BeST (Benefits of SuDS Tool)

W045d BeST – User Manual

Release version 2
February 2016

need help? email: **best@susdrain.org**

BeST (Benefits of SuDS Tool) User Manual

Digman, C.J., Horton, B., Ashley, R.M. and Gill, E.

CIRIA W045d RP993 ISBN: 978-0-86017-770-8

British Library Cataloguing in Publication Data

A catalogue record is available for this book from the British Library

Keywords		
Sustainable drainage systems, drainage, sewers, SuDS, multiple benefits, monetary values,		
Reader interest	**Classification**	
Assessing the benefits of SuDS and other drainage enables conversations with interested stakeholders and identify other potential funding routes. Understanding the wider value of different drainage options provides greater information to support decision makers make choices.	**AVAILABILITY**	Unrestricted
	CONTENT	Advice/guidance
	STATUS	Committee-guided
	USERS	Drainage engineers, highway engineers, flood risk managers, landscape architects, spatial planners, consultants

Published by CIRIA, Griffin Court, 15 Long Lane, London, EC1A 9PN, UK

Front Cover Image: The Triangle, Swindon courtesy of Studio Engleback, Curtins Consulting & Kevin McCloud

Components of BeST

W045a BeST: Evaluation Tool: *supporting practitioners evaluate benefits for a drainage proposal*

W045b BeST: Options Comparison Tool: *Tool to compare more than one drainage proposal*

W045c BeST Technical Guidance: *Provides technical information behind the tool*

W045d BeST User manual: *Provides an overview of how to use the tools W045a and W045b*

Funders

Dŵr Cymru Welsh Water

Flood and Coastal Erosion Risk Management R&D

JBA trust

Thames Water

Essex & Suffolk Water a YTL company

SEVERN TRENT WATER

NIEA www.doeni.gov.uk/niea Northern Ireland Environment Agency

YorkshireWater

SUPPORTED BY

MAYOR OF LONDON

Overview of User Manual contents

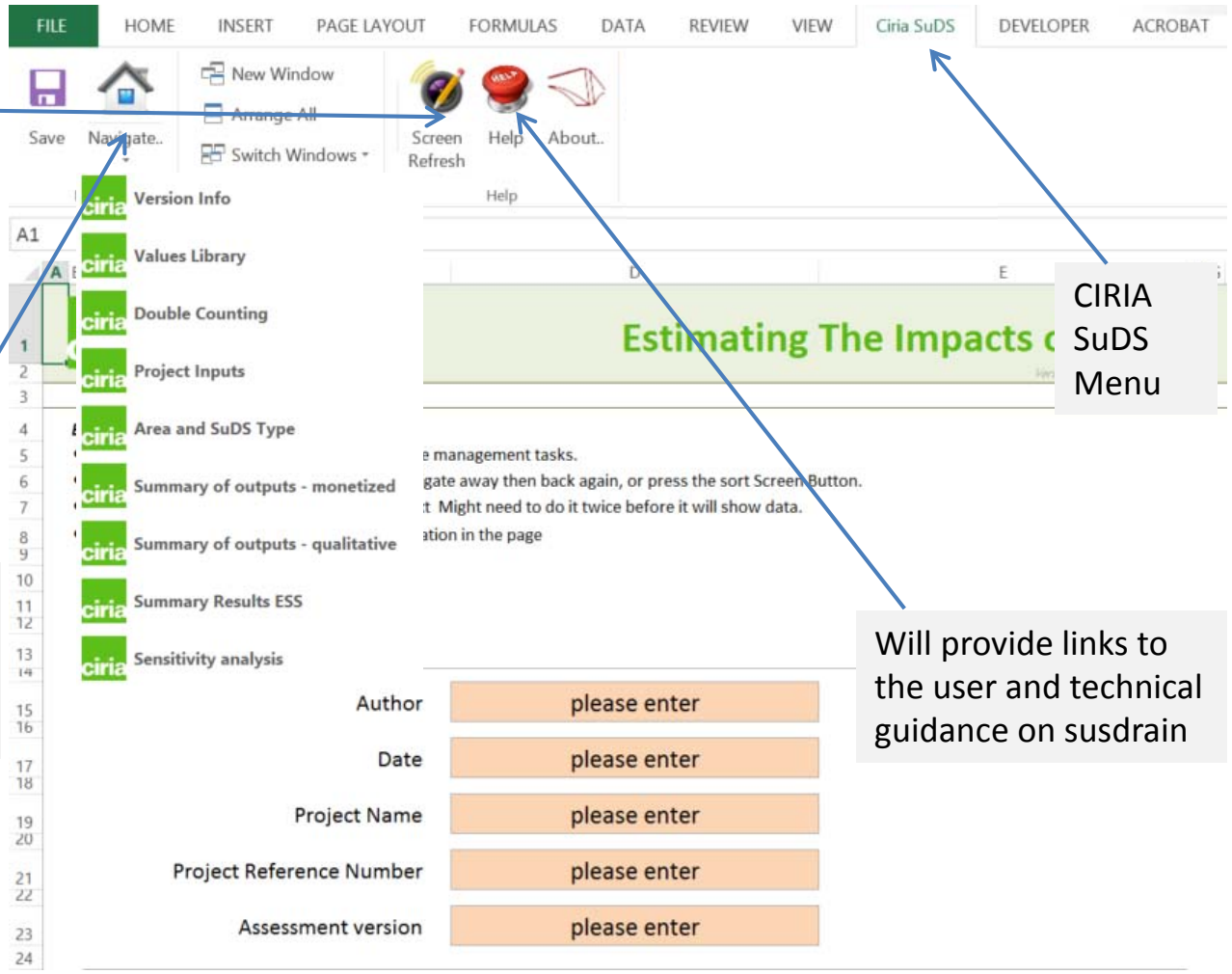
Introducing BeST: What it can and can't do

It can		It can't	
✓	**Play a valuable role as a decision support tool - informing decision makers of the potential benefits of different courses of action**	×	Account for every individual content or site specific nuance. It requires the user to think how their individual site or catchment information can be entered into the tool.
✓	**Estimate monetary value of benefits based upon information provided by the user**	×	Estimate the benefits without user input to translate the context of the scheme into the framework of the tool
✓	**For new development compare the benefits of a SuDS option with a conventionally drained option**	×	Provide great accuracy without local evaluation or similar scoping studies being undertaken
✓	**For retrofit compare an option against the existing baseline**	×	Indicate benefits without some form of drainage design and performance assessment
✓	**Provide support to help evaluate some benefits in a simplified manner**	×	Be a design tool or decision making tool and tell you which SuDS to use and how your drainage will specifically perform
✓	**Investigate the impact of uncertainty in the values being used and applied**	×	Provide a detailed distributional analysis of benefits
✓	**Provide summaries, graphs and comparisons (if more than one option considered)**	×	Guarantee that the benefits indicated by the tool will be delivered in practice
✓	**Provide an indication of the kinds of benefits that are likely to occur from a given drainage scheme**	×	Guarantee that beneficiaries will want to (or are able to) support funding of SuDS
✓	**Provide an indication of which groups may benefit from a given drainage scheme**	×	Determine the costs (capital, operational, whole-life) of the drainage scheme
✓	**Suggest where more detailed analysis or assessment of impacts may be needed**	×	Eliminate any potential overlap between different benefits
✓	**Produce simple dataset and graphics to substantiate output information**	×	Provide a full life-cycle assessment of all potential drainage solutions

