

wattmaps/solar-wind-ratios

dataCleaningProcessing



converting_wind_data_to_PIDs.Rmd

Code to get point coordinates for existing wind projects

capacityFactorSimulations

solarPV



NSRDBapi_SAMsim_solarPV_hourly.py

Code that pulls meteorological data from NSRDB for each site and runs through SAM



SAMAssumptions_singleAxisTracking_PVwatts_hourly.py

Python script that defines assumptions for solar projects to be pulled into SAM API call

wind



WTKapi_SAMsim_wind_hourly.py

Code that pulls meteorological data from Windtoolkit for each site and runs through SAM



SAMAssumptions_hourly_wind.py

Python script that defines assumptions for wind projects to be pulled into SAM API call

optimizationModel



PID_installed_capacity_calc.Rmd

Code to get csv of wind and solar potential capacity



PIDs_to_files.py

Script that takes simulation data and reformats so there is a csv for each PID that contains 3 years worth of capacity factors



PID_attributes.Rmd

Code to find which GEAs each PID belongs to and distance to nearest substation



co_location_opt_loop.py

Script that runs the optimization

data

Data files are not in repo, but they are shown here to give the user an idea of how we sorted our data



us_PID_cords.csv

Coordinate points of exiting wind projects

NSRDB

solarTimeSeries2012



solar_2012_(insert PID).csv

You will have 1 file per PID for 2012 year

solarTimeSeries2013



solar_2013_(insert PID).csv

You will have 1 file per PID for 2013 year

solarTimeSeries2014



solar_2014_(insert PID).csv

You will have 1 file per PID for 2014 year

Windtoolkit

windTimeSeries2012



wind_2012_(insert PID).srw

You will have 1 file per PID for 2012 year

windTimeSeries2013



wind_2013_(insert PID).srw

You will have 1 file per PID for 2013 year

windTimeSeries2014



wind_2014_(insert PID).srw

You will have 1 file per PID for 2014 year

SAM



SAM_solar_2014.csv



SAM_solar_2013.csv



SAM_solar_2012.csv

Each file represents 1 year of data from SAM simulation for solar -each row in the file is one PID and then the columns are hourly data



SAM_wind_2014.csv



SAM_wind_2013.csv



SAM_wind_2012.csv

Each file represents 1 year of data from SAM simulation for wind -each row in the file is one PID and then the columns are hourly data



substation_pids.csv

File containing distance to nearest substation for each PID



US_pids_GEAs.csv

File containing GEA that each PID corresponds to

CambiumHourlyPrice2030

Contains projected hourly price data for each GEA



Cambium22_Electrification_hourly_XXXXc_2030.csv

File containing hourly pricing for a specific GEA (there are 20 files one for each GEA)

potentialInstalledCapacity

Contains potential solar and wind installed capacity



solar_land_capacity.csv

File containing potential capacity for each PID for solar



wind_land_capacity.csv

File containing potential capacity for each PID for wind

solarCapacityFactorFilePerPID

Contains hourly capacity factors for solar at each PID over 3 years



capacity_factor_PID(insertPID).csv

You will have 1 file per PID with 3 years of solar hourly data

windCapacityFactorFilePerPID

Contains hourly capacity factors for wind at each PID over 3 years



capacity_factor_PID(insertPID).csv

You will have 1 file per PID with 3 years of wind hourly data



.gitignore



README.md