BUDGET FACILITY FOR INFRASTRUCTURE

BUDGET STATEMENT USER GUIDE

MARCH 2019

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Any queries in respect of this User Manual can be addressed to infrastructure@treasury.gov.za.

1. Preamble

The Budget Facility for Infrastructure (BFI) Budget Statement has been prepared to provide a template to comply with the Budget Statement section of the BFI guidelines. The Budget Statement provides the financial information which is required for all primary submissions made by project sponsors to the BFI.

The user guide is designed to aid the user of the BFI Budget Statement when capturing data and information into the Ms Excel template and provides a step by step guide on how to populate the template with data. The guide also explains the use of output sheets and scenarios.

2. Template Framework

The table and diagram below set out the template framework. Sheets shaded green represent inputs; red – calculations; and blue – outputs.

The Inputs Sheet (Green label)	All the information on costs and revenues related to the project must be fulfilled in this sheets. In other words, **the users should not enter any data in the other sheets of the template.**
The Output Sheets (Blue label)	The three Output Sheets provide the information required for the appraisal of the project (BFI submission): 1. the Budget Statements and Financial Ratio 2. the associated Graphs 3. the Sensitivity sheet

3. Data Entry

The template allows for data to be entered in various units of measure. The user must first select the unit of measure of input data they wish to use and then enter the input data in the blue coloured input cells as detailed below.

Input Sheet Cells	Data to enter
Column B	This is the unit in which the data are expressed. Such unit shall only be entered for "Total Capacity" and "Unit Price" in Revenue. **The other units in Column B cannot be modified**. All monetary values should be expressed in Rand.
Columns E to G	Each column represents different data assumptions for conducting sensitivity analysis. *(See part 5 on how to run sensitivity analysis).* The unit price set in column E to G should be consistent with unit set for "Total Capacity" in order to calculate a **revenue in Rand**, for example: ▪ Electricity: if Total Capacity (annual volume) is set in MWh/ year, price unit should be expressed in R/MWh.

Input Sheet Cells	Data to enter
	▪ Water: if Total Capacity (annual volume) is set in Million litres/year, Unit Price should be expressed in R/Million litres. ▪ Hospital: price in R/Bed if capacity is expressed in bed. ▪ Toll road: Unit Price = tariff applicable per driven km if Total Capacity is expressed in annual kilometres driven (R/Km). ▪ Transport: fare if Total Capacity is expressed in passenger trips per year (R/passenger trip).
Timing	
Base Date	All the revenue and cost values will be inflated by the template from the set Base Date, this is the *Feasibility Study* date.
Date Start of Construction	Expected date at which construction will start.
Construction Period	Duration in months of construction period (i.e. period between the date of construction start and the date of commissioning).
Project life	This is the number of years the project will operate i.e. from the commissioning to decommissioning.
A. REVENUE & EXPENDITURE STATEMENT	**(DATA AS OF DATE OF BASE DATE)** It is assumed in the template that revenues and costs values will entered in the input sheet as at the date of the *Feasibility Study* date. Hence the template will inflate such data since such feasibility study date.
1. Revenues Operation during Construction ▼	The user can choose between two options: 1. "No Operation During Construction". In such case, revenues and opex will start running from construction completion date. 2. "Operation During Construction" period. In such case the revenues and Opex are running during the construction and are a function of the yearly completion rate.
[Revenue Source Name]	Put names of the revenue source name in column A
Total Capacity	In Column E to G enter the expected annual capacity/volume of production from different sources, for example: ▪ Water: Million litres/year. ▪ Electricity: MWh/year. ▪ Hospital: number of beds. ▪ Toll road: Mileage of the built road in kilometres. ▪ Public transport: Annual passenger trips. Units in Column B should be consistent with the Unit Price chosen (*see below*).
Unused Capacity Rate (% of production)	The Unused Capacity Rate (%) represents the part of the maximum production capacity (as set above)

