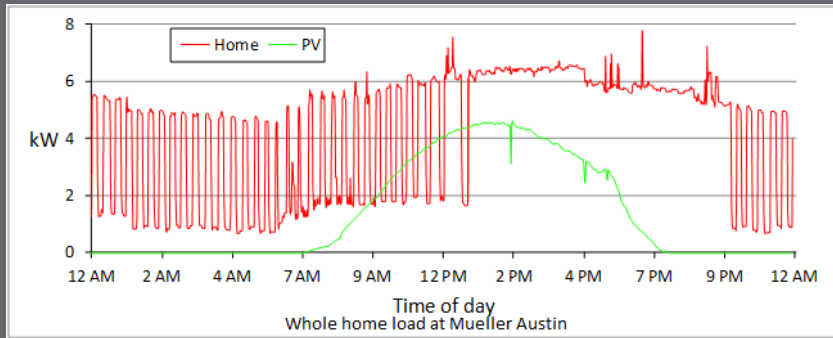


Home energy Management Issues



Goals

- ▣ Identify EV loads from low frequency (15 minute) whole home power measurements.
- ▣ Find least intrusive method with lower sampling rates (1- 1/60th Hz) requiring minimum training to identify loads that can be scheduled.
- ▣ Predict power demands using past consumption data.
- ▣ Develop HEMS algorithms using predicted load, generation , storage and price data to schedule loads.

- ▣ Air conditioning loads can draw significant power even at night (depending on location) . Shifting loads to off peak/night times should be managed to avoid new peaks.
- ▣ Using just price signals to implement demand response can correlate normally uncorrelated loads creating new power peaks.
- ▣ Smart meters with low sampling rates (15minutes) cause loss of information and can not be used to identify and control loads in the house.
- ▣ Identifying house loads using higher sampling rates(50-500KHz) requires dedicated hardware and intrusion & can create data issues if not handled locally.

