

Uganda: Renewable Energy Cooling and Processing for the Food Industry

Model Business Case: Standalone Solar Cold Storage Business



INTRODUCTION

This Model Business Case (MBC) analyses the financial viability of a provider of solar cold storage solutions in Uganda, considering a hypothetical launch of a business (the Company) providing containerised solar-powered cold storage units of (3) metric tonnes (MT) capacity to cooperatives of fruit and vegetable farmers in the country.¹ The cold storage solutions are provided under two different scenarios: (i) outright cash purchase/direct ownership, whereby the farmer cooperative pays the Company in full upfront for the system; and (ii) Pay-As-You-Store (PAYS), whereby the farmers pay a daily or monthly fee to the Company to store produce in the container.

Farmers and fisherfolk across Africa lose up to 30-40% of their revenue due to spoilage in the post-harvest phase, mainly due to a lack of cold storage infrastructure.² Today, clean energy innovators are developing cold storage

technologies and business models to address this challenge, which, if resolved, would result in huge economic gains for smallholder farmers across the continent.

The PAYS model (one of the models presented in this MBC) appears to have significant potential and represents a win-win for both the renewable energy company as well as the farmers/aggregators in need of cold storage services. Under this model, the Company retains ownership of the capital equipment and exploits that equipment over its lifetime (rather than merely earning a margin from its sale). The model also benefits from the mobility of the technology – i.e., the Company can move the cold storage unit seasonally to where farmers are most in need of these services. On the other hand, under the cash purchase/direct ownership model, the Company sells the cold storage system to the cooperative for a one-time payment and the cooperative owns and operates the equipment. The cooperative may obtain a grant or loan from a bank or microfinance institution to acquire the system.

- 1) Each unit is the size of a 20-foot container.
- 2) Please refer to the Developer Guide to Renewable Energy Cooling and Processing for the Food Industry in Uganda that was published together with this Model Business Case.

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TARGET AUDIENCE

A detailed financial analysis of the first 10 years of the Company was conducted to determine its profitability and its ability to adequately service debt while providing attractive returns to investors. The target audience of this MBC includes entrepreneurs and investors considering a new solar cold storage business as well as development partners, governments and DFIs. This business case was prepared based on the local context of the Ugandan market but can also be adapted to other countries across Sub-Saharan Africa.

KEY ASSUMPTIONS

This MBC is based on several assumptions, which are described below. The assumptions and key parameters of the analysis are mainly based on publicly available information gathered through desk research, as well as interviews with local stakeholders in Uganda. A detailed feasibility study would be required to determine the actual applicable costs and operational parameters for specific ventures.

Company structure assumptions

The Company is assumed to be a solar cold storage solutions provider that imports products from an international manufacturer/supplier/technology partner. The Company offers only one product – a 3 MT capacity containerised solar

cold room (a “walk-in” unit)³ that is 19.8m³ – with local staff directly handling daily on-the-ground operations. Under the PAYS scenario, the Company pays a back-end fee to its technology partner for software services that enable remote monitoring and control of the systems as well as payment collection. The Company is also integrated with local mobile money payment platforms to collect payments from its PAYS customers. It is assumed that the Company is just starting up and does not have previous experience or existing operations in Uganda.

Sales and market inputs

It is assumed that within 10 years, the Company will capture 10% of the total addressable market size of 1,330 cold storage units,⁴ meaning that the Company will deploy a total of 133 cold storage units. Based on these assumptions, **Table 1** presents the Company’s year-on-year sales growth assumptions over the analysed 10-year period.⁵

TABLE 1. Annual sales growth assumptions

INDICATOR	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
New systems deployed	2	4	7	11	15	18	18	18	20	20
Cumulative systems deployed	2	6	13	24	39	57	75	93	113	133
Market served	0.2%	0.5%	1%	2%	3%	4%	6%	7%	8%	10%

3) 5 or 10 MT units might be more appropriate and provided, depending on the market.

4) For more details on the market sizing, please refer to the Developer Guide to Renewable Energy Cooling and Processing for the Food Industry in Uganda that was published together with this Model Business Case.

5) These are hypothetical values assuming the Company grows at a moderate pace from year-to-year but at a declining rate as the market becomes saturated.

Technical and PAYS demand assumptions

Table 2 presents the assumptions related to the technical parameters of the solar cold storage systems and the PAYS customer demand characteristics.

TABLE 2. Technical and PAYS demand assumptions

PARAMETERS	UNIT	VALUE
SOLAR COOLING SYSTEM TECHNICAL ASSUMPTIONS⁶		
Solar-battery system capacity	kWh/Day	5.7
Cold room capacity	MT/day	3
Cold room volume	m ³	19.8
Cold room volume	Cubic Feet	700
Solar system lifetime	Years	20
Battery lifetime	Years	7
PAYS COOLING DEMAND ASSUMPTIONS		
Average MT of vegetable and fruit stored daily per system	MT/day	2.4 ⁷
Average number of storage days per year	#	270 ⁸
Annual utilisation rate (accounting for seasonality)	%	59.2% ⁹

Macro-economic assumptions

The Euro (EUR) to Ugandan Shilling (UGX) exchange rate is assumed to be UGX 3,929.1.¹⁰ Annual inflation is assumed to be 5% based on projections for Uganda,¹¹ while the annual UGX/EUR depreciation rate is assumed to be 2%.¹²

- 6) Engineering for Change: Cold Hubs: <https://www.engineeringforchange.org/solutions/product/cold-hubs/>
- 7) Assuming 80% of the system capacity is utilised daily, on average. Based on local stakeholder consultations, systems provided to contract farmers, farmers associations, markets, exporters' pack houses, etc typically have high utilisation rates.
- 8) Malins, A., and Blowfield, M., "Ethical Trade and Sustainable Rural Livelihoods - Case Studies: Fruits of the Nile, Fairtrade Processing case study," Natural Resources Institute, University of Greenwich, (2000): <http://projects.nri.org/nret/fruitnil.pdf>
- 9) Derived by multiplying the average MT of vegetable and fruit stored daily per system by the average number of storage days per year divided by the total annual cold room storage capacity.
- 10) Currency conversion as of January 2023: <https://www1.oanda.com/currency/converter/>
- 11) Link: <https://tradingeconomics.com/uganda/inflation-cpi-> accessed May, 2023.
- 12) Calculated based on UGX/EUR historical exchange rate data.

Capital cost assumptions

The solar cold storage systems are assumed to cost EUR 26,162 per unit.¹³ This estimate is inclusive of system procurement costs, system shipping costs, import duty, and Value-Added Tax (VAT). The system cost is assumed to reduce by 3% annually as global solar prices drop.¹⁴ Other capital costs, including the cost of developing a local office and call centre, warehouse, retail locations and vehicle purchase, are assumed to total EUR 75,000 in year 1 under both scenarios, while an additional EUR 3,000 is assumed for each new system deployed under the PAYS scenario.¹⁵

- 13) ColdHubs: <https://www.engineeringforchange.org/solutions/product/cold-hubs/>
- 14) "Zambia: Solar PV and Hydro Mini-Grids: Model Business Case: Solar PV Mini-Grid for Rural Electrification," GET.invest Market Insights, (2020): https://www.get-invest.eu/wp-content/uploads/2020/10/GETinvest-Market-Insights_ZMB_Mini-grid_-MBC-Solar_2019-1.pdf
- 15) It is assumed that no additional real property development costs will be required under the cash scenario since ongoing operation and maintenance support will not be provided, while additional investments in vehicles, outlets etc. will be required for the operation and maintenance of the PAYS systems.

