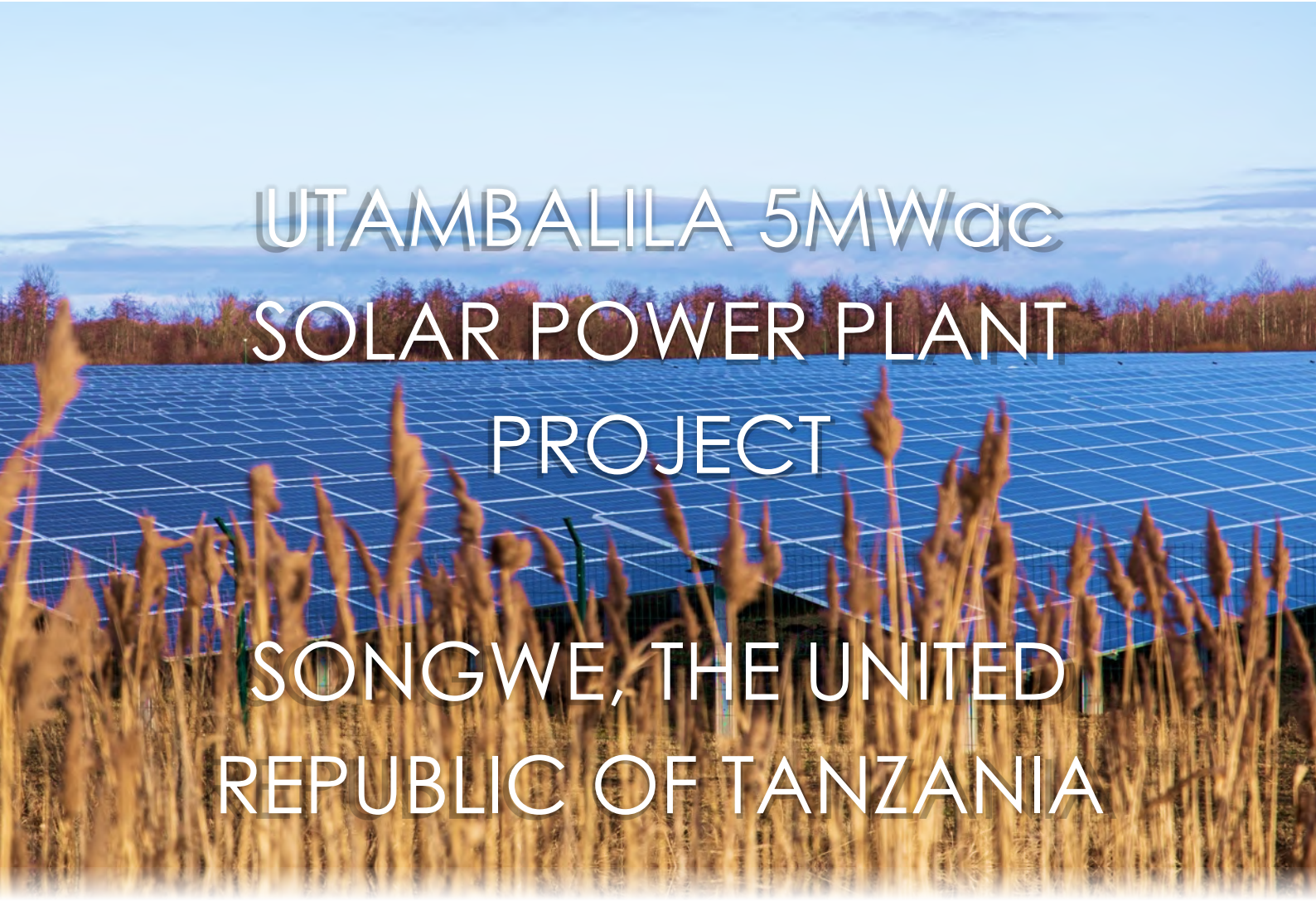

UTAMBALILA 5MWac SOLAR POWER PLANT PROJECT

SONGWE, THE UNITED REPUBLIC OF TANZANIA

FINANCIAL ANALYSIS & BUSINESS MODEL

Oreon Renewables

Powering Sustainability

February, 2024

PRIVATE & CONFIDENTIAL

INTRODUCTION

Tanzania's total power installed capacity is currently 1,7GW and Tanzania's electricity generation comes from natural gas, hydro, and petrol which amounts nearly to a total of 97% of the energy mix. Tanzania has abundant energy resources as well as a very high potential for solar power.

