STEVFNs 1.1 Changes

* Asset Type can now be a string (ex. “expensive” “cheap” “1”)
* Location can now be a string (ex. “PH” “0”)
* Added plots for EL, NH3, NG, Gasoline, Diesel flows into and out of a particular location
  + plot\_Location\_EL\_input\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_Location\_EL\_output\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_loc\_NH3\_input\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_loc\_NH3\_output\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_Location\_Gasoline\_input\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_Location\_Gasoline\_output\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_Location\_Diesel\_input\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_Location\_Diesel\_output\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_Location\_NG\_input\_flows(my\_network, location, asset\_parameters\_df)
  + plot\_Location\_NG\_output\_flows(my\_network, location, asset\_parameters\_df)
* Added stack plot for emissions at a location across time and a bar graph of total emissions by each asset
  + plot\_emissions(my\_network, asset\_parameters\_df) plots all graphs relating to emissions
  + plot\_emissions\_by\_asset(my\_network, asset\_parameters\_df) plots bargraph
  + plot\_Location\_emissions(my\_network, location, asset\_parameters\_df) plots stackplot for location
* Two additional functions:
  + plot\_all\_by\_loc(my\_network, asset\_parameters\_df) plots all functions above for each location (where applicable)
  + plot\_all\_by\_type(my\_network, asset\_parameters\_df) plots all functions by their type. For example, all EL inflow graphs then all EL outflow flows and so on
* Can now include multiple instances of an asset with different type in the same location
* Network Structure file no longer contains period and transport time. These have been moved to the code.
* Case Study folder format changed:
  + Folder now only contains network\_structure, location\_parameters, and system\_parameters
  + Location\_parameters names location and describes its latitude and longitude for all scenarios
  + Network structure contains columns which describe asset type for each scenario. In Figure 1 below, BAU (“Business as Usual”) denotes the first scenario. To add a new scenario add a new column with its name and define asset types for each asset.

A screenshot of a computer

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Figure 1: STEVFNs 1.1 New Network Structure CSV

* + System parameters file now contains system parameters for all scenarios. Every 2 columns from BC onwards represent the system parameters for a scenario in order. Column B denotes the system parameters for scenario 1 (BAU in figure 1), column D denotes the system parameters for scenario 2 (90 in figure 1) and so on.

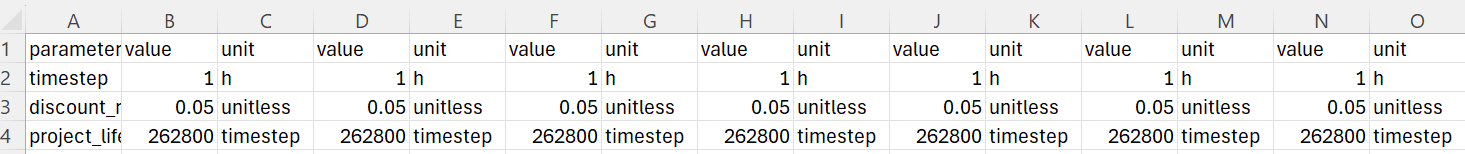


Figure 2: STEVFNs 1.1 System Parameters CSV

* Asset parameters and profiles CSVs have been moved from Code\Assets\”asset\_name” folders to Data folder under new asset parameters folder Data\Asset\_parameters. This folder contains asset parameters for each asset with each CSV titled with the asset’s name. For example, BESS.csv holds the asset parameters for the BESS asset. Moreover, the profiles are now stored in the profiles folder under asset\_parameters with each asset having its own folder for its respective profiles.

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Figure 3: Asset Parameters folder

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Figure 4: Profiles folder under asset parameters

* Disclaimer: GMPA results no longer works due to the addition of new assets.
* For Asset designer only: Given all above changes to plotting when defining a new asset now we should define inflow(self, loc) and outflow(self, loc) where applicable for the assets which return the inflows and outflows for the asset. Then the asset name should be included in the set of the function relating to the outflow and inflow. We must also define get\_times(self): which returns the times where there is an edge for the asset.