

Introduction to BeST tool from CIRIA

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watersensitivecities.org.au

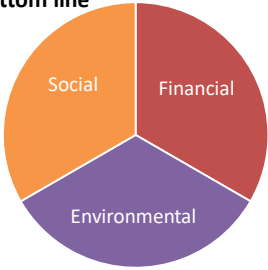
BeST: Benefits of SuDS Tool



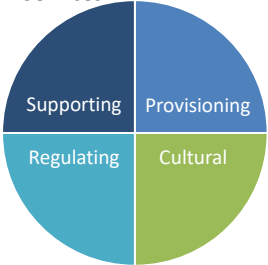
- Collation of evidence (400+ values from 100s of papers)
- Structured assessment approach
- Considers confidence
- Support practitioners to qualify and quantify (monetise) benefits
- Compare drainage options

Wide range of benefits

Triple bottom line



Ecosystem Services



Benefit category	Monetised?
Air quality	✓
Amenity	✓
Biodiversity and ecology	✓
Building temperature	✓
Carbon reduction & sequestration	✓
Crime	✗
Economic growth	✗
Education	✓
Enabling development	✓ / ✗
Flexible infrastructure	tbc
Flooding	✓
Groundwater recharge	✓
Health	✓
Pumping wastewater	✓
Rainwater harvesting	✓
Recreation	✓
Tourism	✗
Traffic calming	✗
Treating wastewater	✓
Water quality	✓

BeST has a suite of outputs



Tools

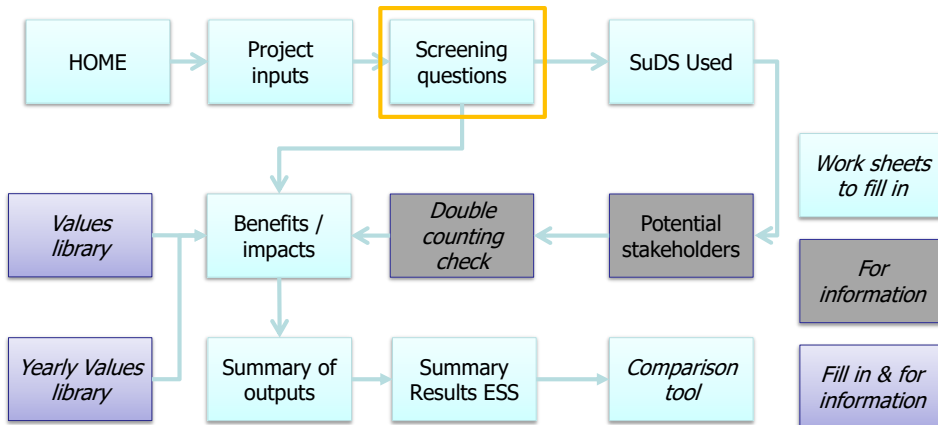
- W045a
Evaluation
- W045b
Comparison

Support

- W045c
Technical guidance
- W045d
User manual

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Methodical approach to assessing benefits starts with screening



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Methodical approach to assessing benefits starts with screening



ciria Screening Questions and Initial qualitative assessment		ENABLE PAGES	
Impact	Question	Further aspects to consider	Level
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?	NO
Noise	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, travel, etc? Will SuDS features be visible to those living nearby or passing by? Could the scheme lead to inconvenience/annoyance to residents or others (e.g. during construction)?	YES
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
Building temperature	Will the drainage / SuDS also change the potential for high temperature 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

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Indicates which stakeholders may have an interest in scheme



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

Strong potential - Benefit is a priority or qualifying criterion for this stakeholder YES

Modest potential - Benefit is not a priority but may be linked to another which is YES

Low potential - Benefit is not a specific priority or criterion YES

	National, Regional & Local Authority											EU			Corporate			Lottery	Others			Services																				
	Flood Defence Grant in Aid (FDGA)	Local Levy Funding	Community Infrastructure Levy (CIL)	Percentage based contributions (S106)	Council Tax (Adm. Levies and Precepts)	Public Works Loan Board (PWLB)	Business Rate Supplement	Regional Growth Fund	Tax Increment Funding	Business Rate Retention	EFPs	New Homes Bonus*	Business Improvement Districts	Asset based financing	PI / PFI	MRAs on-off grants & pilot projects	WFD Funding	Special Commissions Grants (M6)	County Association	ERDF	ERDF+	ERDF	European Investment Bank	Volunteering	Sponsorship CSR	Private Beneficiary Funding	Heritage Lottery Fund	Big Lottery	Community Grants	Local Community Fund	Volunteering	Public Appeal	General Donations Change	Lottery / Charity / Angling/Outdoor etc	Not-for-profits & Charities	Water	Power	Network Rail	Highways Agency			
Air quality																																										
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Tourism																																										
Traffic calming																																										

