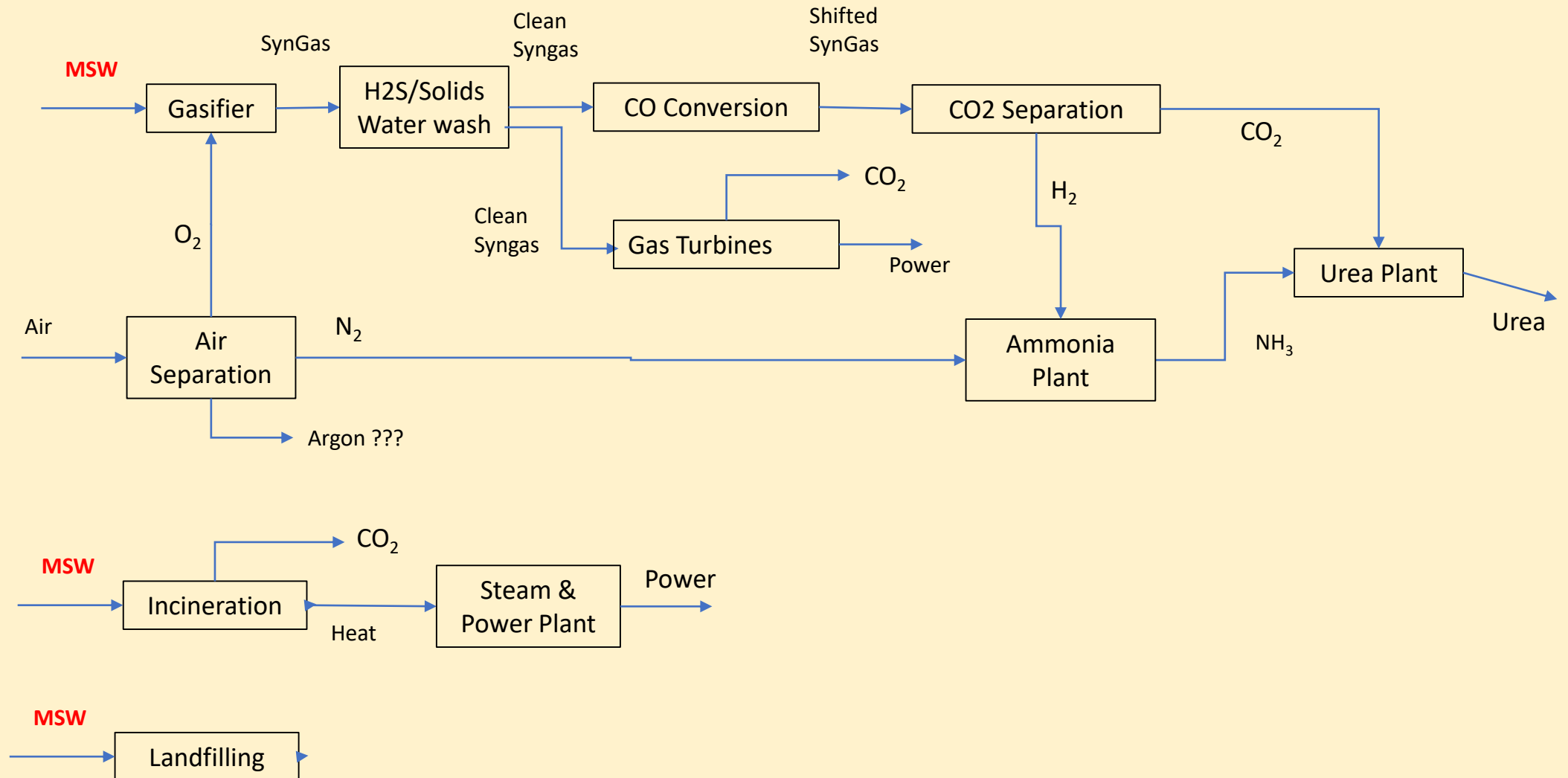
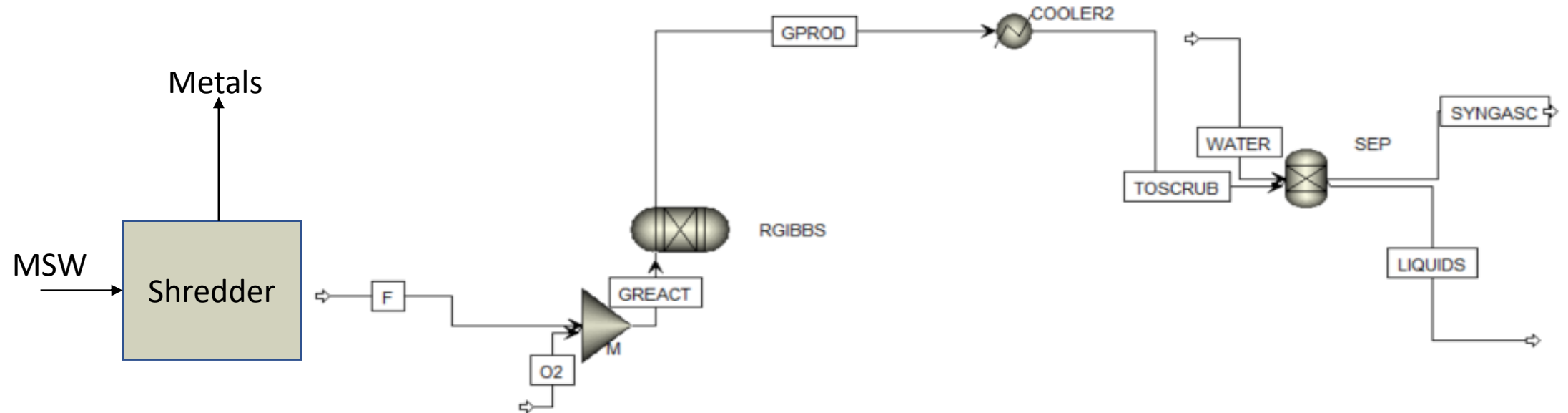
