

CAPITAL AND OPERATING COST OF HYDROGEN PRODUCTION FROM COAL GASIFICATION

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LIST OF ACRONYMS AND ABBREVIATIONS

acfm	actual cubic feet per minute
AGR	acid gas removal
Al ₂ O ₃	aluminum oxide
ASU	air separation unit
BOP	balance of plant
Btu	British thermal unit
°C	degree Centigrade
cfm	cubic feet per minute
CO	carbon monoxide
CO ₂	carbon dioxide
COS	carbonyl sulfide
DEA	diethanolamine
DGA	diglycolamine
DIPA	diisopropanolamine
DOE	U.S. Department of Energy
°F	degrees Fahrenheit
Fe ₂ O ₃	ferric (iron) oxide
gpm	gallons per minute
h	hour
H ₂ O	water
H ₂ S	hydrogen sulfide
H ₂ SO ₄	sulfuric acid
HHV	higher heating value
HP	high pressure
HRSG	heat recovery steam generator
HT	high temperature
IGCC	integrated gasification combined cycle
IP	intermediate pressure
IRR	internal rate of return
K ₂ O	potassium oxide
kW _e	kilowatt hour
lb	pound
LP	low pressure
LT	low temperature
MAF	moisture and ash free
Mcf	thousand cubic feet
MDEA	methyl-diethanolamine
MEA	monoethanolamine
MgO	magnesium oxide
MM	million
MW _e	megawatt electric

Na ₂ O	sodium oxide
NREL	National Renewable Energy Laboratory
O&M	operation and maintenance
O ₂	oxygen
OH	overhead
OJ	operating job
P ₂ O ₅	phosphorous pentoxide
ppm	parts per million
ppmv	parts per million by volume
PRB	Powder River Basin
PSA	pressure swing adsorption
psia	pounds per square inch absolute
psig	pounds per square inch gauge
rpm	revolutions per minute
scf	standard cubic feet
scfd	standard cubic feet per day
scfm	standard cubic feet per minute
SiO ₂	silica
SO ₂	sulfur dioxide
SO ₃	sulfur trioxide
SS	stainless steel
TCR	total capital requirement
TG	turbine generator
TiO ₂	titanium dioxide
TM	trademark
TPC	total plant cost
tpd	tons per day
tph	tons per hour
vol %	volume percent