Tanzania already has a five-year National Development Plan that targets an installed power capacity of 5.7GW by 2025. With installing 4.000MW of newly built power plants including solar and renewable energy power plants, Tanzania is expected to be one of Africa's top renewable power generating states in the following years.

The proposed Utambalila 5MWac solar power plant (SPP) located in the Songwe region of Tanzania. The Utambalila solar power plant (SPP) has a rated power of 5000kWac with a system power of 6009kWp.

The subject of this study is a financial analysis of the Utambalila 5MWac Solar Power Plant Project and defining the business model.

The analysis explores the the project focusing on investment, operation and maintenance, projected cash flows, and key financial indicators. The financing structure is designed to balance equity and debt, with significant emphasis on the cost of capital, debt service coverage, and the expected rate of return on investment.

Figure 1 Aerial 3D view of the Project Site

FINANCIAL MODEL AND ANALYSIS

The financial feasibility of the project will be assessed by studying its investment, operation, maintenance, projected cash flows, and financial indicators.

Finalizing the Power Purchase Agreement (PPA) and establishing the tariff rate are critical steps that directly impact the project's revenue projections. The PPA outlines the terms under which the electricity generated by the solar plant will be sold, including the duration, pricing, and escalation clauses.

Once the PPA is finalized and the tariff rate is established, a comprehensive financial feasibility study can be conducted, assessing the project's financial feasibility, capital costs, operating expenses, revenue projections.

From the beginning of the project development to the execution of the project, the various costs determined could undergo slight variations. The costs of the investment can be changed based on the prices of services provided in Tanzania.

Figure 2 Cadastral Drawing of the Project Site

The capital costs outlined includes a variety of expenses necessary for constructing and commissioning the project. These costs are fundamental to the successful establishment of the project.

The largest share of the budget is dedicated to Engineering, Procurement, and Construction (EPC) services, totaling around USD 3.530.000, which highlights the project's commitment to quality and reliability in building the solar infrastructure. Additionally, funds are allocated for grid connection and project development.

Development costs feature in the capital costs, covering crucial preparatory work such as environmental studies, legal advisories, and administrative fees.

The table below presents a summary of capital costs of the project.

Table 1 Capital Costs

Capital costs			
CAPEX			
EPC	USD	3.530.000	
Development cost	USD	150.000	
Grid connection	USD	150.000	
Total CAPEX	**USD**	**3.830.000**	
Development costs		*Estimated*	
Land acquisition and Improvement	USD	42.000	
Permitting related costs	USD	18.000	
Development studies	USD	54.000	
Legal advisory	USD	12.000	
SPV Costs	USD	24.000	
Total	USD	**150.000**	

In addition to the primary expenditures on construction and equipment, the project encompasses various supplementary costs essential for its success. These include oversight during the construction phase, provisions for unforeseen expenses (contingencies), and comprehensive insurance policies tailored to address risks inherent in the construction process.

The contingencies are strategically allocated to underscore the importance of executing the project with the established timeline and budget.

Insurance policies are specifically tailored to mitigate risks associated with construction, covering potential property damage, liability concerns, and project delays. It is projected that 1% of the total project cost will be allocated

to insurance costs, ensuring comprehensive coverage and financial protection during of the construction of the project.

The project's operating expenses (OPEX) are estimated to ensure efficient running once operational. The maintenance and operation costs can vary according to the size of the plant, the specific equipment and the complexity of the final project.

These expenses include a fixed amount for operations and maintenance (O&M) set at USD 65.000 and asset management fees of USD 50.000, annually. Asset management fees correspond to the overall management and fiscal oversight of the project's assets.

