

## Power Station Economics

### Gas CCGT

Capacity	MW	0
Load Factor	%	0%
Annual output	TWh	0.00
	MWh	0
	kW	0
Construction time	years	0
Project life	years	0

## Fuel

Efficiency		0%
Fuel consumed	MWh	#DIV/0!
Gas cost	US\$/mmbtu	0
	US\$/MWh	0.00

NPV	#DIV/0!
IRR	#####

Convert mmbtu to MWh 3.413

US\$=€1

## EIA Estimates

Capital Cost	US\$/kW	978	0.0 US\$mm
Fixed Cost	US\$/kW	11.0	0.0 US\$mm
Variable Costs	US\$/MWh	3.5	0.0 US\$mm
Gas Cost	US\$/MWh	0.00	#DIV/0! US\$mm

Carbon output per MWh	Tonnes	0.18
Carbon price	US\$/t	0.00

Corporate Tax Rate 0%

Electricity Price	US\$/MWh	0
Capacity Payment	US\$/kW	0

## Project Economics

		2023	2024	2025	2026	2027
Utilisation		#DIV/0!	#DIV/0!	#DIV/0!	0%	0%
Output	MWh	#DIV/0!	#DIV/0!	#DIV/0!	0	0
Price	\$/MWh				0	0
Revenues	\$mm				0.0	0.0
Capacity Payment	\$mm				0.0	0.0
Capex	\$mm	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0
Total	\$mm		0.0			
Variable Cost	\$mm	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0
Fixed Cost	\$mm	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0
Fuel Cost	\$mm	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cost of Carbon	\$mm	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Costs	\$mm	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Operating Cashflow	\$mm	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Depreciation		0	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0
Pre-tax profit	\$mm		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Corporation Tax		0%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Net Income	\$mm		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Post-tax Cashflow	\$mm		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Net Cashflow	\$mm		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Net Cashflow			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Discount Rate		0.00%					
Discount Factor		1	1.00	1.00	1.00	1.00	1.00
Discounted Cashflow	\$mm		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NPV	\$mm		#DIV/0!				
IRR	%		#HODNOTA!				

Payback (Years)

Breakeven Utilisation

Breakeven Gas Price

Breakeven Electricity Price

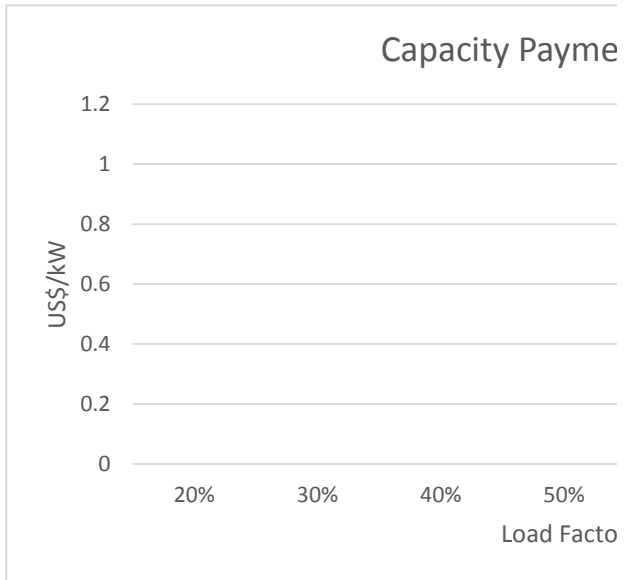
Breakeven Carbon Price

Discount Rate	
Cost of Interest	0.0%
Tax Rate	0%
Cost of Debt	0.0%
Cost of Equity	0.0%
Share of Debt	100%
Share of Equity	0%
WACC	0.00%

	2023	2024	2025	2026	2027
Debt and Interest					
Cumulative Debt	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Interest on Debt	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Interest Paid	#DIV/0!				
Capital paid off	0				
	#DIV/0!				

**Capacity Payment**

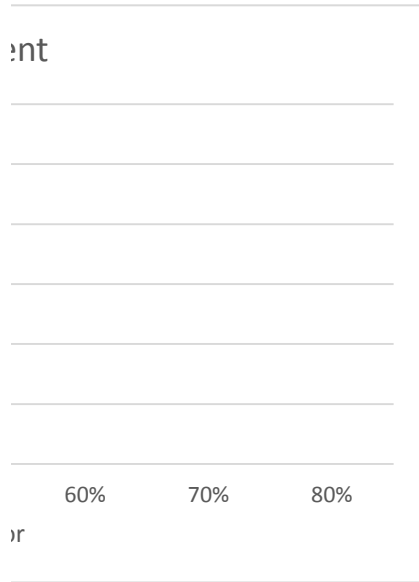
**Load Factor**  
20%                      30%                      40%                      50%                      60%                      70%







80%

















2054	2055
0%	0%
0	0
0	0
0.0	0.0
0.0	0.0
0.0	0.0

0.0	0.0
0.0	0.0

#DIV/0!	#DIV/0!
#DIV/0!	#DIV/0!
#DIV/0!	#DIV/0!

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0.0 0.0

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#DIV/0! #DIV/0!