Functionality and navigating through the tool W045a

NOTE: some work sheets/cells in W045a are protected to avoid accidental changes

Screen refresh button in case the tool stops working



Quick navigation to important tabs

CIRIA SuDS Menu

Will provide links to the user and technical guidance on susdrain

What the colours/borders mean for the cells

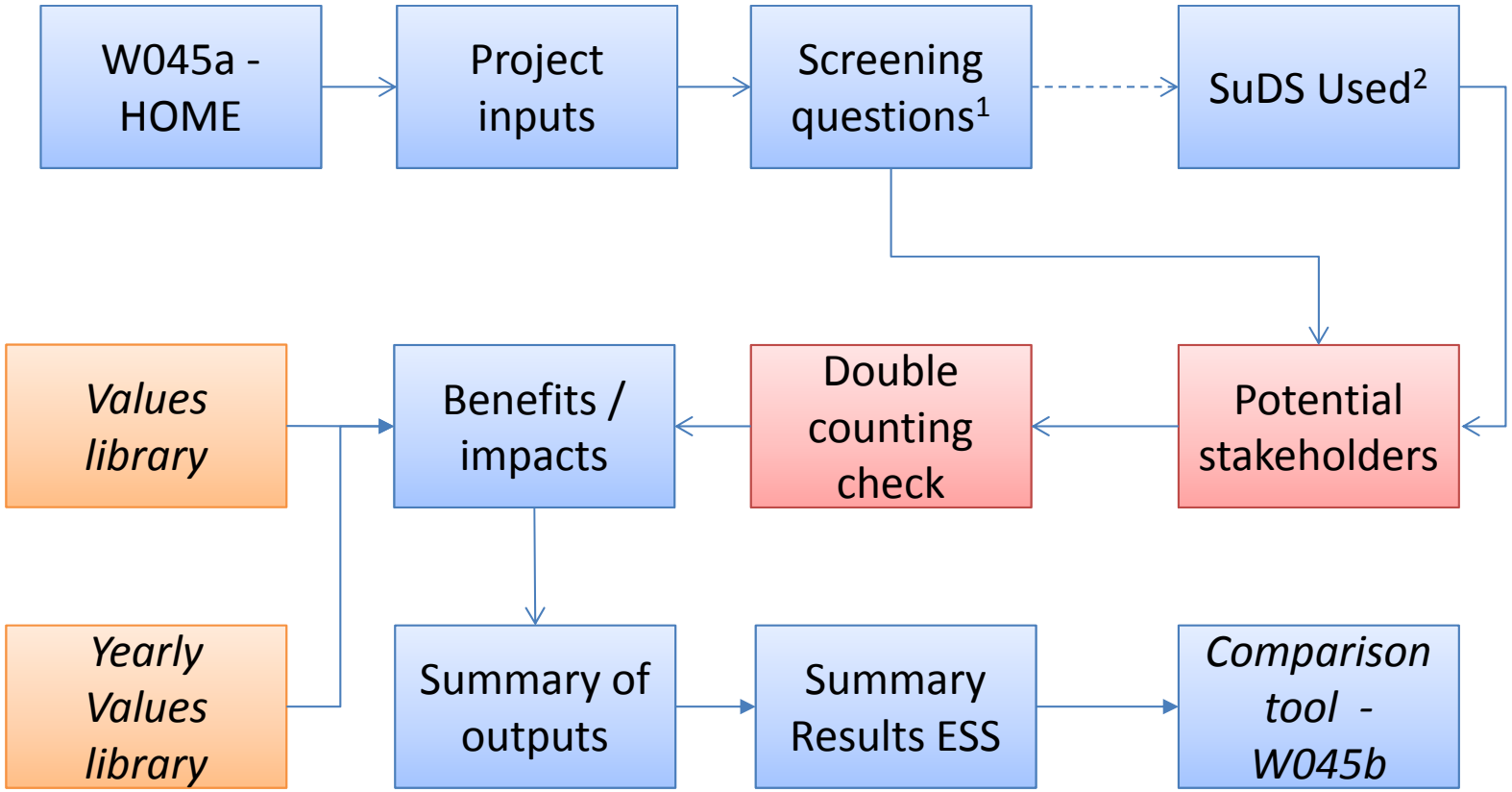
User to enter data/text

User selects information from drop down menu or double click to enter menu

Tool automatically calculates values / outputs

£ -

Expected order to complete/use the tools



Work sheets to fill in

For information

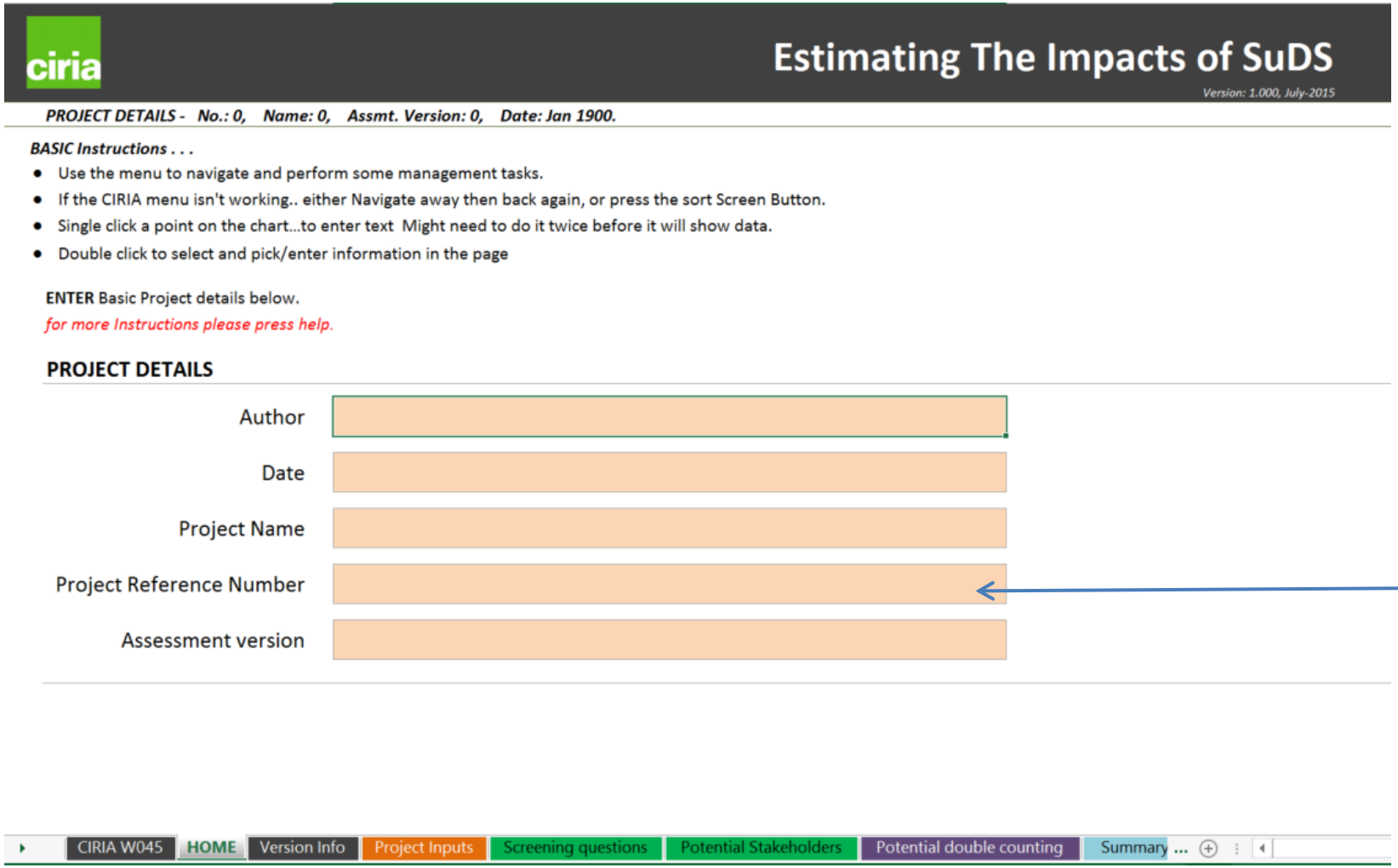
Fill in & for information

NOTES:

[1]Opens up selected impacts

[2]Only opens based on benefits enabled from screening questions

HOME tab asks the user to input general project data



Enter the general project data to help with quality control

Project inputs: captures general information about the project

Enter the name of the site

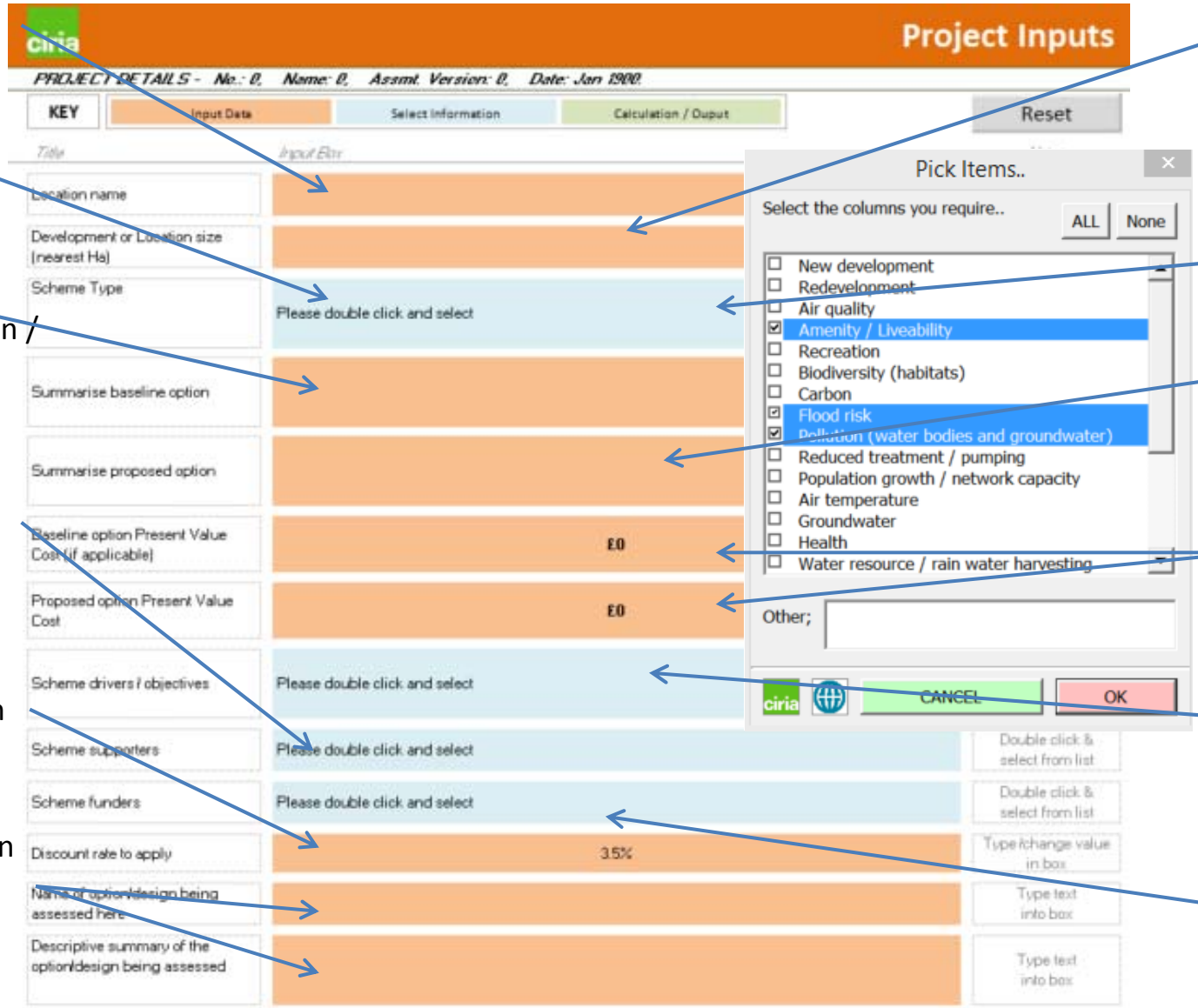
Select the scheme type

Enter briefly the baseline situation / option

Select stakeholders who are supporting the project

Enter discount rate to be used in the tool

Enter information about the assessment



Enter the size of the development or area of retrofit

Double click the blue boxes to bring up selections

Enter briefly the name of your proposed scheme/option

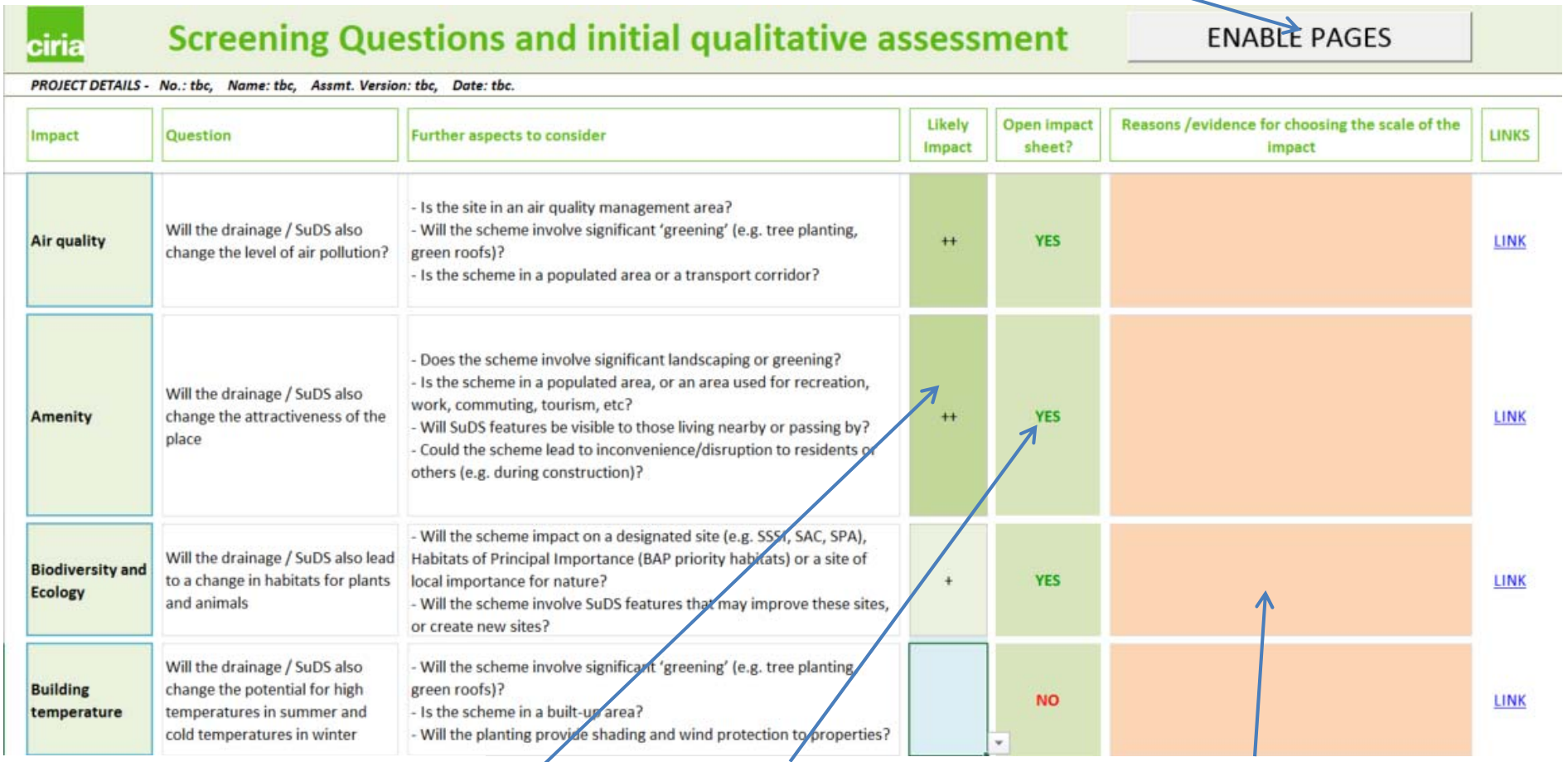
Enter the costs for baseline / proposed option

Select the scheme drivers and add your own specific ones

Select funders who are supporting the project

Screening questions and initial qualitative assessment helps the user to assess which benefits to consider

To hide or open the benefits in BeST press the button



ciria

Screening Questions and initial qualitative assessment

ENABLE PAGES

PROJECT DETAILS - No.: tbc, Name: tbc, Assmt. Version: tbc, Date: tbc.

Impact	Question	Further aspects to consider	Likely Impact	Open impact sheet?	Reasons /evidence for choosing the scale of the impact	LINKS
Air quality	Will the drainage / SuDS also change the level of air pollution?	- Is the site in an air quality management area? - Will the scheme involve significant 'greening' (e.g. tree planting, green roofs)? - Is the scheme in a populated area or a transport corridor?	++	YES		LINK
Amenity	Will the drainage / SuDS also change the attractiveness of the place	- Does the scheme involve significant landscaping or greening? - Is the scheme in a populated area, or an area used for recreation, work, commuting, tourism, etc? - Will SuDS features be visible to those living nearby or passing by? - Could the scheme lead to inconvenience/disruption to residents or others (e.g. during construction)?	++	YES		LINK
Biodiversity and Ecology	Will the drainage / SuDS also lead to a change in habitats for plants and animals	- Will the scheme impact on a designated site (e.g. SSSI, SAC, SPA), Habitats of Principal Importance (BAP priority habitats) or a site of local importance for nature? - Will the scheme involve SuDS features that may improve these sites, or create new sites?	+	YES		LINK
Building temperature	Will the drainage / SuDS also change the potential for high temperatures in summer and cold temperatures in winter	- Will the scheme involve significant 'greening' (e.g. tree planting, green roofs)? - Is the scheme in a built-up area? - Will the planting provide shading and wind protection to properties?		NO		LINK

Consider the questions and estimate the potential magnitude of the impact using the drop down selection

Based on your initial assessment select whether to open the impact sheet in the tool

Document your reasoning / evidence in these cells

SuDS Used captures information about the SuDS and where they will be built (only opens if certain benefits are selected in the screening)

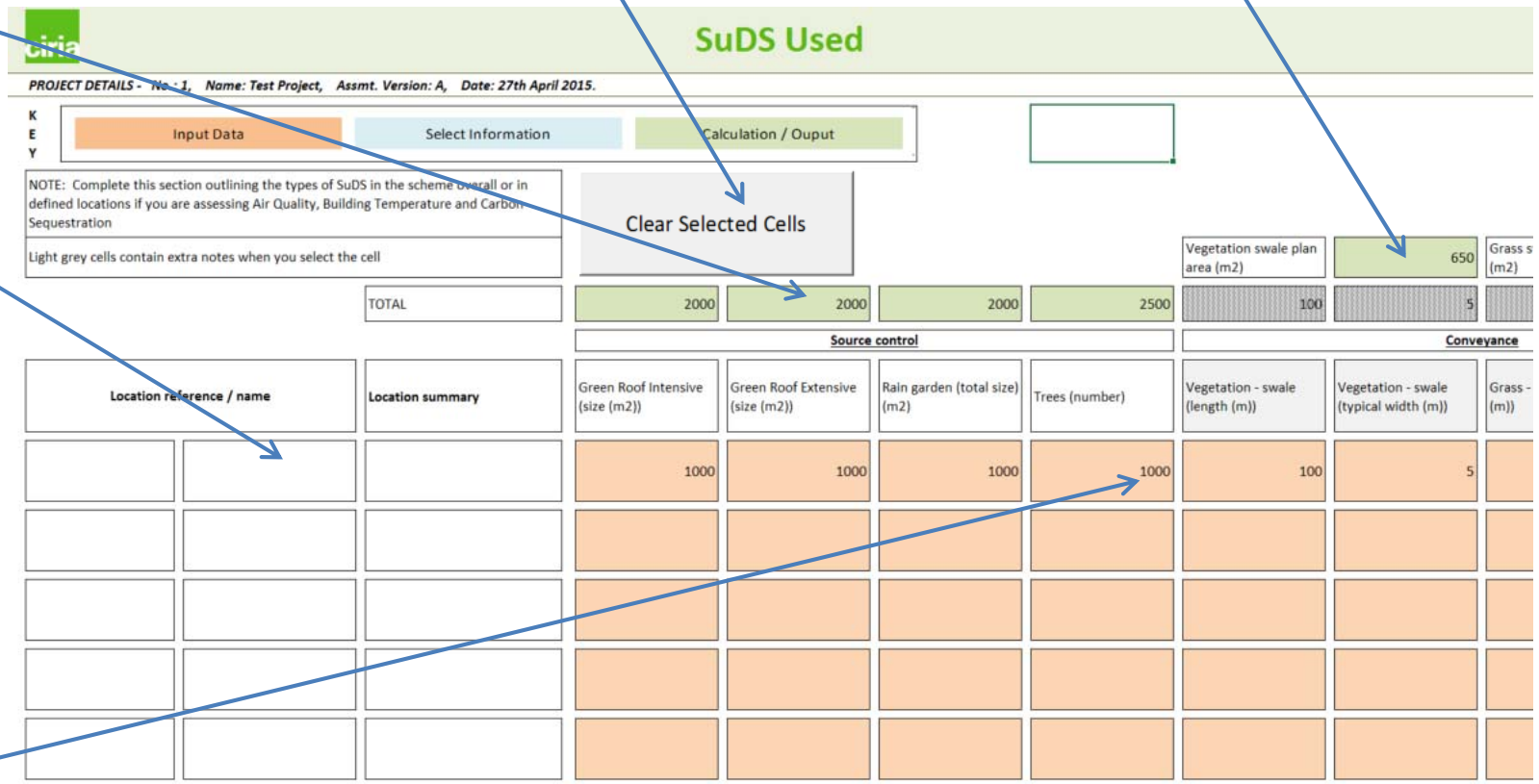
Enables values from selected orange cells to be cleared

Summarises the total area for swales where the length and width are entered on the same row

Summarises the totals

Enables you to describe the location where SuDS measures are

Add in the values (length, width, size, number as appropriate)



SuDS Used

PROJECT DETAILS - No: 1, Name: Test Project, Assmt. Version: A, Date: 27th April 2015.

KEY: Input Data | Select Information | Calculation / Ouput

NOTE: Complete this section outlining the types of SuDS in the scheme overall or in defined locations if you are assessing Air Quality, Building Temperature and Carbon Sequestration

