TEA: District heating based on 100% renewables

1. Model
2. Capacity
3. Optimisation
4. Analysis

TESPy for heat pump models

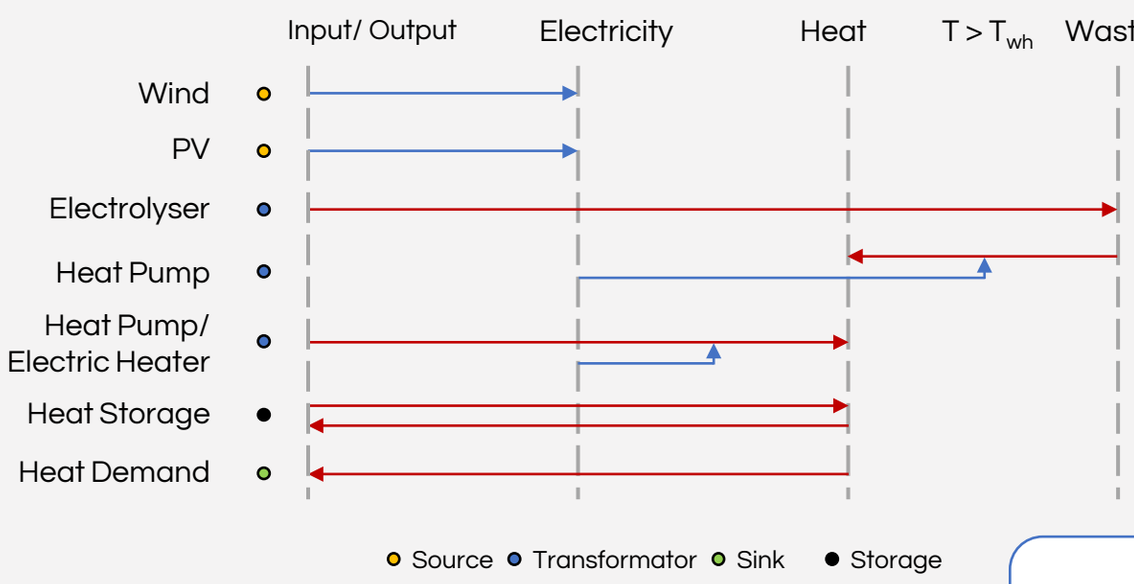
Solph for the main model

TRY data; hourly resolution

Technical dimensioning with investment optimisation in solph

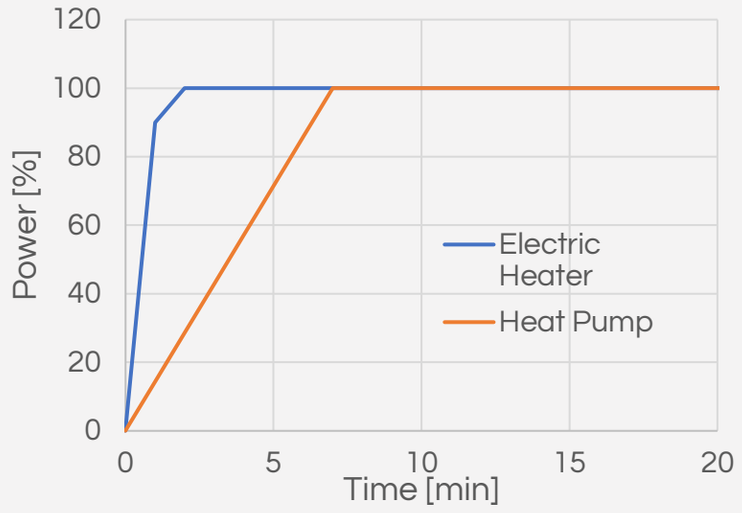
Thermal inertia of the heat sources using startup costs

	HP	EH
DH small	System 1	System 2
DH large	System 3	System 4



Hourly resolution vs minutely dynamic behavior

Add produced heat penalty after optimisation for each start up

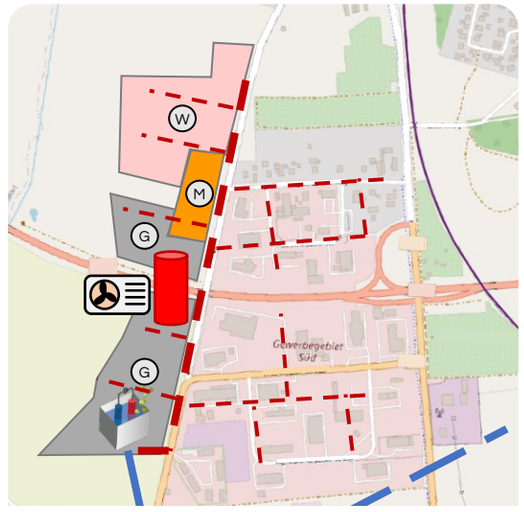


Main Goals:

1. Introduce optimisation to sector coupling project development
2. Investigate influence of thermal inertia on energy system

Pracitcal context

- Project development of Electrolyzer for green hydrogen production
- Waste heat usage for district heating
- Show municipal energy supplier if or how such a system can be economically feasible



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