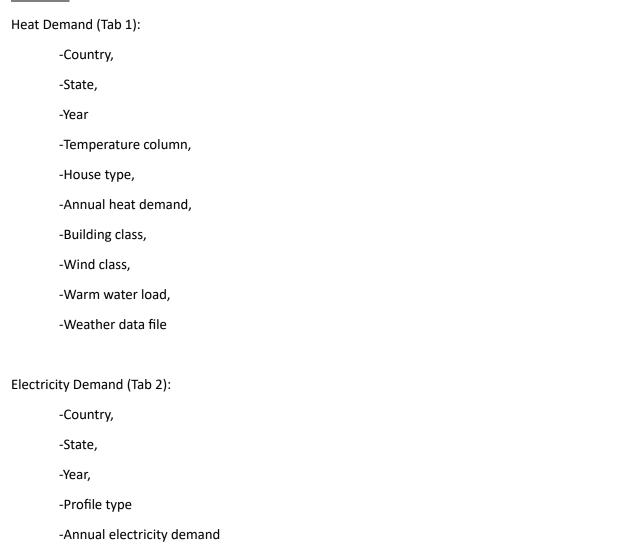User Guide

- make sure you have installed all the required libraries (requirements.txt)

- open the file in any IDE (Ex: PyCharm) and run the file

- A Graphical User Interface (GUI) window appears, choose the Tab for inputs

Contents:

Heat Demand (Tab 1):

       -Country,

       -State,

       -Year

       -Temperature column,

       -House type,

       -Annual heat demand,

       -Building class,

       -Wind class,

       -Warm water load,

       -Weather data file

Electricity Demand (Tab 2):

       -Country,

       -State,

       -Year,

       -Profile type

       -Annual electricity demand

  Using the demandlib you can create heat and electrical profiles by scaling the BDEW profiles to your desired annual demand. The BDEW profiles are the standard load profiles from BDEW. (https://demandlib.readthedocs.io)

Heat Demand:

Inputs:

Country:

- Only for importing holidays list for any year
- Corresponding country code should be given as from the holidays python package
- full list of available countries can be found here: https://github.com/vacanza/python-holidays?tab=readme-ov-file#available-countries

State: State codes are also found in the above link

year:

- input year for simulation
- please provide the year for which weather data is available

Temperature column: specify the temperature column name as it is in the weather dataset(.csv)

House type: choose the house type for simulation from the available list

Annual heat demand: annual heat demand of building in kWh

Building class: Based on the year of construction choose from the list

> (except for house types: EFH and MFH remove the building class parameter by commenting it with # in code line 805)

Wind class: wind classification for building location

Warm water load: decider whether warm water load is included in the heat load profile

Weather data file:

- hourly weather data in .csv format must contain temperature data for every hour in the year
- See example.csv file for reference

(make sure that the data must be cleaned and no null values are present)

Then, press the load "Load inputs" so that your inputs are fed to program.

After verifying your inputs in the text area, press the "Simulate" button.

After you close the plot, the output of your simulation is automatically saved into the current working directory, where your current project is running.

Electricity Demand:

Inputs:

Country:

- Only for importing holidays list for any year
- Corresponding country code should be given as from the holidays python package
- full list of available countries can be found here: https://github.com/vacanza/python-holidays?tab=readme-ov-file#available-countries

State: State codes are also found in the above link

year: input year for simulation

Profile type: choose from the available list

Annual electricity demand: annual electricity demand of building in kW

Then, press the load "Load inputs" so that your inputs are fed to program.

After verifying your inputs in the text area, press the "Simulate" button.

After you close the plot, the output of your simulation is automatically saved into the current working directory, where your current project is running.

Please note: only these inputs can be given by the user and the rest were set to defaults for valid reasons.