Python for Power System Analysis (PyPSA)

- Developed at Frankfurt Institute for Advanced Studies (FIAS) by Tom Brown, Jonas Hörsch and David Schlactberger for the CoNDyNet project.

- Fills missing gap between load flow software (e.g. PYPOWER) and energy system simulation software.

- Written in Python (2 & 3), using pandas, numpy, scipy, pyomo, networkx.

http://pypsa.org/
PyPSA does:

- Static power flow
- Linear optimal power flow
- Security-constrained linear optimal power flow
- Total electricity system investment optimisation

It has models for storage, meshed AC grids, meshed DC grids, hydro plants, variable renewables,...

http://pypsa.org/
Since Version 0.6.0 there is now sector coupling!

Heat pumps, boilers, CHPs, battery electric vehicles; gas and heating networks as lossy transport networks.

http://pypsa.org/