Input Sheet Cells	Data to enter
	which is either unused or lost in the system, for instance: • Water: leak rate also termed unaccounted for water rate, • Electricity: grid losses - loss rate of electricity in the grid between the plant and the user. • Hospital: percentage of unoccupied beds (=1-occupancy rate) • Toll road: percentage of unusable road, • Transport: percentage of unpaid fares (Evasion rate).
Unit Price	The unit price set in column E to G should be consistent with unit set for "Total Capacity" in order to calculate a **revenue in Rand**, for instance: • Electricity: if Total Capacity (annual volume) is set in MWh/year, price unit should be expressed in R/MWh. • Water: if Total Capacity (annual volume) is set in Million litres/year, Unit Price should be expressed in R/Million litres. • Hospital: price in R/Bed. • Toll road: Unit Price = tariff applicable per driven km if Total Capacity is expressed in annual distanced travelled in kilometres (R/km). • Transport: tariff by passenger trip if Total Capacity is expressed in number of passenger trips per year (R/passenger trip).
2. OPEX p.a.	
Variable Costs	These are costs which vary with output. Operation and maintenance cost of the project will be inflated by the template with CPI and function of project output.
Operation & Maintenance	Total annual Rand value of variable operation and maintenance costs as reported in the *Feasibility Study* or proposal document.
Machinery & Equipment	Total annual Rand value of variable machinery and equipment costs as reported in the *Feasibility Study* or proposal document. Examples include project's machinery and equipment such as turbines, pipes, medical equipment, buses, trains.
Utilities & Consumables	Total annual Rand value of variable utilities and consumables costs as reported in the *Feasibility Study* or proposal document. Examples include water, electricity and fuel costs.
Fixed Costs	
Fixed Cost	Total annual Rand value of fixed cost incurring from commissioning date. These costs do not vary with production.

Input Sheet Cells	Data to enter
Insurance Cost	Total annual Rand value of fixed insurance costs incurred from the commissioning date.
3. CAPEX – Total	
Fixed Construction Price (not inflated) No ▼	Select "Yes" if the EPC contract is "Fixed Price", i.e. the EPC contractor is bound to deliver the infrastructure at a set price (not inflated during the construction period). Select "No" if construction prices will be inflated during the construction period.
Capital Expenditure	Total Rand value of the estimated capital expenditure expected for building the infrastructure.
Other Capex	Total Rand value of other capital expenditures related to the project.
Assumption of Capex timing	The template assumes that the Capex will be spread equally over the construction period. For instance, if the construction period is 5 years, Capex will be disbursed by 20% per year.
Scheduled Maintenance	Major maintenance, renovation, refurbishment works on the project to be undertaken within its lifecycle. These costs are capitalised.
Frequency (every X year)	Frequency of scheduled major maintenance. For instance, if it is expected the project will require major maintenance work every 10 years, the value will be 10.
Major Maintenance Costs (% of Capex)	Major maintenance costs are expressed as a percentage of the total initial capex value.
B. FUNDING STATEMENT	**(FIGURES AS OF THE *FEASIBILITY STUDY* DATE)** This section captures data relating to the different sources of funding for the project for both capex and opex.
Contributions covering Capex	Enter the total annual public contributions which will be budgeted yearly for funding Capex during the construction period. In instances were a contribution source is not provided in the labels, the user can combine several contributions in one item.
Department Baseline	Enter the annual budgeted department's baseline amount. Such amount is assumed to be available for each year of the construction period, and are not inflated. Values beyond the MTEF period will be inflated.
External Organisation Grant	Enter the annual budgeted external organisation grant amount. Examples include Official Development Assistance.
Capex Grant	Enter the annual budgeted capex grant amount.
Provincial Treasury Instruction	Enter the annual budgeted Provincial Treasury Instruction amount.
Debt	
Total Amount	Maximum private debt amount committed by debt providers (Banks, DFI) to finance the project.