1.00 1.00

#DIV/0! #DIV/0!

2054 2055

#DIV/0! #DIV/0!

#DIV/0! #DIV/0!

## WACC

Cost of Equity	
Equity market re	0.00%
Risk Free Rate	0.00%
Beta	0
Cost of Equity	0.00%
Interest Rate	0.00%
Tax Rate	0%
Cost of Debt	0.00%
WACC	0.00%
% Debt	100%
% Equity	0%

## Equity Market Return

### MSCI World Index

#### % Return

2009	31%
2010	12%
2011	-1%
2012	17%
2013	27%
2014	6%
2015	0%
2016	8%
2017	23%
2018	-8%
2019	28%
2020	17%
2021	22%
2022	-18%

Average	11.8%
10yr average	10.6%
5 year average	8.3%

## Debt Yields

### Risk Free Return

US Treasury	4.61%
UK LIBOR	5.37%
US AAA	5.19%
UK AAA	6.20%

## Beta and Leverage Analysis

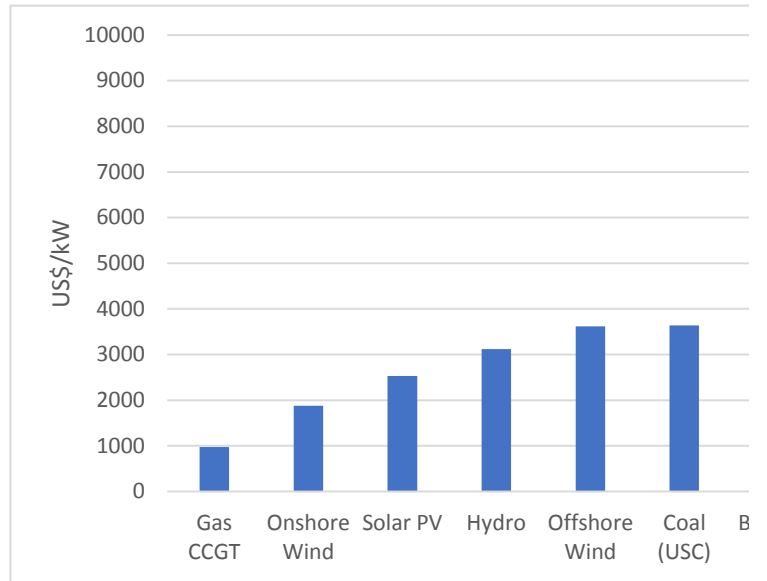
Industry Name	Number of firms	Beta	D/E Ratio
Oil/Gas (Integrated)	4	0.98	11.50%
Oil/Gas (Production and Exploration)	174	1.26	20.08%
Oil/Gas Distribution	23	0.99	71.41%
Oilfield Svcs/Equip.	101	1.38	32.60%
Power	48	0.73	77.16%



Software (Internet)	33	1.55	17.66%
Utility (General)	15	0.64	74.18%

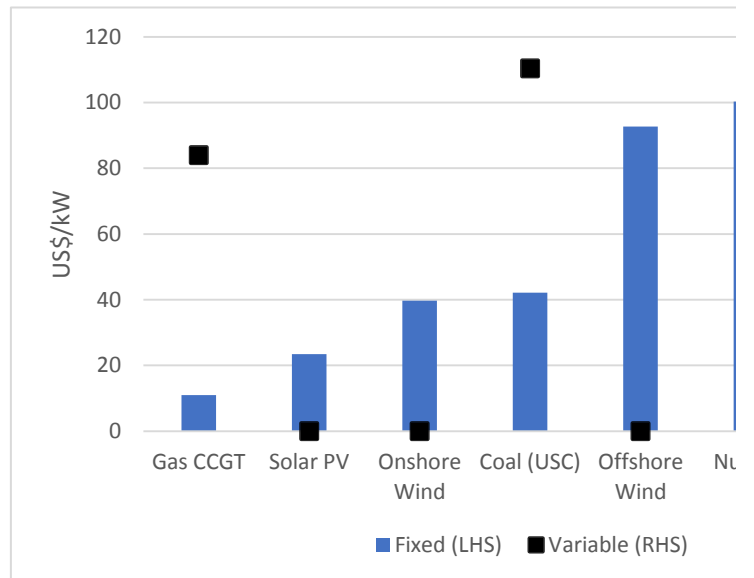
### Capital Costs

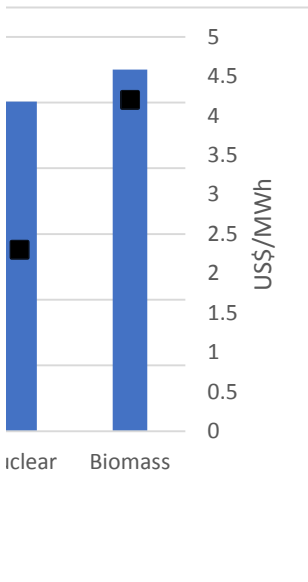
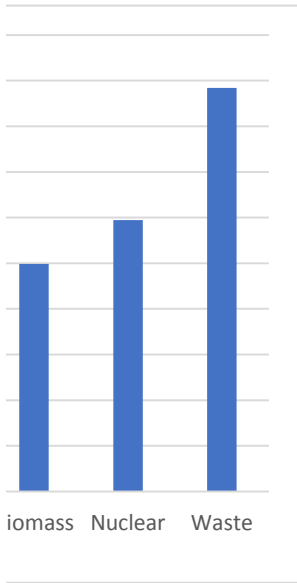
	US\$/kW
Gas CCGT	978
Onshore Wind	1877
Solar PV	2534
Hydro	3123
Offshore Wind	3617
Coal (USC)	3636
Biomass	4985
Nuclear	5945
Waste	8843