Light grey cells contain extra notes when you select the cell

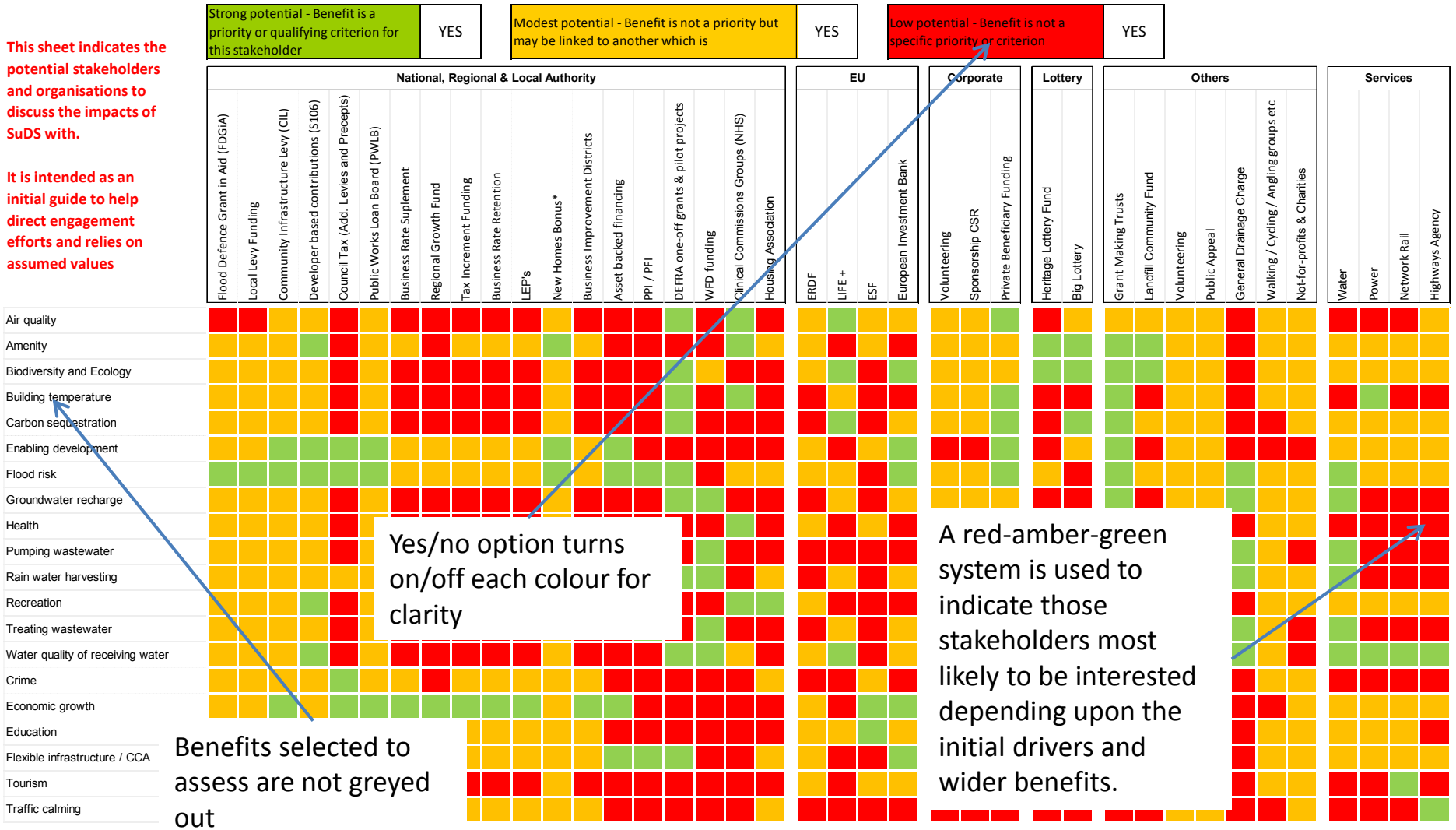
Clear Selected Cells

		TOTAL	2000	2000	2000	2500	Vegetation swale plan area (m2) 100	650	Grass s (m2)	
			Source control				Conveyance			
Location reference / name		Location summary	Green Roof Intensive (size (m2))	Green Roof Extensive (size (m2))	Rain garden (total size) (m2)	Trees (number)	Vegetation - swale (length (m))	Vegetation - swale (typical width (m))	Grass - (m))	
			1000	1000	1000	1000	100	5		

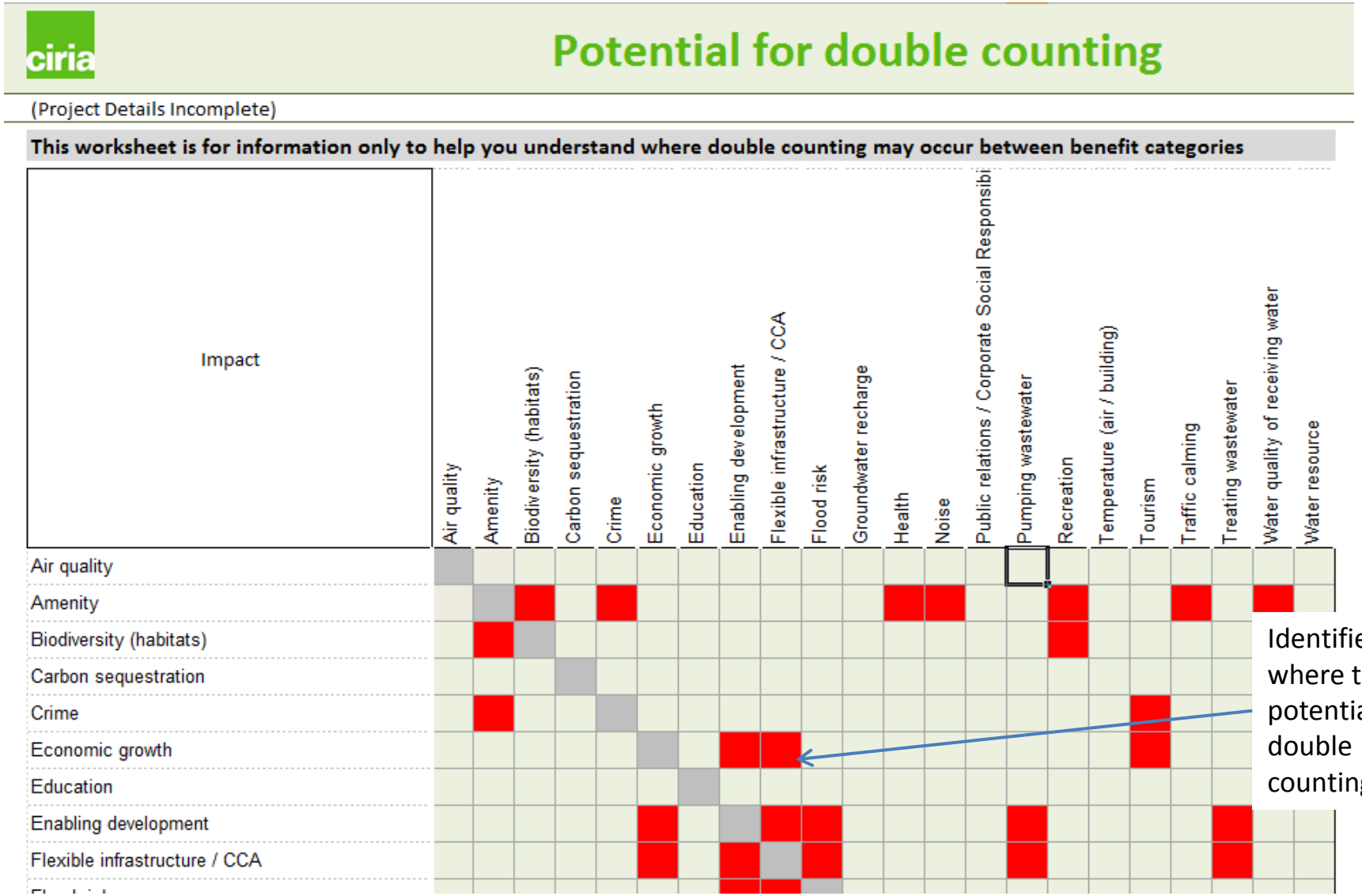
Potential stakeholders indicates who it might be appropriate to engage with

This sheet indicates the potential stakeholders and organisations to discuss the impacts of SuDS with.

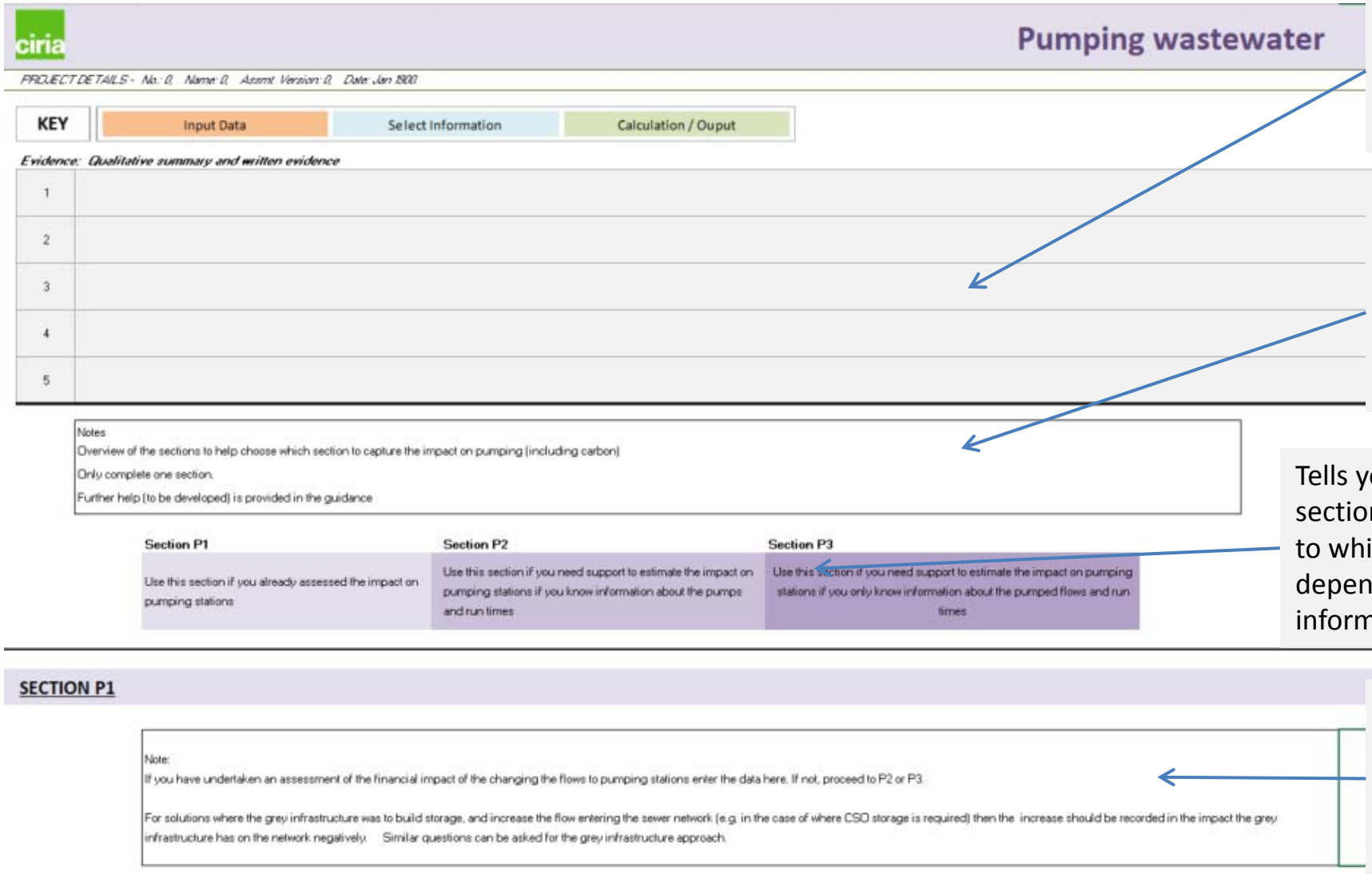
It is intended as an initial guide to help direct engagement efforts and relies on assumed values



Double counting check highlights which benefits may overlap and where care is required



Each impact has a space to make notes or add reference to other studies information etc. Only fill in one section of each impact (except flooding).