Input Sheet Cells	Data to enter
% Guaranteed by NT	Percent of private debt required to be guaranteed by the government/NT.
Grace Period (Years)	Grace period in years after the end of construction date before the debt starts amortizing.
Repayment Period (Years)	Number of years the debt will be repaid (including the grace period). Amortization is assumed to be straight line. **Warning:** the Repayment Period cannot be longer than the Project Life (Cell B62 checks such condition).
Interest rate % p.a.	Annual interest rate accruing on the private debt.
Arranging Fee	Fees that may be invoiced by the bank for providing the loan. The fee is assumed to be paid upfront at the construction start date and expressed as a percent of the total loan amount.
Commitment Fee in % p.a.	Fees invoiced by the bank on the annual undrawn amount of the loan during the construction period.
Contributions covering Opex	Enter all the annual public contributions which will be budgeted yearly for funding opex during operating period of the project. In instances were a contribution source is not provided in the labels, the user can combine several contributions in one item.
Department Baseline	Enter the annual budgeted department's baseline amount. Such amount is assumed to be available for each year of the construction period, and are not inflated. Values beyond the MTEF period will be inflated by CPI.
Provincial Grant	Enter the expected annual budgeted (MTEF) amount from provincial grants. Such an amount will be assumed to be available for each year of the operation period, and will be inflated by CPI every year.
Provincial Treasury Instruction	Enter the annual budgeted Provincial Treasury Instruction amount. Such an amount will be assumed to be available for each year of the operation period, and will be inflated by CPI every year
Municipal Grant	Enter the annual budgeted municipal grant amount. Such amount will be assumed to be available for each year of the operation period, and will be inflated by CPI every year
Municipal Council Funds	Enter the annual budgeted municipal council funding amount. Such an amount will be assumed to be available for each year of the operation period, and will be inflated by CPI every year.
Municipal Levies	Enter the annual budgeted municipal levies amount. Such amount will be assumed to be available for each year of the operation period, and will be inflated by CPI every year.

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Input Sheet Cells	Data to enter
Tax and Accounting Data	
Corporate Tax rate	Corporate tax rate applicable to net revenues of the project.
Depreciation Period (=< Project Life)	Number of years the project asset (capex) will be depreciated as per accounting and tax rules. The Depreciation Period should be no more than the Project Life (Cell 74 checks such condition).

4.   Operation of the Template

The Budget Statement Sheet

All amounts can be displayed either in Rand (as per amounts filled in the Input Sheet) or in Million Rand, by using the box in cell A6: M Rand

A. EXPENDITURE STATEMENT	
CAPEX	
Capital Expenditure	From column F: yearly value of Capex (inflated or not, depending of the chosen option in input sheet, cell B5) Column C: sum of all annual capex over the construction period If inflated: the rate of inflation is the Capex Inflation rate.
Other Capex	Column C: sum of all annual other capex over the construction period.
Total Capex (a)	= total of above lines
Finance Charges (b)	Shows the sum of interest during construction, commitment and arranging fees accruing during the construction period.
Scheduled Maintenance (c)	Shows the value of Scheduled Maintenance, which is equal to the proportion of the initial value of capex set in Sponsor Input Sheet, but inflated at the year of occurrence of the scheduled maintenance.
Total Capex (Incl Finance & S Maintenance) (d)	**d = a + b + c**
Real Capex	= d but uninflated (volume value)
Basis for Depreciation	Value of capex to be depreciated for tax.
Depreciation on Material Assets	Annual value of depreciation = Infrastructure asset carrying value/depreciation years. The value is used for the calculation of corporate taxes.
OPEX & FINANCIAL CHARGES	
Variable Costs	
Operation & Maintenance	Value of annual O&M, machinery and equipment and utilities, inflated by CPI
Machinery & Equipment	▪ Times the rate of completion during construction period, if such option is chosen in Input Sponsor sheet. Otherwise starts to accrue from the
Utilities	commissioning date.
Fixed Costs	

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Fixed Cost	
Insurance Cost	Fixed cost, inflated by CPI, starts to accrue from the commissioning date.
Corporate Tax	Tax to be paid on positive net taxable earning (i.e. after depreciation) by the project
Finance Charges on Debt	Displays the sum of interest, commitment and arranging fees accruing during the operation period.
Finance Charges on BFI	Displays the interests paid on the BFI drawdowns (Treasury Bonds: domestic and concessional / international).
Total Operating & Finance Costs (e)	Sum of the above
Real Total Operating & Finance Cost	Value of "e" but not inflated (volume).