### Operating Costs

	Fixed (LHS)	Variable (RHS)
Gas CCGT	11	3.5
Solar PV	23.4	0
Onshore Wind	39.7	0
Coal (USC)	42.1	4.6
Offshore Wind	92.7	0
Nuclear	100.3	2.3
Biomass	110	4.2





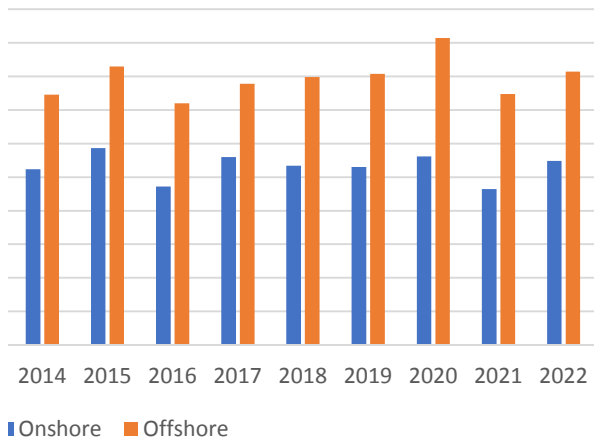
	2010	2011	2012	2013	2014	2015	2016	2017
Onshore	21.9%	27.9%	25.8%	28.4%	26.2%	29.3%	23.6%	28.0%
Offshore	30.5%	37.0%	35.8%	39.1%	37.3%	41.5%	36.0%	38.9%

	10yr ave	5yr ave	3 yr ave
Onshore	26.7%	26.4%	26.2%
Offshore	39.7%	40.8%	41.3%



2018	2019	2020	2021	2022
26.7%	26.5%	28.1%	23.2%	27.4%
39.9%	40.4%	45.7%	37.4%	40.7%

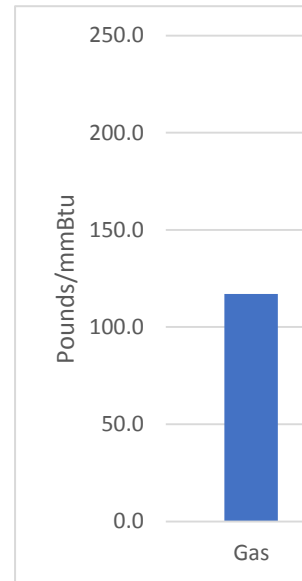
Farm Load Factors

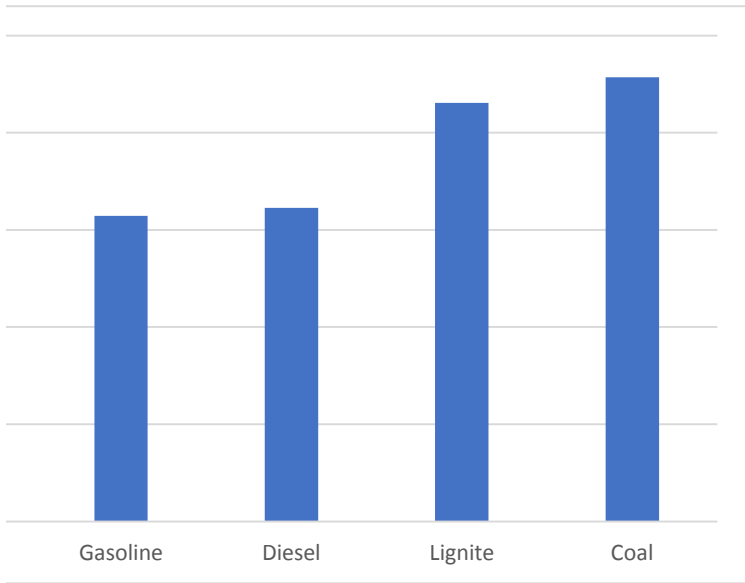


2.205

Pounds per mmBtu Tonnes per Tonnes per MWh

Gas	117.0	0.053	0.181
Gasoline	157.2	0.071	0.243
Diesel	161.3	0.073	0.250
Lignite	215.4	0.098	0.333
Coal	228.6	0.104	0.354
Wind			0
Solar			0





Cost Breakdown

US\$mm

Capex 0

Opex #DIV/0!

Cost of Finance #DIV/0!

Cost of Finance

Total Cashflow #DIV/0!

Total Discounted Cashflow #DIV/0!

Difference #DIV/0!



US\$mm

■ Capex ■ Opex ■ Cost of Finance