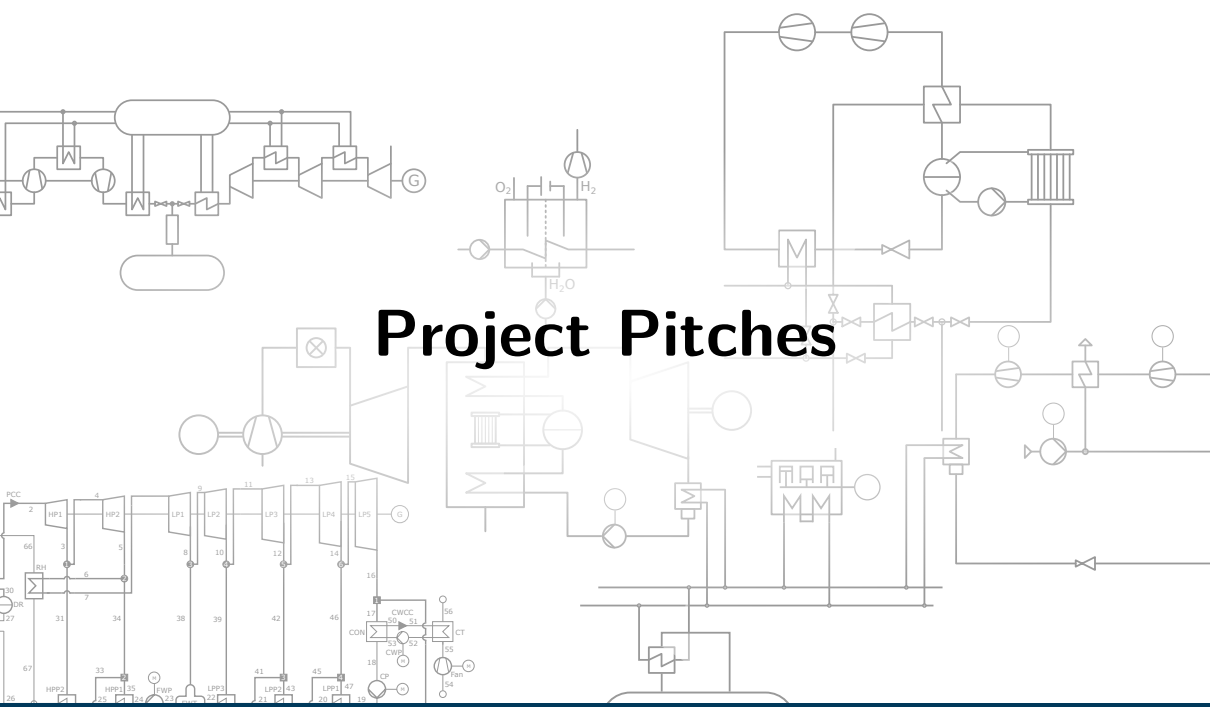
Project Pitches



Generic exergy analysis feature

tespy ['tɛs.paɪ]

- Lack of integrated solutions
- Lack of open source tools
- Implemented since version 0.4.0: Analysis of thermal energy conversion systems
- Future steps
  - Include chemical exergy
  - Include exergo-economical methods

Generic exergy analysis feature

tespy ['tɛs.paɪ]

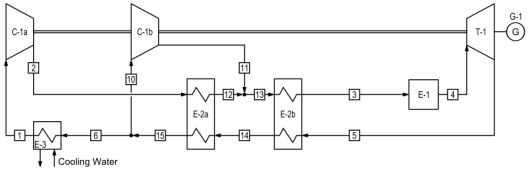
- Set up your thermodynamic model as usual
- Define fuel exergy, product exergy and exergy loss
- Automatic exergy feature does its thing :)

Three lines of code only!

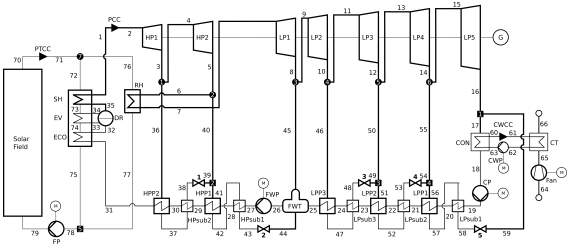
```
from tespy.tools import ExergyAnalysis
[...]
ean = ExergyAnalysis(mynetwork, E_P=[product_bus], E_F=[fuel_bus], E_L=[loss_bus])
ean.analyse(pamb=1.013, Tamb=25)
[...]
```

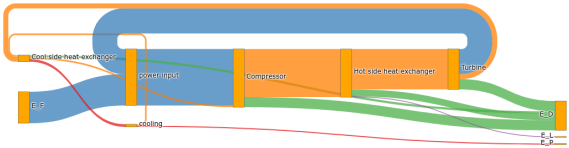
Publication: Work in progress!

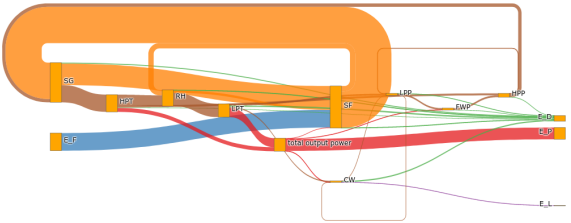
Examples



(c) Recompression, recuperated sCO_2 cycle



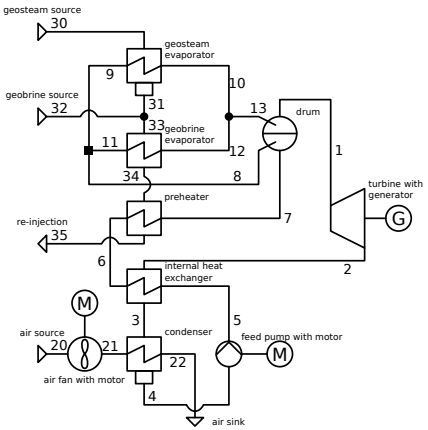




Geothermal ORC optimization

tespy ['tɛs.paɪ]

- Two-phase geothermal source has additional energy input
- Powerplant topology defined to make use of two-phase resources
- Restrictions in re-injection temperature (similar to minimum flue gas turbine in combined cycle power plants)
- Determine influence of process parameters on ORC power output, optimize power output
- Investigation on 9 different working fluids



Geothermal ORC optimization

tespy ['tɛs.paɪ]