TOTAL EXPENDITURES (f)	**f = d + e**
REAL TOTAL EXPENDITURE	**Equals to f but uninflated (volume)**

B. FUNDING STATEMENT	

	The template assumes the following cashflow waterfall for funding Capex:
	
	+ Capex
	  - Operating Balance (if <0 => increase funding need)
	    - Contribution for Capex
	      - Private Debt drawdown
	        - BFI drawdown (last resort)

Total Capex (a)	Same value as "Total Capex" in Expenditure Statement.
- Arranging Fee	
- Interests	Displays the details of the financial charges.
- Commitment Fee	
Finance Charges on Debt (b)	= sum of the above accruing during the construction period.
Operating Balance (c)	= Operating Balance accruing during construction period.
Corporate Tax (d)	Tax to be paid on positive net taxable earning (i.e. after depreciation) by the project.
Funding Requirement for Capex (e)	e = a + b + c +d
Funding Resources	Expected drawdown amounts of public resources (as planned in the MTEF) to be used to fund the funding requirement for capex (e).
Contributions covering Capex	First line (Department Baseline) is used first and the second line is drawn in case of a remaining funding need, and so on, until all lines have been depleted (waterfall drawdown).
Department Baseline	Expected drawn amount
External Organisation Grant	

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Capex Grant
Provincial Treasury Instruction

Drawdown on Contributions for Capex (f)	Sum of public contributions for capex
Funding Gap after Contributions (g)	g = e – f, such gap to be fund by the Private Debt and the BFI (last resort funding)

Private Debt

Debt available	Amount of debt available at beginning of period = Total Debt – sum of previous drawdowns on debt.
Total Debt (Beginning of Period)	Debt outstanding at beginning of period.
Drawdown on Debt (h)	Debt drawn during the period: is equal to the max of "g" and the "Debt available".
Debt Amortization	Debt amortizing (principal payment) during the period
Total Debt (End of Period)	Debt outstanding at the end of period.
Total Funding (i)	*i = f + h, sum of drawdown of Contribution for Capex and Private Debt.*
Drawdown on BFI for Capex (j)	j = e - i , BFI drawdown equals the funding gap for capex after public contribution and debt drawdown, i.e. ___last resort funding___.

C. CASH FLOW STATEMENT	
Total Revenues	Value of all annual revenues
Less Total Opex	Value of all Opex
Operating Balance (a)	= Total Revenues – Total Opex
Less Capex	Value of all Capex
Less Scheduled Maintenance	Value of Scheduled Maintenance
Less Corporate Tax	Tax to be paid on positive net taxable earning (i.e. after depreciation) by the project
Less Finance Charges	Value of Finance Charges (Interest and Fees on Private Debt)
Less Principal Repayment	Value of Principal payment (Debt amortization)
Net Cash Flow after Capex (b)	b = a – sum of the above = Funding requirement for Capex less Net Operating Cash flow
Contributions covering Opex	Lines below display the expected annual value of public contributions covering Opex. The Template assumes a cash waterfall: each year, the first line must be depleted before the following one is drawn, and so on.
Department Baseline	
Provincial Grant	
Provincial Treasury Instruction	
Municipal Grant	
Municipal Counsel Funds	
Levy	
Total Contributions covering Opex (c)	= sum of the Contributions covering opex
Net Cash Flow after Contribution covering Opex (d)	d = c - b
Contributions covering Capex	
	Lines below display the expected annual value of public contributions covering Capex

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The Template assumes a cash waterfall: each year, the first line must be depleted before the following one is drawn, and so on.

Department Baseline
External Organisation Grant
Capex Grant
Provincial Treasury Instruction

Total Contributions covering Capex (e)	**= sum of the Contributions covering the capex**
Total Net Cash Flow before Debt (f)	$f = d - e$
Debt drawdown (g)	Displays the value of the expected drawdown of private debt to cover the capex
BFI Funding required (h)	$h = f - g$. BFI funding is the amount required to make up the annual Cash Flow shortfall over the project lifecycle, i.e. the **last resort funding to make up residual funding gap**.

D. Fiscus Contribution	
Contingent Liability	= % of private debt guaranteed by National Treasury
BFI Contribution	Displays the drawdowns on BFI and the interests paid on such drawdowns. This represents the total project's cost for the BFI.
Public Contributions	Displays the sum of all the public contributions (covering capex and opex) made to fund the project.
Annual Net Fiscus	= Public Contribution + BFI Contribution – Corporate Tax with BFI Contribution = Interest paid on BFI + BFI drawdown. It shows the net project's cost for the budget (public fund).
Annual Net Fiscus + Contingent Liability	Represents the total commitment (balance sheet and off-balance sheet) for the Fiscus related to the project.

