



Workshop de Investimento

Energia Sustentável
na Guiné-Bissau

Guinea Bissau Sustainable
Energy Investment Workshop



Apresentação do Central Solar Gardete: Suntrough Energy

Presentation of Gardete Solar PV Plant:
Suntrough Energy



Michiel van der Want
Director Project Development



Suntrough Energy

- Solar project developer & Independent Power Producer (IPP)
- Solar projects in USA, Middle-East and Africa
- Experienced team in Bissau, 30+ years experience with power generation using thermal and solar generation and battery storage facilities in both on-grid and off-grid locations



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Solar Project Gardete - Summary

- 10 Megawatt capacity, with the possibility to extend to 20 Megawatt
- Grid-connected (ligada à rede)
- 5 km to the west of the capital Bissau
- close to the new thermal power plant in Bor, currently under construction, which will facilitate grid-stability
- Annual reduction in CO2 emission: 16,000 tonnes at capacity of 10 MW
- Currently under construction, pilot project built
- Additional financing required to complete construction to full capacity

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Solar Project Gardete - Status

- 3 phase construction:
- Phase 1: pilot project and grid-connection
 - Financing for phase 1 has been completed
 - Co-financed with GEF-support and technical support from UNIDO and ECREEE
 - Phase 1 is now under construction
 - Pilot project (200 Kilowatt) has been built and the construction of the interconnection with the grid in Bissau is planned to complete by the end of 2018
- Phase 2: Extension to 3 Megawatt
 - Financing to be raised
 - Planned completion by the end of 2019
- Phase 3: Extension to 10 Megawatt with possibility to extend to 20 Megawatt
 - Financing to be raised
 - Planned completion by the end of 2020

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Commercial Market Analysis

- Brief SWOT-Analysis of the commercial sustainable energy market in Guinea-Bissau
- Strengths
- Weaknesses
- Opportunities
- Threats

SWOT ANALYSIS





Commercial Market Analysis

- Strengths

- Ample sunshine, typically about 50-75% more than in Europe
 - Demand for electricity is much higher than supply
 - Grid-connected solar is still relatively new in Guinea-Bissau: many opportunities to add solar energy into the mix of sustainable energies in the future
 - Availability of land close to the capital of Bissau
- Significant amount of funds available as an investment
 - Expectation of a financial return on investment.
- Franc CFA fixed to the Euro: low exchange rate risk for Euro-based investors

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Commercial Market Analysis

- Weaknesses

- Expert knowledge and technical skills in the realm of sustainable energy need further development
- Transportation (Shipment) to Guinea-Bissau is a larger cost- and time factor compared to other countries in the region
- Lack of in-depth knowledge of country-specifics outside of the region
 - challenges to get support from overseas stakeholders such as investors, but also for insurance.

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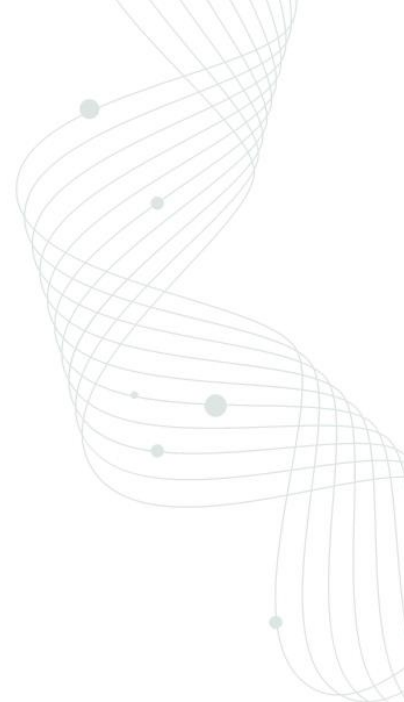




Commercial Market Analysis

- Opportunities

- Lower costs of generation with solar compared to diesel
- Investors are interested, provided certain conditions are met
 - Demand for electricity is larger than current supply: no direct competition for market share with existing players in the market



