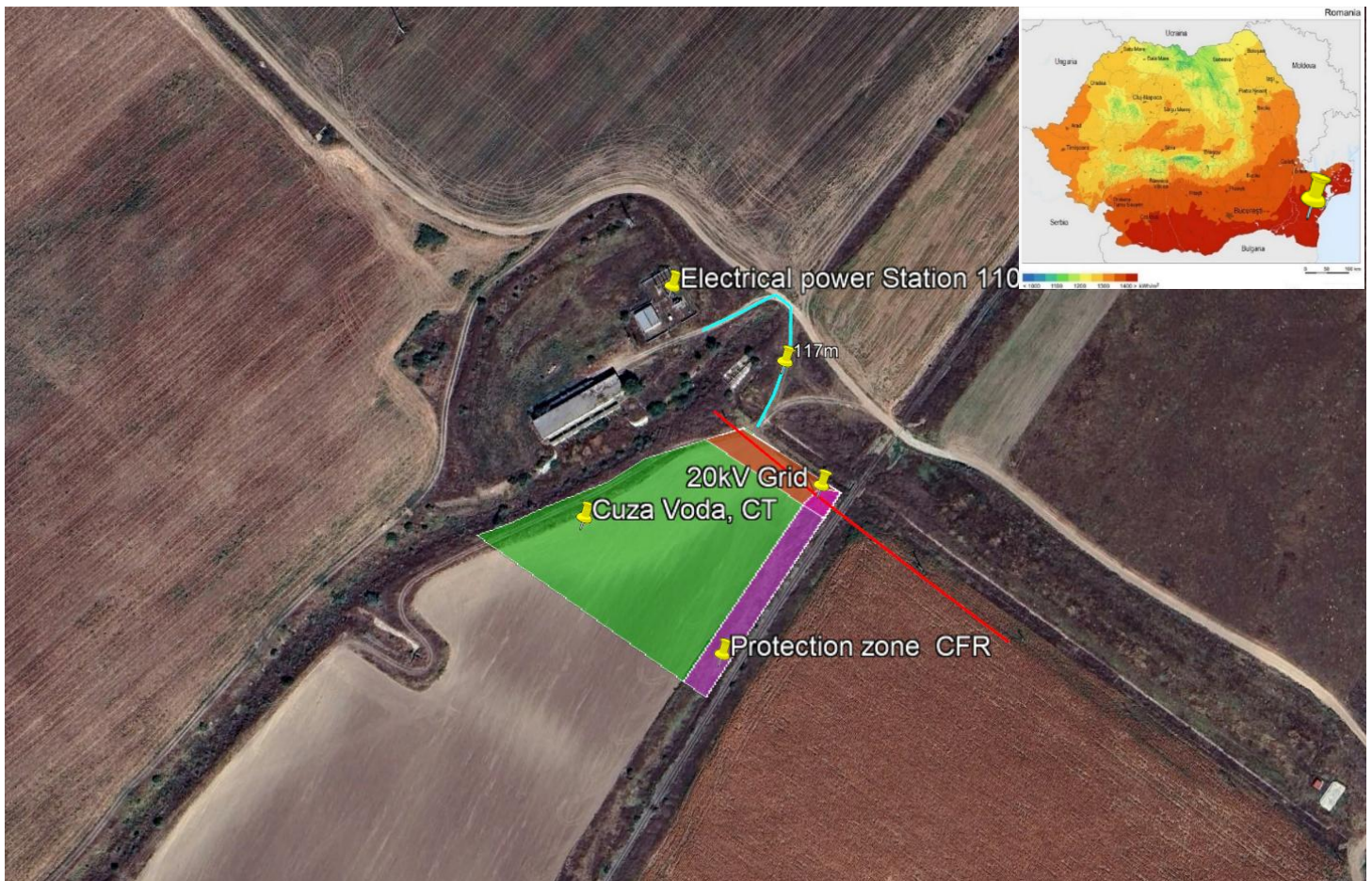




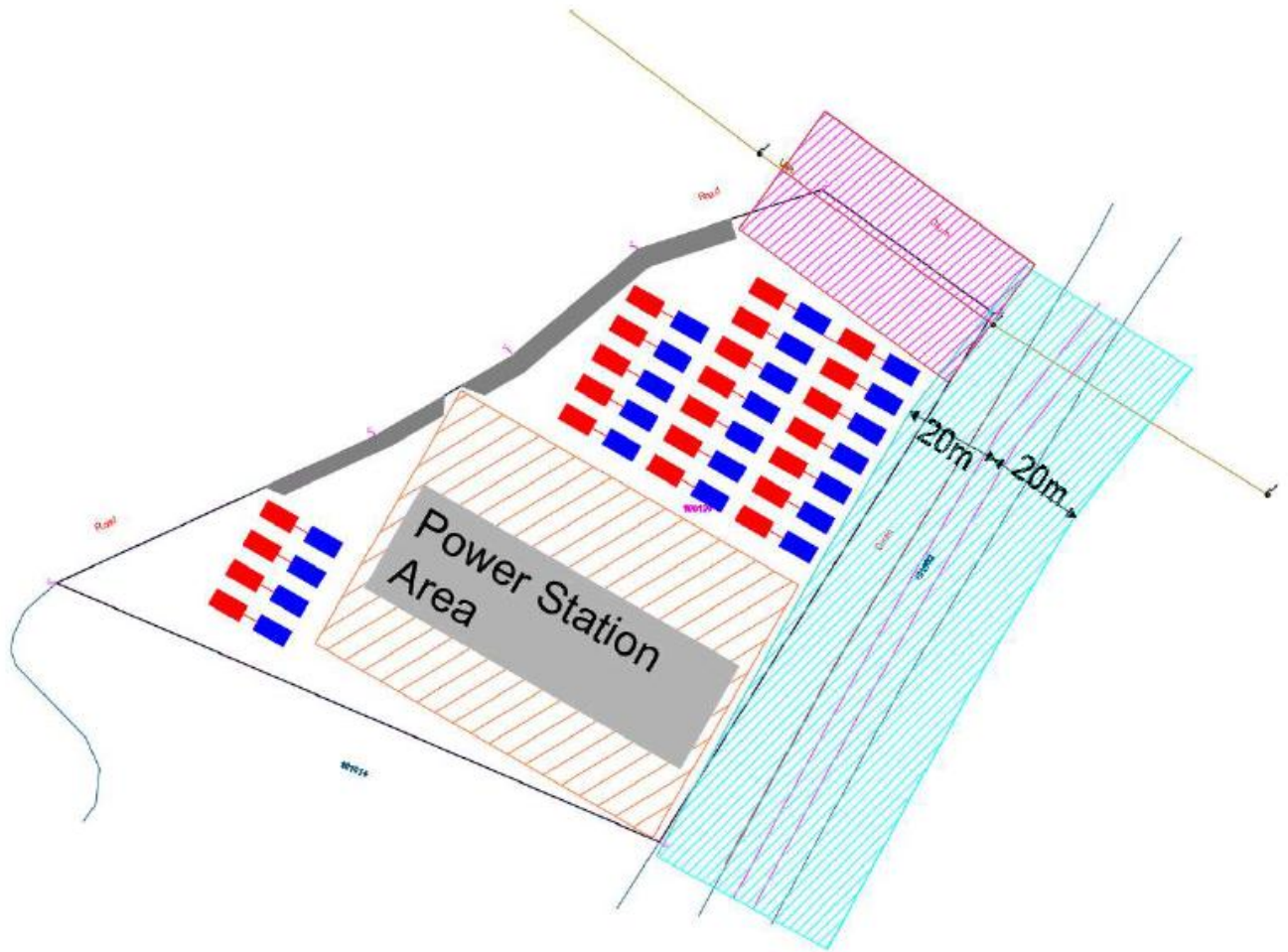
BESS

Project: Cuza Voda, CT
Total surface: 1.2 Ha
Storage capacity: 115,00 MWh










Layout



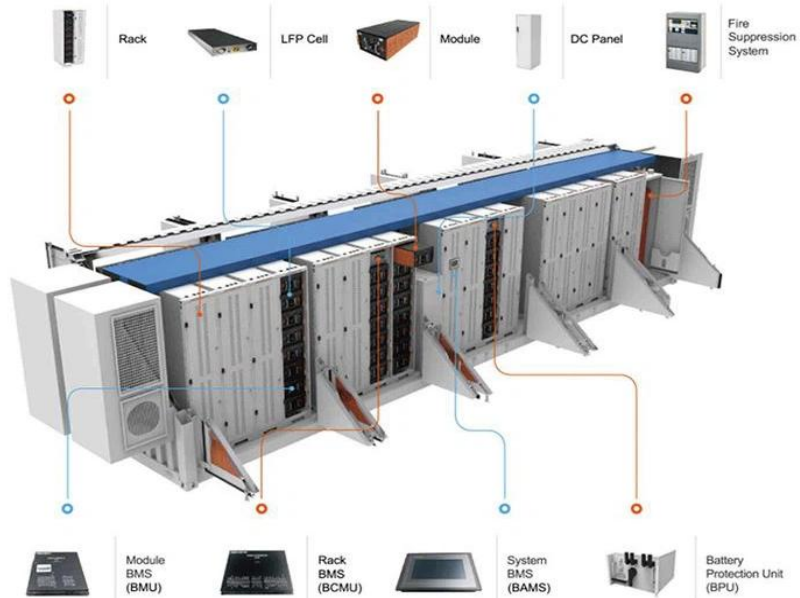
LEGEND

-  Battery container
-  Transformation assembly
-  Power station area
-  Railway safety zone
-  The electrical grid safety zone



Technical description of the storage facility

- (Battery container)



- Transformation unit - (MV SKID)





Economic Data

Project assumptions		
Project name	Cuza Voda, CT	
Installed Storage Capacity	115	MWh
Charge-Discharge Battery cycles/days	2	hours
Annual BESS degradation	3%	p.a.
Energy produced base price	60	€/MWh
Balancing Market energy price	900	€/MWh
DAM energy price	100	€/MWh
IDM energy price	200	€/MWh
Inflation rate	2%	p.a.
Project cost		
Storage equipment cost	150,000	€/MWh
Other cost related to storage (connection et	50,000	€/MWh
