

Abstract #: 165

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**Abstract Title: VISDOM: A data platform for learning from smart meter data**

Abstract Text:

We will present the energy Visualization and Insight System for Demand Operations and Management platform (VISDOM) developed at Stanford's Sustainable Systems Lab. It is based on the insight that smart meter consumption data observed at hourly or 15 minute intervals is subject to the influence of site and building characteristics, appliance ownership and operation, occupancy patterns, and individual energy preferences and behaviors. It provides algorithms and related visualization tools that provide actionable insights into patterns in and driver of energy consumption using only time series meter data and approximate locations. In other words, VISDOM can estimate household or business characteristics that correlate with larger grid or EE/DR program goals. With the capacity to provide these estimates for very large or even complete samples of customers within utility service territories, VISDOM can be used to plan or operate utility grids more effectively and to support EE and DR programs in three ways. First, program goals and offers can be designed based on a rigorous assessment of customer consumption patterns as they relate to grid needs. Second, it can identify and target customers whose electricity consumption is best aligned with the goals of these EE and DR programs. These capabilities can be used on their own or to compliment more traditional geographic, demographic, and psychographic targeting and segmentation techniques. Third, the messages used to recruit customers can be personalized based on tangible and actionable insights derived from their own meter data.