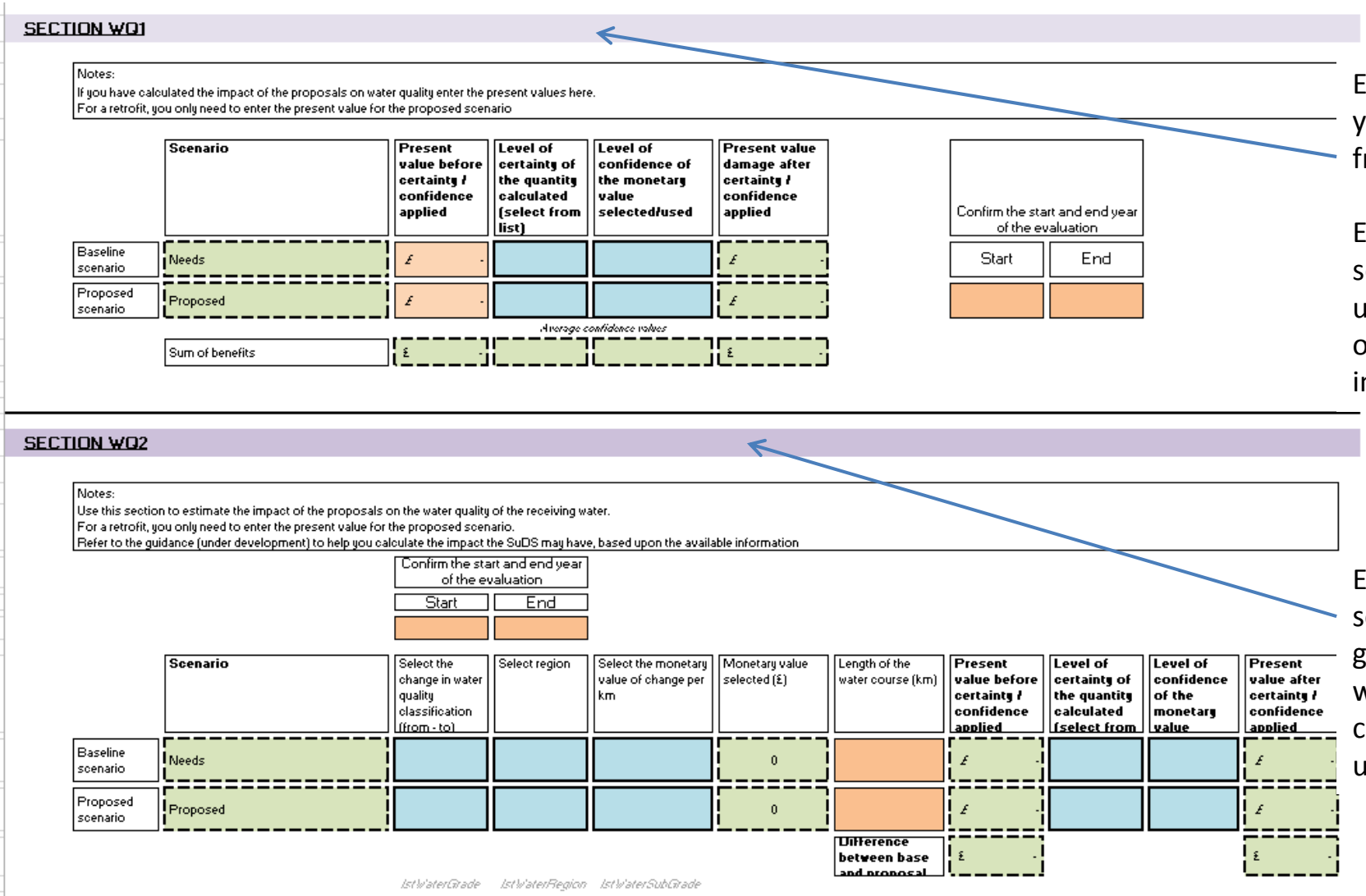
Record evidence or reference information

Notes give some general information about each impact

Tells you about each section to guide you to which one to fill in depending upon the information you have

Specific notes relate to each impact and assessment section

Each impact enables a self assessment of benefits before providing more simplified methods of estimating the impact.



SECTION WQ1

Notes:
If you have calculated the impact of the proposals on water quality enter the present values here.
For a retrofit, you only need to enter the present value for the proposed scenario

	Scenario	Present value before certainty / confidence applied	Level of certainty of the quantity calculated (select from list)	Level of confidence of the monetary value selected/used	Present value damage after certainty / confidence applied
Baseline scenario	Needs	£ -			£ -
Proposed scenario	Proposed	£ -			£ -
			Average confidence values		
	Sum of benefits	£ -			£ -

Confirm the start and end year of the evaluation

Start	End

SECTION WQ2

Notes:
Use this section to estimate the impact of the proposals on the water quality of the receiving water.
For a retrofit, you only need to enter the present value for the proposed scenario.
Refer to the guidance (under development) to help you calculate the impact the SuDS may have, based upon the available information

Confirm the start and end year of the evaluation

Start	End

	Scenario	Select the change in water quality classification (from - to)	Select region	Select the monetary value of change per km	Monetary value selected (£)	Length of the water course (km)	Present value before certainty / confidence applied	Level of certainty of the quantity calculated (select from	Level of confidence of the monetary value	Present value after certainty / confidence applied
Baseline scenario	Needs				0		£ -			£ -
Proposed scenario	Proposed				0		£ -			£ -
						Difference between base and proposal	£ -			£ -

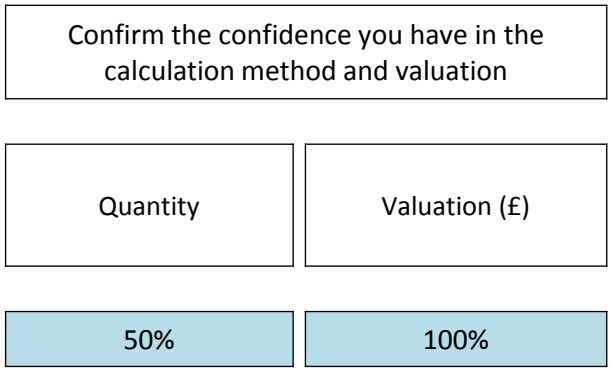
lstWaterGrade lstWaterRegion lstWaterSubGrade

Each benefit starts where you can enter information from your own evaluation.

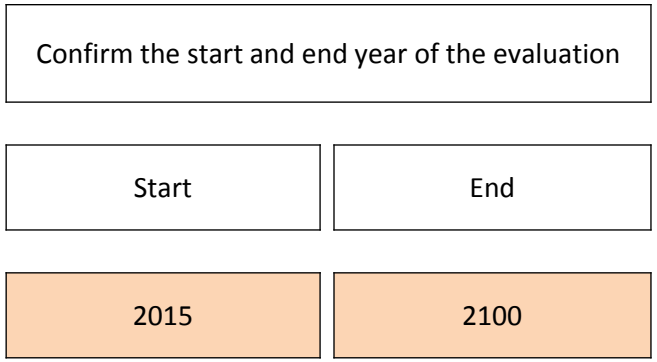
Enter information in this section if you have already undertaken an assessment of the present value of the impact.

Enter information in this section following the guidance which indicates where this information may come from and how to undertake the assessment

A number of boxes are similar across a number of the benefits

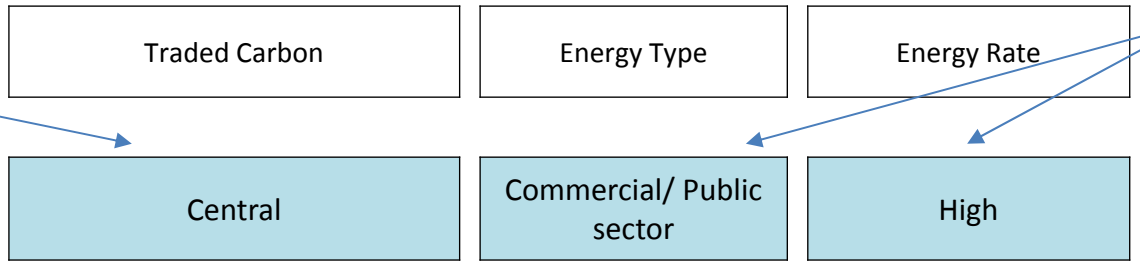


Allows you to amend the final values by assigning a confidence score for the quantity predicted and the monetary values applied (25%, 50%, 75% and 100%)



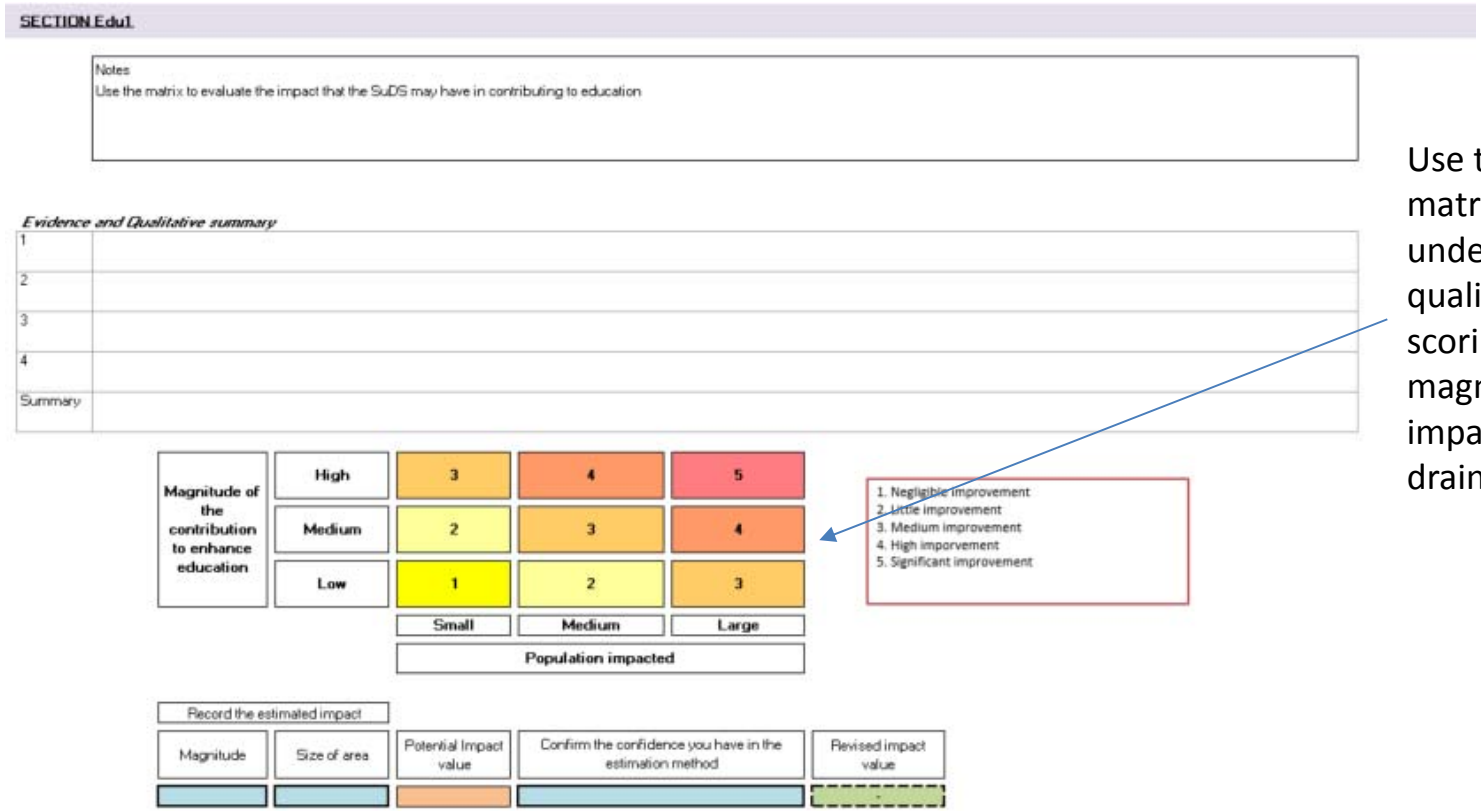
Allows you to select the start and end year of the evaluation period, for when the benefits will start to be realised. This is important to calculate the present value correctly.

