

Study 'Energiewende' and 'Transition énergétique' by 2030

Model results data - files format

The results folder contains 32 .csv files. Each file contains the hourly production or consumption data for France or Germany in one of the 8 studied scenarios. The following convention is used for the .csv files names: ScenarioName_CountryName_OutputType, with

- ScenarioName, one of the 8 studied scenario
 - **FRlow,DEmed** : France : 40 GW nuclear, Germany : 24,3 GW coal, ~50% RES, CO2 price at 30 €/t;
 - **FRmed,DEmed,50 CO₂** : France = 50 GW nuclear; Germany = 24,3 GW coal, ~50% RES; CO2 price at 50 €/t;
 - **FRlow,DElow-60%RES** : France = 40 GW nuclear; Germany = 18,6 GW coal, ~60% RES; CO2 price at 30 €/t;
 - **FRmed,DEmed** : 50 GW nuclear; Germany = 24,3 GW coal, ~60% RES; CO2 price at 30 €/t;
 - **FRmed,DElow-60%RES** : 50 GW nuclear; Germany = 18,6 GW coal, ~60% RES; CO2 price at 30 €/t;
 - **FRhigh,DElow-60%RES** : 63 GW nuclear; Germany = 18,6 GW coal, ~60% RES; CO2 price at 30 €/t;
 - **FRhigh,DElow-50%RES** : 63 GW nuclear; Germany = 18,6 GW coal, ~50% RES; CO2 price at 30 €/t;
 - **FRhigh, DEmed** : 63 GW nuclear; Germany = 24,3 GW coal, ~50% RES; CO2 price at 30 €/t;
- CountryName : either FR = France or DE = Germany;
- OutputType : either consumption or production.

Each file contains the following information:

- The modelling output for ten different weather years. Each weather year is identified by the label Test_case_x (x running from 0 to 9);
- Each line corresponds to one of the 8760 hours in the year 2030;

- The production files contain hourly data on:
 - power plants generation, including:
 - 01 - other thermal fleet electricity. The “other thermal fleet” aggregates all must-run power plants (including hard coal, lignite and gas cogeneration power plants). The output profile of those power plants depends on the months of the year;
 - 02 - other renewable fleet electricity. The “other RES fleet” corresponds to biomass cogeneration power plant;
 - 04 - nuclear fleet electricity. The hourly nuclear generation data correspond to the “flexible nuclear” case (see Appendix 7);
 - 05 - wind onshore fleet electricity;
 - 06 - wind offshore fleet electricity;
 - 07 - solar fleet electricity;
 - 10 - lignite cluster electricity;
 - 11 - coal cluster electricity;
 - 12 - ccgt cluster electricity;
 - 16 - ocgt fleet electricity;
 - 17 - flexible other thermal electricity. The “flexible other thermal electricity” aggregates all other cogeneration power plants (in addition to 01 – other thermal fleet electricity), that can punctually decouple heat and power generation (see appendix 3). This category includes hard coal, lignite and gas cogeneration power plants;
 - 18 - flexible other RES electricity. The “flexible other RES electricity” includes biomass power plants which are not producing in “must-run”;
 - 19 - oil fleet electricity;
 - Storage power generation, including:
 - generation from pumped-hydro-storage power plants,
 - generation from batteries;
 - Imports (labelled “21- transmission electricity”);
 - Loss of load electricity (involuntary load-shedding);
 - Voluntary load curtailment.

- The consumption files contain hourly data on
 - Flexible electricity demand, including electric vehicles charging and storage water heaters;
 - Inflexible electricity demand (labelled "Power demand electricity");
 - Storage electricity;
 - Transmission electricity, representing power exports;
 - Well electricity, representing RES curtailment.