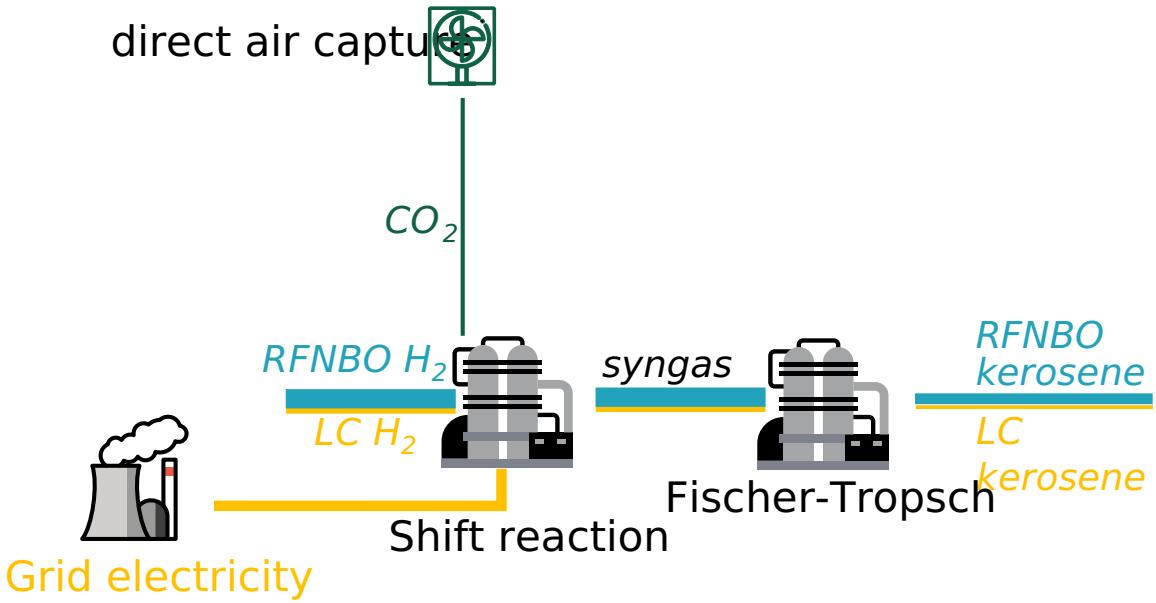
4: Reverse Water Gas Shift and Fischer Tropsch synthesis to kerosene

How to count different integrated processes together



Hydrogen production as in case study 2, shift with CO_2 and subsequent Fischer Tropsch synthesis to kerosene, assuming only kerosene as output to simplify the example.

The shift reaction and Fischer Tropsch can be either seen as an integrated process, or as two separate processes. It is allowed to choose either one. We first calculate if the reaction adds to the heating value, in which case the grid electricity used for heating the reactor has to be counted as relevant input.

Assumptions

Parameter	Symbol	Example value
Amount of RFNBO hydrogen	\({prod}_{RFNBO-H_2}\)	\(300\ \color{grey}{GWh}\)
Amount of LC hydrogen	\({prod}_{LC-H_2}\)	\(30\ \color{grey}{GWh}\)
	\({ci}_{H2}\)	