Allows you to choose the traded carbon price



Allows you to choose the energy type and the energy rate

Benefits that are hard to quantify can be summarised in the qualitative pages (but if you can monetise, it is available).



SECTION Edu1

Notes
Use the matrix to evaluate the impact that the SuDS may have in contributing to education

Evidence and Qualitative summary

1	
2	
3	
4	
Summary	

Magnitude of the contribution to enhance education		Small	Medium	Large
	High	3	4	5
	Medium	2	3	4
	Low	1	2	3

Population impacted

1. Negligible improvement
2. Little improvement
3. Medium improvement
4. High improvement
5. Significant improvement

Record the estimated impact

Magnitude	Size of area	Potential Impact value	Confirm the confidence you have in the estimation method	Revised impact value
				-

Use the simple matrix to undertake qualitative scoring of the magnitude and impact of the drainage scheme

SECTION Edu2

Note:
Use this section where evidence is available to support that SuDS create an impact.

	Scenario	Lump sum or present value benefit from a local study	Level of certainty of the quantity calculated (select from list)	Level of confidence of the monetary value used	Lump sum / present value after confidence applied	Confirm the start and end year of the evaluation: Start	End
Proposed scenario	10	£ -			£ -		

Allows you to enter in lump sum or present value benefit if a local study has been completed.

Results will automatically appear in the summary table. No direct data entry should be required.

Summary of Outputs - Monetised

(Project Details Incomplete)

Discount	3.50%

Automatic colour coding to highlight the benefits that are greater than 20% (green) or 10-20% (amber) of the total.

Monetised Impacts

Significant proportion	Main impacts	Monetised sub-impact	Year start	Year end	Present value	Level of certainty of the quantity calculated	Level of confidence of the monetary value selected/used	Present value after uncertainty adjustment
Air quality	Air quality	**External assessment**	0	0	£ -	0%	0%	£ -
	Air quality	SO2	2020	2060	£ 63,825	50%	100%	£ 31,912
	Air quality	NO2	2020	2060	£ 29,336	50%	100%	£ 14,668
	Air quality	PM-10	2020	2060	£ 876,114	50%	100%	£ 438,057
Amenity	Amenity - Quality of space	**External assessment**	0	0	£ -	0%	0%	£ -
	Amenity - Quality of space	Street improvements	2020	2060	£ 40,326	50%	50%	£ 10,082
	Amenity - Quality of space	Permanent body of works	2020	2060	£ 3,895,129	50%	50%	£ 973,782
	Amenity - Quality of space	Property increase	n/a	n/a	£ -	50%		£ -
Biodiversity	Biodiversity (Habitats)	**External assessment**	0	0	£ -	0%	0%	£ -

Monetised results automatically come into the summary table (ESS and TBL) including the sensitivity results. This data creates the graphs (next page)

Summary Results - Triple Bottom Line

PROJECT DETAILS - No.: 1, Name: Test Project, Assmt. Version: A, Date: 27th April 2015.

Present Value Assessment Stage	Total PV Benefits	Total PV Costs	Net Present Value	Benefit Cost Ratio	Flexibility score
Present Value before confidence applied	£ 3,456,820	£ 1,000,000	£ 2,456,820	3.5	72%
Present Value after confidence applied	£ 1,686,090	£ 1,000,000	£ 686,090	1.7	73%
Present Value sensitivity - low	£ 737,303	£ 1,000,000	-£ 262,697	0.7	73%
Present Value sensitivity - high	£ 3,167,835	£ 1,000,000	£ 2,167,835	3.2	72%

Triple Bottom Line Category	Impact	Present Value before confidence applied (£)	Present Value after confidence applied (£)	Notes	Present Value sensitivity - low (£)	Present Value sensitivity - high (£)	
Financial	Building temperature	£ 31,960	£ 22,917		£ 11,856	£ 44,500	
	Economic growth	£ -	£ -		£ -	£ -	
	Enabling development	£ 1,200	£ 900		£ 450	£ 1,500	
	Flexible infrastructure/climate change adaptation			Not currently applied			Not applicable
	Pumping wastewater	£ 24,160	£ 18,123		£ 9,060	£ 30,199	
	Rainwater harvesting	£ 164,961	£ 92,791		£ 41,240	£ 164,961	
	Tourism	£ -	£ -		£ -	£ -	
	Treating wastewater	£ 734,433	£ 413,531		£ 183,058	£ 732,233	
	Groundwater recharge	£ 13,748	£ 7,962		£ 5,155	£ 17,185	
	User-defined	£ -	£ -		£ -	£ -	
	User-defined	£ -	£ -		£ -	£ -	
	User-defined	£ -	£ -		£ -	£ -	
	Air quality	£ 243,988	£ 181,169				
	Biodiversity and ecology	£ 118,186	£ 44,320				
	Carbon reduction and sequestration						
	Flooding						
	Water quality						
	User-defined						
	User-defined	£ -	£ -		£ -	£ -	
	User-defined	£					
	Amenity	£					
	Crime	£					
	Education	£					
	Health	£ 654,024	£ 318,620		£ 121,880	£ 607,773	
	Recreation	£ 142,007	£ 77,653		£ 31,985	£ 134,974	
	Traffic calming	£ -	£ -		£ -	£ -	
	User-defined	£ -	£ -		£ -	£ -	
	User-defined	£ -	£ -		£ -	£ -	
	User-defined	£ -	£ -		£ -	£ -	

EXPORT CHARTS

Export button creates word document with charts

Overall summary table pre and post confidence, low and high sensitivity.

Includes flexibility score to indicate the distribution of the benefits

User-defined only:

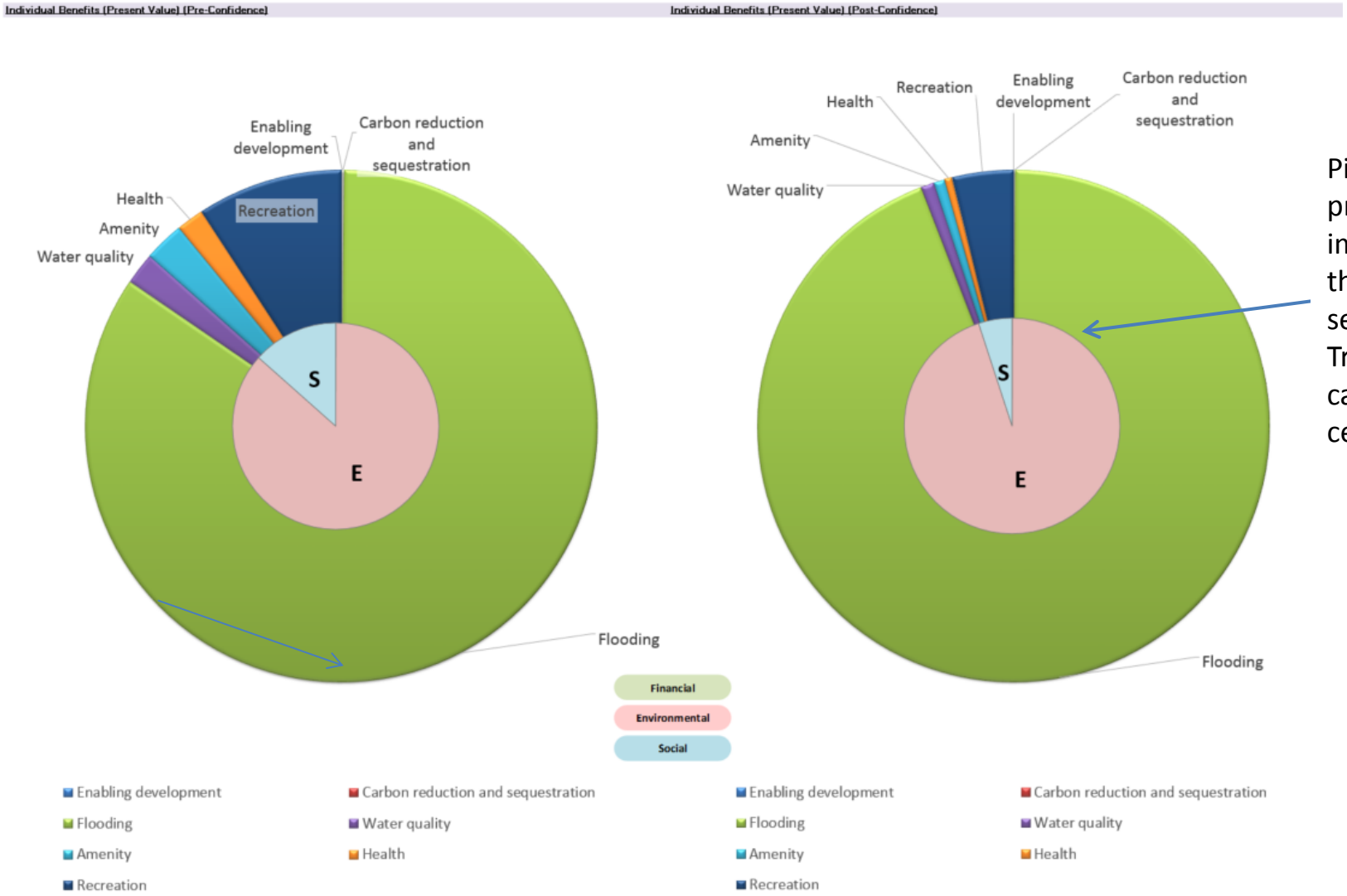
Link to other cells or define the benefit name

Present value before and after confidence applied

Present value with low and high sensitivity analysis completed

User defined only: Link cells or enter values for present values pre and post confidence and for low and high sensitivity

Graphs are automatically created based upon the data, for pre-confidence (left) and post confidence (right)



Pie chart shows the proportion of the impacts along with the ecosystem service type or Triple Bottom Line category in the centre

Values library catalogues values, shows which are built into the tool and include a column where user defined values (which then appear in the benefits worksheets) may be entered.

