

Urban Challenges
and Sustainable Technological Revolution



Special Session Proposal

Special Session Title

Building decarbonization and sustainability in urban areas. Evidence

Paloma Taltavull (paloma@ua.es)

Raul Perez (raul.perez@ua.es)

Francisco Juárez (fjuarez@ua.es)

Abstract

The effects of climate change triggered the need to convert the housing stock toward a low-energy model. International commitments to reduce carbon emissions took an important step forward with the Paris Agreement (COP21) reached at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015 encouraging to apply measures to keep global warming below a 2°C (1.5°C) rise in temperature compared to pre-industrial levels stressing the countries to account for a majority of CO₂ emissions committed to implementing containment measures from 2020 to have net zero emissions in 2050. Buildings and real estate accounts for around 40% of total emissions, thus being one of the primary sectors to be addressed in order to achieve near-zero energy buildings (nZEB) in 2050. Due to the strenght of the mesures requirede, two main areas appear to be disentangled. One, thecnically analyse how to de-carbonize the building stock and, second, how to find market incentives to stress investment which could consolidate the renovation of the residential stock, and to achieve one of the main goals of the European Energy policy.

A succesfully process in both areas imply huge urban renovation and large flow of capital into the cities.

This session will present latter research in both areas. Researchers related with the succesfully EU project called CRREM will present current research with the CRREM tool application. Other researchers from different universities in Europe and US will present their current research on these topics.