During the operational phase, insurance costs are carefully estimated to be 0.5% of the EPC cost, which is a measure put in place to safeguard against operational risks, ensuring the project's financial stability and continuity. Insurance costs are projected as approximately USD 20.000.

The total annual O&M costs add up to USD 135.000. An escalation rate of 1,35% per year is applied to these O&M costs to account for inflation and the rising cost of services over time, ensuring that the project's financial planning remains realistic in the long term.

The expected operation and maintenance assumptions are shown in the table below.

Table 2 Operation and maintenance costs of the SPP

OPEX assumptions			
	Per Year		
Fixed O&M	USD	65.000	*Estimate*
Insurance	USD	20.000	*0,5% of EPC*
Asset management	USD	50.000	
Total O&M	**USD**	**135.000**	
Escalation Rate applied to O&M	% per year	1,35%	

The financing assumptions for the project are structured to ensure a balanced financial foundation. The project's total financing is divided between 30% equity, and 70% debt.

The senior debt is structured with a maturity of 15 years, incorporating an 18-month grace period covering the construction phase.

The senior debt is with interest rates set at 7,70% per annum, a commitment fee of 0,30%, and a front-end fee of 1,70%.

Below table is the technical assumptions of the project from the projects' technical pre-feasibility study.

Table 3 Technical assumptions

Technical assumptions			
Mega Watt peak (Nominal Power)	MWp	6,01	
Produced Energy (Inverter Output)	kWh/kWp/day	5,52	
Loss (Total)	kWh/kWp/day	1,01	
Generation	kWh	12.116.000	*From TPFS*
P-50	kWh	12.116.000	*From TPFS*
P-90	kWh	11.836.000	*From TPFS*
Availability	%	100%	*Estimate*
Annual production degradation	% p.a.	0%	
Generation			*Monthly Energy output/total energy output (From TPFS)*
January	%	7,34%	
February	%	7,19%	
March	%	8,27%	
April	%	8,54%	
May	%	8,68%	
June	%	8,57%	
July	%	8,85%	
August	%	9,18%	
September	%	8,80%	
October	%	8,72%	
November	%	8,03%	
December	%	7,83%	

The construction phase is planned to last 12 months, with an overall analysis period of 20 years, ensuring a long-term perspective on the project's performance and financial return.

Table 4 Timing assumptions

Timing assumptions	Units	Total	
# months of construction	#	12	
#Years of analysis	Years	20	

The financing and the tariff assumptions can be seen on the table below.

Table 5 Financing assumptions and the Tariff

Financing assumptions			
Percentage of senior debt in total construction financing	%	70.00%	*Assumption*
Percentage of equity in total construction financing	%	30.00%	
Senior debt 1			
Maturity	#Years	15	
Grace period: # of months after construction Period	Months	6	
Grace period (incl. construction time)	#Months	18	
Debt service periodicity	#Months	6	*Assumption*
Senior debt 1 Interest Rate and Fees Assumptions			
All-in interest rate	% p.a.	7.70%	*Assumption excluding concessional funding*
Commitment fee	% p.a.	0.30%	
Front-end-fee	%	1.70%	
#days in the period for interest calc.	days	360	
Repayment method	Switch	Sculpted	
Tariff			
Tariff	cUSD per kWh	7	*From the TPFS*
Tariff Escalation	% p.a.	0,0%	

The financing analysis of the project presumed the total project costs to cover this cost with 30% equity, and an allocation of 70% for senior debt.

The senior debt's duration is designated as 15 years. A grace interval of 6 months subsequent to the construction phase is determined before the initiation of repayment obligations. This interval extends to 18 months when considering the construction duration.

Interest rates and fees associated with the senior debt are established at 7.70% per annum, deliberately excluding any concessional funding options. The commitment fee is set at 0.30% per annum, accompanied by a one-off front-end fee of 1.70%. The interest calculation is predicated on a 360-day year. The repayment approach is articulated as "Sculpted", signifying the adjustment of repayments in line with the project's cash flow dynamics.