The PAYS cooling systems depreciate over 10 years at a rate of 10% per year,¹⁶ while the other capital costs depreciate over 5 years at a rate of 20% per year.¹⁷

Cost of goods sold/cost of sales and operating expenses

Table 3 presents the Cost of Goods Sold (COGS) and operating cost assumptions for the Company. It is also assumed that the operating costs will escalate by 5% annually in line with inflation.

TABLE 3. COGS and operating cost assumptions¹⁸

COST OF GOODS SOLD			
COST DESCRIPTION	UNIT	ANNUAL COST (CASH)	ANNUAL COST (PAYS)
Mobile money costs	% of Revenue	-	1%
Back-end-fees	% of Revenue	-	2%
Repairs/maintenance cost	% of System Cost	-	2%
Commissions	% of Revenue	5%	5%
OPERATING COSTS			
Mobile money integration – PAYS (Year 1)	EUR	0	30,000 ¹⁹
Human resources	% of Revenue	6%	12%
Marketing and professional services ²⁰	% of Revenue	2%	4%
Other overhead costs	EUR/Year	10,000	50,000
COMPONENT REPLACEMENT COSTS			
Battery replacement cost	EUR/Unit	-	4,275 ²¹

16) "Decentralised Solar Refrigeration: Opportunities in the Livelihood Appliances Market in India," GOGLA and Intellectap, (January 2021): <https://www.gogla.org/decentralised-solar-refrigeration-opportunities-in-the-livelihood-appliances-market-in-india/>

17) "Zambia: Stand-Alone Solar Businesses - Model Business Case: PAYGO Solar Home System Company in Zambia," GET.invest Market Insights, (2020): https://www.get-invest.eu/wp-content/uploads/2020/11/GETinvest-Market-Insights_ZMB_SHS_-MBC-PAYGO_2019.pdf

18) "Off-Grid Productive Use of Energy Catalogues" USAID Power Africa, (2020): <https://www.usaid.gov/powerafrica/beyondthegrid/off-grid-solar-market-assessments#PUecatalogs>

19) Zambia: Stand-Alone Solar Businesses - Model Business Case: PAYGO Solar Home System Company in Zambia.

20) Professional services include legal, audit, accounting, tax consulting and other advisory services.

21) Stakeholder interviews, 2022.

Taxes

A corporate income tax rate of 30% is used for the Company, with no tax holiday. A VAT rate of 18% is also incorporated into the cost of the cold storage components of the systems, while the solar PV components are VAT-exempt in line with Ugandan policy.²²

Revenue assumptions

The price of the solar cooling systems for the cash purchase scenario is assumed to be EUR 28,778,²³ while the daily storage fee for the PAYS scenario is assumed to be UGX 70 per kg/day.²⁴ The selling price under the cash purchase scenario is assumed to reduce by 3% annually in line with the assumed annual system cost reduction. In addition, it is assumed that the prices and fees charged will escalate by 5% annually in line with inflation.

Financing scenarios and debt assumptions

It is assumed that the Company will be financed with 60% grant and 40% equity in years 1 and 2; 45% grant, 30% equity and 25% debt in years 3 and 4; 20% grant, 30% equity and 50% debt in years 5 and 6; and 25% equity and 75% debt in years 7 to 10.²⁵ This yields the overall capital structure shown in **Table 4**. The expected return on equity is assumed to be 20%, on average, among various staged equity investors.²⁶

TABLE 4. 10-year capital structure

CAPITAL TYPE	CASH SCENARIO		PAYS SCENARIO	
	% OF CAPITAL	TOTAL AMOUNT (EUR MILLION)	% OF CAPITAL	TOTAL AMOUNT (EUR MILLION)
Debt	55.7%	€1.67	56.3	€1.94
Equity	28.1%	€0.84	28.0	€0.96
Grants	16.1%	€0.48	15.7	€0.54
Total	100%	€3.00	100%	€3.44

Two corporate debt financing options are considered for both the cash and PAYS scenarios: (i) EUR-denominated debt; and (ii) UGX-denominated debt. The EUR debt interest rate is assumed to be 8.5%, while the UGX debt interest rate is assumed to be 17%.²⁷ The debt term is assumed to be 2 years with no grace period under both scenarios. To keep the model simple, it is assumed that the loan terms will remain the same across all years under both scenarios. Based on these financing assumptions, the resulting Weighted Average Cost of Capital (WACC) of the Company is 9% under the EUR debt scenario, and 12.3% under the UGX debt scenario.

22) PwC: Uganda Taxes on Corporate Income (20 August 2021): <https://taxsummaries.pwc.com/uganda/corporate/taxes-on-corporate-income>;
 PwC: Uganda Value Added Tax (VAT), (20 August 2021): <https://taxsummaries.pwc.com/uganda/corporate/other-taxes>

23) Based on a cost mark-up assumption of 10%.

24) Based on a daily storage fee of US\$0.02 per kg. Source: Powering Renewable Energy Opportunities (PREO), 2021.

25) These are hypothetical assumptions in line with market reality that early-stage companies are more reliant on grant financing and risk tolerant early equity, while more mature businesses seek to leverage their equity financing to secure significant debt that will finance their consumer receivables and inventory finance needs.

26) Zambia: Stand-Alone Solar Businesses - Model Business Case: PAYGO Solar Home System Company in Zambia.

27) Daghish, J. "A Prefeasibility Analysis of a PV Mini Grid with Ice Plant on Buvu Island in Lake Victoria, KTH Unit of Energy Systems Analysis, Stockholm, Sweden, <https://www.diva-portal.org/smash/get/diva2:1372692/FULLTEXT01.pdf>; and Bank of Uganda - Commercial Bank interest rates and charges: https://www.bou.or.ug/bou/bouwebsite/bouwebsitecontent/Supervision/Banking_Charges/Supervision/banking_charges/2022/All/Commercial-Bank-Charges-as-at-April-01-2022.pdf

RESULTS

- Based on the assumptions described above, the financial analysis yielded the following conclusions:
- Under the PAYS scenario with EUR-denominated debt, the investment opportunity is very attractive with an after-tax equity IRR of 39.7% (well above the expected equity return of 20%) and Enterprise Value of EUR 3.5M.
- Under the PAYS scenario with UGX-denominated debt, the investment opportunity remains attractive but with lower investor returns with an after-tax equity IRR of 34.0% (above the expected equity return of 20%) and Enterprise Value of EUR 2.0M due to the high cost of local debt.
- Under the cash scenario with EUR-denominated debt, the investment opportunity is also attractive but to a lesser extent with an after-tax equity IRR of 32.0% (above the expected equity return of 20%) and Enterprise Value of EUR 0.7M.
- Under the cash scenario with UGX-denominated debt, the opportunity is not attractive with an after-tax equity IRR of 6.1% (below the expected equity return of 20%) and Enterprise Value of EUR 0.5M due to the high cost of local debt. The average net income is also negative, signifying that a higher cost mark-up is required.
- In all of the scenarios, the Company's minimum Debt Service Coverage Ratio (DSCR) is above the threshold of 1.2 typically required by lenders (meaning that the generated cashflows will be sufficient to service the corporate debt).

The results of the financial analysis are summarized in [Table 5](#).