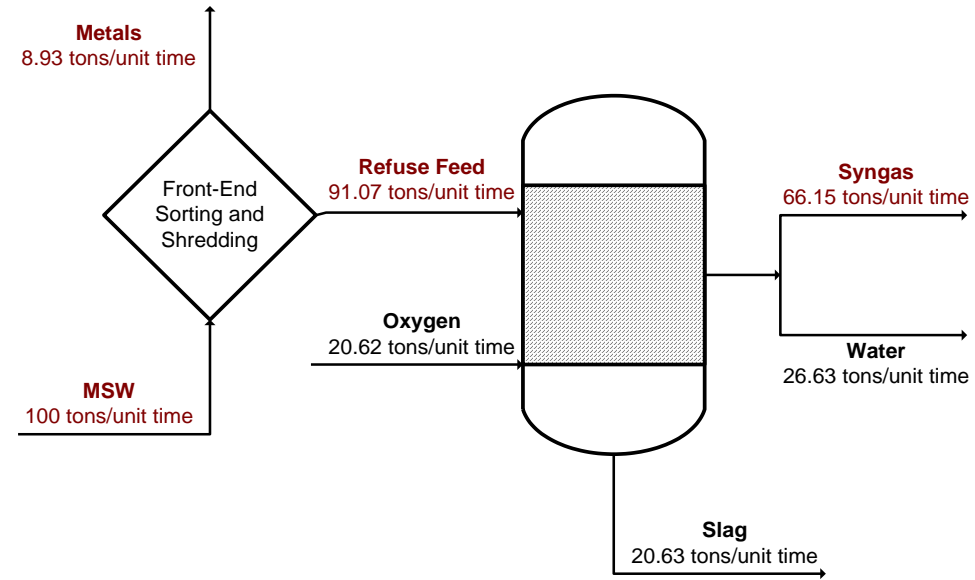


