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# **Incorporating occupant behavior and feedback for climate resilience and energy efficiency**

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## **Abstract**

The widespread availability of open datasets in cities is transforming the way urban energy systems are planned, simulated and visualized. Urban-scale datasets including geographic information systems (GIS), smart energy meters, and telecommunications information can facilitate the development of urban information models that can provide reliable estimates of energy demands for urban planning applications. Furthermore, building management systems generate vast amounts of data that can support system monitoring to ensure energy performance and occupant thermal comfort at the building scale. Despite this, buildings have been found to waste 10–40% of energy due to faults in building components and controls. Integrating large scale sensor and smart meter datasets with subjective occupant feedback can allow urban planners and system operators better understand the effects of their decisions on both energy performance and occupant well-being. This presentation focuses on different applications of occupant feedback integration with large scale sensor and energy meter data for the planning and operation of climate-resilient urban areas from the city to the building system scale.

## **Keywords**

## **References**

## **Biography**

Martín Mosteiro Romero is a postdoc researcher at the Department of Architectural Engineering and Technology at TU Delft. In his research, he seeks to combine data analysis and modeling techniques to the planning of energy systems that minimize energy demand and ensure occupant well-being at the building to urban scale. Before joining TU Delft, Martín was a postdoctoral research fellow at the National University of Singapore and a doctoral researcher at the ETH Zürich in Switzerland.