Values Library

(Project Details Incomplete)

KEY	
	Rows directly used in the tool
	User can define values
	Values (on the row) provided for information

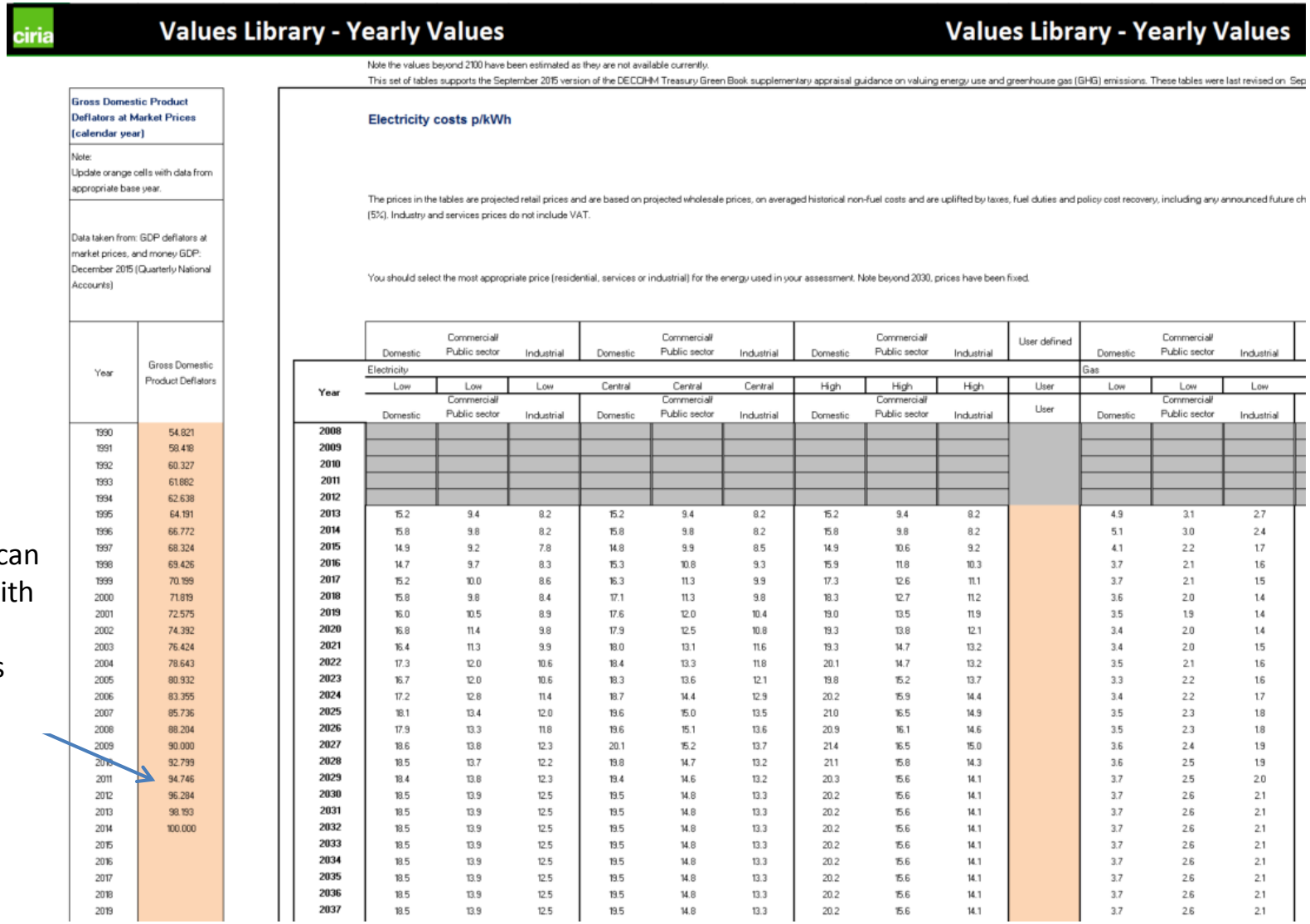
Monetary Values

1. AIR QUALITY	Suggested values (2014 prices unless user updated in Yearly Values Library) Low	Central / Average	High	User defined Values (units as in units column)	Source	Title
NOX	£ 802	£ 1,029	£ 1,169	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
SOX	£ 1,422	£ 1,760	£ 2,000	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
Ammonia	£ 1,657	£ 2,125	£ 2,415	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM domestic	£ 23,743	£ 30,324	£ 34,459	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM agriculture	£ 8,188	£ 10,456	£ 11,883	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM waste	£ 17,603	£ 22,481	£ 25,548	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM industry	£ 21,286	£ 27,187	£ 30,894	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM ESI	£ 2,047	£ 2,614	£ 2,971	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM transport average	£ 40,935	£ 52,282	£ 59,411	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM transport central London	£ 187,072	£ 238,931	£ 271,513	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM transport inner London	£ 192,384	£ 245,728	£ 279,237	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec
PM transport outer London	£ 125,671	£ 160,507	£ 182,395	User not defined	https://www.gov.uk/air-quality-economic-analysis	Air quality:ec

These values appear directly in the tool, e.g. in the Air quality worksheet

User can enter their own values, or substitute from a different category in the table here, e.g. in this case for an alternative PM transport category.

Yearly values library contain values such as energy and also enable you to update the base year to take account of inflation without waiting for a new version of the tool.



ciria **Values Library - Yearly Values** **Values Library - Yearly Values**

Note the values beyond 2100 have been estimated as they are not available currently.

This set of tables supports the September 2015 version of the DECC/HM Treasury Green Book supplementary appraisal guidance on valuing energy use and greenhouse gas (GHG) emissions. These tables were last revised on Sep

Gross Domestic Product Deflators at Market Prices (calendar year)

Note:
Update orange cells with data from appropriate base year.

Data taken from: GDP deflators at market prices, and money GDP: December 2015 (Quarterly National Accounts)

Year	Gross Domestic Product Deflators
1990	54.821
1991	58.418
1992	60.327
1993	61.882
1994	62.638
1995	64.191
1996	66.772
1997	68.324
1998	69.426
1999	70.199
2000	71.819
2001	72.575
2002	74.392
2003	76.424
2004	78.643
2005	80.932
2006	83.355
2007	85.736
2008	88.204
2009	90.000
2010	92.799
2011	94.746
2012	96.284
2013	98.193
2014	100.000
2015	
2016	
2017	
2018	
2019	

Electricity costs p/kWh

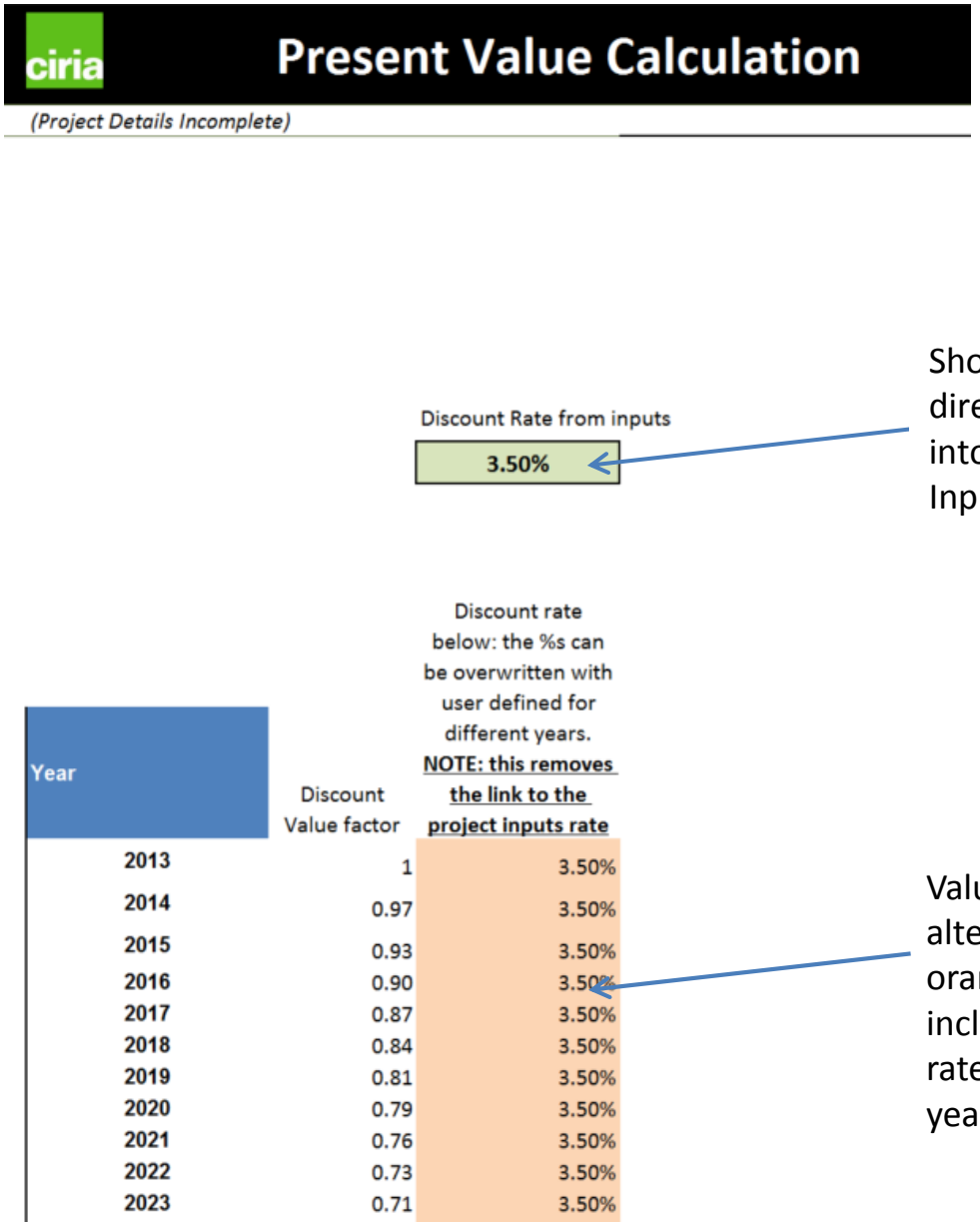
The prices in the tables are projected retail prices and are based on projected wholesale prices, on averaged historical non-fuel costs and are uplifted by taxes, fuel duties and policy cost recovery, including any announced future ch (5%). Industry and services prices do not include VAT.

You should select the most appropriate price (residential, services or industrial) for the energy used in your assessment. Note beyond 2030, prices have been fixed.