# MSW Processing Options



# MSW Plant

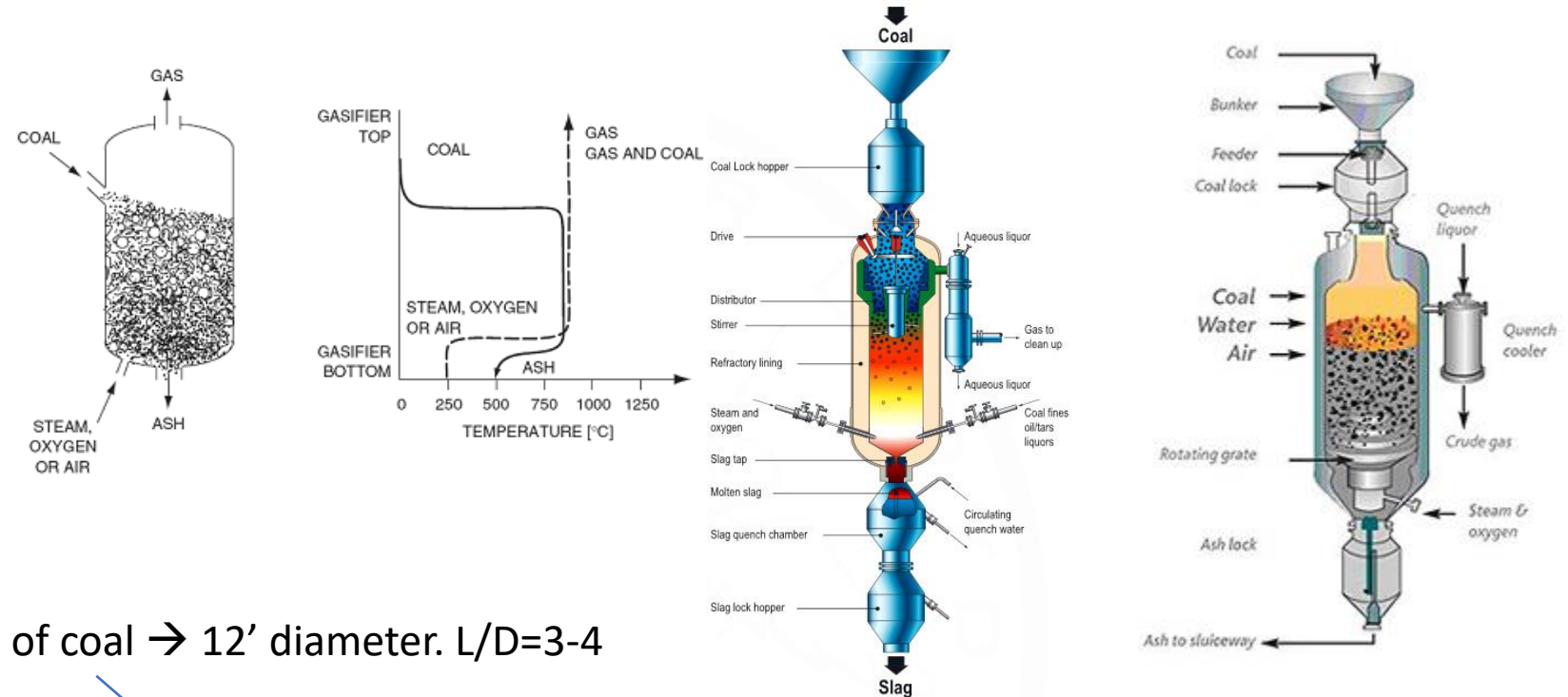
## SHREDDER AND GASIFIER



*MSW Plant*

GASIFIER

MOVING BED GASIFIER: Calculate diameter assuming 4 mm diameter pellets with 30% void fraction and 0.5 cm/sec downward velocity of the moving bed. Assume



Reference point for diameter: 720 tpd of coal → 12' diameter. L/D=3-4

<https://www.netl.doe.gov/research/coal/energy-systems/gasification/gasifipedia/fmb>

<https://www.enggcyclopedia.com/2011/12/gasification-process-types/>

<https://biomasspower.gov.in/document/download-lef-tside/Biomass%20gasification.pdf>

