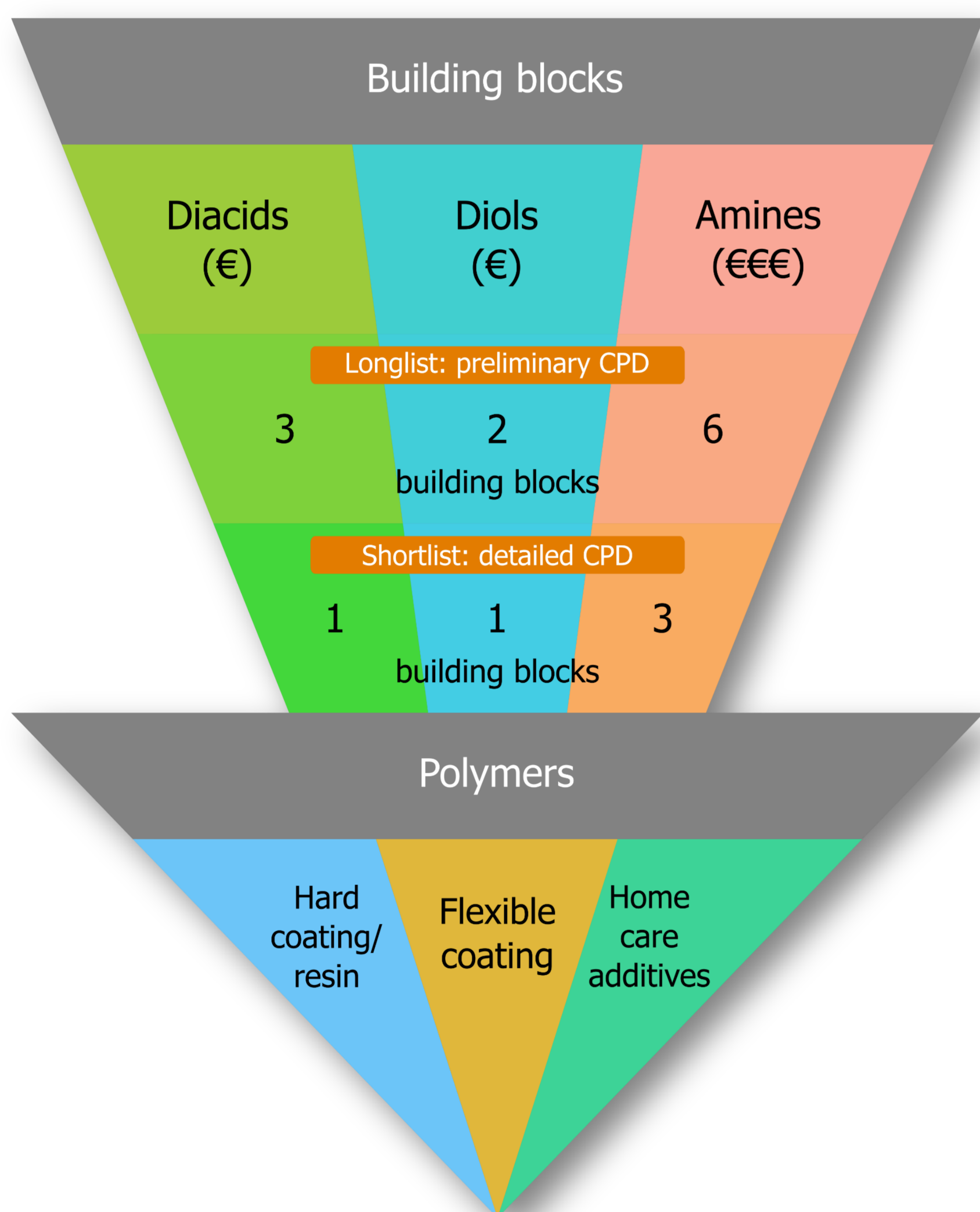
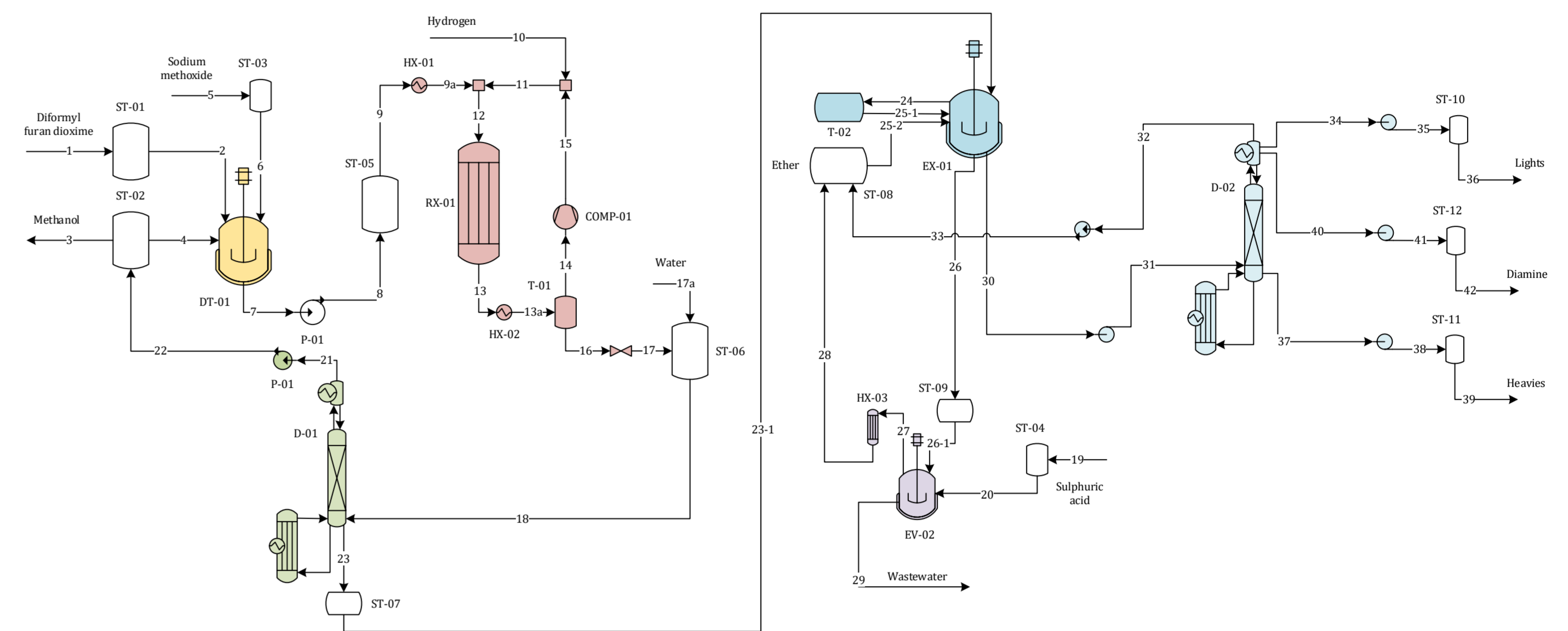


Projecting future commercial production

Conceptual Process Design

- ❖ Commercial scale: 10 kt/a
- ❖ Demo scale: 100 t/a



Typical scale-up challenges:

- ❖ High exothermicity
- ❖ High viscosity
- ❖ Low solubility

Techno-economic assessment

- commercial scale -

- ❖ Overall yield of prime importance
- ❖ Amines expensive to produce: many production steps
- ❖ Scale important: lower scale:
 - ❖ Higher labour cost
 - ❖ Higher CAPEX per tonne product

