



IBPSA Project 1

Combined Heat and Pump based on IEA Annex 42

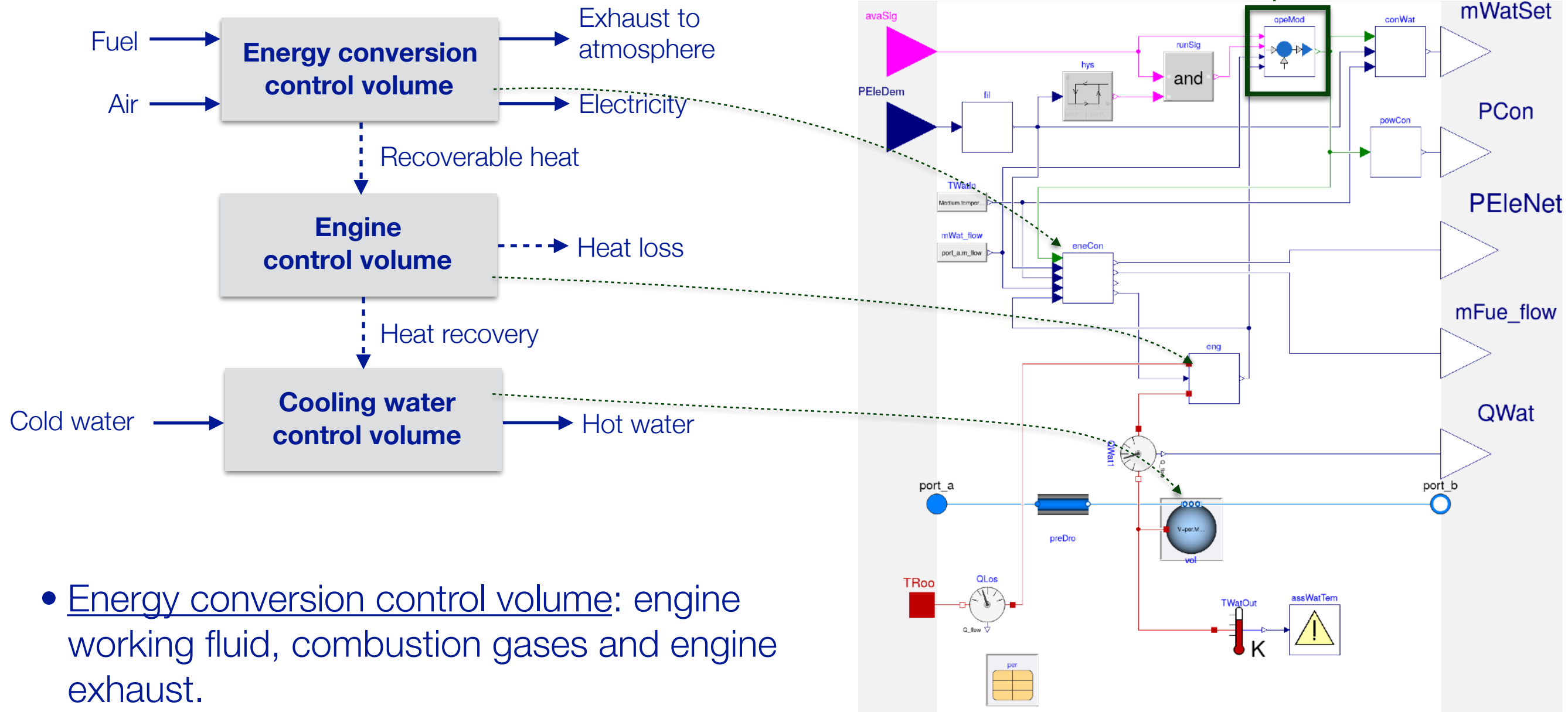
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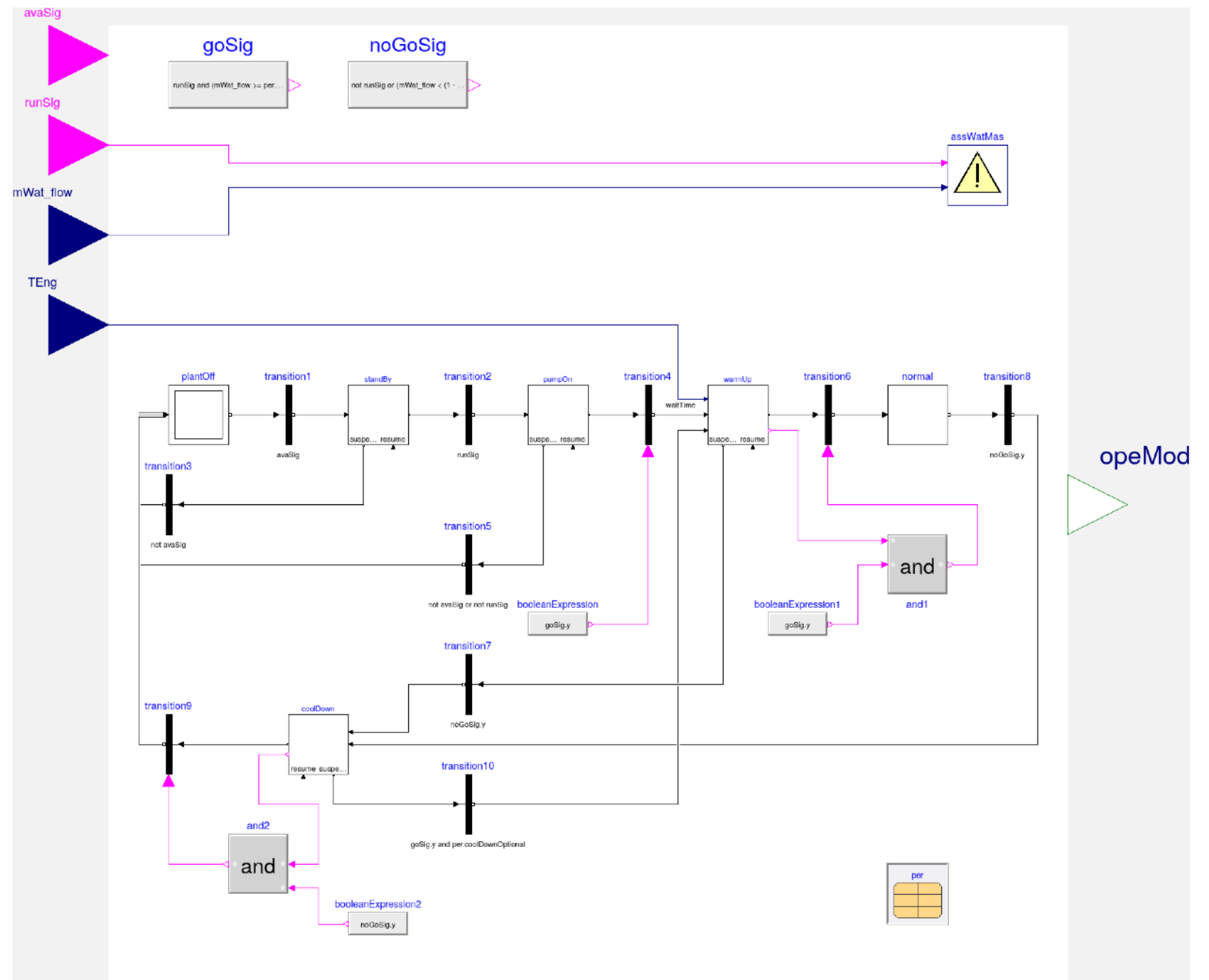
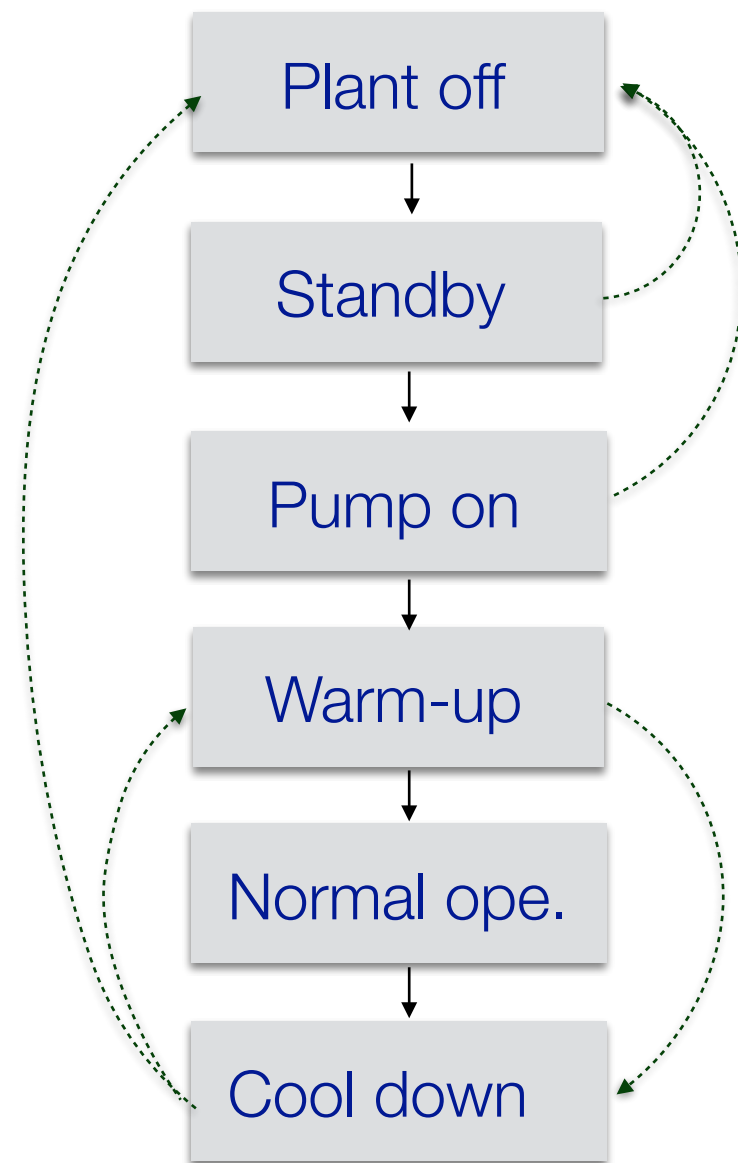
Model structure



- Energy conversion control volume: engine working fluid, combustion gases and engine exhaust.
- Energy control volume: aggregated thermal capacities associated with engine block and heat exchanger shells.
- Cooling water control volume: connection with cooling water flow.

Operation modes

- Use state-machine for switching between 6 different operation modes



- Validated the implementation against EnergyPlus results

Next steps

In-progress:

- reviewing implementation: reduce events, comply with library conventions
- refactoring validation models
- adding documentation

Development branch: https://github.com/lbl-srg/modelica-buildings/tree/issue1399_chp