**Background / Motivation**

Upsizing and oversized systems caused by miscalculations / homeowners wanting to cover more extreme design day temperatures:

* <https://www.reddit.com/r/heatpumps/comments/1apb9qg/36k_mitsubishi_hyperheat_does_not_qualify_for_irs/>
  + Very small differentials in temperature when operating at design day/full capacities. Can be solved by space heaters short term/added insulation over time rather than sizing up.
* <https://www.eceee.org/library/conference_proceedings/eceee_Summer_Studies/2019/4-monitoring-and-evaluation-for-greater-impact/what-can-connected-thermostats-tell-us-about-american-heating-and-cooling-habits/>
* <https://www.reddit.com/r/heatpumps/comments/1ag9csj/the_chances_of_under_estimating_your_propertys/>
* <https://heatpumpmonitor.org/>
  + Crowdsourced data on loads over time: clues into many oversized systems. Can look into as a time series visualization source for a particular property over time.

**Current Visualizations/Calculations:**

* NEEP visualization: capacity and load based on weather <https://www.reddit.com/r/heatpumps/comments/1ajp1yf/mitsubishi_hyperheat_force_it_to_run_low_and_long/kp319gk/?context=3&share_id=xo2p22cZffgqbx_Pezk71>
  + A graph of a temperature

    Description automatically generated
* ResStock Load Calculations:
  + Modeling GitHub: <https://github.com/NREL/resstock>
  + <https://data.openei.org/s3_viewer?bucket=oedi-data-lake&prefix=nrel-pds-building-stock%2Fend-use-load-profiles-for-us-building-stock%2F2022%2Fresstock_amy2018_release_1.1%2Fmetadata_and_annual_results%2F>
  + <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4477719>
    - Need access – references plots for restock calculations