Different biomass and carbon feedstock

- **fossil fuel:** coal...
- **other biomass:** starch, oil...
- **lignocellulosic biomass:** wood, straw, hay...
- **organic waste:** paper, plastics, dung...

**pulverised coal/coal slurry**

**biomass preparation**

**fast pyrolysis**

**bio-oil/char-slurry**

rail transport from > 20 pyrolysis plants
to large, central plant for syngas generation and use

**entrained flow gasification**

\[ \text{~} 1300 \, ^\circ \text{C}, \geq 60 \, \text{bar}, \tau \leq 3 \, \text{s} \]

**gas cleaning** with heat recovery

**liquid fuel synthesis**

single pass operation

**electricity generation**

CC turbine, engine, FC

**O}_2**

**CO}_2**

**other facilities**

**synthesis products:** syngas, chemicals, H\text{\textsubscript{2}}

**electricity**

**low T heat**

**co-generation of a marketable product mix**