# MSW Plant

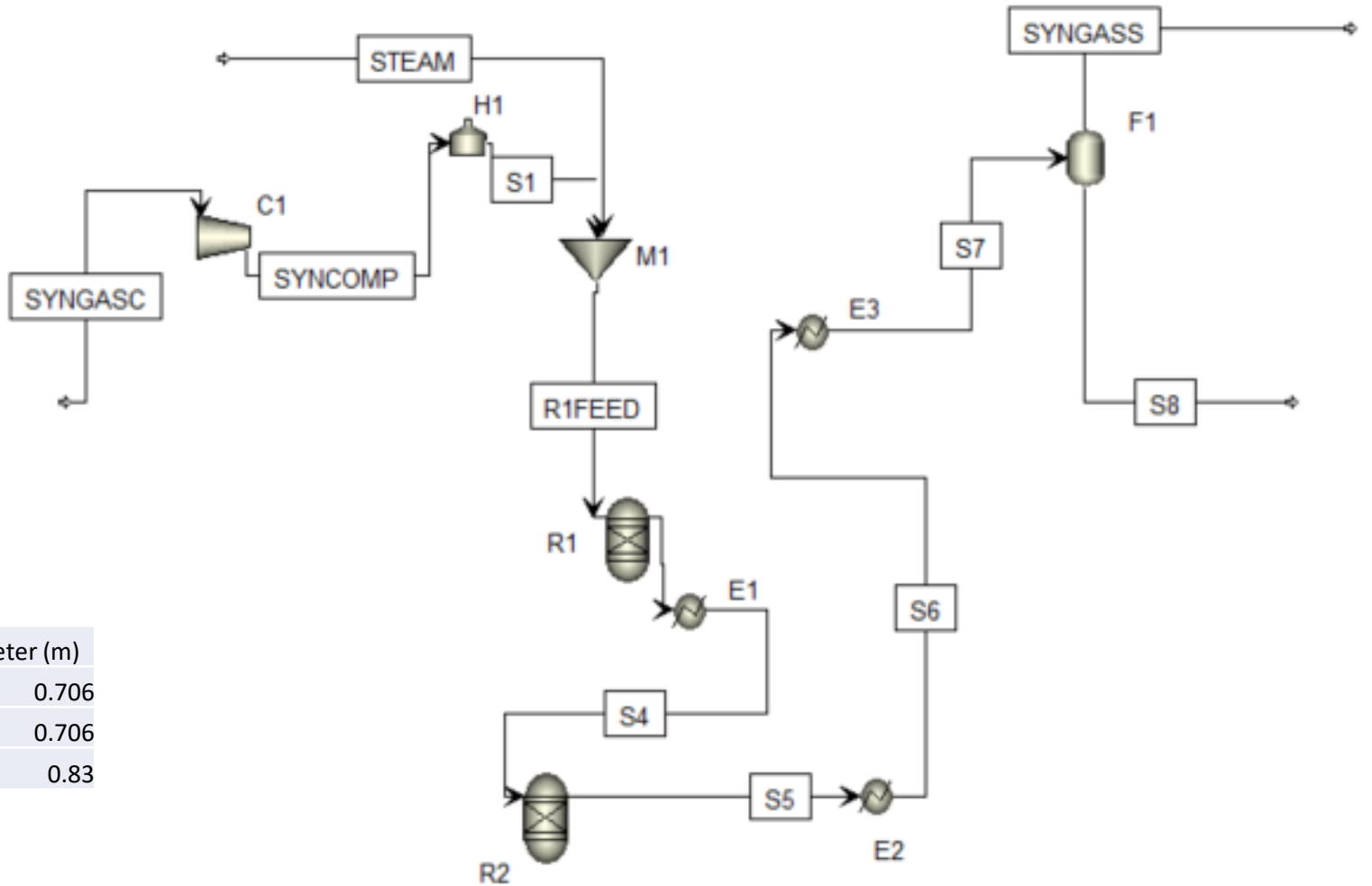
## CO CONVERSION

	Height (m)	Diameter (m)
R1Reactor	4.56	0.706
R2Reactor	4.56	0.706
F1Flash	2.2	0.83

