

NIST TE Challenge Phase II



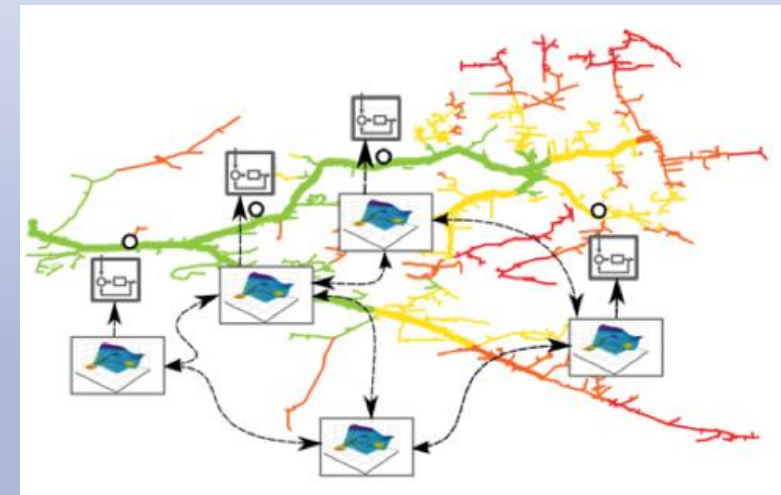
Team leaders: Annabelle Pratt & Mark Ruth

Project name: Incentive-Based Optimization of Distribution Feeder Operations

Simulation tool set: Gridlab-D; Integrated Energy System Model (IESM); NREL-developed Home Energy Management Systems (HEMS); GAMS or other solver

Project summary:

NREL plans to implement the transactive energy (TE) market on a full size feeder. NREL will use an incentive-based aggregator that optimizes energy use and production to meet required grid services across the feeder and sends price signals to each house to meet those needs. HEMS within each house will co-optimize cost and comfort (air and water temperatures) based on the price signals from the incentive-based optimizer. Both real-time and forecast price signals will be calculated and used in optimizations. NREL will also work with NIST to abstract the dataflow into the the TE Abstract Component Model.



<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6920041>