

A multi-level data collection framework to explore urban complexity and support communities' energy transition

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The increasing complexity of urban environments presents significant challenges for understanding and managing the energy needs of modern communities. This speech presents a multi-level data collection framework designed to capture the multifaceted dynamics of urban systems and support the transition towards sustainable energy solutions. Integrating data from various sources—including sensors, social media, and community feedback— it would be possible to comprehensively capture urban energy needs and use in combination with citizens comfort and well-being assessment. This comprehensive approach would not only enhance the capacity to monitor and predict energy consumption and on-site production but would also empower communities to actively participate in shaping their energy futures, ensuring that the transition is both socially inclusive and environmentally sustainable.