TABLE 5. Financial analysis results

SOLAR-POWERED COLD STORAGE BUSINESS RESULTS SUMMARY				
INDICATOR	CASH SCENARIO		PAYS SCENARIO	
	EUR-DENOMINATED DEBT	UGX-DENOMINATED DEBT	EUR-DENOMINATED DEBT	UGX-DENOMINATED DEBT
Avg. annual revenue	€379,477		€780,558	
Avg. annual expenses ²⁸⁾	€352,882		€278,347	
Avg. EBITDA	€26,595		€502,212	
Avg. net income	€508	€-9,662	€222,427	€211,516
Total free cashflow to firm	€589,491		€1.07M	
After tax equity IRR	32.0%	6.1%	39.7%	34.0%
Enterprise value ²⁹⁾	€703,907	€522,739	€3.46M	€1.97M
Positive cum FCFE year	4	4	10	10
Positive cum FCFF year	2	2	8	8
Avg DSCR	2.73	2.52	2.08	1.95
Min DSCR	1.35	1.29	1.72	1.62

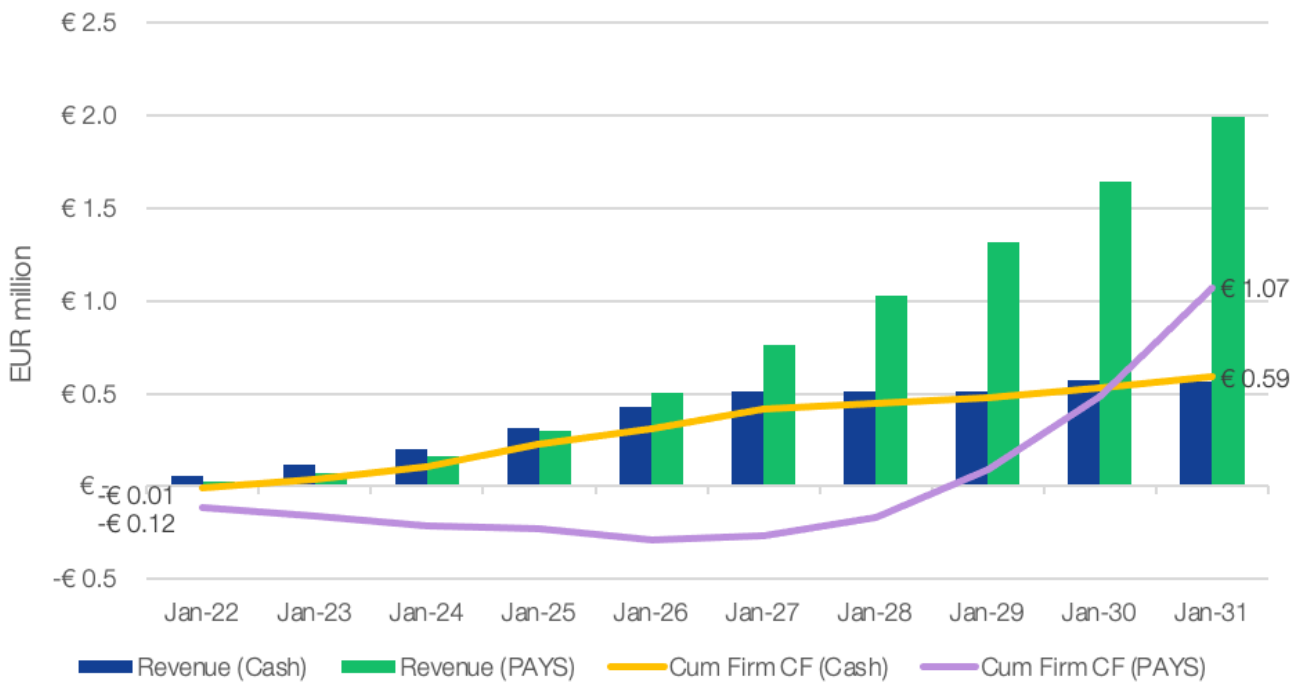
28) Includes COGS and operating expenses.

29) Includes the Terminal Value of the Company, which was derived based on a conservative perpetual growth rate assumption of 0%. The Terminal Value represents the value of future cash flows to be generated by the Company beyond the 10-year projection period.

Figure 1 illustrates the difference in annual revenues and cumulative free cash flow to firm under the cash and PAYS scenarios with EUR-denominated debt. As shown, the Company generates incrementally higher revenues under the PAYS scenario than the cash scenario as it continues to obtain payments from the growing number of deployed systems as opposed to a one-time payment.

The Company's cumulative free cash flow to firm under the PAYS scenario is about double that of the cash scenario. However, due to higher capital expenditure, the Company will not become cashflow positive under the PAYS scenario until the eighth year, as opposed to achieving cashflow positivity in the second year under the cash scenario. It should be noted that under the cash scenario, the cost of the systems is treated as COGS, as the business is essentially functioning as a retailer of the systems, while under the PAYS scenario, the company owns the systems and thus the cost is treated as capital expenditure (CAPEX).

FIGURE 1. Cash vs. PAYS cashflow



SENSITIVITY ANALYSIS

A sensitivity analysis was conducted to determine the impact of change in key assumptions on the equity IRR and DSCR as measures of the attractiveness of the business under both the PAYS and cash scenarios. It is assumed that the required rate of return for equity investors to consider the opportunity attractive is 20%. The results of the sensitivity analysis, assuming the Company is financed with EUR-denominated debt, are presented below. The debt interest rate and capacity utilisation scenarios show sensitivity analysis results for both the EUR-denominated debt and UGX-denominated debt.

Storage fee and grant scenarios (PAYS)

Figure 2 and Figure 3 show the impact of increases in the daily storage fee and grants on EIRR under the PAYS scenario, with and without price inflation respectively. The results show that the required EIRR can only be achieved without grants if the storage fee is at least UGX 71.6/kg (above the assumed fee of UGX 70/kg), if the storage fees paid by the farmers escalate annually as assumed. On the other hand, if the storage fees remain fixed, the required EIRR cannot be achieved without grants at the storage fee levels considered. This indicates that the Company will need grant funding in order to charge affordable storage fees under the PAYS model.

FIGURE 2. Storage fee and grant scenarios - with inflation (PAYS)

