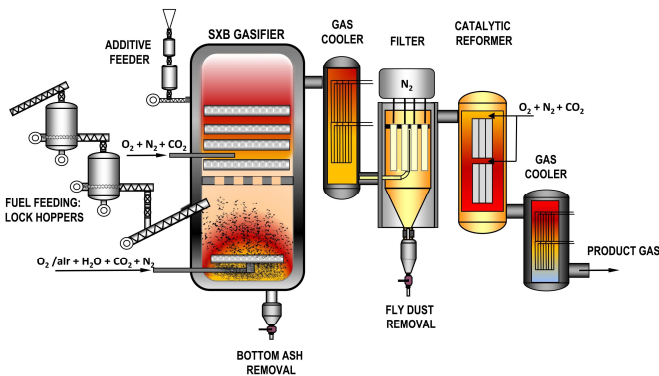


# STAGED FIXED-BED GASIFICATION SXB - PILOT



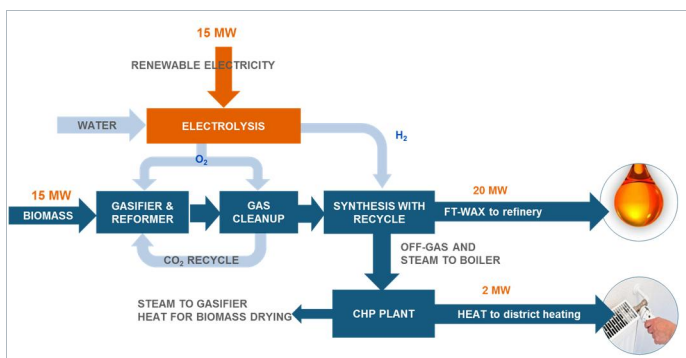
<b>Plant capacity</b>	0.2–1 MW
<b>Operation pressure</b>	1–10 bar
<b>Temperature</b>	600 – 950 °C
<b>Gasification agents</b>	Air + steam O <sub>2</sub> + Steam/CO <sub>2</sub>
<b>Applications</b>	Fuel gas for gas engines, boilers and industrial kilns, syngas for BTL, SNG or H <sub>2</sub>
<b>Feedstocks</b>	Biomass residues, wastes
<b>Gasifier description</b>	Two-stage: Counter-current 1 <sup>st</sup> stage Catalytic 2 <sup>nd</sup> stage
<b>Gas cleaning</b>	Hot filtration Secondary reforming Deep syngas cleaning Slip-stream testing in a FT-synthesis unit
<b>Target industrial size</b>	1–10 MW in fuel gas mode 5–50 MW in syngas mode



- CHP integrated production of FT wax
- Refining of FT products to transport fuels
- Biomass input 10–50 MW, wide feedstock basis
- Solar/wind energy integration (optional)
- Pressurized fixed bed gasifier
- Robust filtration and catalytic reforming
- Compact FT-synthesis
- Pilot development at Bioruukki 2017–2020
- Demonstration 2021–2023

## PROCESS IDEA FOR HIGHLY-FLEXIBLE COMBINED FUEL AND HEAT PRODUCTION

### OPERATION DURING 'SOLAR ENERGY SEASON'



### OPERATION DURING 'DARK HEATING SEASON'

