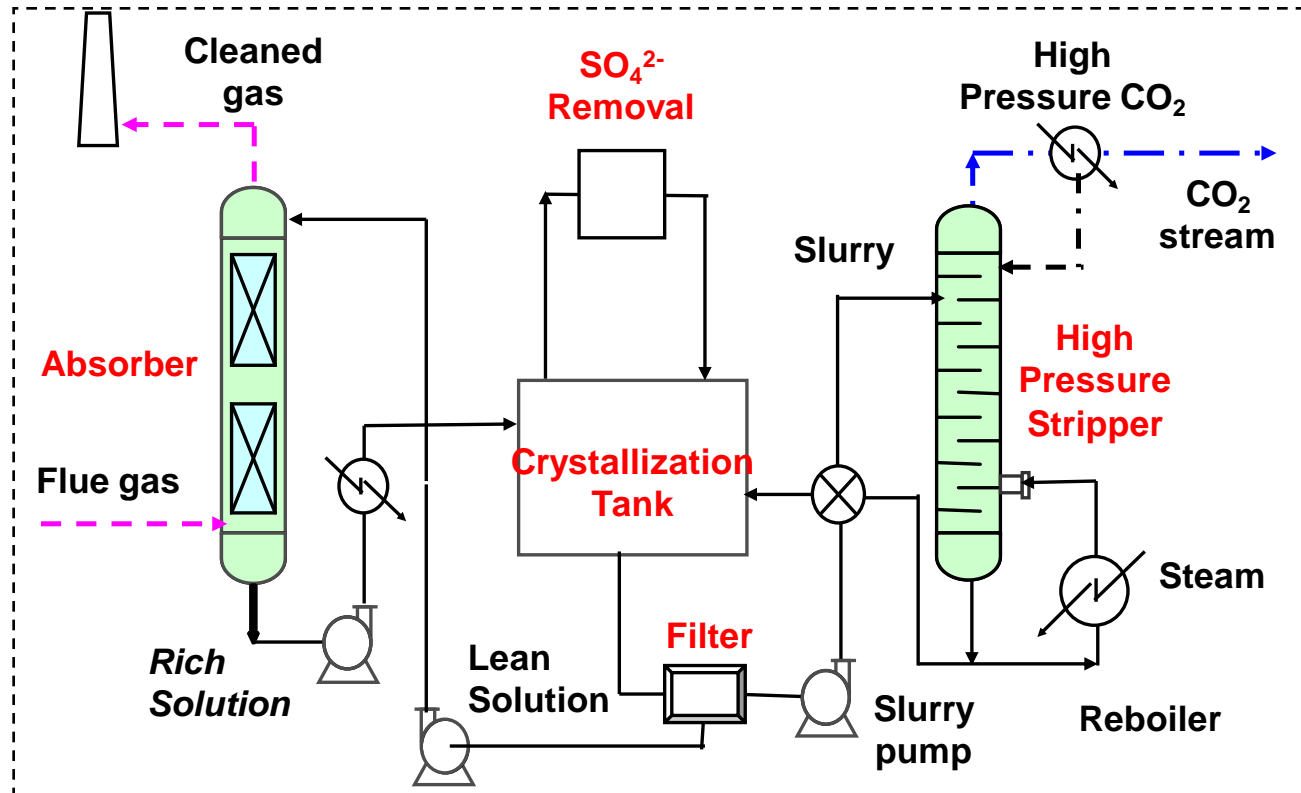


A Novel Carbonate Slurry-Based Absorption Process



- ❑ Higher absorption T (~80 °C), low BC conversion (15~40%), faster kinetics
- ❑ Higher working capacity (3 times of MEA) due to slurry
- ❑ High pressure stripping (~40 atm)

Energy Use Comparison with MEA

Items	MEA	Carbonate Slurry-Based Process
Energy Consumption		
Heat of absorption (kJ/mol CO ₂)	85	30~70
Sensible heat (kJ/mol CO ₂)	60	20
Stripping heat (kJ/mol CO ₂)	27	0~12
Compression work (kWh/kg CO ₂)	0.1	~0.025
Operating		
Degradation (kg MEA/ton CO ₂)	~2	0
FGD requirement	Yes	No

▣ Saving of 50% electricity loss compared to MEA