Code Structure (v5.4)

This document provides an overview of the file structure of the E-Hub Tool code (v5.4), alongside brief descriptions.

# Main run file

*main.py*

* Modify file path names and run this file to execute model

# Input data processing, model execution, and saving results

*run\_mod.py*

* Called within *main.py*
* Calls methods which read/process input data (*input\_data.py*), define model (*mod\_XXX.py*), solve model (*run\_solve.py*) and save results (*save\_param.py, save\_var.py*)

*input\_data.py*

* Defines all input data processing functions

*run\_solve.py*

* Run solver (currently configured for Gurobi)

*save\_param.py*

* Save model parameters to specified text file

*save\_var.py*

* Save model variables (results) to specified text file

# Model definition

*mod\_sets.py*

* Model set definitions

*mod\_params.py*

* Model parameter definitions

*mod\_vars.py*

* Model variable definitions

*mod\_const.py*

* Call core methods to define model constraints (*cnst\_XX.py*)

*cnst\_sys.py*

* General system constraints

*cnst\_techGen.py*

* General technology constraints

*cnst\_techSpc.py*

* Special technology constraints (e.g., for part-load and solar technologies)

*cnst\_net.py*

* Network constraints

*cnst\_stg.py*

* Storage constraints

*cnst\_cost.py*

* Cost constraints

*cnst\_co2.py*

* Carbon constraints

*mod\_custom.py*

* Custom user constraints and model specifications

*mod\_obj.py*

* Objective function declaration