The tariff is recorded at 7 centUSD per kWh, as mentioned in the Technical Pre-feasibility Study. The tariff is stipulated to remain constant over time, as indicated without annual escalation rate.

The IRR calculation for the project, after considering operational expenditures (OPEX), indicates an annualized return rate. This figure results from an initial investment, countered by annual net earnings after accounting for OPEX from the gross revenue generated by 12.116.000 kWh at a rate of 7 cents per kWh. The IRR reflects the project's efficiency in generating profit over a 15-year debt maturity period, incorporating both capital expenditure and operational costs.

The financing analysis of the project can be seen on the table below.

Table 6 Financing Analysis

	Units	Total	*Comments*
Financing			
Total Equity	USD'000	1.149	30%
Total Debt	USD'000	2.681	70%
Debt maturity	#Years	15	
Grace period (incl. construction time)	#Months	18	
Returns			
IRR	%	16,55%	
Shareholder IRR pay-back period	Years	6,4	
Generation	Gwh/year	12,12	*From TPFS*
Average Tariff	cUSD/kWh	7,0	*Escalation rate of 0 %*
Uses of Funds (Detail)	USD'000		
Non-financing costs			
EPC	3.530	%92	
Development costs	150	%4	
Grid connection	150	%4	

Financing costs			
Senior debt 1 Commitment fee	8	0.3%	
Senior debt 1 Front-end-fee	45	1,7%	
Senior debt 1 Interest payments during construction	54	2%	
Political Risk Premium during construction	-	-	
Pre-funding of DSRA	107	4%	
Bank and FX transfer costs during construction	27	1%	
Contingency provision	195	4%	
Insurance	40	1%	

The analysis mentions an average annual electricity generation of 12,11 GWh and an average tariff of 7,0 cents per kWh.

In terms of returns, the project anticipates a Internal Rate of Return (IRR) of 16,55%. The estimated payback period for the energy project, given the calculations, is approximately 6,4 years.

The majority of the costs is allocated to non-financing costs. This includes EPC of the plant (%94), development costs (%4) and the grid connection (%4).

The project budget covers the costs during the construction phase under the SPV (Special Purpose Vehicle) budget and includes development costs.

Pre-funding of the Debt Service Reserve Account (DSRA) is a financial safeguard used in project financing and other types of loans. It involves setting aside a specific amount of money into a reserve account to cover future debt service payments for a predetermined period. This is typically required by lenders to mitigate the risk of default by ensuring that there are funds readily available to make interest and principal payments on the debt in case the project experiences cash flow issues.

The DSRA acts as a buffer for lenders, providing additional security and enhancing the creditworthiness of the project. For the project, the DSRA is USD 107.000 accounting for approximately %4 of the project cost.

The Average Debt Service Coverage Ratio (DSCR) is about 2.57. This ratio signifies that the project's net operating income is more than twice the annual debt service, indicating a strong ability to cover debt payments with its earnings.

The analysis presently excludes considerations of fiscal implications or advantages potentially emanating from the tax framework of Tanzania, notably concerning corporate income tax, Value Added Tax (VAT)

exemptions, import duties, and additional fiscal incentives to projects in the renewable energy sector.

In the framework of Tanzanian tax laws, depreciation is viewed as an allowable deduction. This implies that the project's gross income will be deducted from the amount of the depreciation expense, thereby reducing their taxable income and, subsequently, their tax obligation.

To calculate the influence of depreciation on taxable income, under the Tanzanian tax regulations, it's essential to recognize that depreciation expenses are deducted from the gross income. A further evaluation that integrates the pertinent tax legislation and regulations of Tanzania will be completed in the further studies.

The working capital assumptions for the project involve managing receivables and payables within a 30-day period, can be seen in the table below.

Table 7 Working capital assumptions

Working capital assumptions			
Receivable Days	days	30	*Assumption*
Payable Days	days	30	

Below is the free cash flow diagram of the project until 2030, assuming the start of constrcution in September 2024, and commissioning in September 2025.

