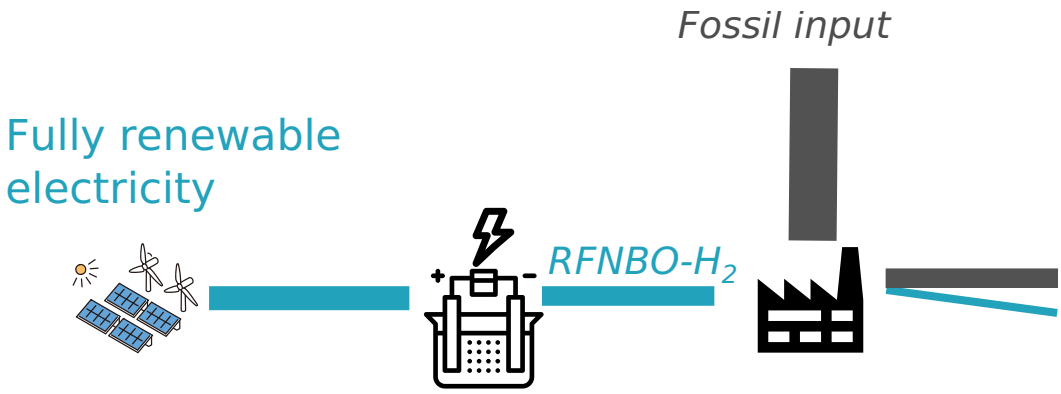
6: Partly replacing fossil inputs like in coal Fischer Tropsch

How to split RFNBO part from fossil inputs in existing fossil processes



Very similar to the biogenic syngas case, the fossil process part can be virtually split from the RFNBO part. Here, we show a case of coal gasification and Fischer Tropsch synthesis, but this could be applied to other fossil transformation processes.

Assumptions

Parameter	Symbol	Example value
Energy ratio of syngas to hydrogen	\(r_{sh}\)	\(9\ \color{grey}{\left.MJ_{syngas}\middle/ MJ_{hydrogen}\right.}\)
Efficiency of the FT reaction	\(\eta_{FT}\)	\(70\color{grey}{\%}\)
Fully renewable electricity carbon intensity	\(ci_{ren}\)	\(0\ \color{grey}{\left.g\,CO_2\,eq\middle/ kWh_{el}\right.}\)
Fossil syngas carbon intensity	\(ci_{syngas}\)	\(120\ \color{grey}{\left.g\,CO_2\,eq\middle/ MJ_{syngas}\right.}\)