E. Financial Ratios	

Expenditure Ratios	
Cost per Unit (with finance charges, BFI)	= PV of Total Expenditures (incl. Finance and BFI charges) / PV of Output Volume; The ratio asses the total cost of producing one unit. For instance: • cost of production of one MWh for electricity; • cost of one m3 for water; • cost of one Km of built road, • cost of one bed for hospital.
Cost per Unit (without finance)	= PV of Total Expenditures (exc. Finance Charges) / PV of Output Volume; • The ratio asses the cost of producing one unit, but not including the finance charges of the private debt and of the BFI. • Not including the finance charges (BFI and private debt) allow a comparison between projects with different share of Public Contribution.

- I.e. a project with higher share of public contribution in its funding structure will benefit from a lower Cost per Production ratio when including finance charges.

Operation Ratios	
Sustainability Ratio (without Scheduled Maintenance)	= PV of Revenues / PV of Opex • If > 1, Project's revenues cover the Opex, i.e. the operating balance is positive over the project's lifecycle (and inversely). • This ratio does not take into account the impact of scheduled major maintenances occurring during the life of the project, nor the debt service.
Sustainability Ratio (Inc Scheduled Maintenance)	= PV of Revenues / PV of Opex • If > 1, the operating balance of the project is positive over its whole lifespan. • This ratio takes into account the impact of the scheduled maintenances occurring during the project's lifespan. However, debt service is not included.

Comment	if Sustainability Ratio (inc Scheduled Maintenance) > 1
	    => "Project Sustainable", since the project won't have to rely on public contributions and BFI to cover its operation and maintenance over its lifecycle.
	
	if Sustainability Ratio (inc Scheduled Maintenance) < 1
	    => "Project Unsustainable"

Fiscus Efficiency ratios	
Fiscus over Capex	= PV of Net Fiscus Costs / PV of Capex • It asses the net cost for the Fiscus per investment unit. • For instance: if the ratio is 2, this means the project's cost born by the budget (over it full lifespan) is twice the value of the initial investment (asset).

Fiscus over Unit	= PV of Net Fiscus Cost / PV of Output Volume;
	• The ratio asses the total Fiscus cost of producing one unit.
	• For instance:
	    o Fiscus cost of production of one MWh for electricity;
	    o Fiscus cost of one m3 for water;
	    o Fiscus cost of one Km of built road,
	    o Fiscus cost of one bed for hospital.

Bankability Ratios	
Debt Coverage Ratio	= PV (Net Operating Cash Flow – Scheduled Maintenance – Corporate Tax) / PV Debt Service

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	• The ratio asses the ability of the project to pay its debt service (interest + principal) with its operating profit only over the loan's duration (Loan Life Cover Ratio (LLCR)).
Comment	• If Ratio > 1.10: "PPP eligible". I.e. the project may be eligible for a **"PPP – Concession"** type procurement, since the project is expected to generate sufficient net cash flow to cover its debt service over its lifecycle (with a 10% buffer). • If Ratio < 1.10: "Not eligible for PPP". The expected solvency of the project is not sufficient for a PPP-Concession procurement.
Debt Coverage Ratio (with Public Contributions)	= PV (Net Operating Cash Flow – Scheduled Maintenance – Corporate Tax + Public contributions) / PV of Debt Service • The ratio asses the project's ability to pay back its debt service with its net operating revenues and public contributions over the loan's duration (LLCR).
Comment	• If Ratio > 1, the expected project's operational revenues together with public contribution should be sufficient to cover the debt service. **No NT guarantee should be required**. **The project may be also eligible for a "PPP-Public Payment"** type. • If Ratio < 1, the expected project's operational revenues together with public contribution should NOT be sufficient to cover the debt service. **NT guarantee should be required**.

The Graphs Sheet
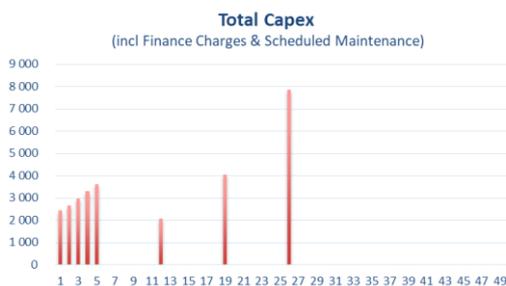
"Total Capex" graph shows the amounts of Capex, including Major Scheduled Maintenance over the project lifecycle.

