



Teaser

Private & confidential
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10MW Solar PV Plant Senegal

Avangreen Energy Solutions



Why Senegal?

Most influential and stable country in the area

- Most stable and influential democratic country in West Africa
- UN, World Bank and IMF are headquartered in Senegal for the region
- Central Bank of the West African States (BCEAO) based in Dakar. One currency (FCFA) with fixed exchange rate to €.
- 12,5m population. Multicultural and multi-religion
- Steady economic growth at 4%+ in the last years
- Energy and infrastructures projects are easy to roll out to surrounding countries



Contract with Senegalese Gov.

A highly profitable Built, Operate and Transfer (BOT) contract

- **Contract Type:** BOT (Build-Operate and Transfer)
- **Off taker:** Government of Senegal
- **Contract term:** 25 years
- **Total Investment:** 19,5m €
- **Annual revenue:** 3,1m €
- **Revenue indexation:** 3% per annum
- **IRR (*):** 16,7% (non leveraged)
- **NPV (*):** 57,6m €
- **ROI:** 6,1 Years

(*) Discount rate 2%

Project Guarantees

Key package of

Economic Guarantees:

Contract is subject to MIGA (Multilateral Investment Guarantee Agency) of World Bank Group to protect any economical / political risk.

Land could be used as collateral guarantee.

Land market value exceeds investment value.

Technical Guarantees:

Performance Guarantees to secure plant performance over its useful life

Technical guarantees of key components (Panels, inverters, structures, Mid voltage, etc...)

Performance guarantees of panels and inverters over plant useful life

Construction insurance and guarantees during construction period

Structural Guarantees:

SPV company shall retain all assets at all times (Plant, Materials, contract and land)

SPV shall be transmitted at the beginning of the contract

Strategic Guarantees:

PV plant is built to secure energy supply at the most important industrial complex in the area of Dakar.

This complex is strategic for the Government of Senegal to boost foreign investments and stimulate industrial growth

The best team for a great project

A World Class team to secure success



Project developer and asset owner.

Strong engineering experience in the areas of energy and infrastructure

Local presence in Senegal and solid relationships with Senegalese Government for development and construction of key infrastructures .



World's largest photovoltaic module manufacturer in terms of production capacity and shipments.

Avangreen and Yingli have teamed up for the development and construction of projects in West Africa.

Yingli shall supply the PV panels of the project



GES is the world market leader in construction and services for the wind and solar industry.

Avangreen and GES have worked together for years in delivering first class renewable energy solutions worldwide.

GES shall work with Avangreen in the mechanical and electrical installation.



World leader in the manufacture and supply of electric and electronic equipment used in Energy and Electric Systems.

Avangreen and Mitsubishi Electric have joint forces for the electric and energy sector in West Africa.

Mitsubishi Electric shall supply critical mid voltage, low voltage and substation technology for the project.



Project Financials (Summary)

- **Key Plant Characteristics:**

- Nominal Power: 10MW
- Total surface required: 16 Hectares

- **Key Profitability ratios:**

- IRR (iii): 16,68%
- NPV (iv): 57,6m€

- **Key Financial variables:**

- Annual revenue: 3,1 m €
- Revenue index: 3% per annum
- Capex: 19,5m €
- Opex: 310k €/year (i)
- Financial Leverage: No (ii)
- Contract term: 25 Years

(i) Opex includes maintenance costs and rental fees with a 3% year on year revaluation.

(ii) No Debt have been considered for the calculation of project profitability. Financial leverage shall increase ROE and project profitability

(iii) IRR: Internal Rate of Return of the project with a discount rate of 2%

(iv) NPV: Net Present Value of the cash flow generated by the project discounted at 2%

Project Financials

(Cash Flow and Profitability)

IRR: 16,68%
NPV: 57,6m €

Year	0	1	2	3	4	5	6	7
Revenue		3.100.800 €	3.193.824 €	3.289.639 €	3.388.328 €	3.489.978 €	3.594.677 €	3.702.517 €
Investment Costs	19.500.000 €							
Financial Costs		- €	- €	- €	- €	- €	- €	- €
Maintenance Costs		310.080 €	319.382 €	328.964 €	338.833 €	348.998 €	359.468 €	370.252 €
Cash Flow	- 19.500.000 €	2.790.720 €	2.874.442 €	2.960.675 €	3.049.495 €	3.140.980 €	3.235.209 €	3.332.266 €
	8	9	10	11	12	13	14	15
	3.813.593 €	3.928.001 €	4.045.841 €	4.167.216 €	4.292.232 €	4.420.999 €	4.553.629 €	4.690.238 €
	- €	- €	- €	- €	- €	- €	- €	- €
	381.359 €	392.800 €	404.584 €	416.722 €	429.223 €	442.100 €	455.363 €	469.024 €
	3.432.234 €	3.535.201 €	3.641.257 €	3.750.494 €	3.863.009 €	3.978.899 €	4.098.266 €	4.221.214 €
	17	18	19	20	21	22	23	24
	4.975.874 €	5.125.150 €	5.278.904 €	5.437.272 €	5.600.390 €	5.768.401 €	5.941.453 €	6.119.697 €
	- €	- €	- €	- €	- €	- €	- €	- €
	497.587 €	512.515 €	527.890 €	543.727 €	560.039 €	576.840 €	594.145 €	611.970 €
	4.478.286 €	4.612.635 €	4.751.014 €	4.893.544 €	5.040.351 €	5.191.561 €	5.347.308 €	5.507.727 €
	25							
	6.303.288 €							
	- €							
	630.329 €							
	5.672.959 €							