Consistent approach to complete the benefits/impacts



Water quality

KPI: [Green] [Yellow] [Red] [Grey]

Exposure: [Green] [Yellow] [Red] [Grey]

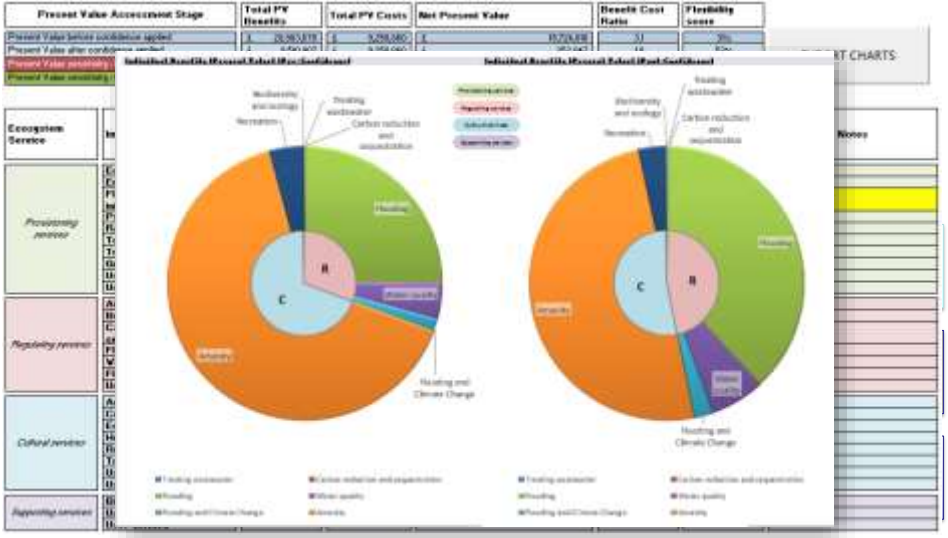
Risks: [Green] [Yellow] [Red] [Grey]

SECTOR RISK: [Green] [Yellow] [Red] [Grey]

Table:

Exposure	Risk		Impact	Mitigation	Residual Risk	Residual Risk (with Mitigation)	Residual Risk (with Mitigation)	Residual Risk (with Mitigation)	Residual Risk (with Mitigation)
	High	Low							
Exposure 1	High	Low	Impact 1	Mitigation 1	Residual Risk 1	Residual Risk 1	Residual Risk 1	Residual Risk 1	Residual Risk 1
Exposure 2	High	Low	Impact 2	Mitigation 2	Residual Risk 2	Residual Risk 2	Residual Risk 2	Residual Risk 2	Residual Risk 2

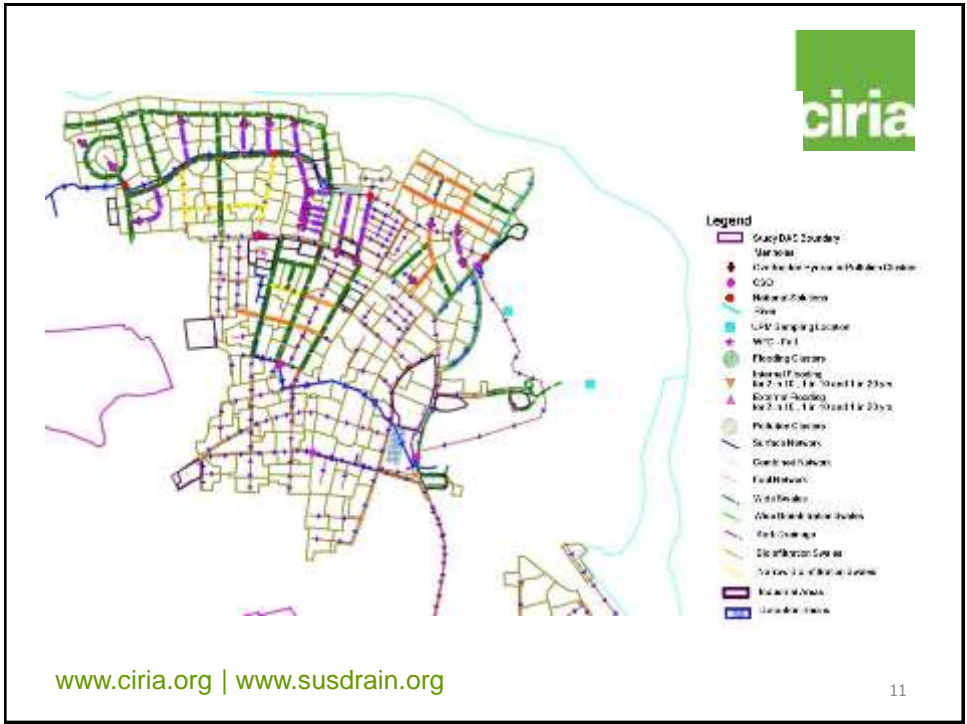
Tool collates the results and generates graphs