"Sources of Capex Funding" graph shows how the capex (during the construction period only) will be financed: Public Contribution for Capex, Private Debt, BFI (the Operating Balance if positive during the construction period.)

Sustainability

"Financial Sustainability" graph shows the evolution of operating revenues and opex (left axis) during the project lifecycle. The difference between the 2 curves shows the Operating Balance shortfall.

Bars represent the amounts of Scheduled Maintenance (right axis) during the project lifecycle.

Total Operating & Finance Costs

"Total Operating and Finance Costs" graph shows the evolution of all project costs during the operational phase.

Outstanding Private Debt
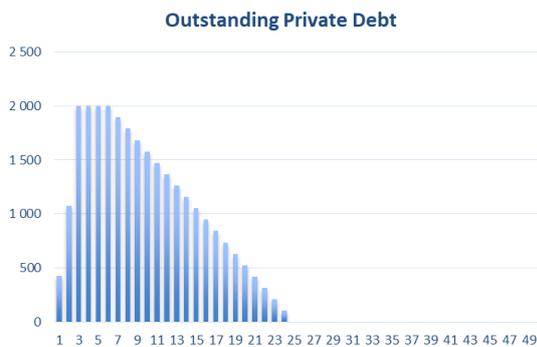
"Outstanding Private Debt" graph shows the evolution of the total amount of Private Debt during the project lifecycle.
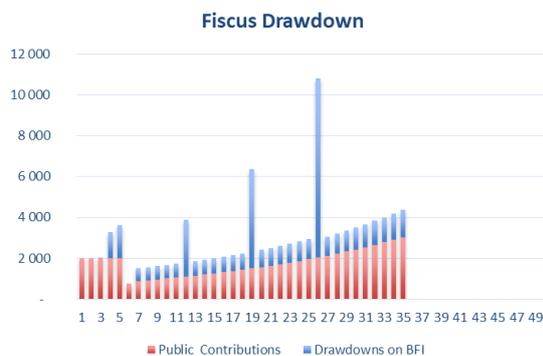
Fiscus Drawdown

"Fiscus Drawdown" graph shows how the budget will contribute to the funding of the project during its full lifecycle.

Fiscus drawdowns are split between Public Contributions (capex and opex) and the BFI.

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5.   Key User Sensitivities

The Input Sponsor sheet allows defining three scenarios: Sponsor Case, the Base Case, and the Worst Case. The BFI Budget Statement will be run a macro based on of each scenario data, depending of the option selected in the box located on cell B5 of the "Input Sponsor" sheet:

Sponsor Case ▼

The "Sponsor Case" is defined as the scenario based on the assumptions provided by the project's sponsor.

The other two cases can be defined freely, depending on the risks perception for each project. An example of risk-sensitivity analysis may include the following two scenarios:

The Base Case	Such scenario may be defined as a modified Sponsor Case where costs (opex and capex) and construction period are increased and. revenues decreased. The assumed cost overruns, project delays and revenue drop are set as an <u>average value</u> occurring for this kind of project. For instance: - It has been witnessed in past hospital projects that on average: cost overruns averaged 50%, and opex increased by 30% and construction period increased by 100%, against the initial value set out in the feasibility study. - Therefore, the template macro run will adjust the Sponsor Case values by 50% and 30% higher for Capex and Opex respectively. The construction period will be increased by a factor of 100%, i.e. 100% longer than in the Sponsor Case. Since such scenario is based on average observations, it means there are 50% chances of having actual figures either 50% higher of lower than the one forecasted into the Base Case scenario. Assumptions on revenues (volumes and prices) can also be modified in a similar manner.
The Worst Case	This scenario is defined as the case run with cost overruns (opex and capex), project delays and revenue drop. Assumptions used to adjust the Worst case scenario are based on observed worst case figures for infrastructure projects in the past. With enough available and observable data from similar past projects, it is customary to fill the Worst-Case scenario with such data (over-cost, delay, revenue drop) for the 90 or 95% observed worst cases.

The BFI Budget Statement includes a macro button in the Input Sponsor sheet (cell D3).
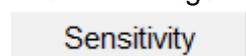
Sensitivity

By pushing this button, the template will automatically run the three scenarios as set in the Input sheets and populates the "Sensitivity" sheet which will then display the summarised outcomes of the three scenarios.