ENERGETICS

MUR DM 118 - Modeling Post-Carbon Cities and Renewable Energy Communities

Funded By	MINISTERO DELL'UNIVERSITA' E DELLA RICERCA [P.iva/CF:97429780584] Dipartimento DENERG
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Context of the research activity	This research aims to fill the lack of adequate investigation in the field of energy planning tools and modeling at territorial scales and their integration in plans and energy policies. It assists city administrations in identifying decarbonisation scenarios by 2030, evaluating their impacts in energy/environmental/economic/social terms, and assessing the feasibility of establishing renewable energy communities. Progetto finanziato nell'ambito del PNRR – DM 118/2023 - CUP E14D23001630006
Objectives	The research on this topic is currently ongoing through the development of place-based Urban Building Energy Modeling (UBEM), with tools and platforms. Place-based UBEM can highlight local specificities, evaluating the spatial distribution of energy consumption, assessing the availability of renewable energy sources and optimizing the aggregation of energy users, producers and prosumers. Place-based building energy modeling supports municipalities considering their site-specific environmental, economic and social contexts, and ensure feasibility and sustainability of energy interventions to meet the actual and future energy demand. Place-based UBEM will support municipalities that join some European projects, such as “100 Climate-neutral and smart cities by 2030” and “C40 Reinventing Cities”, to test low-emission solutions and drive the acceleration of decarbonization. This research also allows to evaluate the benchmarking thresholds of municipalities in terms of effective potential energy savings and renewable energy share.
Skills and	Master's degree in: URBAN AND REGIONAL PLANNING, ENERGY AND

Skills and competencies for the development of the activity	NUCLEAR ENGINEERING, DIGITAL SKILLS FOR SUSTAINABLE SOCIETAL TRANSITIONS, ARCHITECTURE. Experience in urban buildings energy modeling (UBEM) and energy production at territorial scale. Mastery in the use of QGIS or ArcGIS.