

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 reformat 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



uswtodb\_v4\_3\_20220114\_ucsb.csv

USWTDB file with project identifiers



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



solar\_grid\_curtailment.csv

File containing grid curtailment assumptions used in the SAM simulation for solar



wind\_grid\_curtailment.csv

File containing grid curtailment assumptions used in the SAM simulation for wind



us\_PID\_cords\_PID1335.csv

Coordinate points of exiting wind projects with additional info

ReEDS

Contains shapefiles needed for PID\_attributes.Rmd



ReEDS\_mapping.csv



reeds\_shapefiles\_08032021



US\_Canada\_Map.shp

Electric\_Substations.gdb

Contains files needed for PID\_attributes.Rmd



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