Cost Storage Batteries (BESS)	23,000,000	€
TOTAL COST Storage	23,000,000	€
Operational cost		
Land lease	3,000	€/MWh/year
Insurance/ MW/year	3,000	€/MWh/year
Operation& Maintenance/ MW/year	3,000	€/MWh/year
Balancing & forecasting services	1,000	€/MWh/year
Accounting, bank, legal, Opcom fees etc	6,000	€/year
Utlities (energy and water)	2,000	€/MWh/year
Contingencies/year	5%	p.a.
Security services	1,000	€/MWh/year
Tax on land and construction	2,500	€/year
Depreciable assets	23,000,000	€
Depreciation period	10	years
Annual depreciation	2,300,000	€
Financial assumptions		
Equity	6,900,000	€
Interest rate loan - Euribor 1 M	2.68	%
Interest Margin	4.00	%
Loan Maturity	10	years
Grace period	12	months
Monthly Instalments	108	months
Nominal cost of equity	15%	% p.a.
Cost of debt	6.4%	% p.a.
Tax rate	16%	% p.a.
WACC	8.3%	% p.a.
Financial ratios project		
IRR project	40%	%
IRR equity	135%	%
NPV project	25,087,247	€
Payback period	2	years



Revenues produced by the storage facility

Year		1	2	3	4	5	6	7	8	9	10
115.00 MWh 1.5 Cycles Charging/discharging	Income	EUR 14,229,180.00	EUR 13,944,596.40	EUR 13,660,012.80	EUR 13,375,429.20	EUR 13,090,845.60	EUR 12,806,262.00	EUR 12,271,244.83	EUR 12,237,094.80	EUR 11,952,511.20	EUR 11,667,927.60
	Operational Cost	EUR 996,042.60	EUR 976,121.75	EUR 956,200.90	EUR 936,280.04	EUR 916,359.19	EUR 896,438.34	EUR 858,987.14	EUR 856,596.64	EUR 836,675.78	EUR 816,754.93
	Profit	EUR 13,233,137.40	EUR 12,968,474.65	EUR 12,703,811.90	EUR 12,439,149.16	EUR 12,174,486.41	EUR 11,909,823.66	EUR 11,412,257.69	EUR 11,380,498.16	EUR 11,115,835.42	EUR 10,851,172.67

Cashflow

Year	1	2	3	4	5	6	7	8	9	10
115.00 MWh 1.5 Cycles Charging/discharging	-15,516,862.60 €	-2,548,387.95 €	10,155,423.96 €	22,594,573.11 €	34,769,059.52 €	46,678,883.18 €	58,091,140.87 €	69,471,639.04 €	80,587,474.45 €	91,438,647.12 €

