

System Advisor Model

Marine Energy Wave Report

Wave Energy Converter
WEC data was imported.

Device Performance	
Device Rated Power, kW	39.099998
Device Average Power, kW	22.747
Plant Capacity, kW	3910.000
Capacity Factor, %	54
Annual energy production, kWh	18531358

Wave Resource

Resource type	Frequency of Occurrence
Resource name	PacWave South
Location	Newport
Latitude	44.57
Longitude	-124.23
Buoy Number	NDBC 46094
Bathymetry	Gently Sloping
Seabed	Sandy
Avg Power Flux, kW/m	40.70

Array Design Parameters

Rated Array Capacity, kW	3910
Number of Devices	100
Distance to shore, km	5000
Depth, m	50
Device spacing, m	600
Row spacing, m	600

System Performance

Annual Energy Production, kWh	18,531,358
Capacity Factor, %	54.10
Total assumed losses, %	7.00

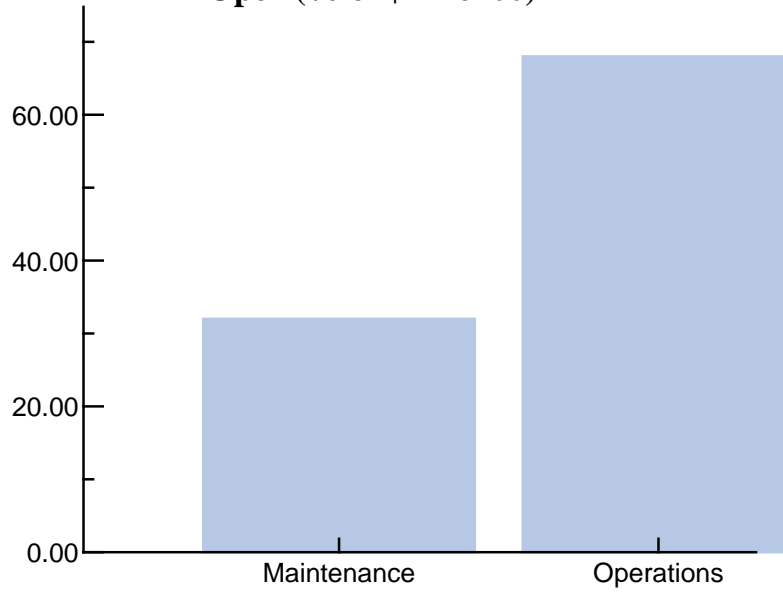
System Costs

	\$	\$/kW	\$/kWh/yr	Value Type
Capital Expenditures				
Marine Energy Converter				
Structural Assembly	4,635,916	1,186	0.02	user-spec
Power take-off System	6,953,874	1,778	0.04	user-spec
Mooring, Found., & Sub-Struct.	1,854,366	474	0.01	user-spec
Subtotal	13,444,156			
Balance of System				
Development	5,000,000	1,279	0.03	user-spec
Engineering and Management	1,500,000	384	0.01	user-spec
Electrical Infrastructure	700,000	179	0	user-spec
Plant Commissioning	1,000,000	256	0.01	user-spec
Site Access, Port & Staging	750,000	192	0	user-spec
Assembly & Installation	1,000,000	256	0.01	user-spec
Other Infrastructure	500,000	128	0	user-spec
Subtotal	10,450,000			
Financials				
Project Contingency Budget	1,107,208	283	0.01	modeled
Insurance during Construction	221,442	57	0	modeled
Reserve Accounts	664,325	170	0	modeled
Subtotal	1,992,974			
Total Capital Expenditures	25,887,130	6,621	0.13	
Operational Expenditures				
Operations	977,500	250	0.05	user-spec
Maintenance	469,200	120	0.03	user-spec
Total Operational Expenditures	1,446,700	370	0.08	

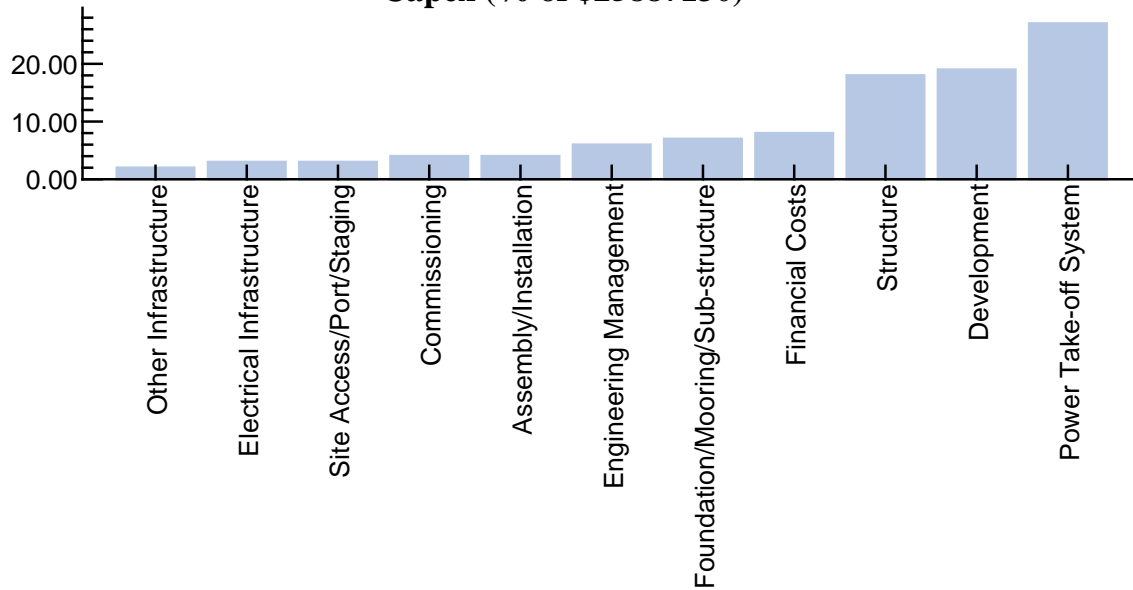
Economic Performance

Levelized Cost of Energy, \$/kWh	0.21
Fixed Charge Rate, %	9.4

Opex (% of \$1446700)



Capex (% of \$25887130)



LCOE (% of \$0.21/kWh)