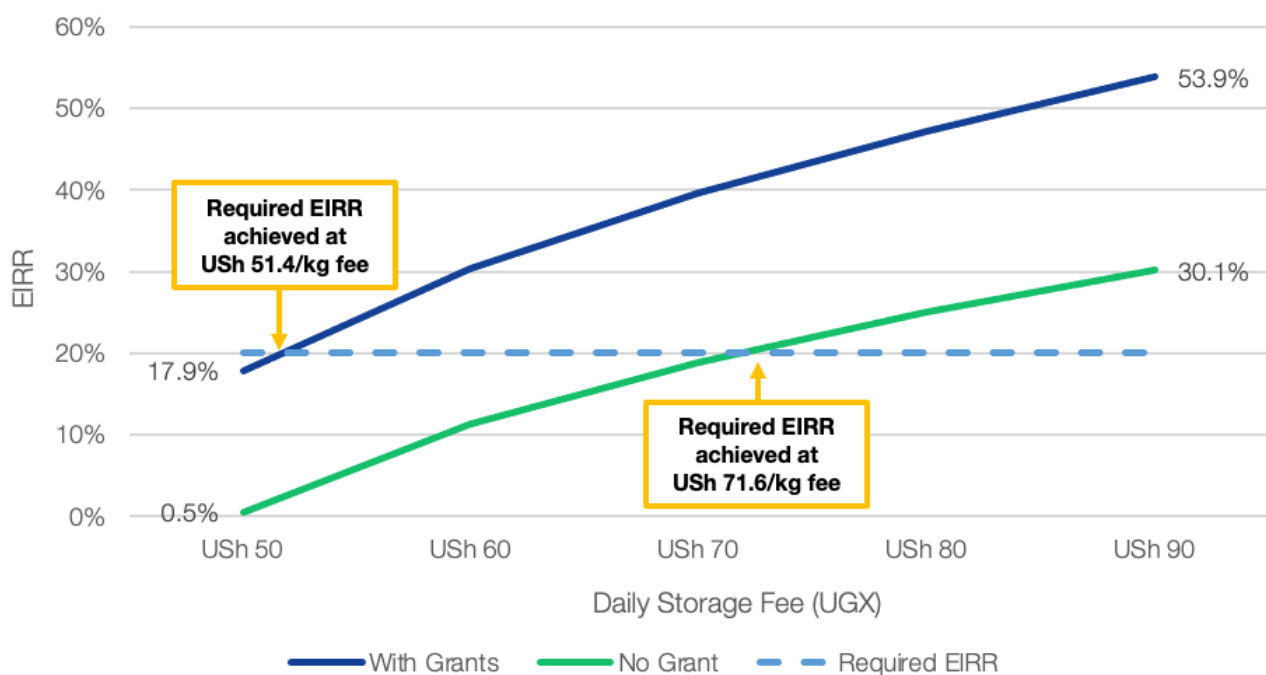
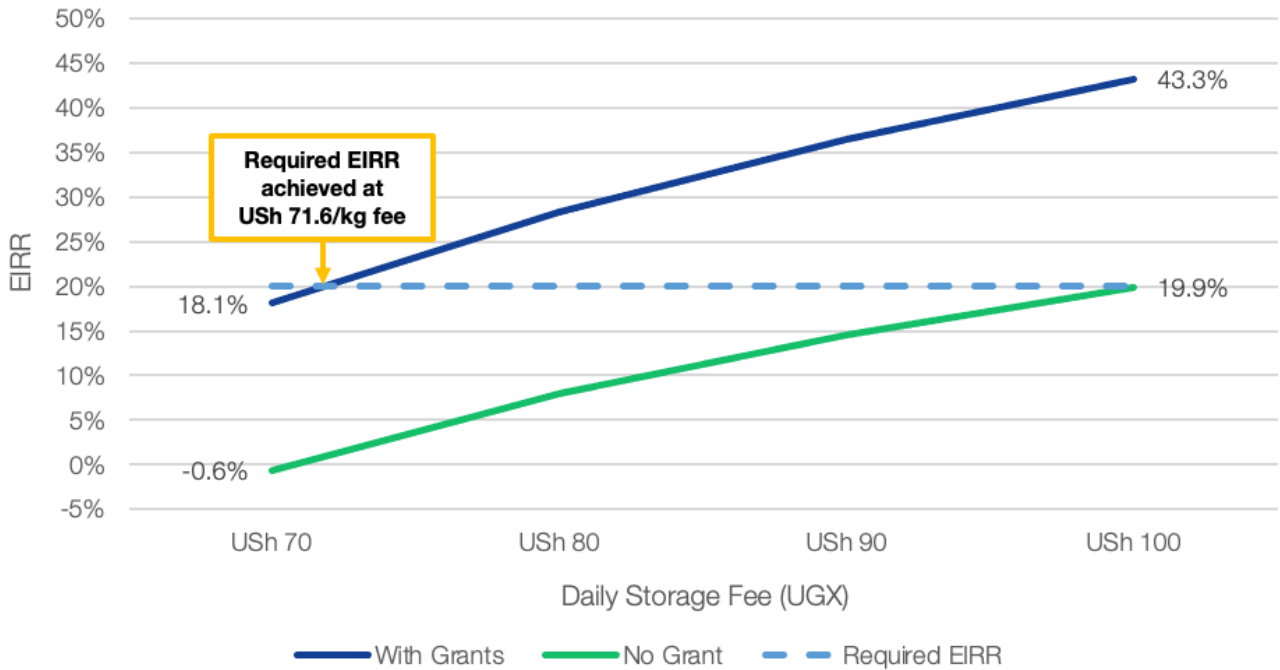


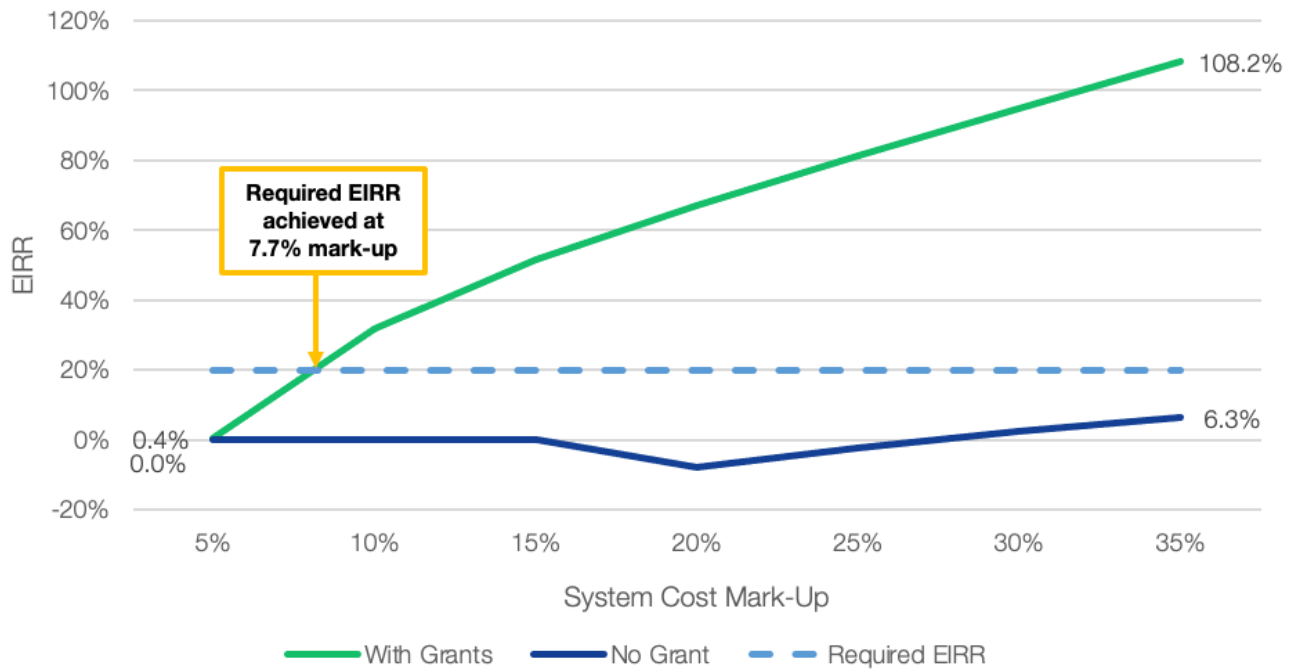
FIGURE 3. Storage fee and grant scenarios - no inflation (PAYS)



System price and grant scenarios (cash)

Figure 4 illustrates the impact of increases in system prices and grants on EIRR under the cash scenario with annual price inflation. The analysis found that the required EIRR cannot be achieved without grants at the system selling price levels considered – an initial cost mark-up of at least 56.3% (resulting in a price of EUR 40,890) will be required. This indicates that the Company will also need grant funding under the cash purchase model in order to sell at affordable price levels.