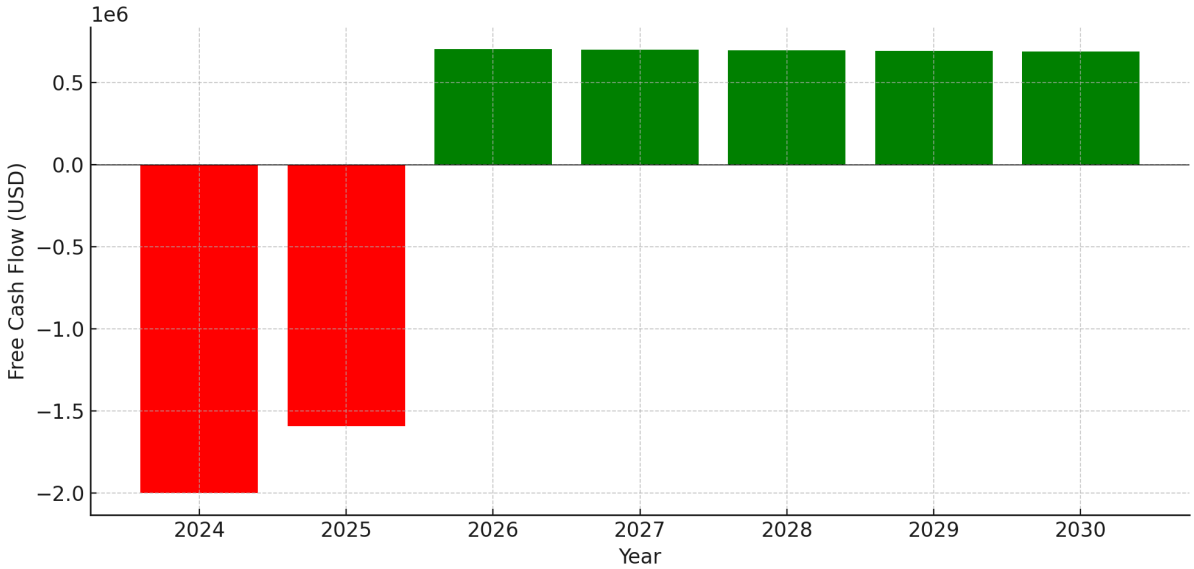

Figure 3 Free cash flow from 2024 to 2030

CONCLUSION

The Utambalila 5MWac Solar Power Plant Project, located in the Songwe region of Tanzania, represents a significant investment in renewable energy infrastructure. This project is aligned with Tanzania's National Development Plan, which targets an installed power capacity of 5,7GW by 2025, with a substantial focus on renewable energy sources.

The financial analysis of the Utambalila Solar Power Plant Project outlines a model that includes capital costs, operating expenses, revenue projections, and key financial indicators.

The project's Engineering, Procurement, and Construction (EPC) services constituting the largest expense at USD 3,53 million. Other significant expenses include grid connection, a special purpose vehicle (SPV) budget during construction, contingency provisions, insurance, and development costs.

Key financial metrics for the project include an IRR of 16.55% and a s pay-back period of 6,4 years. The calculations do not account for any tax-related expenses or savings that could arise from Tanzania's tax policies, including but not limited to corporate income tax, VAT exemptions, import duties, and other tax incentives related to renewable energy projects.

The project is expected to generate 12,12 GWh per year, with an average tariff of 7,0 cents USD/kWh.

The financing structure of the project includes both equity and debt, with an emphasis on maintaining a balance to optimize the cost of capital and ensure a sustainable rate of return on investment.

The project also includes a pre-funding of the Debt Service Reserve Account (DSRA) accounts for 4% of the total project cost, which serves as a financial safeguard to cover future debt service payments, enhancing the project's creditworthiness and providing additional security to lenders.

With an average Debt Service Coverage Ratio (DSCR) of 2,57, the project demonstrates a strong ability to cover debt payments with its earnings. This high DSCR indicates the project's financial viability and its capacity to withstand financial uncertainties.

The financial analysis and business model for the Utambalila Solar Power Plant Project underscore its potential to contribute to Tanzania's renewable energy capacity, aligning with national energy goals and promoting sustainable development in the region.