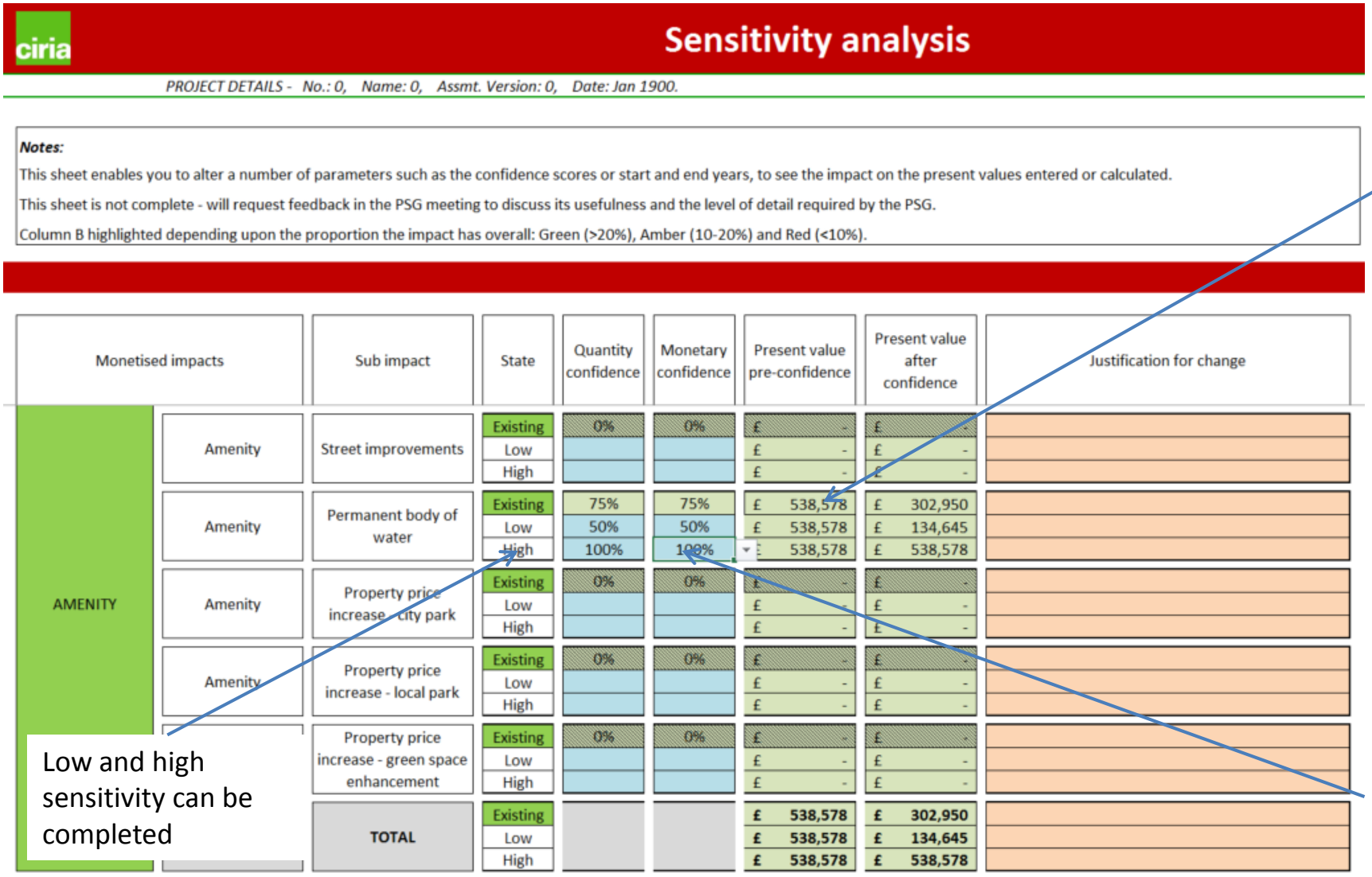
	Electricity										Gas		
	Domestic	Commercial/ Public sector	Industrial	Domestic	Commercial/ Public sector	Industrial	Domestic	Commercial/ Public sector	Industrial	User defined	Domestic	Commercial/ Public sector	Industrial
Year	Low	Low	Low	Central	Central	Central	High	High	High	User	Low	Low	Low
	Domestic	Commercial/ Public sector	Industrial	Domestic	Commercial/ Public sector	Industrial	Domestic	Commercial/ Public sector	Industrial	User	Domestic	Commercial/ Public sector	Industrial
2008													
2009													
2010													
2011													
2012													
2013	15.2	9.4	8.2	15.2	9.4	8.2	15.2	9.4	8.2		4.9	3.1	2.7
2014	15.8	9.8	8.2	15.8	9.8	8.2	15.8	9.8	8.2		5.1	3.0	2.4
2015	14.9	9.2	7.8	14.8	9.9	8.5	14.9	10.6	9.2		4.1	2.2	1.7
2016	14.7	9.7	8.3	15.3	10.8	9.3	15.9	11.8	10.3		3.7	2.1	1.6
2017	15.2	10.0	8.6	16.3	11.3	9.9	17.3	12.6	11.1		3.7	2.1	1.5
2018	15.8	9.8	8.4	17.1	11.3	9.8	18.3	12.7	11.2		3.6	2.0	1.4
2019	16.0	10.5	8.9	17.6	12.0	10.4	19.0	13.5	11.9		3.5	1.9	1.4
2020	16.8	11.4	9.8	17.9	12.5	10.8	19.3	13.8	12.1		3.4	2.0	1.4
2021	16.4	11.3	9.9	18.0	13.1	11.6	19.3	14.7	13.2		3.4	2.0	1.5
2022	17.3	12.0	10.6	18.4	13.3	11.8	20.1	14.7	13.2		3.5	2.1	1.6
2023	16.7	12.0	10.6	18.3	13.6	12.1	19.8	15.2	13.7		3.3	2.2	1.6
2024	17.2	12.8	11.4	18.7	14.4	12.9	20.2	15.9	14.4		3.4	2.2	1.7
2025	18.1	13.4	12.0	19.6	15.0	13.5	21.0	16.5	14.9		3.5	2.3	1.8
2026	17.9	13.3	11.8	19.6	15.1	13.6	20.9	16.1	14.6		3.5	2.3	1.8
2027	18.6	13.8	12.3	20.1	15.2	13.7	21.4	16.5	15.0		3.6	2.4	1.9
2028	18.5	13.7	12.2	19.8	14.7	13.2	21.1	15.8	14.3		3.6	2.5	1.9
2029	18.4	13.8	12.3	19.4	14.6	13.2	20.3	15.6	14.1		3.7	2.5	2.0
2030	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1
2031	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1
2032	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1
2033	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1
2034	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1
2035	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1
2036	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1
2037	18.5	13.9	12.5	19.5	14.8	13.3	20.2	15.6	14.1		3.7	2.6	2.1

These values can be updated with the latest Government's GDP deflator.

Allowing for variable discount rates to accommodate funding organisation requirements



Sensitivity analysis enables you to vary the confidence levels for each present value calculation.



Sensitivity analysis

PROJECT DETAILS - No.: 0, Name: 0, Assmt. Version: 0, Date: Jan 1900.

Notes:

This sheet enables you to alter a number of parameters such as the confidence scores or start and end years, to see the impact on the present values entered or calculated.

This sheet is not complete - will request feedback in the PSG meeting to discuss its usefulness and the level of detail required by the PSG.

Column B highlighted depending upon the proportion the impact has overall: Green (>20%), Amber (10-20%) and Red (<10%).

Monetised impacts		Sub impact	State	Quantity confidence	Monetary confidence	Present value pre-confidence	Present value after confidence	Justification for change
AMENITY	Amenity	Street improvements	Existing	0%	0%	£ -	£ -	
			Low			£ -	£ -	
			High			£ -	£ -	
	Amenity	Permanent body of water	Existing	75%	75%	£ 538,578	£ 302,950	
			Low	50%	50%	£ 538,578	£ 134,645	
			High	100%	100%	£ 538,578	£ 538,578	
	Amenity	Property price increase - city park	Existing	0%	0%	£ -	£ -	
			Low			£ -	£ -	
			High			£ -	£ -	
	Amenity	Property price increase - local park	Existing	0%	0%	£ -	£ -	
			Low			£ -	£ -	
			High			£ -	£ -	
		Property price increase - green space enhancement	Existing	0%	0%	£ -	£ -	
			Low			£ -	£ -	
			High			£ -	£ -	
		TOTAL	Existing			**£ 538,578**	**£ 302,950**	
			Low			**£ 538,578**	**£ 134,645**	
			High			**£ 538,578**	**£ 538,578**	

Existing option values will automatically appear.

Low and high sensitivity can be completed

The confidence values can be altered

Use W045d BeST Options Comparison Tool to help compare the benefits of different options.

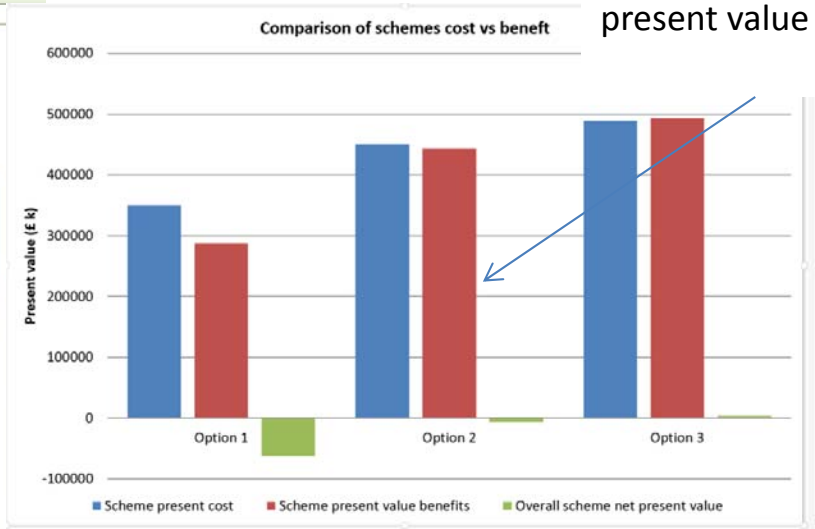
Ecosystem Services Scheme Comparisons

[Project Details Incomplete]

Note: Paste in data from the tool to enable a comparison

		Include option in chart?	YES	YES	YES	NO
	Scheme Reference		Option 1	Option 2	Option 3	Option 4
	Scheme Summary		Conventional solution	SuDS Minimum	SuDS Extra	
	Scheme present value cost		£350,000	£450,000	£489,000	£0
	Scheme present value benefits		£287,500	£443,000	£493,000	£0
	Overall scheme net present value		-£62,500	-£7,000	£4,000	£0
	Impact		Present Value (£)	Present Value (£)	Present Value (£)	Present Value (£)
Provisioning services	Economic growth					
	Enabling development					
	Flexible infrastructure/climate change adaptation					
	Pumping wastewater		-2500			
	Rainwater harvesting					
	Tourism					
	Treating wastewater					
	Groundwater recharge			4000	4000	
	User-defined					
	User-defined					
Regulating services	Air quality					
	Building temperature					
	Carbon reduction and sequestration					
	Flooding		290000	290000	340000	
	Water quality			45000	45000	
	User-defined					
	User-defined					
Cultural services	Amenity			42000	42000	
	Crime					
	Education					
	Health					
				62000	62000	
Supporting services						

Compares the cost, benefits and net present value



Results can be copied from the tool into the comparison table

Compares the proportion of benefits for each option