Compressor: 1100 kW

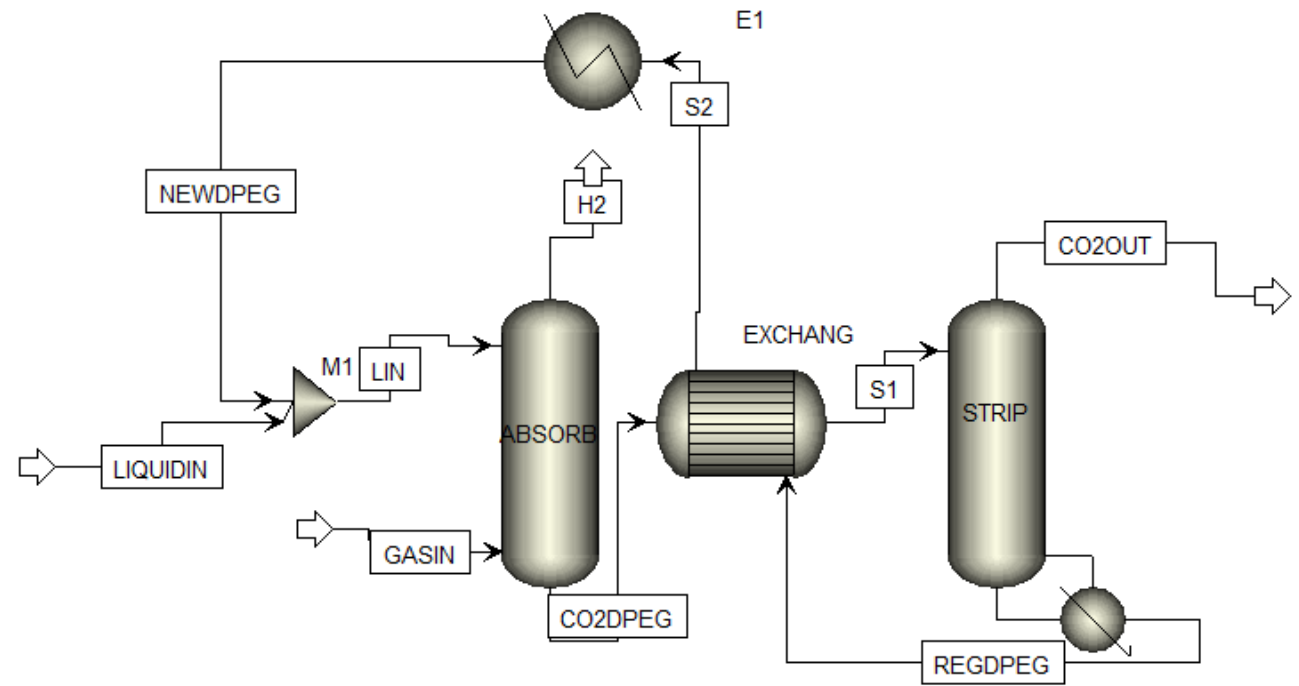
Capacity: 24,000 Kg Syngas/hr

Steam: 18,000 Kg/hr



# MSW Plant

## CO2 REMOVAL



Gas In 8,000 Kg/hr

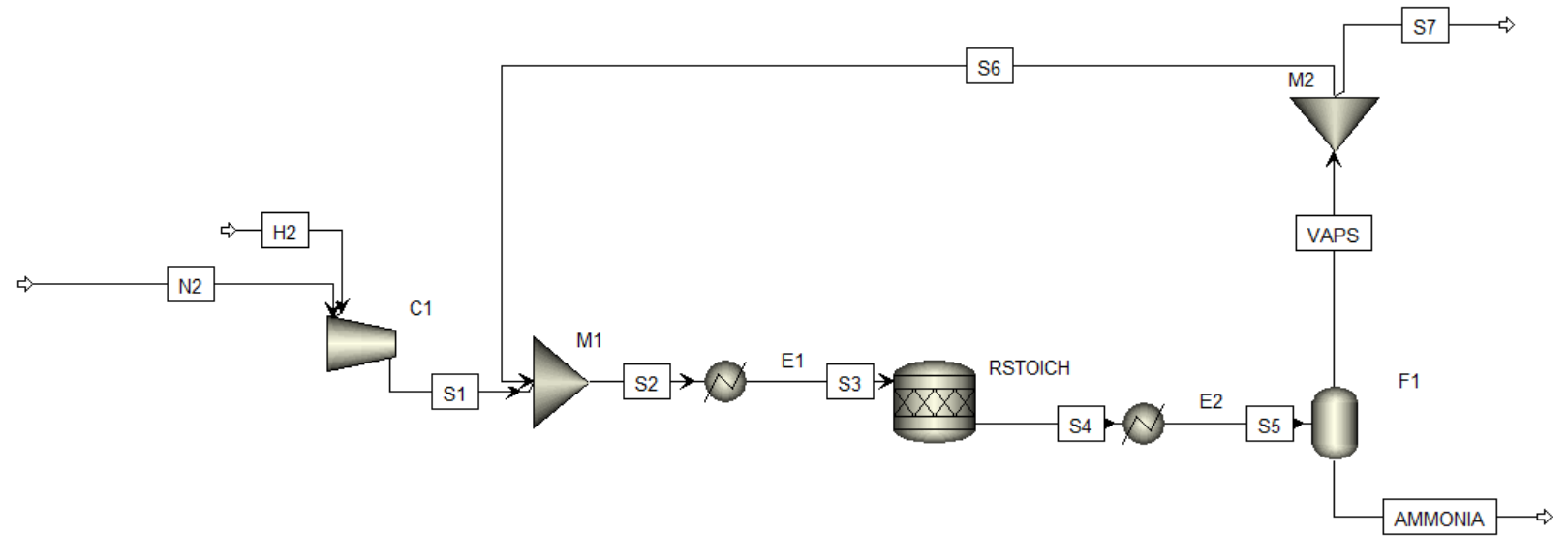
Equipment Summary: CO2 absorber stripper assembly

