# 1\_br\_complete

Period: 07/01/2012 to 07/31/2012 (mm/dd/yyyy)

Input file names:

hydFile="../data/hydro/hydro\_data\_br\_1.csv",

hydFeather="../data/hydro/br\_shype\_hydro.feather",

windFeather="../data/wind/wind\_br.feather",

solarFeather="../data/solar/solar\_GAMS\_br.feather",

loadFeather="../data/load/load\_Br\_2014.feather",

transmissionCSV="../data/transmission/linesCapacities\_br\_1.csv", investCSV="../data/investOptions/investOpts\_br\_thermal.sources\_1.csv",

intermittentCSV="../data/investOptions/br\_intermittent\_opts\_1.csv"

This first run has presented an infeasibility in the minimum flow constraint on the region SE4. The original minimum flow should be 10503.26. I’ve put a slack variable and it’s presented values of 8500 approximately. So I’ve change the minimum flow of SE4 to 1500 and it worked.

# 2\_br\_complete

Changing investment costs of wind and solar to 10% of original values 🡪 the same results. Wind and solar don’t enter.

Coming back to original values of costs.

I’ve tried to change the WindPower column at wind\_br.feather file, but the result was the same: zero PV and wind.

Tomorrow: extremely high costs of thermal technologies in order to check if renewables will enter 🡪 same results

There was a mistake in GAMS formulation. Now we have some good results.

Now I’m producing results and comparing with ONS website.

# Yearly\_full\_run

Let’s verify if the model is running for an entire year. For that let’s make a run for 2012. This year was chosen because it is a kind of stable year in terms of inflows. The difference between 2\_BR\_COMPLETE and 2012\_RUN is that the variable costs are in millions of R$ of 2017 just like the investment costs. This change can affect the investment in intermittent renewables.

The input data was based in Newave deck of 2017, April.

Concerning the results, a strange one is that the model invests in thermal capacity in NE and N, but there is no thermal generation in this locations.

# validation

In order to validate our model, let’s make a run using the ONS deck of 2012 and zero investment costs. Let’s choose December of 2012. After that, we are able to access the following indicators:

* graphs that I already have;
* correlation between COPA time series and ONS time series;
* RMSE (Perhaps we will need a package to access it);
* point graphs to verify the differences between the time series.