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# SUSTAINABLE ENERGY TRANSITIONS NEED BIG DATA: EVIDENCE FROM LOS ANGELES RESEARCH

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In the US cities, nearly 40% of urban greenhouse gas emissions due to energy use in buildings take place. The transition to sustainable energy requires a great deal of fundamental research about energy needs and use at the city level, including building energy use, solar potential, potential for renewable gas to substitute for natural gas, industry sectors, building age/size and socio demographic characteristics. I present research on the potential for a sustainable energy transition in Los Angeles County, a region with over 10 million people, 3,141,244 buildings and over 2 million parcels. This big data-based research was based on individual building energy (electricity and natural gas), use over a period of 10 years (based on monthly consumption), the use of orthogonal aerial imagery, including parking lots and other potential open space for solar photovoltaics. We show the range of potential for local energy self-reliance and how ground up data makes a difference in evaluating sustainable energy transitions.

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