	Height	Diameter	
Absorb Column	27.8 ft	2.03 m	
Strip Column	27.8 ft	2.03 m	

Exchanger =500 sqm

# MSW Plant

## AMMONIA PLANT



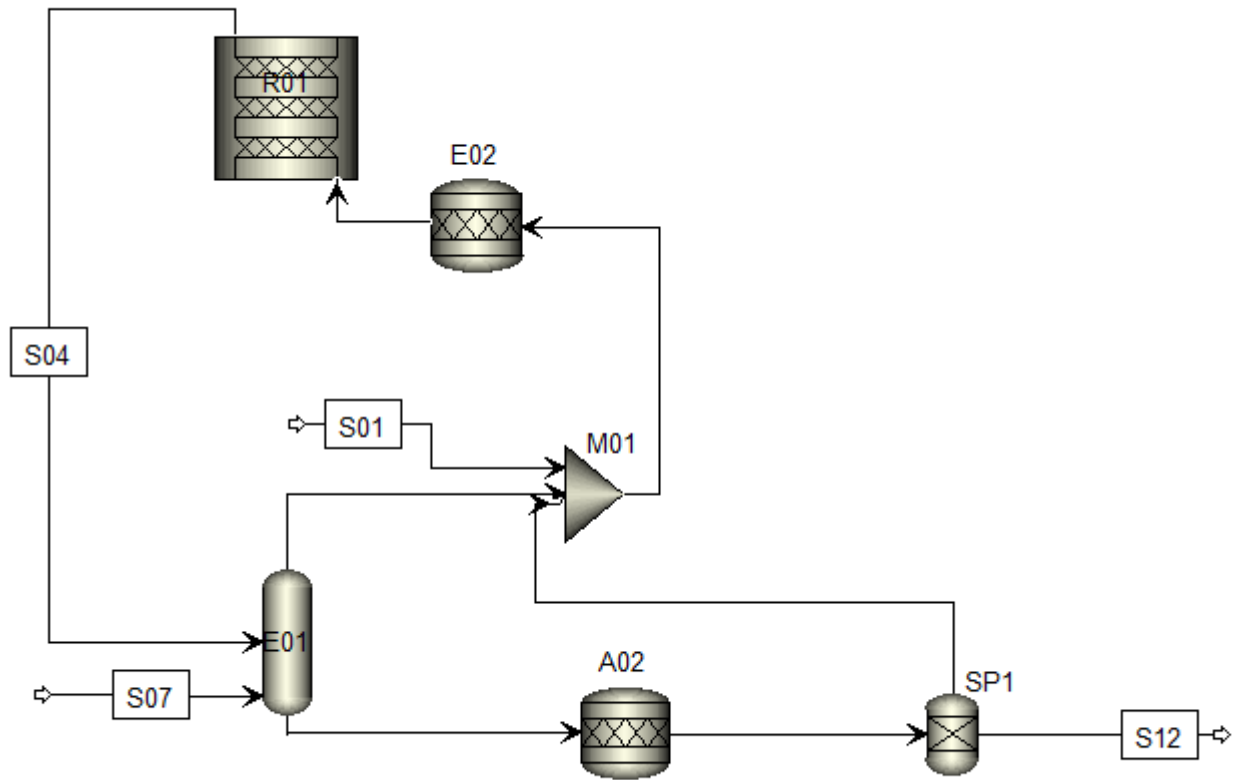
N2	5000 Kg/hr
H2	1154 Kg/hr
Recycle	4800 Kg/hr
E1	200 sqm
E2	130 sqm

	Height (m)	Diameter (m)
RSTOICHReactor	4.56	1.771
F1Flash	3.65	1.76

C1 Compressor Power (kW) 7100

# *MSW Plant*

## UREA PLANT



Equipment Summary		Height (m)	Diamter (m)
A02	Reactor	5.50	1.37
E02	Reactor	6.10	1.52
R01	Reactor	28.95	2.44
SP1	Separator	3.81	1.22
E01	Tower	12.80	1.07

# MSW Plant

IGCC POWER

and

BURN TO POWER