FIGURE 4. System pricing and grant scenarios - with inflation (cash)



Capacity utilisation scenarios (PAYS)

Figure 5 and Figure 6 show the impact of increases in the annual capacity utilisation rate of the PAYS cooling systems with and without price inflation respectively. The analysis found that the required EIRR can be achieved if the annual capacity utilisation rate is at least 43% under the EUR-denominated debt scenario and at least 48% under the UGX-denominated debt scenario (both lower than the assumed utilization rate of 59.2%) if the storage fees paid by the farmers escalate annually as assumed.

On the other hand, if the storage fees remain fixed, the required EIRR will only be achieved if the annual capacity utilisation rate is at least 60.5% under the EUR-denominated debt scenario and at least 65.8% under the UGX-denominated debt scenario (both higher than the assumed utilization rate of 59.2%). This indicates that the viability of the PAYS opportunity relies heavily on the ability of the Company to achieve and sustain decent capacity utilisation rates

FIGURE 5. Capacity utilisation scenarios - with inflation

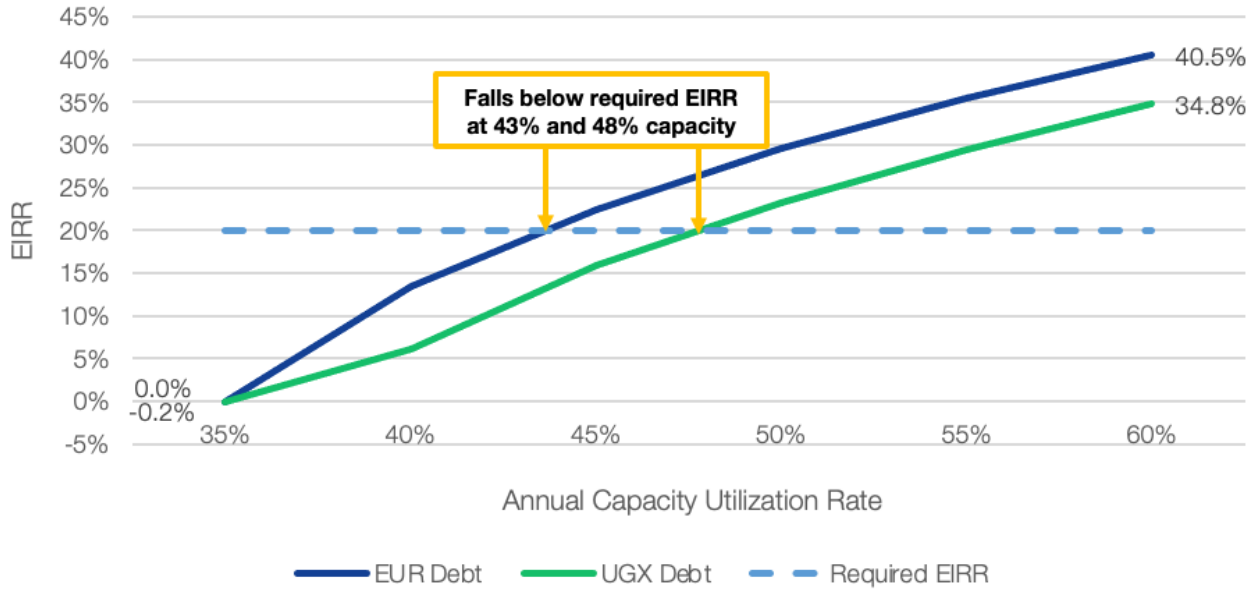
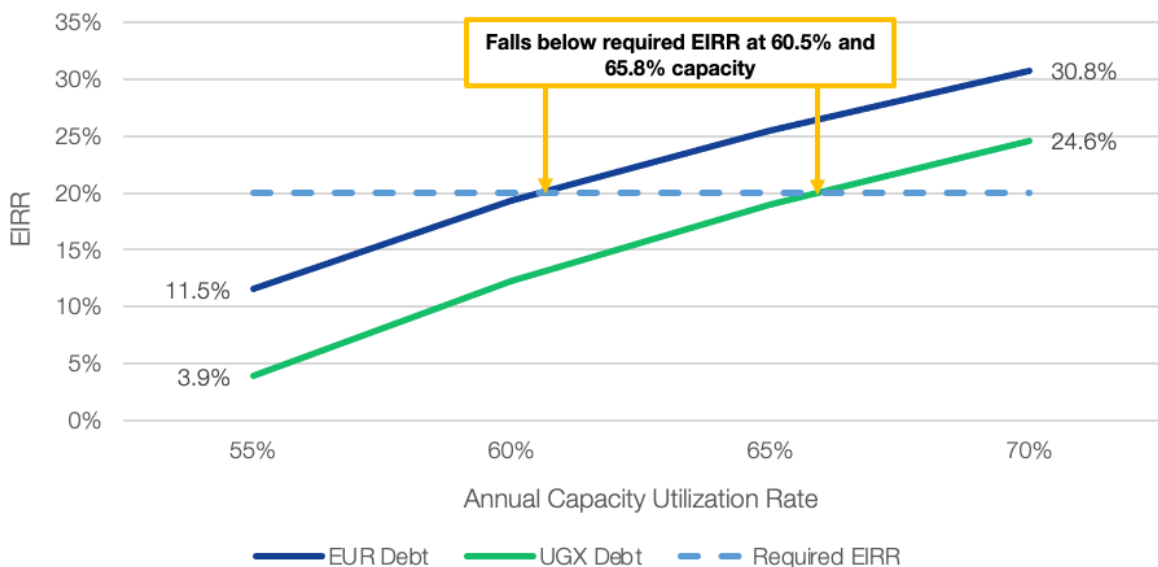


FIGURE 6. Capacity utilisation scenarios - no inflation



Debt interest rate scenarios

Figure 7 and Figure 8 show the impact of increases in both the EUR-denominated and UGX-denominated debt interest rates on EIRR and DSCR, respectively. The analysis found that the required EIRR will be comfortably achieved at the interest rates considered under the PAYS scenario. However, under the cash scenario, it will only be achieved with EUR-denominated debt priced at a maximum of 12.9% (which is above the assumed 8.5% rate) and

UGX-denominated debt priced at a maximum of 13.5% (which is below the assumed 17% rate), indicating that concessional pricing is required. The analysis also revealed that the minimum DSCR threshold will be achieved at the interest rates considered, indicating that the Company has a healthy debt burden. Due to the assumed short debt tenor, the effect of local currency depreciation on foreign currency debt is minimal.

FIGURE 7. Equity IRR at various debt interest rates

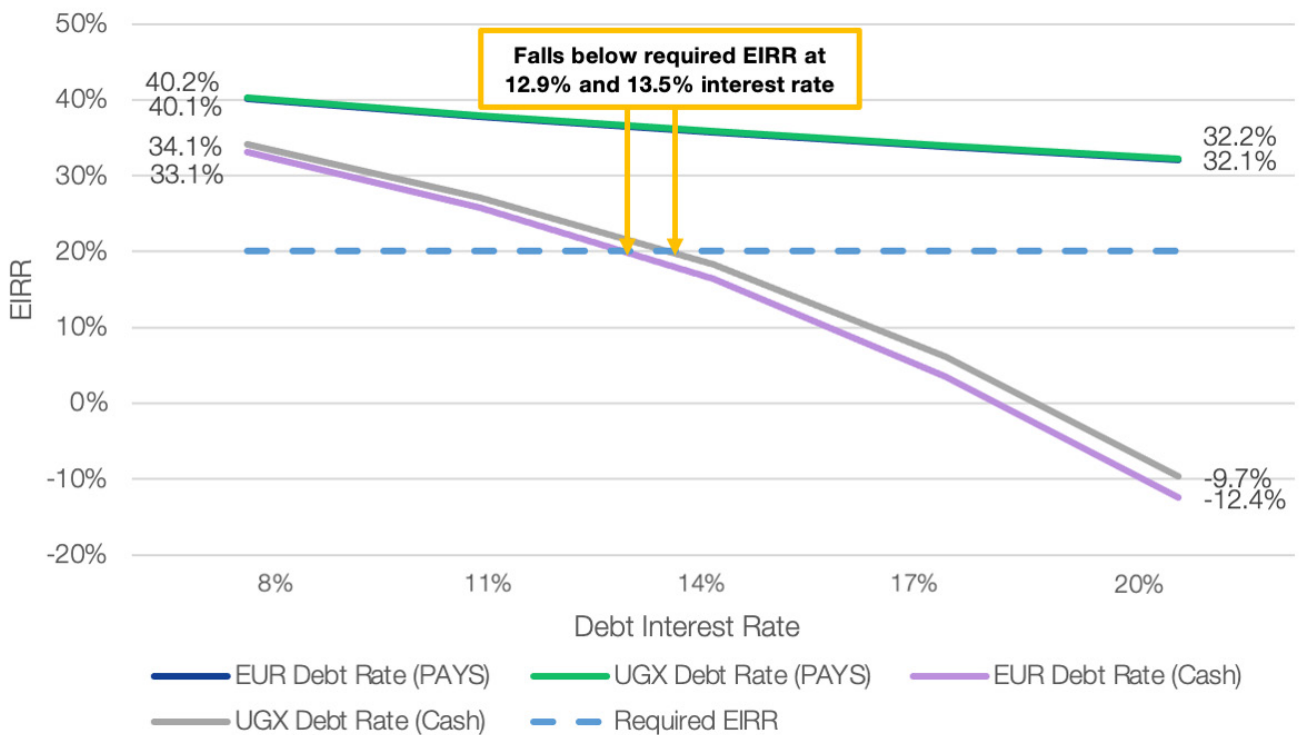
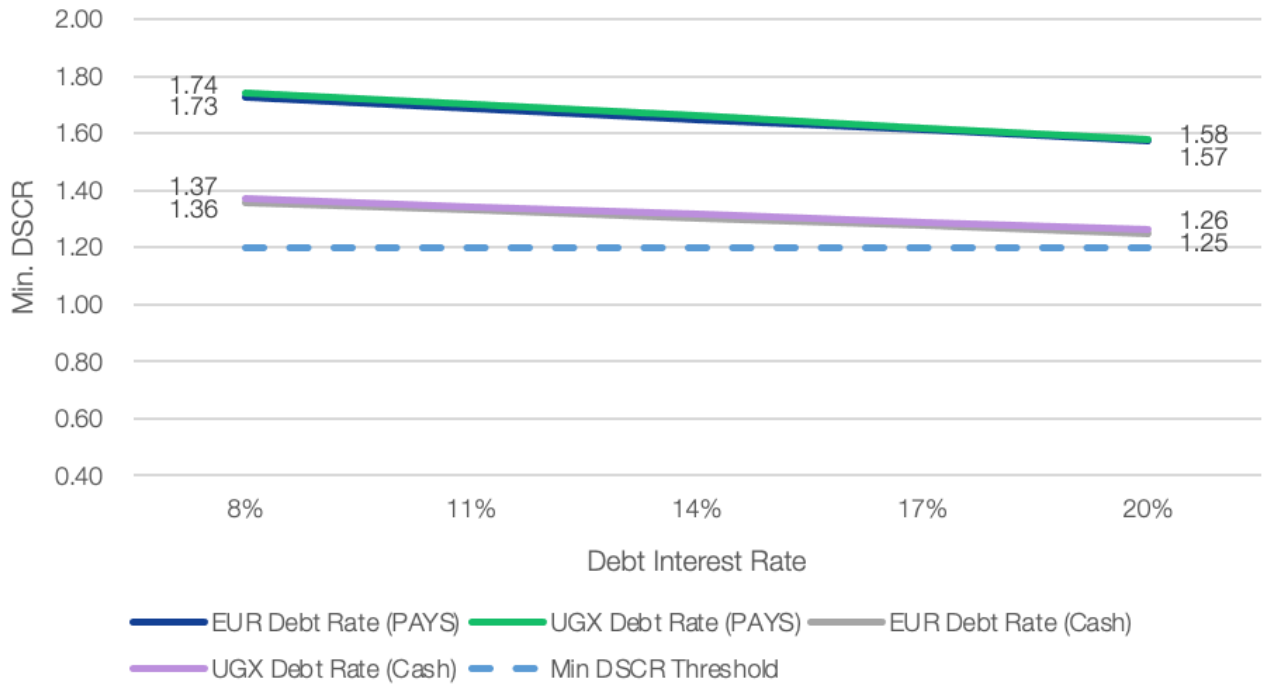


FIGURE 8. Minimum debt service coverage ratio at various debt interest rates



CAPEX, COGS and OPEX scenarios

Figure 9 and Figure 10 illustrate the impact of changes in CAPEX, COGS and OPEX on EIRR under the PAYS and cash scenarios, respectively. For the PAYS scenario, the analysis shows that the required EIRR will be achieved unless CAPEX increases significantly by more than 43% while COGS and OPEX

remain unchanged, indicating insensitivity to minor system cost increases. For the cash scenario, due to thin profit margins, any increase in the COGS and OPEX above 1.9% will render the Company unviable, indicating that a higher cost mark-up is required beyond the assumed 10% level.

FIGURE 9. CAPEX and OPEX scenarios - PAYS

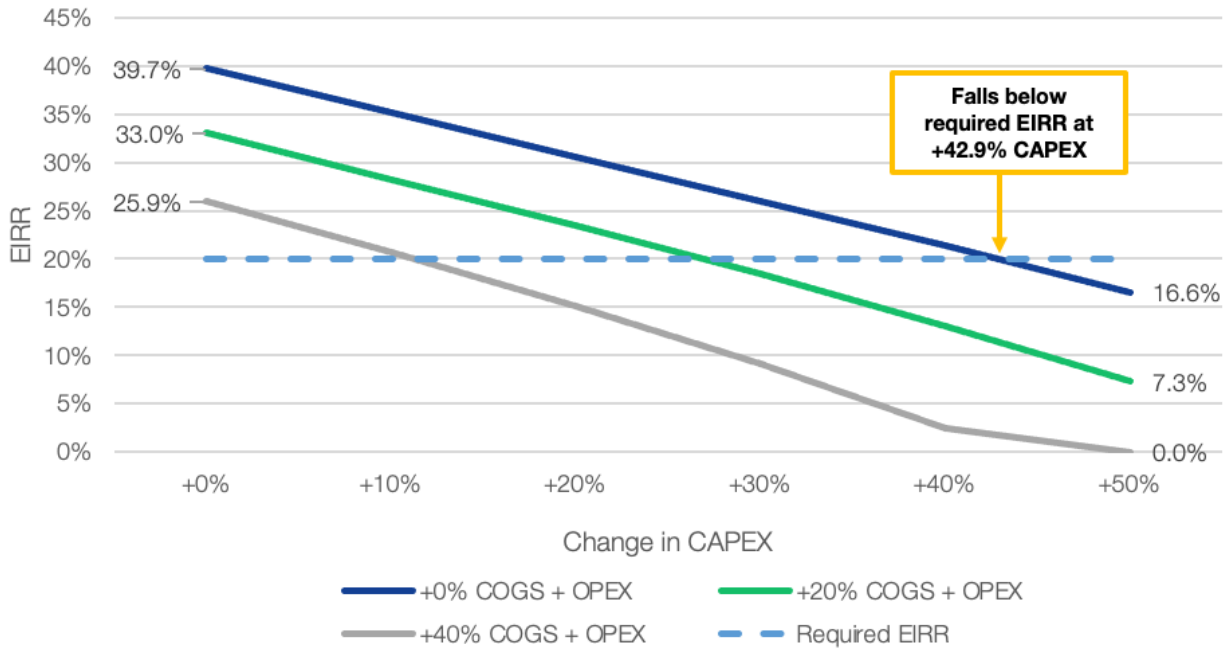
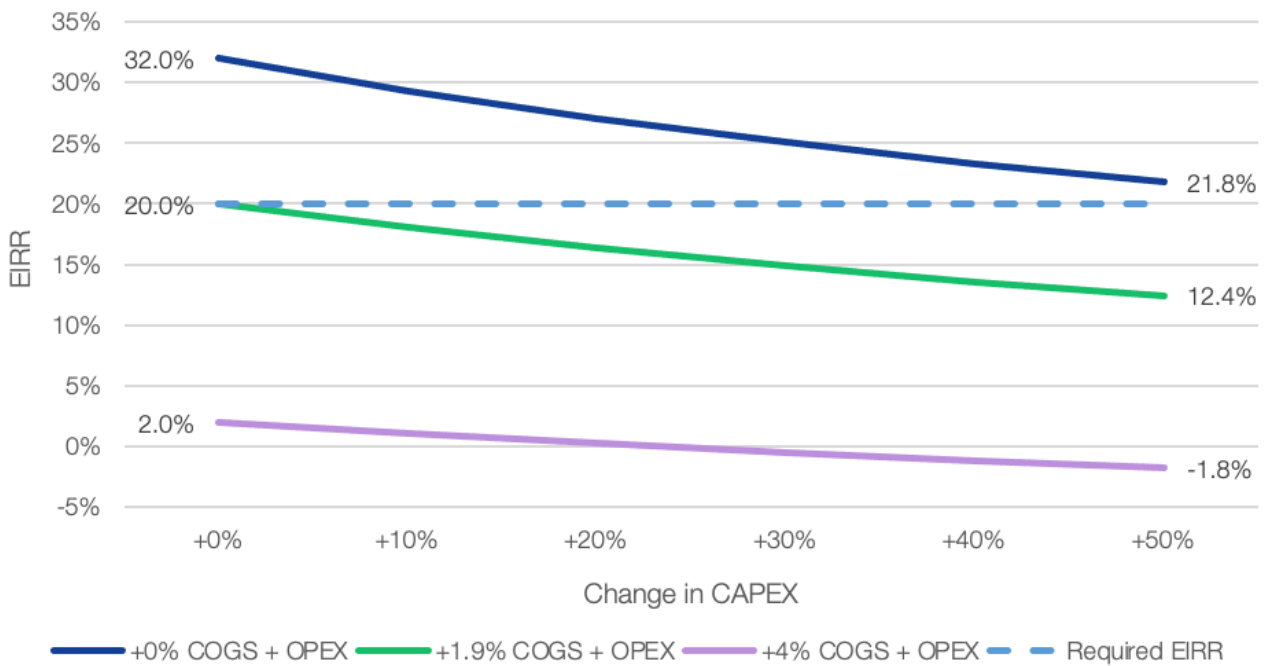


FIGURE 10. CAPEX and OPEX scenarios - cash



Local currency depreciation and inflation scenarios

Figure 11 and Figure 12 show the impact of increases in the local currency depreciation rate and inflation rate on EIRR under the PAYS and cash scenarios, respectively. Under the PAYS scenario, the analysis found that without revenue and cost escalation (i.e., 0% inflation rate), the required EIRR will only be achieved if the local currency annual depreciation rate does not exceed 1.7% (which is below the projected average annual depreciation

of 2%). Under the cash scenario, the analysis revealed that the required EIRR will only be achieved with annual price escalation of at least 2.6%, even if the local currency does not depreciate. This indicates that the viability of the Company will depend on the volatility of the Ugandan Shilling and its ability to increase prices, particularly under the cash scenario.

FIGURE 11. Local currency depreciation and inflation scenarios - PAYS scenario

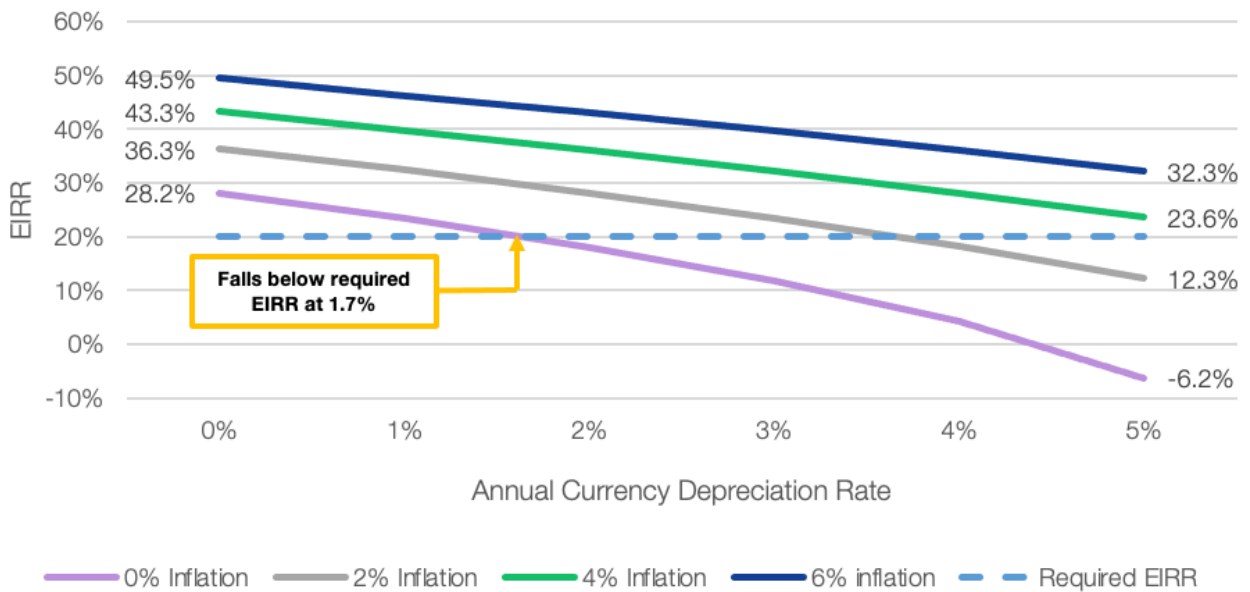
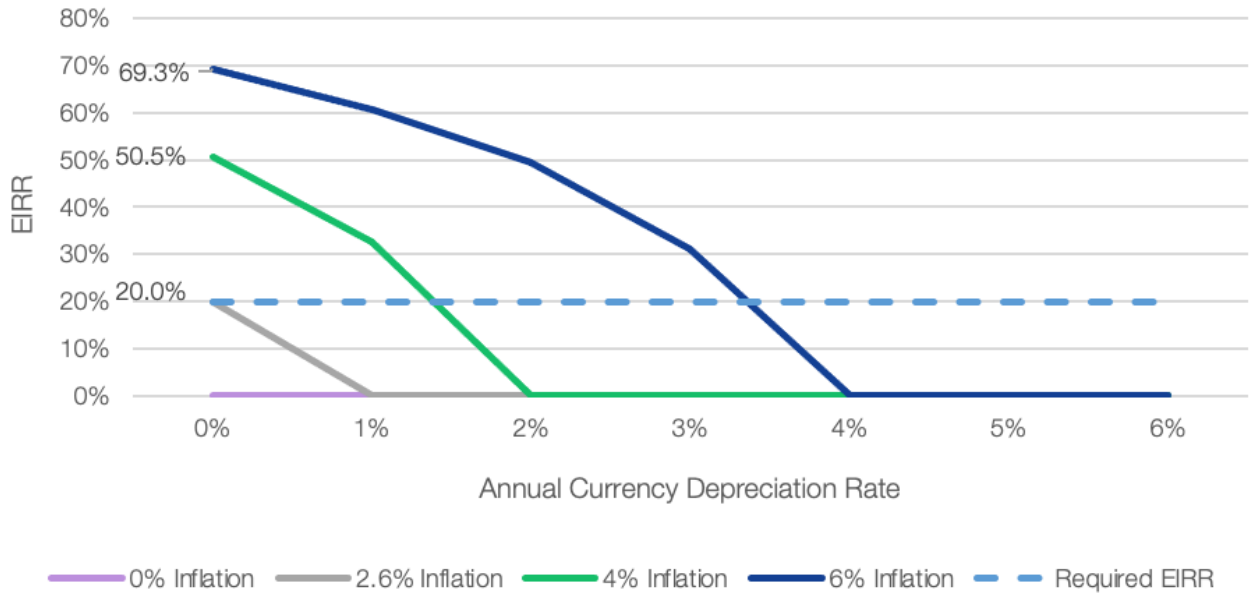


FIGURE 12. Local currency depreciation and inflation scenarios - cash scenario



CONCLUSIONS AND KEY TAKEAWAYS

Renewable energy cold storage has the potential to dramatically change the economics facing smallholder farmers and fisherfolk. Reducing or removing spoilage could increase income significantly. Cold storage also represents a huge new market opportunity for renewable energy companies; however, as this Model Business Case has demonstrated, the choice of which business model to deploy is critical.

Based on the assumptions presented in this Model Business Case, the Company is estimated to be viable under both the PAYS and cash purchase scenarios. However, the opportunity is more attractive under the PAYS scenario, as the Company continues to generate cashflows from the growing number of deployed systems as opposed to a one-time purchase payment.

- Under the PAYS scenario, the Company is estimated to be very attractive, with an after-tax equity IRR of 39.7% and Enterprise Value of EUR 3.5M when financed with EUR-denominated debt. The viability of the PAYS opportunity depends on the ability of the Company to consistently achieve decent capacity utilisation rates (perhaps by taking advantage of the mobility of the units to avoid dips in seasonal farmer output) and annual escalation in the storage fee. The required EIRR can only be achieved at an annual capacity utilisation rate of at least 61% without fee escalation. It is also worth noting that the Company will need patient capital due to the long period required to achieve cashflow positivity.
- Under the cash purchase scenario, the Company is also attractive but to a lesser extent, with an after-tax equity IRR of 32.0% and Enterprise Value of EUR 0.7M when financed with EUR-denominated debt. The viability of the Company under the cash purchase model will depend on its sales margins and annual escalation in the system prices, as well as the ability of the Company to closely manage its costs.
- Under both models, the Company will require grant funding, particularly in the early years of its operation to enable it to be viable while offering cold storage solutions to local farmers at affordable fees and prices.

KEY DEFINITIONS

Avg. annual revenue is the average annual revenue generated by the Company during its first 10 years of operation.

Avg. annual expenses is the average annual COGS and operating expenses incurred by the Company during its first 10 years of operation.

Avg. EBITDA is the Company's average earnings before interest, taxes, depreciation, and amortization during its first 10 years of operation.

Avg. net income is the average net income generated by the Company during its first 10 years of operation.

Total free cashflow to firm refers to the total free cash flow available to all the Company's funders during the first 10 years of operation of the Company.

After tax equity IRR is the aggregate post-tax internal rate of return on the equity investments in the Company.

Enterprise value is the net present value of the free cash flows to the Company during its first 10 years of operation in addition to its Terminal Value.

Positive cum FCFE year is the number of years it takes for the cumulative free cash flow to equity to become positive.

Positive cum FCFF year is the number of years it takes for the cumulative free cash flow to firm to become positive.

Avg. DSCR is the average debt service coverage ratio over the first 10 years of operation of the Company.

Min DSCR is the minimum debt service coverage ratio over the first 10 years of operation of the Company.

DOCUMENT REFERENCES

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ABOUT GET.INVEST MARKET INSIGHTS

The first series of GET.invest Market Insights were published in early 2019 covering four renewable energy market segments in three countries, namely: renewable energy applications in the agricultural value-chain (Senegal), captive power (behind the meter) generation (Uganda), mini-grids (Zambia) and stand-alone solar systems (Zambia).

Each Market Insight package includes **a)** a 'how to' Developer Guide, **b)** Model Business Cases and **c)** Case Studies. The Developer Guide enables the reader to navigate the market and its actors, to understand the current regulatory framework and lays down the step-by-step process of starting a new project/business. The Model Business Case analyses project economics and presents hypothetical, yet realistic, investment scenarios. It hence indicates the criteria for a viable project/business to enable the reader to identify the most cost-effective project/business opportunities. The Case Study analyses the viability of operational or high-potential projects/businesses to highlight lessons learnt and industry trends.

GET.invest Market Insights therefore summarise a considerable amount of data that may inform early market exploration and pre-feasibility studies. It is recommended to cross-read all three products to gain a comprehensive overview. The products are accessible at www.get-invest.eu/market-insights/

ABOUT GET.INVEST

GET.invest is a European programme that mobilises investment in clean energy projects. The programme targets private sector companies, project developers and financiers to build sustainable energy markets in sub-Saharan Africa, the Caribbean and the Pacific.

Services include tailored access-to-finance advisory for clean energy developers, a funding database, market information, and financial sector support to increase local currency financing.

The programme is supported by the European Union, Germany, Sweden, the Netherlands and Austria. Find out more at www.get-invest.eu.

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We welcome your feedback on the Market Insights by sharing any questions or comments via email at info@get-invest.eu.

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