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Commercial Market Analysis

Threats

- Sustainable use of energy:
 - Balancing sustainable energy and energy efficiency
- Sustainable financial model
 - Investors look closely at the off-taker risk. Limited possibilities for insurance are a threat to attract future investors
- Management and knowledge transfer
 - In the long run, management and operations have to be taken over by local experts with sustainable train-the-trainer models
- Support of new and existing infrastructure:
 - Proper maintenance is required, so that investments can deliver on their promise

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Cost of Energy & Emissions

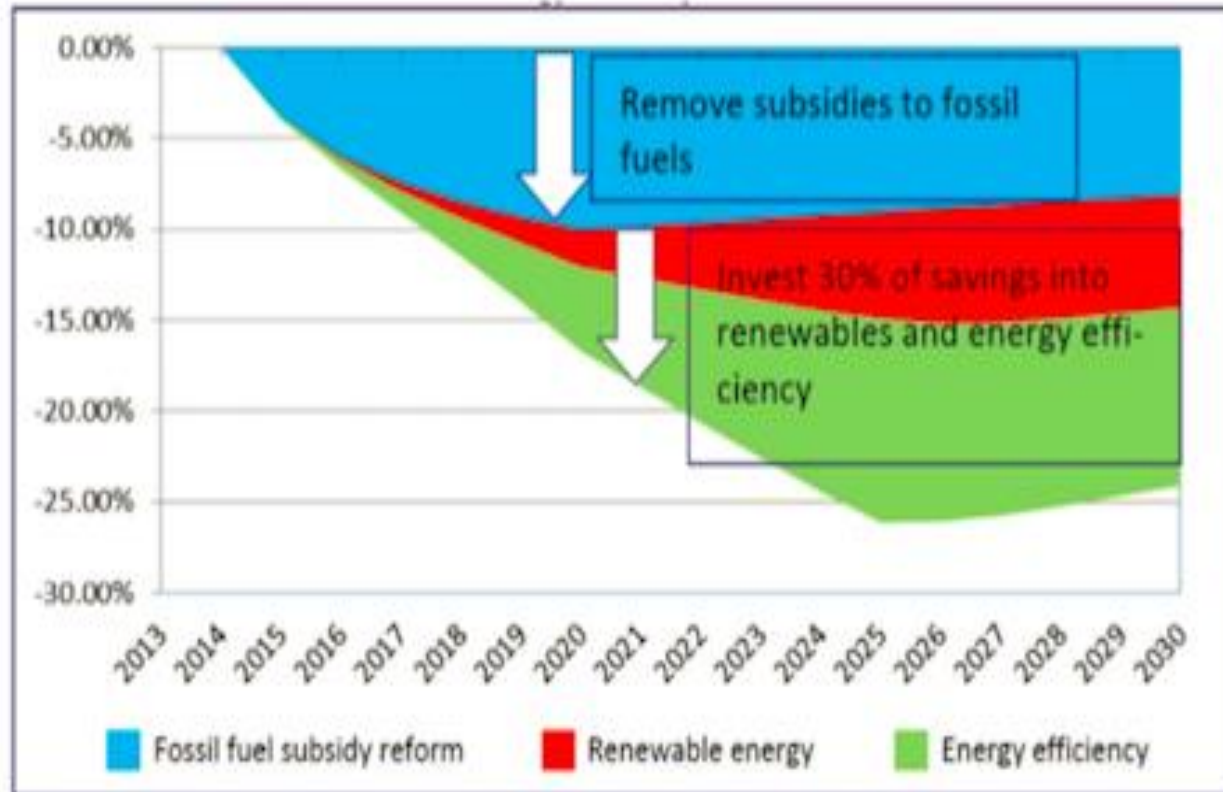


Figure. Average emissions reductions from FFSR across 20 countries with 10% of savings invested in renewables and 20% into energy efficiency (as against business as usual [BAU]). Source: Merrill et al. 2015.

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Summary

- Many opportunities to invest in sustainable energy projects
- Solar Project Gardete is ready for expansion to phase 2
- Phase 2 requires further financing to be arranged
- Suntrough wants to continue to be a strong partner in the development of solar projects in Guinea-Bissau

Thank You




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FUTURAS INSTALAÇÕES CENTRAL SOLAR 20 MEGAWATT

