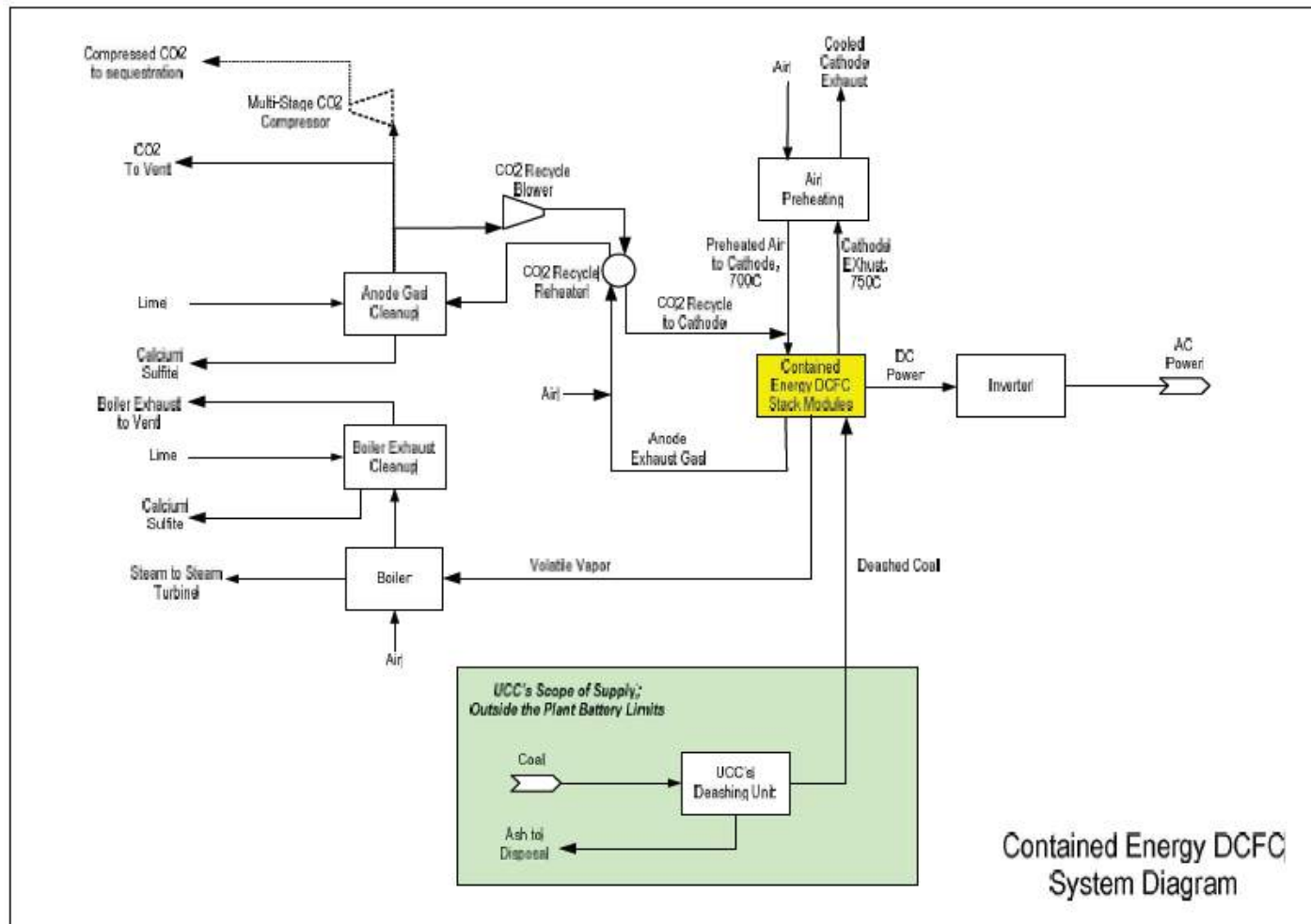


DCFC시스템디자인

MCFC와 분리된 석탄



DCFC 성능 요약

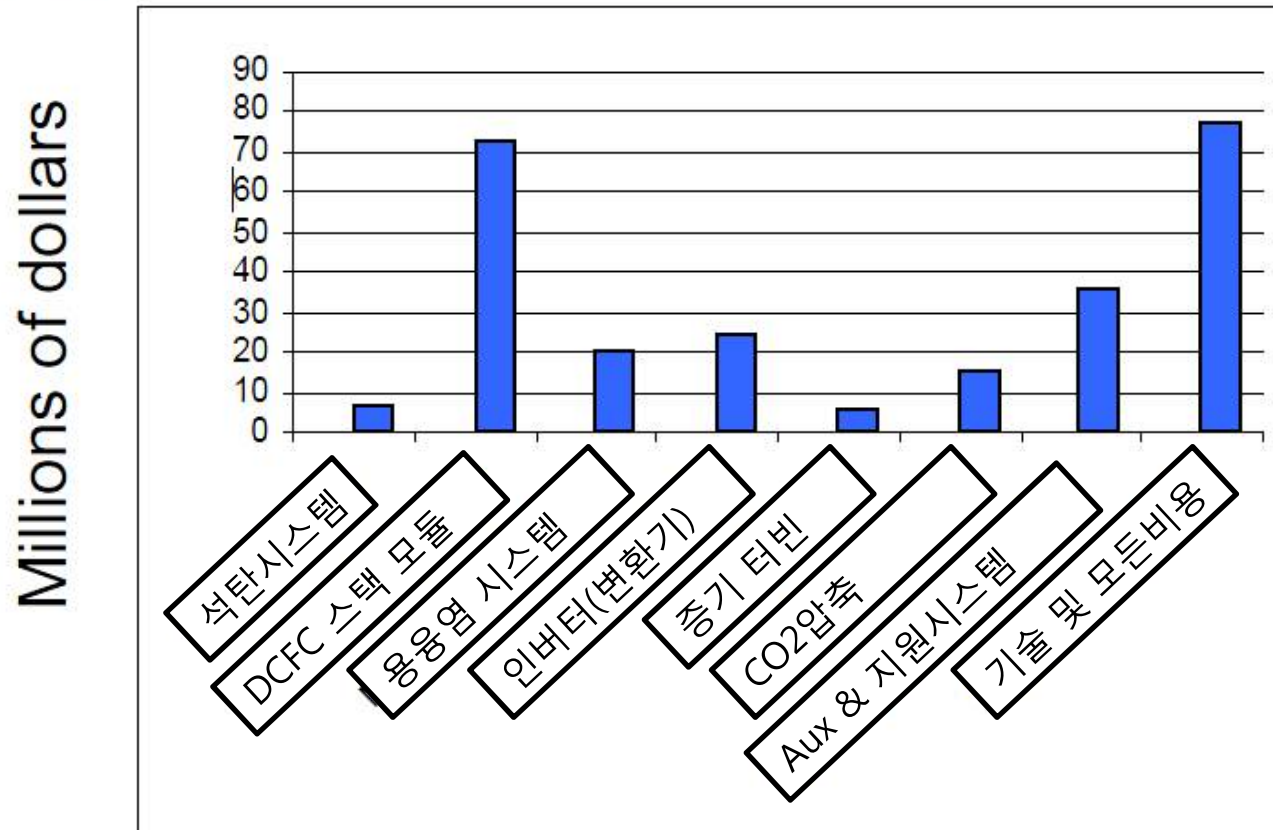
용융염 연료극 – SOFC 와 CO₂ 포집

- 석탄 유입 604 T / Day 529 MBtu/hr
- DCFC / Inverter 의 총 AC전력 93.6 MW
- Steam 터빈의 파워 14.7
- 총 AC 전력 예상 108.3
- 발전 전력 소비/MW (16)
- 보급된 총 AC 파워, MW 92.2
- 물 소비, GPD 286
- 총 고체폐기물, TPD 87
- CO₂ Captured for Sequestration metricT/MWh 0.539
- 총 시스템 효율,% HHV 59.4

DCFC 비용 분석

용융염 연료극 - SOFC

\$ 254 Million ; \$ 2759 / kW; \$ 67 / MWH



DCFC 시스템 결과 & 비교

Technologies	Overall Plant Efficiency (HHV)		CO2 Emitted, mt/MWh		% of Carbon Capture	
	CO2 비포집	CO2포집	CO2 비포집	CO2포집	CO2 비포집	CO2포집
Baseline Technologies						
Supercritical Pulverized Coal (SCPC)	38%	27%	0.86	0.12	0	90
Integrated Gasification Combined Cycle (IGCC)	38%	33%	0.83	0.11	0	90
Integrated Gasification SOFC (IG-SOFC)	50%	43%	0.65	0.08	0	90
DCFC Technologies						
SRI	65%	60%	0.49	0.00	0	100
CellTech	61%	57%	0.52	0.00	0	100
Contained Energy ^a	65%	63%	0.49	0.26	0	49

^a Only this technology case uses deshed coal; all other cases use raw coal

DCFC 시스템 결과 & 비교

Technologies	Capital Cost, \$/kW (2006 pricing)				COE, \$/MWh (2006 pricing)			
	TCR		All-In		TCR		All-In	
	CO2 비포집	CO2포집	CO2 비포집	CO2포집	CO2 비포집	CO2포집	CO2 비포집	CO2포집
Baseline Technologies								
Supercritical Pulverized Coal (SCPC)	2,080	3,470	2,290	3,620	53	93	57	99
Integrated Gasification Combined Cycle (IGCC)	2,490	3,420	2,730	3,780	61	91	66	97
Integrated Gasification SOFC (IG-SOFC)	2,000	2,747	2,200	3,046	48	70	52	77
DCFC Technologies								
SRI	2,112	2,508	2,323	2,759	48	62	52	67
CellTech	2,267	2,638	2,494	2,902	52	65	56	71
Contained Energy ^a	1,941	2,152	2,136	2,368	59	69	63	73

^a Only this technology case uses deshed coal at \$4.2/million Btu; all other cases use raw coal at \$1.5/million Btu