Python Support Scope

Inputs

1. EV consumption
   1. Data; 22 units, annual half hourly profile per unit, Y1 – Y30 (30 years)
      1. You need to sum the data to get the profile for future years e.g. 2022 = 29.8 kWh, 2030 = 29.8 + 2.6, 2031 = 29.8 + 5.3.
2. Building consumption
   1. Baseline electricity consumption data (includes energy savings); 22 units, annual half hourly profile per unit, 1 year (same for Y2-Y30)
3. Heat pump consumption
   1. Heat pump electricity consumption data; 22 units, annual half hourly profile per unit, 1 year (same for YX-Y30, heat pump only installed from year X, assumptions on input tab)
4. Solar generation
   1. Solar generation; 22 units, annual half hourly profile per unit, 1 year (same for Y2-Y30)

Approach

1. Need to correlate half hourly electricity consumption and generation for each unit
   1. Total consumption = Building baseline consumption + EVs + heatpump
   2. Solar generation
2. This then needs to be run for each year (Y1-Y30) as although generation remains constant the unit’s EV consumption is increasing and from YX heat pump consumption needs to be included.
3. We would then like to test different scenarios e.g.
   1. Scenario 1 = no heat pumps / EV consumption
   2. Scenario 2 = installing heat pumps in Y1 rather than waiting

Outputs

1. Per unit (22 units) annual half hourly profiles for Y1 – Y30. Data needed:
   1. Timestamp
   2. Surplus vs deficit (kWh)
   3. These can be saved in one folder, would suggest one file per unit containing this information, example format below. We need these files to size the battery



1. We then want an annual summary of these figures for the model input, suggested table format below:

