<u>User Guide</u> Excel Tool to Assess Project Financial Needs

(version 1)

developed by GlobalDF with the support of The Covenant of Mayors in Sub-Saharan Africa, GIZ, and the European Union



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1. GLOSSARY

Analytics Sheets	5 sheets (TABs 9 to 12) that contain the formulas that feed into the Output Sheets.
Base Case	Refers to the Model's outputs based on the assumptions inserted in the Input Sheet before any sensitivities are applied to the assumptions.
Base Currency	Currency selected in \$C\$84 of the Input Sheet. The currency should normally be the local currency of the country unless the project will earn revenue in hard currency and repay debt in hard currency.
Base Year	Year selected in \$C\$86 of the Input Sheet. All CAPEX, OPEX, and revenue assumptions should be input in Base Year terms. The Model will escalate the base year costs by the inflation percentages selected in the Input Sheet.
CAPEX	Capital expenditures
FTE	Full time equivalent
GHG	Greenhouse gas emissions
IRR	Internal Rate of Return
Leverage Ratios	Leverage ratios are used by many development partners to measure the effectiveness of their grants and investments in mobilizing private sector capital. It is calculated for a capital structure by dividing the debt and equity used in the capital structure by the amount of grants required to finance the investment.
LLCR	The Loan Life Coverage Ratio (LLCR) is a ratio commonly used in project finance. The ratio is defined as: Net Present Value of Cashflow Available for Debt Service / Outstanding Debt over the duration of the project.
OPEX	Operational expenditures
Output Sheets	Overview Sheet and four Stakeholder View Sheets (TABs 2 to 5)
Period Modelled	Operational years selected in \$C\$92 for which operational cashflows will be forecast by the Model.
Planning Tool(s)	Planning sections of the Project Cycles & Planning Sheets
Project Cycles & Planning Sheets	3 sheets covering the project life cycle: (1) project development – the period project definition and development before implementation (TAB 6); (2) CAPEX – the period in which the capital expenditures are required to construct the project before it is operational (TAB 7); (3) OPEX – the period of time the project is operational and incurring operational expenses (TAB 8)
Project IRR	The Project's Internal Rate of Return is an indicator of the project's profitability, efficiency, and quality. Project IRR estimates the project's estimated future annual return, serving as the discount rate at which the net present value of the future cash flows is equal to the initial investment.
Sensitivity Scenarios	The Model's Base Case is stressed in six scenarios to access the project's level of sensitivity to adverse events: grant levels, interest rates, higher than expected CAPEX and OPEX, longer or shorter operational periods, and lower than expected revenues.
ТАВ	Excel worksheet tab
User Input Sheet	Sheet where users of the Model input their assumptions that feed through to the calculations in the Model.
WACC	The Weighted Average Cost of Capital is an important financial concept that is widely used in financial circles to test whether a return on investment can exceed or meet an asset, project, or company's cost of invested capital (equity and debt). The WACC represents the project's blended cost of capital across all sources, including common shares, preferred shares, and debt. The cost of each type of capital is weighted by its percentage of total capital and added together.

2. OVERVIEW

This generic cashflow financing model ("Model") is intended to serve as a tool in early project development to systematically assess and document the potential financial and developmental viability of a project using the standard metrics employed by providers of finance from the public and private sectors.

The Model is designed to address the lack of finance for critical projects required to achieve climate and developmental impact. The central problem blocking access to finance for projects is the lack of perceived "bankability" and "investability." The Model is intended to improve the project development process itself, increasing the ability of project owners and their technical partners to be aware of and fulfill the critical success factors for accessing finance.

The Model is intended for use by project owners and their technical partners in early project definition and prefeasibility assessments to estimate funding needs, possible sources, capital structures, and potential impacts (climate, developmental).

The Model can also be used by project owners in their early outreach to potential providers of finance and risk mitigation from the public and private sectors. In making their decisions with regards to potential technical support and funding, providers of finance and risk mitigation routinely require detailed financial models. This Model is designed using the basic investor requirements for the required submission of financial models. Therefore, project owners can use the completed Model on their projects in early discussions with targeted funders to enable them to better understand the project and provide feedback on how to best access finance.

The Model can be used to help define ways to structure a project in alignment with investor requirements and to communicate key fundamentals of project viability, including:

- (1) Serve as a worksheet to systematically estimate potential project costs and funding sources;
- (2) Define viable potential blended finance structures, calculating the level of grant funding required to achieve project bankability/investability;
- (3) Calculate preliminary estimates of financial viability such as Internal Rates of Return (IRRs), Weighted Average Cost of Capital (WACC), benefits to local and national governments (e.g., potential tax revenues), and impact (climate, developmental);
- (4) Test sensitivities of the project to changes in grant levels, interest rates, higher than expected CAPEX and OPEX, longer or shorter operational periods, and lower than expected revenues;
- (5) Set forth estimated climate and development impact (carbon emission reductions, job creation); and
- (6) Serve as a critical document to present indicators of project financial and development viability to potential providers of technical support and finance that can help further develop the project (e.g., local and national governments, development partners, PPP partners and private sector equity providers, private sector debt providers).

The key principles underlying the financing modelling approach include the following:

- (1) <u>The first critical success factor for projects in the initial development phase is to identify and secure a combination of funding sources</u>. Depending on the project, the funding could include a wide range of sources such as the following:
 - *Public sector support* from the local government, intermediary government entities (e.g., province, state, etc.), national government (e.g., ministry, funds, national development bank, etc.), and/or development partners (e.g., development finance institution, bilateral development partners, climate funds, etc.).
 - *Private sector support* from corporates (e.g., utilities, suppliers of equipment, etc.), SMEs, banks, microfinance institutions, social impact investors, funds, etc.

- *Non-government organizations* such as cooperatives, community service organizations, foundations, etc.
- (2) <u>A blended finance approach can enable a project to reach financial close and become operational by</u> combining public and private funding in addition to credit enhancements (such as guarantees and first loss facilities).
 - Grants can be used in combination with commercial and concessionary debt to close the funding gap for projects that generate sufficient revenues/savings.
 - The Model calculates the grant required under each of the capital structures to close the funding gap.
- (3) <u>Financial sustainability will be a minimum requirement for providers and finance.</u>
 - Financing is more easily obtained if a project's total revenues/savings are able to cover its total operational expenditures (OPEX) as funders will consider it to be "financially sustainable." To attract blended finance, a project's revenues, savings, and other funding will need to exceed its operating costs (see below illustration).
 - Projects that are expected to have significant impact could potentially secure grant funding to fund 100% of the project's CAPEX provided the project is deemed financially sustainable (i.e., able to cover all its OPEX through its revenues, savings, and other funding).



Figure 1. Financing Decision Tree

- (4) <u>Projects which have revenues and other funding sources cover OPEX and CAPEX are most likely to raise</u> <u>funding for project development.</u>
 - Securing adequate funds for the costly project development phase is very difficult. Development costs can reach 12% of total project cost or even higher for projects smaller projects (i.e., project costs are less than US\$ 10 million). In addition, the project development process often requires several years of dedicated efforts.

- Development partners and project preparation facilities are likely to prioritize limited project preparation funding for projects that demonstrate financial sustainability and generate sufficient revenue/savings to cover OPEX and CAPEX.
- (5) To secure debt from the public and/or private sectors, it is important that the project be owned and managed by credible entities with successful development and service track records. If a local government is not considered "creditworthy," it may not be able to serve as the project owner unless it can use proven structures to ensure the project's successful operation and sustainability:
 - The project's revenues may need to be "ring-fenced" (earmarked for debt service and expenses).
 - The project will need to be managed by experienced experts with successful relevant track records in delivering related local services.
 - Worldwide projects related to service provision such as water & sanitation, energy, and transport are often managed by service providers that can be owned by local governments and/or the private sector, such as utilities, special purpose vehicles (SPVs), or PPPs.
- (6) <u>Other specific project development interventions are often required to ensure access to public and private finance</u>.
 - The development of credit enhancements such as escrow accounts and use of guarantees and first loss may be required to ensure access to finance.
 - The pooling of projects may be required to create a large enough transaction to meet the minimum investment size criteria of public and private sector funders.
 - A programmatic approach that includes standardized designs and procurement processes can minimize project development costs, achieve economies of scale, and reduce project risks, thereby attracting private sector investors.
- (7) By comparing a project's IRR to the WACC of different funding structures, the user of the Model can conclude on the bankability of different funding structures and the amount of grant funding required to achieve bankability.
 - The WACC (weighted average cost of capital) is the weighted return percentage calculated for a specific funding structure. It is a function of: (1) the percent of project costs funded by equity investors, commercial debt providers, and concessionary debt providers respectively; (2) market tested return requirements, and (3) the corporate income tax payable before the payment of investors.
 - The Project IRR (internal rate of return of a project) quantifies the return that a project can generate over the project's life. It is calculated using only the projected revenues, OPEX, and CAPEX of the project and does not consider the project's capital structure.
 - Projects that have a lower WACC percentage than the Project IRR are considered "bankable." By introducing grant funding into the structure, the Project IRR can be increased to match the WACC of a funding structure, thereby achieving bankability.
- (8) <u>The loan life coverage ratio (LLCR) is used to indicate the level of cash flow available to pay debt</u> <u>obligations.</u>
 - LLCR is calculated by dividing the net present value (NPV) of the money available for debt repayment by the amount of outstanding debt.ⁱ
 - While a debt service coverage ratio (DSCR) captures just a single point in time, LLCR allows for several time periods, which is more suitable for understanding liquidity available for loans of medium to long time horizons.

3. CAPITAL STRUCTURES

The Model takes into account the wide spectrum of alternative project owners, from governments and Public-Private Partnerships (PPPs) to private sector and non-governmental entities. Model users can evaluate the different levels of funding required under four alternative capital structures as illustrated below.

Figure 2. Capital Structures Evaluated in the Model



The first three capital structures make use of debt to fund CAPEX and are referred to as debt-based capital structures.

The last capital structure is relevant where a project is considered financially sustainable, meaning that it can cover its OPEX with operating revenues or savings, but where the operating revenues and savings are less than OPEX (or not marginally greater) and therefore will not enable the payment of debt during the project's operations.

4. STRUCTURE OF THE MODEL

The figure below illustrates the Model's structure and the inter relationship between the 12 worksheets contained in the Model. The tab of each worksheet is colour coded in line with Figure 3. The sections of this guide that covers the various sheets are indicated at the top of the figure.

Section 6 Section 7 Section 8 Section 9 **PROJECT CYCLES &** ANALYTICS SHEETS OUTPUT SHEETS INPUT SHEET PLANNING SHEETS TAB 9 TAB 6 **CAPITAL STRUCTURES** OVERVIEW PROJECT DEVELOPMENT (PD) PD PLANNING TOOL TAB 2 TABS 10 & 10A **GOVERNMENT VIEW** CORPORATE TAX TAB 7 TAB 3 CAPEX DEVELOPMENT CAPEX PLANNING **TAB 11** TOOL **IRR & GRANT ESTIMATION** TAB 4 PPP EQUITY VIEW TAB 8 OPEX TAB 12 TAB 5 **OPEX PLANNING SCENARIO ANALYSIS** PRIVATE LENDER TOOL VIEW

Figure. Structure of the Model

- <u>The Model is comprised of four functional areas</u>:
 - o The User Input Sheet
 - o Project Life Cycles & Planning Sheets
 - Analytics Sheets
 - o Output Sheets
- <u>The User Input Sheet</u> collects ALL the inputs that feed into the Analytics Sheets.
- <u>The Project Life Cycles & Planning Sheets</u> break out the three stages of the project life cycle (project development, CAPEX, and OPEX). These three excel sheets enable the user to identify potential sources of funding or revenues that have not been included in the User Input Sheet. These potential funding amounts and revenue/savings are only used for planning purposes and do not feed into the Analytics Sheets.
- <u>The Output Sheets include an Overview Sheet and four Stakeholder View Sheets</u>: Government, development partners, private sector and PPP equity investors, and private sector debt lenders.

Step by step instructions are provided for each sheet in sections 6 to 9.

5. LEGEND USED IN THE MODEL

The Model makes use of the colour coding illustrated below to identify the different types of cells. The user should only make changes to input cells.

Figure 3. Legend

Colour	Cell type	Purpose
	Input cell	To be populated by user
	Calculation cell	Contains formula that calculates funding gap
	Calculation cell	Contains formula other than funding gap
	Definition cell	Provides information to user on defintions
	Overview cell	Provides information to user explaining model concepts and approach

6. THE USER INPUT SHEET (TAB 1)

The User Input Sheet contains 4 sections (A to D) that need to be populated by the user. The user can click on the relevant heading to navigate to that section of the Input Sheet as each section has been linked to this table via hyperlinks.

В С D E F 📕 A 4 **TAB 1: USER INPUT** 5 This TAB is where the user inputs all the data used in the analysis TABs of the model to calculate ratios and other key outputs. Please input data in the indicated areas (yellow). In addition, the user has the option of providing planning information for funding the three stages of the project life cycle (Project Development tab 6, CAPEX tab 7, OPEX tab 8). The planning information does not feed into the analysis of the model but is summarised in the 6 7 (A) PROJECT INFORMATION 8 A.1. Project Management Viability 9 A.2. Estimated Project Impact 10 A.3. Initial Project Support 11 A.4. Initial Estimate of Revenues & Credit Enhancements 12 (B) GENERAL ASSUMPTIONS 13 (C) THREE PHASES OF PROJECT LIFE CYCLE 14 C.1. Project Development 15 C.2. CAPEX 16 C.3. OPEX 17 (D) ASSUMPTIONS ON BENEFITS FOR THE PUBLIC AND PRIVATE SECTORS 18 D.1. Overall Margin and Tax Assumptions 19 D.2. Impact Assumptions on Carbon Emissions and Job Creation 20 (E) Key Project Sensitivities 21 (F) Blended finance structure selected for each capital structure

Figure 4. Table of content that contains hyperlinks to different sections of the Input Sheet

A. PROJECT INFORMATION

This section is intended to help project owners and developers think through how to create a strong foundational project development approach to their project focused on critical success factors.

A.1. Project Management Viability

Funders will assess the viability of project management. The Model user is therefore required to insert the project's name, owner, developer, and other information in Column D and to provide more detailed narratives in Column E as illustrated below. The information feeds through to the Output Sheets, showing the context of the project which is essential to the viability assessment of potential funders.

A	В	C	D	E	F		G	Н	I.	J
23	A) PROJECT INFORMATION									
24	This section is inte questions focused information on sta private sector; and	ended to help project owners and developers thir I on critical success factors. The section is for the akeholders; (2) estimated project impact; (3) qua d (4) the initial assessment of the potential for se	nk through how to user to provide o ality of initial proj ecuring quality rev	o create a strong verall backgrour ect support fron venues and cred	foundationand ad on the pro n national an it enhancem	Il project der ject in 4 sec d local gover ents.	velopment tions: (1) p mment(s),	t approach to project mana developmer	their proje gement vial ht partners,	ct with biity with and the
25										
	A.1. PROJECT		INPUT							
26		DECINITIONS								
20	Project Name	Please provide a name for the project that clearly	HERE	INSERT HERE D	ACKGROUND	INLCODING	ANT PRIC	REAPERIEN	CE AND TRA	ICK RECORDS
27	rojectivanie	indicates the sector and location (city,country).	Project A							
28	Country	Please insert name of country(ies) where the project will be implemented	Cameroon							
29	Sector	Please indicate sector(s) impacted by the project.	Public lighting							
30	Project Owner	The owner of the project is the legal entity that is accountable for the project's development and finance. It is critical to note that the project owner needs to be eligible for funding from targeted investors (public and private). In the case of local governments not considered "creditworthy," a separate legal entity may need to be established (for example, a utility, special purpose vehicle (SPV), PPP).								
	Project Developer	The accountable project developer firm or expert								
31		dedicated to developing the project								
32	Partners	Partners providing support (public, private, other)								
33	Other	Other key stakeholders								

Figure 5. Project management viability inputs

A.2. Estimated Project Impact

Funders will need to understand the project's estimated impact in terms of development, climate, job creation, as well as the targeted beneficiaries. Therefore, the Model user will need to input the project's impact in Rows 37 to 41, Columns D and E. The information feeds through to the Output Sheets where it highlights the impact of the project to potential funders.

Figure 6. Project impact inputs

	A	В	С	D	E	F	G
		A.2. ESTIMATED					
36		PROJECT IMPACT	DEFINITIONS	INPUT HERE	INSERT HERE TYP	E OF IMPACT	
		Objective of project	Summary of expected impact (e.g., how many people				
			receive the service and impact on their lives, climate,				
37			economy, etc.				
38		Beneficiary	Group with largest benefit				
39		Beneficiary	Group with second largest impact				
40		Beneficiary	Group with third largest impact				
41		Beneficiary	Group with fourth largest impact				

A.3. Initial Project Support

This section seeks to quantify the potential support from national and local government(s), development partners, and the private sector. Amounts and descriptions can be inserted in Rows 45 to 60, Columns C and E. This information will feed through to the Output Sheets to indicate existing commitments to the project.

Figure 7. Initial project support inputs

A	В	С	D	E	F G			
44	A.3. INITIAL PROJECT SUPPORT	HERE INSERT A FUNDING IN LOC	AMOUNT OF CAL CURRENCY	HERE INSERT NAMES O ENTITIES				
45	Commitments from National Government							
46	Potential amount of committed annual support							
47	Willingness/ability to guarantee offtake and/or fees							
48								
49	Commitments from Local Government(s)							
50	Potential amount of committed annual support							
51	Willingness/ability to guarantee offtake and/or fees							
52								
53	Comittments from Development Partners							
54	Potential amount							
55								
56	Interest from Private Sector Equity Investors							
57	Potential amount							
58								
59	Interest from Private Sector Debt Providers							
60	Potential amount							
61								

A.4. Initial Estimate of Revenues & Credit Enhancements

Inputs can be made in Rows 65 to 83 will feed through to Output Sheets give potential funders a sense of the project's revenue certainty and credit enhancement options. Explanations are provided in column K.

	В	С	D	E	F	G	н	I J	JKLMNOPQ								
	A.4. INITIAL ESTIMATE OF REVENUES &	HERE INSERT	AMOUNT OF	HERE	INSER	T STA	TUS	AND									
64	CREDIT ENHANCEMENTS	SUPPORT IN LO	CAL CURRENCY	POTEN	TIAL N	AMES	OF E	NTITY	TY EXPLANATIONS								
65	Offtake agreements with creditworthy entities																
66 67	Amount of annual revenues								Early project definition needs to think through how to secure revenues from entities that are considered as creditworthy by commercial banks.								
68	Ability to set up debt reserve fund																
69 70	Amount								Local and national governments need to agree at project definition to set up debt reserve funds that meet lender requirements								
71	Ability to secure mezzanie debt																
72 /3	Amount								A common way to reduce risk is to secure a junior tranche of debt provided by a development partner, thereby reducing the risk for commercial lenders.								
74	Ability to set up first loss																
75 76	Amount								A common way to reduce risk is to set up a first loss facility, thereby reducing risks for commercial lenders and equity providers.								
77	Ability to secure partial credit guarantee																
78 79	Amount								A common way to reduce risk is to secure a credit guarantee, thereby reducing risk for commercial lenders and equity providers.								
80	Other Factor(s) Improving Credit Quality																
81 02									Many other factors can also enhance credit quality, such asability to secure ringfence revenues from other sources such as land value capture, high-credit quality sources (public or private sector),								

Figure	8	Revenue	R	credit	enhancement innuts	
IIYUIC	ο.	NEVENUE	x	CIEUIL	ennuncement inputs	

B. GENERAL ASSUMPTIONS

The user is required to populate key assumptions in Column C that are used to forecast cashflows. All CAPEX, OPEX and general assumptions should be inserted in the Base Currency selected in \$C\$88.¹ Guidance is provided against each input in Column D.

¹ Excel uses US dollar signs ("\$") to designate absolute references in formulas. A "\$" before the Column letter in Excel indicates that the formula will always stay the same. Likewise, a "\$" before a Row number indicates the formula will always stay the same. For example, "\$C\$88" refers to cell C88, and the added "\$" before each Column and Row (i.e., "\$C\$88") indicates that the formula will always stay the same for that cell.

Figure 9. General assumption inputs

	В	С	D	E	F	G								
86	B) GENERAL ASSUMPTIONS	This section covers t	ne 10 general assum	ptions that will be used in	the model to generate the analysis.									
87	FACTORS	INPUT DATA	DEFINITIONS											
88	1. Base Currency	CFA	Local currency unle	ss revenue and debt are ir	n \$/Eur									
89	2. Inflation	3.00%	6 Source: CPI or another official source											
90	3. Base Year for costs & revenue	2021	1 CAPEX, OPEX & revenue assumptions											
91	4. CAPEX contingency	20%	Contingency should	reflect level of uncertaint	у.									
92	5. OPEX contingency	0%	Contingency should	reflect level of uncertaint	У									
93	6. Commercial debt interest rate	9.0%	Needs be based on	market data taking into a	ccount available onlending facilities wit	h subsidised interest rates								
94	7. Concesssionary debt interest rate	3.0%	Needs to reflect co	ncessional finance cost of	likely public finance provider (e.g., WB,	AfDB, GCF, KfW, TDB, etc.)								
95	8. Market related equity IRR return (pre-tax)	20.0%	Needs to reflect eq	uity return requirement fo	or country, sector, project type									
96	9. Period modeled (operational years)	10	Should reflect estim	nated life of main assets (equipment, building, etc.)									
97	10. Local Currency/USD	538	Current exchange r	ate										

C. THREE PHASES OF PROJECT LIFE CYCLE

The user is required to insert data in Base Year terms (i.e., year selected in \$C\$90) and the Base Currency (selected in \$C\$88) for each of the three phases of the project: project development, CAPEX (construction), and OPEX (operations).

C.1. Project Development

Project development costs need to be inserted in Column C against the most relevant heading. Cell \$B\$111 can be used to insert an additional heading. The status of each cost item can be inserted in Column F. Any project development funding that has been secured should be inserted in \$C\$128 onwards as secured funding will be offset against project development funding costs to forecast the funding gap.

Figure 10. Project development phase cost inputs

] _ A	В	с	D	E	FG	НJ	к	L	М	N	0	Р	Q
99	C) THREE PHASES OF PRO	JECT LIFE CYCLE											
100		CONTRACTOR AND A CONTRACTOR OF											
	C.1. PROJECT	INPUT DATA	· · · · · · · · · · · · · · · · · · ·		000000000000000000000000000000000000000								
101	DEVELOPMENT	HERE	DEFINITIONS		INPUT STATUS HER	RE EXP	LANATION	IS					
102	ESTIMATED COSTS												
	Project Management (PM) -				An experienced expert is	A de	dicated Proje	ect Manager and,	/or Develop	er is usually requ	ired to manag	e to entire proj	ect
103	before construction		PM costs before con	struction commences	engaged	deve	elopment pro	cess.			-		
						The o	cost of third e	experienced expe	erts conduct	ing a Pre-Feasib	ility Assessmen	t acceptable to	potential
~~~~					In discussions with a	prov	iders of suppo	ort is normally sig	gnificant. Alt	ernatively, in so	me cases the w	vork can be fun	ded through
104	Pre-feasibility		Consultants' costs		potential provider	parti	ners.						
	Feasibility and other technical					Seve	ral technical	studies are often	n required: F	ull Feasibility Stu	idy with assessi	ments of dema	nd, supply of
105	studies		Consultants' costs		Not yet conducted	input	ts, sources of	revenue, engine	ering, socia	and environme	ntal assessmen	t, etc.	
106	Transaction Advisory		Foos charged by fing	ncial advisor	Not yot cocurad	Usua	ally an experie Idina any ava	enced Transactio Transactio	n Advisor is	required who co	in structure fini	ancing, related	contracts,
100	Transaction Advisory		rees charged by jind		Not yet secured	Licuo	allu an ovnori	ancad Brajact Ein	anco Launa	r is required wh	o can structure	financina load	al ontitu /if
107	Legal Costs		Costs to draw up con	ntracts	Net vet secured	reau	ired), user po	ayment contracts	s, and relate	d contracts, inc	ludina any auar	antees.	a energy (ij
108	Fees & Permits		Registration fees, re	gulation permits, etc.	Now being researched	Norn	mally there a	re costs related t	o securing p	ermits and appr	ovals.		
						If a p	project is larg	e enough with cr	edit enhand	ements (such as	guarantees), c	rating from a	recognized
109	Rating Agency if needed		Fees charged by rati	ng agency	Unknown	cred	lit agency rati	ing can significan	tly increase	access to financ	e.	_	
515102	Upfront Fees for Risk				25 - 44.	If the	e proje <mark>ct</mark> is pe	erceived as risky,	risk mitigat	ion can be provi	ded by highly-ro	nted developme	ent partners
110	Mitigation if any		Fees charged by prov	viders	Unknown	and i	insurance cor	mpanies to signifi	icantly incre	ase access to fir	ance.		
						Ofte	n oth <mark>er</mark> proje	ct development	costs include	e office costs, se	ctor expert fee	s, engineering j	fees, travel,
111	TOTAL ESTIMATED COSTS		Costs not included at	bove	None	comi	munication, a	administration su	pport, etc.				
127	SECURED FUNDING (if any)					10							
					1	Docu	ument any fir	m fundina comm	itments her	e from LG, NG.	development p	artners, PPFs, c	community
128	Secured Funding Source 1		Funding commitmen	t	AFD	servi	ice prganizati	ions, climate fun	ds, PPP part	ner, etc.			
129	Secured Funding Source 2		Funding commitmen	t			_	-					
130	Secured Funding Source 3		Funding commitmen	t									
131	TOTAL SECURED FUNDING	(#S)				14							

## C.2. CAPEX

All capital expenditures need to be inserted in Columns E to I in Base Year and Base Currency terms. The inputs will then be escalated by the inflation assumptions selected in the Model to forecast nominal CAPEX and funding requirements. A new cost category can be created by the user in \$B\$145.

#### Figure 11. CAPEX inputs

4	В	С	D	E	F	G	н	1	J K	L	м		Ν		0	Р		Q
	C.2. CAPEX (use local																	
	currency including VAT in	INPUT DATA																
135	2021 Terms)	HERE	DEFINITIONS	INPUT	соѕт ву у	EAR HE	RE		EXPLANAT	IONS								
136		TOTAL COSTS		Year -1	Year 0	Year 1	Year 2	Year 3										
137	Project Management (PM) -	480 000	During construction	240 000	240 000				The construction	n of projects re	quire a ded	icated e	xpereince	ed proje	ct mana	iger.		
138	Land	-	Purchase costs						Often projects r	equire the push	hase or leas	e of land	Ι.					
139	Equipment	-	Purchase costs						Usually projects	require the pu	rchase of e	quipmen	t.					
140	Professional Support	-	e.g. lenders engineer						Professionals are	required to in	nplement ti	he projec	ct.					
									One or more law	yers will be re	quired to de	evelop, r	egotiate,	and in	plemen	t contracts	for the land	d,
141	Legal Costs	-	During construction						equipment, servi	ces, finance, a	nd potentia	lly risk n	nitigation					
142	Construction Labor	-	Labour costs during construction						Usually projects	require labour	for constru	ction.						
143	Upfront Fees for Finance	-	e.g. success fee						Finance often re	, quires upfront	fees.							
144	Upfront Fees for Risk Mitigation	-	e.g. guarantee fees						Risk mitigation	often require u	, ipfront fees							
145		-							Ŭ									
146	Inflation	21 816		7 200	14 616													
147	Contingency	100 363		49 440	50 923	-	-	-										
148	TOTAL CAPEX COSTS	602 179		296 640	305 539	-	-	-										

## C.3. OPEX

#### Figure 12. OPEX inputs

3. OPEX (u	use local currency erms) DI												
150 in 2021 Te	erms) Di												
100 112021 16		DEFINITIONS				INPUT	COST	BY YEAR	HERE				
151						Year 1	Year 2	Year 34	Year	5 Year 6	5 Year 7	Year 8	Year 9
152 Project Man	nagement (PM) Op	perational PM											
153 Professional	I Support Acc	ccounting & legal fee	s										
154 Maintenanc	ce Labour Lab	abour costs during op	erations period			10 000							
155 Replacemen	nt of Parts Exp	penditure on replace	nents during operations period				-	22 500	-	-	22 500	22 500	-
156 Rent	Rei	ent paid during the o	perations period										
157 Office costs	Off	ffice costs (other thai	n rent), e.g. cleaning, telecomr	nunications,	etc.								
158 Office equip	oment Exp	penditure on office e	quipment										
159 Fees & Perm	nits Fee	es or permits payabl	e during the operations period										
160 Taxes	Oth	ther than corp. tax, e	.g. import duties & employee	ax									
161 M&V costs	Cos	osts associated with t	he monitoring & verification										
162 Other: INSEE	RT HERE TYPE OF COST												
163 Contingency	γ 0%	% assumption input a	bove			-	-	-	-	-	-	-	-
164 TOTAL OPEX	COSTS					10 000	-	22 500	-	-	22 500	22 500	-
165 REVENUE - C	CFA 2021 terms					Year 1	Year 2	Year 34	Year	5 Year 6	5 Year 7	Year 8	Year 9
166 Energy savin	ngs Tec	echnical consultant to	provide supporting calculation	15									
167 O&M saving	gs Teo	echnical consultant to	provide supporting calculation	15									
168 Fees paid by	y off-takers Ani	nnual service revenue	5										
169 Other incom	ne e.g	g. advertising fees											
170 Rental incom	me Pai	aid by third parties to	project										
171 LG contribut	ition Fro	om Own Source Reve	nues			-	-	22 500	-	-	22 500	22 500	-
172 NG fiscal tran	ansfer Fro	om NG transfers											
173 Service fees	Fee	ees paid by users dire	ctly to project										
174 Other: INSEE	RT HERE TYPE OF Any	ny other revenues											
175 Utility contri	ribution Fro	om Own Source Reve	nues										
176 TOTAL OPER	RATING REVENUES					-	-	22 500	-	-	22 500	22 500	-

All operational expenditures and revenue or savings need to be inserted in Columns G to Z in Base Year and Base Currency terms. The Model allows the user to input OPEX and revenue assumptions for 20 years but will only prepare forecasts for the number of years selected in \$C\$92 (i.e., the period modelled). The inflation assumption input in \$C\$89 is applied to both OPEX and revenue assumptions to forecast operational cashflows. New cost and revenue categories can be created by the user in \$B\$162 and \$B\$174.

### D. ASSUMPTIONS ON BENEFITS FOR THE PUBLIC AND PRIVATE SECTORS

### **D.1. Overall Margin and Tax Assumptions**

The user is required to insert assumptions in Rows 181 to 186 that are used by the Model to calculate financial benefits that could accrue to both the public and private sectors. The assumptions include average margin on equipment & construction, margin on O&M contract, corporate tax rate, value-added tax rate, Local Government existing property rates for target area, estimated impact on property values, allocations of energy savings and off-take revenues. Column H provides explanations in respect of each input.

A 🖌	В	С	D	E	F	G	H 1	J K	L	М	N	
	D) ASSUMPTIONS ON											
	BENEFITS FOR THE PUBLIC		INPUT PERCENT									
178	AND PRIVATE SECTORS	DEFINITIONS	/ AMOUNT				EXPL	ANATIONS				
	D.1. Overall Margin & Tax											
179	Assumptions											
181	Average margin on equipment &	Percentage of profit (%)	20%				Profit margin th	at the private s	ector supplier will o	earn on EPC/tur	nkey contract	
182	Margin on O&M contract	Percentage of profit (%)	20%				Profit margin th	at the private s	ector supplier will e	earn on O&M co	ontract	
183	National Corporate Tax Rate	Standard rate of taxation (%)	33%				Country's nation	nal corporate t	ax rate payable by	companies on p	rofit	
184	National Value Added Tax (VAT)	National Sales Tax (%)	19%				National Tax lev	vied on sales				
185	Local Government existing tax	Local Tax rates (if any) earned in a year					Tax rates currer	ntly levied by LO	G(s) in respect of ta	irget area		
186	property values	Estimated impact on property values (%)	2%				% by which prop	perty values wi	l increase as a resu	It of project		
	ALLOCATIONS OF SAVINGS &											
187	OFF-TAKE		LG	NG	Utility	TOTAL						
188	Share of energy savings	% of benefit that accrues to	0%	100%	0%	100%	% share of ener	gy savings that	LG, NG and utility v	vill be entitled t	o respectively	
189	Share of O&M savings	% of benefit that accrues to	100%	0%	0%	100%	% share of O&N	A savings that L	G, NG and utility wi	ill be entitled to	respectively	
190	Share of off-take payments	% of cost borne by NG/LG/utility	0%	100%	0%	100%	% share of off-t	ake payment t	nat LG, NG and utili	ty will be be rep	onsible for pay	ing

#### *Figure 13. Margin and tax assumption inputs*

### D.2. Impact Assumptions on Carbon Emissions and Job Creation

The user is required to quantify the project's annual GHG emission savings and the number of full-time equivalent jobs that will be created. Inputs need to be inserted on an annual basis in Columns E to Z.

	A B C D					G	н	1	J	К
193	D.2. Impact Assumptions	DEFINITIONS	Potential Source	INPUT I	HERE BY YE	ARS				
194				Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
	GHG emission savings									
195	(tons/annum)	Standard climate metric	Benchmarks IRENA, similar projects							
	FTE jobs created during									
196	construction	Direct, indirect, induced, secondary	Similar projects, AUDA-NEPAD Toolkit							
	FTE jobs created during									
197	operations	Direct, indirect, induced, secondary	Similar projects, AUDA-NEPAD Toolkit							

### Figure 14. GHG and FTE job inputs

### E. KEY PROJECT SENSITIVITIES

The user can select the percentages that will be applied in TAB 11 to calculate key metrics for each of the six sensitivities listed below. A range of percentages can be selected from six drop down lists in Column D, Rows 201 to 206.

#### Figure 15. Sensitivity inputs

A	В	С	D	E	F	G	Н
			SELECT				
199	E) Key Project Sensitivities	DEFINITIONS	HERE	EXPLANATIONS			
200							
201	SENS 1 - % incr. in CAPEX	CAPEX increases by % selected	20%	Sensitivity percentages are sele displayed in TAB 11, cell \$F\$5.	cted from drop down list. Cey metrics from the select	Jser select ed sensitiv	s sensitivity to be vity is then compared
202	SENS 2 - % incr. in OPEX	OPEX increases by % selected	20%	in TAB 11 to the base case, incl	uding Project IRR and grant	requireme	ents
203	SENS 3 - % incr. in interest	Interest increases by % selected	20%				
204	SENS 4 - % decr. in revenue	Revenue decreases by % selected	20%				
205	SENS 5 - % decr. in grant funding	Grant funding decreases by % selected	40%				
				User selects number of addition	nal years (+) or reduction (-	) from dro	p down list. If SENS 6
	SENS 6 - (reduction)/incr in	Operational years incr/decr by years		is selected in TAB 11 (cell F5), th	ie impact of the longer or s	shorter ope	erational period is
206	operational years	selected	3.00	quantified			

## F. BLENDED FINANCE STRUCTURE SELECTED FOR EACH CAPITAL STRUCTURE

The user can select the debt and equity percentages that will be used to calculate the funding requirements for the two capital structures that include debt and equity. The yellow cells contain drop down menus from which the user can select a percentage. Total funding should equal 100% once the selection has been made.

A	В	с	D	E	F	G H
	F) Blended finance structure selected for each capital					
209	structure	DEFINITIONS		SELECT HERE	SELECT HERE	EXPLANATIONS
			LG entity with	PPP with concessionary	PPP with	
210			concessionary debt	debt	commercial debt	
		% of project costs funded by equity				
211	Equity	(before grant)	0%	30%	30%	
		% of project costs funded by commercal				
212	Commercial debt	debt (before grant)	0%	0%	70%	
		% of project costs funded by				
213	Concessionary debt	concessionary debt (before grant)	100%	70%	0%	
214	Total funding		100%	100%	100%	Total must be 100%

### Figure 16. Blended finance structure inputs

## 7. PROJECT LIFE CYCLES & PLANNING SHEETS (TABS 6 -8)

Figure 17. TAB view

 TAB 6 PROJECT DEVELOPMENT
 TAB 7 CAPEX
 TAB 8 OPEX

These three TABs quantify nominal costs, revenue, funding, and gaps for the three key phases of the project's life cycle based on the Base Year equivalents inserted in the Input Sheet and adjusting for inflation. The TABs also contain functionality that allows the user to plan how funding gaps can be closed and to identify potential sources of funding. The information inserted by the user in these TABs do not feed through to the calculation sheets and therefore only inform planning.

### A. PROJECT DEVELOPMENT (TAB 6)

The Project Development Sheet's purpose and functionality is described below in the green box. Rows 11 to 28 contain information that feeds through from the Input Sheet while the planning section starts in Row 30 as illustrated below.

	Figure 18. Sheet overview (TAB 6)											
A	В	С	D	F	G							
2												
3	TAB 6: PROJECT DEVELOPMENT											
	This tab is for viewing the estimated costs and funding for Project Development: (1) the costs of project development activities required to reach financial close, (2) secured sources of funding to cover these costs, and (3) the project development funding gap. It also contains a planning tool											
	that can be used to identify additional sources of funding to close the project development funding gap. The potential sources of funding identified											
4	in the planning section do not pull through to the analysis sheets and key metrics of the model.											

The user can input potential sources and amounts of project development funding in Columns C and F (Rows 34 to 44). Additional narrative can be inserted in Column H to document the planning process. The Model indicates the remaining funding gap in cell \$F\$45 by offsetting targeted funding identified in the Planning Tool against project development costs (net of secured project development funding).

Figure 19. Planning tool - project development phase

A	В	С	D	F	G	н
30	PLANNING TOOL - POTENTIAL SOURCES OF PROJECT DEVE	LOPMENT F	UNDING			
31	The table below serves as a planning tool as it allows the us calculates the project development financing gap, net of fu	ser to identij Inding secu	fy additiond red and pot	al potential sources of j ential funding. I <b>NSE</b> I	funding for project development. The tool also RT HERE YOUR PLANNING INPUT.	
32	NOTE: This information is NOT used in the financia	al model.				
33	POTENTIAL FUNDING	Sou	irce	Target Amount	DEFINITIONS	NOTES
34	LG funding from own sources of revenue				Grants from LG	
35	National Government funding				Grants from NG	
36	Grant funding from other public national government				Other Government grants	
37	Grant funding from development partner(s)				International, bilateral, other public grants	
38	Funding from Project Preparation Facility/is				Facilities set up to fund project development	
39	Funding from Climate Fund(s)				Examples: GCF, GEF, etc.	
40	Funding from Community Service Organisations				Includes local organizations	
41	Other Grant funding (foundation, private sector)				Includes international & local foundations,	
42	Equity funding				Includes support from PPP partners	
43	Other: INSERT HERE TYPE OF FUNDING				Examples: crowd funding, remittances, etc.	
44	TOTAL ESTIMATED POTENTIAL FUNDING			-		
					Project development funding for which no	
45	REMAINING FUNDING GAP			-	potential source has been identified	

### B. CAPEX (TAB 7)

The CAPEX Sheet's purpose and functionality is described below in the green box. Rows 12 to 27 contain information that feeds through from the Input Sheet, but that has been adjusted for inflation. The planning section starts in Row 29 as illustrated below.

Figure	20.	Sheet	overview	(TAB 7)	
--------	-----	-------	----------	---------	--

	Α	В	С	D	E	F	J	К							
2															
3		TAB 7: CAPEX													
4		This tab is for viewing the required. It also contains a the planning section do not	estimated costs and j planning tool that al pull through to the o	funding for the lows the user to analysis sheets	actual construction o identify potential and key metrics of	of the project by sources of funding the model.	ment costs (3) to rces of funding i	tal funding dentified in							

The Planning Tool contained in TAB 7 allows the user to quantify potential sources of CAPEX funding and providers that can be targeted. The user can quantify potential funding and providers that will be targeted based on the funding gaps under each of the 4 capital structures:

- LG with concessionary debt yellow cells in Rows 34 to 37
- PPP with concessionary debt yellow cells in Rows 42 to 45
- PPP with commercial debt yellow cells in Rows 50 to 53

### • CAPEX fully grant funded – yellow cells in Rows 58 to 61

#### Figure 21. Planning Tool- CAPEX funding

	Α	В	С	D	E	F	G	н	I. I.	J	К
29		PLANNING TOOL - POT	ENTIAL SOURCES	OF FUNDING	FOR EACH MO	DEL					
		The three tables below ser commitments would have	ve as a planning tool been secured at a pre	as it allows the e-feasibility sta	e user to identify p Ige, the user shoul	otential sources d Id populate below	of funding for eac v based on discus:	h of the capital stru sions with various s	ctures. As it is un takeholders to qu	likely that fundi uantify likely fun	ng ding gaps.
30		INSERT HERE POTEN	TIAL CAPEX SOUL	RCES. Note:	This information	will not be used	in the financial n	nodel.			
31	I INSERT HERE POTENTIAL SOURCES (OTHER THAN SECURED FUNDING)										
32		LG entity with concession	ary debt		Sour	ce 1	Sou	irce 2	Sou	rce 3	GAP
						Target		Target		Target	
33		CFA			Name	Amount	Name	Amount	Name	Amount	Amount
34		Grant	26%	15 402 286	DFI 1	10 000 000					5 402 286
35		Equity	0%	-							-
36		Commercial debt	0%	-							-
37		Concessionary debt	74%	44 880 634	DFI 2	20 000 000					24 880 634
38		Total funding	100%	60 282 920		30 000 000		-		-	30 282 920
39											
40		PPP with concessionary de	ebt		Sour	ce 1	Sou	irce 2	Sou	rce 3	GAP
41		CFA			Name	Target	Name	Target	Name	Target	Amount
42		Grant	61%	36 621 874	DFI 1	10 000 000					26 621 874
43		Equity	12%	7 098 314							7 098 314
44		Commercial debt	0%	-							-
45		Concessionary debt	27%	16 562 732	DFI 2	20 000 000					- 3437268
46		Total funding	100%	60 282 920		30 000 000		-		-	30 282 920

## C. OPEX (TAB 8)

The OPEX Sheet's purpose and functionality is described below in the green box. Rows 7 to 34 contain information that feeds through from the Input Sheet, but that has been adjusted for inflation. A key output of this sheet is row 36 which quantifies the project's revenues net of OPEX. For the project to be considered financially sustainable \$D\$36 should be greater than zero.

#### Figure 22. OPEX vs. Revenues

2	A B	C	D	E F G	н	1	L	К
3	TAB 8: OPEX							
4	This tab is for viewing the estima sources of revenue/savings to co additional sources of revenue/sa planning section do not pull throu	ted costs and funding for the actual operation and in over these costs, and (3) the OPEX funding surplus avings and to quantify their impact on the OPEX sur- ugh to the analysis sheets and key metrics of the m	maintenance (O or gap. It also co plus/gap. The po nodel.	&M) of the p ontains a pl otential ado	project breaking anning tool that a litional revenue/s	out: (1) the costs, allows the user to avings identified	(2) possible identify in the	
7	OPEX vs. REVENUE - ADJUSTE	D FOR INFLATION	Total	Year 0	Year 1	Year 2	Year 3	Year 4
8	OPEX	Note:						
9	Project Management (PM)	Operational FM	્યન્ટ			(e)	( <del>1</del> )	
10	Professional Support	Accounting & legal lees	( <del>-</del> )			100	5.00	=
11	Maintenance Labour	Labour costs during operations period	12 526 890		1 092 727	1 125 509	1 159 274	1 194 052
12	Replacement of Parts	Expenditure on replacments during operations period	11 254 536			450	2 608 367	2 686 618
13	Rent	Rent paid during the operations period	144		0	92-0 g	1423	Ø
14	Office costs	Office costs (other than rent), e.g. cleaning, telecommunic.	121		12	143	1944	125
15	Office equipment	Expenditure on office equipment	248 L		2	( <b>4</b> )	243	<u>_</u> ;;
16	Fees & Permits	Fees or permits payable during the operations period	(G40)		19	300 i	(1 <del>4</del> 1)	10 A
17	Taxes	Other than corp. tax, e.g. import duties & employee tax			18	2 <b>.</b>	0.60	÷)
18	M&V costs	Costs associated with the monitoring & verification					5 to 1	<del>.</del>
19	Other: INSERT HERE TYPE OF CO	-	33 775 099		10 927 270	11 255 088	11 592 741	<b>7</b> 2
20	Contingency	0% assumption input above				350		٦.
21	TOTAL OPEX COSTS		57 556 525		12 019 997	12 380 597	15 360 381	3 880 670
23	REVENUE - CFA 2021 terms			-				
24	Energy savings	Technical consultant to provide supporting calculations	1343		12	1223	813	( <u>1</u> 8
25	O&M savings	Technical consultant to provide supporting calculations	243		8	14.0	243	25
26	Fees paid by govt owned off-ta	Annual service revenues	(A)		18	-	741	140
27	Fees paid by private off-takers	Annual service revenues	87 688 233		7 649 089	7 878 562	8 114 919	8 358 366
28	Rental income	Paid by third parties to project	2 505 378		218 545	225 102	231 855	238 810
29	LG contribution	From Divin Source Revenues	12 526 890		1 092 727	1 125 509	1 159 274	1 194 052
30	NG fiscal transfer	From NG transfers	12 526 890		1 092 727	1 125 509	1 159 274	1 194 052
31	Service fees	Fees paid by users directly to project	1020		2	120	100	Q.
32	Other: INSERT HERE TYPE OF RE	Any other revenues, e.g. advertising revenue	345		12	125	123	<u>e</u> ;
33	Utility contribution	From Dwn Source Revenues	243		2	5 <b>4</b> 0	(#)	<u>9</u> 5
34	TOTAL OPERATING REVENUES		115 247 392		10 053 088	10 354 681	10 665 321	10 985 281
35								
	<b>REVENUE AVAILABLE TO REPAY</b>	Y FUNDERS/						
36	(OPEX FUNDING GAP)		57 690 867	-	1 966 909 -	2 025 916 -	4 695 060	7 104 611

The Planning Tool embedded in the OPEX Sheet allows the user to quantify potential additional sources of revenue that can be used to achieve financial sustainability or to increase the revenue available to repay funders. The user can insert additional revenue on an annual basis against prepopulated sources in Rows 42 to 50 and can create new revenue categories in Rows 51 to 55. Row 59 quantifies the project's revenue (net of OPEX) and adjusted for potential additional revenue sources to help the user identify ways to structure a financially sustainable project.

#### Figure 23. Planning Tool - OPEX

	Ав	C	D	E	F	G	н	1	J	к	L
38	PLANNING TOOL - POTE	NTIAL SOURCES OF REVENUE/SAVINGS TO CLOSE	THE OPE	X FUI	NDIN	NG G	AP				
39	The table below serves as a pla sustainability. The user can ide currency terms). <b>INSERT HE</b>	nning tool as it allows the user to identify potential sources of ntify potential additional sources of revenue to understand the RE POTENTIAL OPEX SOURCES. Note: This information	revenue or s ir impact on o <mark>n will not</mark>	avings the O <b>be u</b> t	to cl PEX f sed i	lose th unding <mark>n th</mark> e	e OPEX fundi g gap. Reven <mark>financial m</mark>	ng gap, thereby achiev ue/savings must be ins o <b>del.</b>	ving operational fi erted in base year	nancial , local	
40	Revenue opportunities	Note					Vear 1	Vear 2	Year 3	Vear 4	Vear 5
42	Energy savings	Technical consultant to convide supportion calculations					THE PLAN		Tean o	Teat 4	reer o
43	O&M savings	Technical consultant to provide supporting calculations									
44	Fees paid by off-takers	Annual service revenues									
45	Other income	e.g. advertising fees									
46	Rental income	Paid by third parties to project									
47	LG contribution	From Dwn Source Revenues									
48	NG fiscal transfer	From NG transfers									
49	Service fees	Fees paid by users directly to project									
50	Utility contribution	From Own Source Revenues									
51	Other - INSERT	INSERT HERE			_						
52	Other - INSERT										
53	Other - INSERT		-								
54	Other - INSERT										
55					_						
56	TOTAL ADDITIONAL REVENU	ES/SAVINGS (BEFORE ADJUSTING FOR INFLATION)		-	-			2 <b>-</b> 92 (2.22)		-	-
5/			12 13	-	-		-	1.4		-	
20	TOTAL ADDITIONAL REVENU	CO/ SAVINGS ( ADJUSTED FOR INFLATION)	-		-			-		-	
	REVENUE AVAILABLE TO	REPAY FUNDERS/									
59	(OPEX FUNDING GAP) -	after incl. potential revenue/savings	641 725				89 604	92 292	68 977	71 046	100 850

### 8. ANALYTICS SHEETS (TABS 9 - 12)

The Model contains below 5 TABS that can be used to access the 5 Analytics Sheets. No inputs are required from the user in these sheets as they contain the formulas and forecasts that feed into the Output Sheets. The user can select a sensitivity in the Scenario Analysis Sheet that will be compared to the Base Case.

		Figure 24. TAB view		
TAB 9 CAPITAL STRUCTURES	TAB 10 CORPORATE TAX	TAB 10A CORPORATE TAX SENS	TAB 11 IRR & GRANT ESTIMATION	TAB 12 SCENARIO ANALYSIS

The analytical approach used in the Model is illustrated below and the functionality of each sheet is described in more detail below.

Figure 25. Analytical approach used in the Model



## D. CAPITAL STRUCTURES (TAB 9)

The Capital Structures Sheet calculates the weighted average cost of capital (WACC) for each of the 3 debt-based Capital Structures. It uses the equity/debt structure selected by the user in the input sheet for each of the 3 debt-based Capital Structures as well as the associated return requirements input by the user (in the User Input TAB). It also solves for the percentage of CAPEX that needs to be grant funded under each Capital Structures to align the Project IRR with the WACC requirement of the 3 debt-based Capital Structures, thereby achieving bankability. For the fully grant funded Capital Structure it calculates the amount of grant funding required.

For more detailed information on capital structures/finance models for local climate projects, see the CoM SSA Report *"Finance Roadmaps for Climate Projects: How can local governments in Sub-Saharan Africa facilitate access to finance?,"* authored by Global Clearinghouse for Development Finance, October 2020. The report is available on GlobalDF's website and also at <a href="https://comssa.org/en/news/how-can-local-governments-in-sub-saharan-africa-facilitate-access-to-finance">https://comssa.org/en/news/how-can-local-governments-in-sub-saharan-africa-facilitate-access-to-finance</a>

## E. CORPORATE TAX (TAB 10)

The Corporate Tax Sheet calculates the the corporate income tax that will be payable under the two PPP/private sector Capital Structures by adjusting taxable income for interest and depreciation and applying the country's corporate income tax rate input in TAB 1, section D.

### F. CORPORATE TAX SENS (TAB 10A)

This sheet duplicates the calculations of TAB 10 for the Sensitivity Scenario selected in TAB 12 to inform the outputs of TAB 12.

### G. IRR & GRANT ESTIMATION (TAB 11)

This sheet first estimates the project's internal rate of return (Project IRR) based on its net nominal cashflows as illustrated below.



It then calculates the grant amount required to achieve bankability under each of the 3 debt-based Capital Structures by applying the WACC calculated for the 3 Capital Structures in TAB 9 to the forecast CAPEX. It subsequently calculates the Project IRRs for each of the 3 debt-based Capital Structures after accounting for the grant as well as the loan life coverage ratio (LLCR), both including and excluding grant funding. The loan life coverage ratio (LLCR) is used to indicate the level of cash flow available to pay debt obligations.

### H. SCENARIO ANALYSIS (TAB 12)

This sheet estimates the project's internal rate of return (IRR) when 1 of 6 sensitivities are applied. It also solves for the grant amount required under each of the 3 debt-based Capital Structures for the Sensitivity Scenario (replicating the calculations used in TABs 9 & 11).

The user can select 1 of 6 sensitivities from a drop down list in cell \$G\$6 to compare key metrics (i.e. grant requirement, total funding, project IRR, etc.) of the selected Sensitivity Scenario against the Base Case. The comparison is shown in Rows 19 to 58 for all 4 Capital Structures.

#### Figure 27. Sensitivity Scenario vs. Base Case

A	В	C	D	E	F	G	н	1	J	К	L	M	
5			BASE CASE				SELECTED SCENA	RIO	User needs to select scenario from dropdown list in				
6						S	ENS 1 - % incr. in C	APEX	G	6:16 to view key	metrics for each s	sensitivity scenario	
7	CASH FLOWS THROUGH PROJECT	LIFE CYCLE				20%	incr selected in inp	out sheet	1				
8		ADJU	STED FOR INF	LATION		A preliminary	assessment of fur	nding needs to be					
9	CFA	Costs	Funding	Surplus /(Gap)		Costs	Funding	Surplus /(Gap)			EXPLANATIONS		
10	(1) Project Development Costs		-	-		1	- E (	-	F	Project development	costs remain unchange	d	
11	(2) CAPEX (incl. contingency)	(602 179)	Į	(602 179)		(722 615)		(722 615)	0	Capex increases whe	n SENS 1 is selected		
12	Total Funding Surplus (Gap)			(602 179)				(722 615)	7	lotal funding change	s when SENS 1 is select	ed	
13					[	U. U.		10° - 2243					
14		OPEX	Revenue	Surplus /(Gap)		OPEX	Revenue	Surplus /(Gap)	F	Revenue changes wh	en SENS 4 or SENS 6 is s	elected	
15	(3) OPEX vs. Revenue	(237 814)	879 540	641 725		(237 814)	879 540	641 725	(	OPEX changes when S	ENS 2 or SENS 6 is selec	ted	
16	Project IRR (excl. grant)			1.3%				-2.3%	F	Project IRR is calculat	ed based on sensitise	d cashflows	
18			)										
19	CAPITAL STRUCTURE 1 - LG entity	with concessio	nary debt										
20	a dia ana amin'ny fisiana amin'ny fisi		Cashflows	3				21					
21	Funding required (capital)			602 179				722 615					
22	less proposed grant		8% of CAPEX	(48 475)		2	3% of CAPEX	(168 731)	(	Grant required under	sensitivity scenario to	achieve the Base Case IRR.	
23	Debt funding			553 704				553 884	[	Debt funding require	d under sensitivity scer	nario	
24	Cash available for debt returns			88 022				87 841					
25	Available cashflows			641 725			1	641 725					
26													
27	Project IRR (incl. grant)			3.0%				3.0%	F	Project IRR (incl. grant	t) is assumed to remain	n the same as under the bas	
- 22			S	10			P.						

### 9. OUTPUT SHEETS (OVERVIEW & TABS 2 - 5)

The Model's Output Sheets comprise of the Overview Sheet and the four Stakeholder View Sheets (TABs 2 to 5) as illustrated below

Figure 28. TAB view

### OVERVIEW TAB 2 GOV VIEW TAB 3 DP VIEW TAB 4 PPP EQUITY VIEW TAB 5 PRIVATE LENDER VIEW

The Overview Sheet summarises the key metrics calculated by the Model as well as targeted sources of funding identified in the Planning Tools. The 5 Output Sheets are designed to present the Model's results based on the criteria of the following key stakeholders and potential investors in the project, namely:

- Government (TAB 2: Gov. View)
- Development Partners (TAB 3: DP View)
- Private Sector Investors (TAB 4: PPP Equity View)
- Commercial lenders (TAB 5: Private Lender View)

No action is required from the user in any of the Output Sheets as they summarize information calculated elsewhere in the Model

### A. OVERVIEW SHEET



Rows 14 to 22 of the Overview Sheet summarise the aggregate cashflows of the project in Base Year terms (\$G:\$I) and nominal terms (\$K:\$M).

A	В	CE E F	G	Н	I	J K	L	М	Ν	0
	CASH FLOWS THROUGH									
14	PROJECT LIFE CYCLE	Details	S	AMPLE DATA			SAMPLE DATA			EXPLANATIONS
15	CFA			2021 terms		ADJU	JSTED FOR INFLA	ΓΙΟΝ		
16			Costs	Funding	Surplus or (Gap)	Costs	Funding	Surplus /(Gap)		
17	(1) Project Development Costs	TAB 6	(65 000)	-	(65 000)	(65 000)	-	(65 000)		
18	(2) CAPEX (incl. contingency)	TAB 7	(580 363)		(580 363)	(602 179)		(602 179)		
19	Total Funding Surplus (Gap)				(645 363)			(667 179)		Revenues only cover portion of CAPEX & all OPEX, project may attract grant funding
20										
21			OPEX	Revenue	Surplus or (Gap)	OPEX	Revenue	Surplus /(Gap)		
22	(3) OPEX vs. Revenue	TAB 8	(490 000)	720 000	230 000	(575 565)	879 540	303 974		Deemed financially sustainable as Revenue>OPEX

#### Figure 30. Aggregate cashflows

The Model generates the following explanations in column O based on the total available nominal cashflows

#### Table 1. Explanations generated by the Model

Logic	Explanation
If \$M\$22>=0	Deemed financially sustainable as Revenue>OPEX
lf \$M\$22<0	Not financially sustainable as OPEX >Revenue
lf \$M22 > abs(\$M19)	Revenues cover CAPEX & OPEX, project may be able to support debt

If \$M22 <abs(\$m19) \$m\$22="" and="">=0</abs(\$m19)>	Revenues only cover portion of CAPEX & all OPEX, project may be able to support
	debt if supplemented with significant grants
If \$M22 <abs(\$m19) \$m\$22<0<="" and="" td=""><td>Revenues only cover portion of OPEX, project is unlikely to attract any funding</td></abs(\$m19)>	Revenues only cover portion of OPEX, project is unlikely to attract any funding

Rows 30 to 74 summarise the grant requirements for each of the four capital structures as well as other key metrics such as GHG emissions per dollar of grant funding, leverage ratio achieved by the capital structure, project IRR etc. The outputs related to the first capital structure (LG entity with concessionary debt) is illustrated below.

1	A	B C D	E	F G	н	1	J K L	M	
26		Four blended finance capital struct required grants amounts, and GHO	ures are i saving	e presented below, s	, showing p	oreliminary rat	tios measuring bankability/i	nvestabiilty,	
27 28		POTENTIAL FUNDING STRUCTURES		SAMI	PLE ANALYS	IS	SAMPLE ANALY	SIS	
29	A	LG entity with concessionary debt		Fund	ding Structure	2	Cashflows		Grant amount
30				Grant	26%	15 402 286	Funding required (capital)	60 282 920	
31				Equity	0%	120	less proposed grant	(15 402 286)	- achieve 3%
32				Commercial debt	0%		Debt funding	44 880 634	WACC
33				Concess.debt	74%	44 880 634	Cash available for debt returns	12 810 233	
34				Total funding	100%	60 282 920	Available cashflows	57 690 867	1
35									
36		PROJECT IRR - excl. grant	TAB 9	Project IRR (without	-0.5%		WACC of capital structure	3.0%	
37		PROJECT IRR - incl. grant	TAB 9	grant)	3.0%		LLCR (incl. grant)	2.00	how much cash
38		LEVERAGE RATIO (debt unlocked by grant	)		2.91		LLCR (excl. grant)	1.19	is generated vs.
39		GHG savings/US\$ grant funding			6.99		Grant (US\$ equivalent)	\$28 629	debt
				GHG per :	a savings ach \$ of grant fu	ieved nding			communents

Table 2. Key outputs and metrics displayed for each capital structure

Rows 78 to 89 quantify the net financial benefit/cost to different government entities of undertaking the project. The Model quantifies potential taxes and other financial benefits that can be offset against contributions and costs to show the net position.

A	B C D	E	F G	Н	I.	J	К
78	FINANCIAL BENEFITS vs. COMMITMI	ENTS	LG	NG	Utility		TOTAL, CFA
79	1) Energy Savings	TAB 2	-	-	-		-
80	2) O&M Savings	TAB 2	-	-	-		-
81	Financial benefits incl. in project's cashflow	vs	-	-	-		-
82	3) Est. taxes generated for NG	TAB 2		23 086 098			23 086 098
83	4) Est. additional rates earned by LG	TAB 2	-				-
84	Total financial benefits		-	23 086 098			23 086 098
85	Less Fees paid by govt owned off-takers	TAB 2	-	-	-		-
86	Less LG contribution	TAB 2	(12 526 890)				(12 526 890)
87	Less NG fiscal transfer	TAB 2		(12 526 890)			(12 526 890)
88	Less Utility contribution	TAB 2			-		-
89	Net financial benefits (before grant contrib	outions)	(12 526 890)	10 559 207	-		(1 967 683)

### Figure 31. Summary of benefits vs. commitments

The non-financial benefits and impact of the project is estimated in Rows 92 to 93 by quantifying potential GHG emission savings and jobs created.

### Figure 32. Summary of non financial benefits

	Α	В	C D E F	G	Н	I.	J K
91		NON FINANCIAL BENEFITS	& IMPACT			UNIT	TOTAL
92		1) GHG emission savings	TAB 1			Tons	200 000
93		2) Job Creation	TAB 1			FTE jobs	30

Below graph is included in the Overview Sheet that illustrates operational cashflows that may be available to service debt in each year.



Rows 116 to 133 summarise the information input by the user into the planning sections of the Project Cycles & Planning Sheets. It identifies amounts of funding that can be targeted to close the funding gap as well as remaining funding gaps for which target funders need to be identified.

### Figure 34. Outputs from planning tools

A	В	С	D	E	F	G	Н	I.	J	К	L	М
		с т <i>о</i>										
116	OUTPUTS FROM PLANNING	GIU	JOLS	FOR TH	EЗ	STAGES OF TH	E PROJECT LIFE	CYCLE				
117												
118	1) Project Development			TAB 6								
119	Total estimated costs							65 000				
120	less secured funding							-				
121	Funding gap for project develop	pmer	nt					65 000				
122	less potential funding identifed	in pl	anning	tool				-				
123	Remaining funding gap for proj	ect d	levelop	oment				65 000				
124												
								PPP with		commercial		
125	2) CAPEX			TAB 7		LG entity with co	ncessionary debt	concessionary de	bt	debt	CAPEX fully (	grant funded
126	Total funding required (incl. unf	unde	ed PD c	osts)			60 282 920	60 282 92	20	60 282 920		60 282 920
127	Potential funding identified						30 000 000	30 000 00	00	15 000 000		15 000 000
128	Remaining funding gap						30 282 920	30 282 92	20	45 282 920		45 282 920
129												
130	3) REVENUE			TAB 8								
131	REVENUE AVAILABLE TO REPAY F	FUNE	DERS/(C	OPEX FUI	NDIN	IG GAP)		57 690 867				
132	Additional revenue/savings ider	ntifed	d					-				
	REVENUE AVAILABLE TO REPAY	FUN	DERS/	(OPEX								
133	FUNDING GAP) - after incl. pote	entia	l reven	nue/savir	ngs			57 690 867				

## B. GOVERNMENT VIEW (TAB 2)

The Sheet's functionality is described in below extract from the Model.

#### Figure 35. Sheet overview (TAB 2)

	Α	В	С	D	Ε	F	G	Н	1	J	К
1											
2		TAB 2: GOVERNMENT VIEW	1								
3		This tab calculates supplemental information local government(s). Both financial and no project's impact.	on on the l n-financial	benefits and impact I benefits are quanti	of th fied	e project, breaking below to enable NC	out p G and	otential benefits foi LG decision make	r the rs to	e national gover o understand ley	nment and the / aspects of the

The Government View Sheet summarises information calculated elsewhere in the Model across the following headings:

- Financial benefits achieved by the project vs. commitments from government (Rows 5 to 16)
- Non-financial benefits & impact such as GHG emission reductions and jobs created (Rows 17 to 19)
- Estimated taxes generated for National Government (Rows 28 to 38)
- Estimated rates earned by Local Government(s) (Rows 47 to 49)

### C. DEVELOPMENT PARTNER VIEW (TAB 3)

The Sheet's functionality is described in below extract from the Model.

#### Figure 36. Sheet overview (TAB 3)

	Α	В	С	D	E	F	G	Н					
1													
2		TAB 3: DEVELOPMENT PARTNER VIEW											
		This tab provides information that is important for development partners that are providing grants, concessionary finance, and											
		technical support. There are 4 sections: (1) project management viability, (2) key metrics including internal rates of return and											
3	weighted average cost of capital, (3) impact, and (4) quality of potential support for the project.												

The Development Partner View Sheet summarises information calculated in the Model across the following headings:

- Project management viability (Rows 5 to 9)
- Key metrics for the four capital structures (Rows 14 to 29)
- Description of project's impact (Rows 31 to 35)
- Quality of support being provided by stakeholders (Rows 39 to 54)

## D. PPP EQUITY VIEW (TAB 4)

The Sheet's functionality is described in the below extract from the Model.

#### Figure 37. Sheet overview (TAB 4)

	A	В	С	D	E	F	G	I	J	к
1										
2	Т	AB 4: PPP EQU	ITY VIEW	1						
	Thi rev	s tab illustrates the pro enue quality and credi	oject's ability t t enhancemen	o meet investr t opportunities	ment requirements 5. There are 3 sections	fro ons	om a PPP equity investo s dealing with (1) projec	r's perspective. It also t management viabilit;	con y, (2	tains information in respect of 2) key metrics including internal rates
3	ofi	eturn and weighted av	erage cost of	capital, and (	<ol><li>quality of potent</li></ol>	tial	support for the project.			

The PPP Equity View Sheet summarises information calculated in the Model across the following headings:

- Project management viability (Rows 5 to 9)
- Key metrics for the PPP and private sector capital structures (Rows 14 to 35)
- Quality of support being provided by stakeholders (Rows 39 to 58)

## E. PRIVATE LENDER VIEW (TAB 5)

The Sheet's functionality is described in below extract from the Model.

Figure 38. Sheet overview (TAB 5)

A	В	С	D	E	F	Н	I	J	К
1									
2	TAB 5: PRIVA	TE LENDER	VIEW						
3	This tab illustrates the in respect of revenue rates of return and we	e project's poter quality and crea eighted average	ntial credit pro dit enhancem cost of capita	ofile and ability t ent opportunities II, and (3) quali	to meet due diligence requirement s. There are 3 sections dealing wi ty of potential support for the proj	s from a commercial le th (1) project managen ect.	ender's perspective. It nent viability, (2) key n	also contains netrics includ	s information ling internal

The Private Lender View Sheet summarizes information calculated in the Model across the following headings:

- Project management viability (Rows 5 to 9)
- $\circ$  Key metrics for the PPP and private sector capital structures (Rows 12 to 44)
- Quality of support being provided by stakeholders (Rows 50 to 68)

# For more information, please contact GlobalDF through the website contact form on <u>www.globaldf.org</u>

If interested in supporting the scaled up use of the tool and its improvement, please contact Dr. Barbara Samuels, Executive Director of GlobalDF at barbara@globaldf.org