Mastery of English on all levels is essential. Knowledge of other languages would be desirable.

### We offer

We offer the chance to become part of an exciting and consolidated team, with international recognition, for developing cross-cutting projects in science and technology, oriented towards excellence. We also offer a research environment comprised of highly qualified and motivated professionals. Salaries will be paid in accordance with the IREC's salary policy, depending on the candidate's qualification and professional experience. Expected category: Recognised Researcher / Project Engineer (R2)

**Workplace.** Barcelona

### Application

Applicants should send a detailed CV and a letter of motivation to [irecjobs@irec.cat](mailto:irecjobs@irec.cat).

The application deadline is 6<sup>th</sup> December 2021

Please indicate “**2022 –R2-Buildings**” in the subject