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Applying BeST – Retrofit Case Study



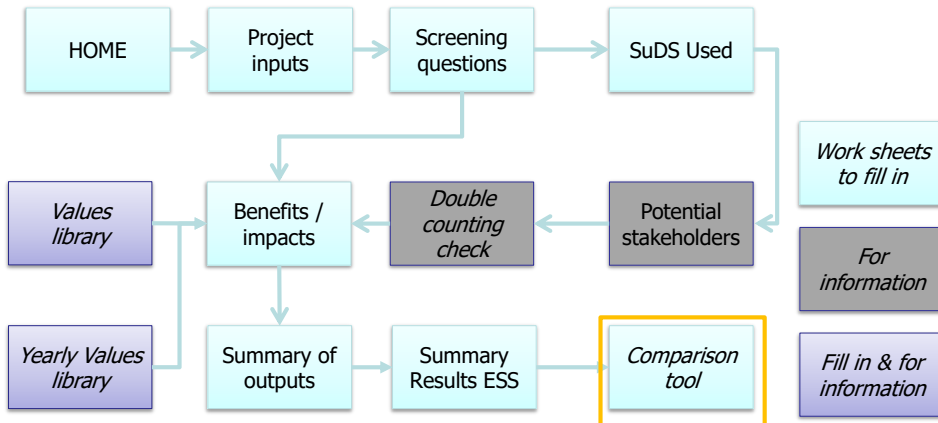


Applying BeST – Retrofit Case Study



Option summary	Ecosystem service type							
	Cultural		Regulating				Provisioning	Supporting
	Recreation	Amenity	Flooding and climate resilience	Carbon reduction	Water quality	Flooding	Treating wastewater	Biodiversity and ecology
Option 1: Conventional	-	-	*	*	✓	-	*	-
Option 2: Conventional+	-	-	*	*	✓	✓	*	-
Option 3: Public SuDS	✓	✓	✓	✓	✓	✓	✓	✓
Option 4: Public-Private SuDS	✓	✓	✓	✓	✓	✓	✓	✓

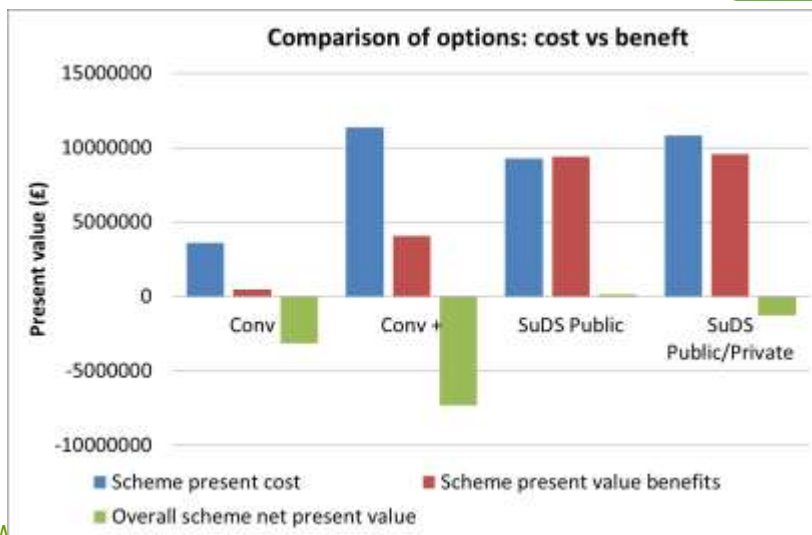
Comparison of costs and benefits using the comparison tool



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Comparison of costs and benefits using the comparison tool



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In summary when looking to use the results



1. £ does not equal a £ - its an indication
2. Help identify the wider benefits
3. Demonstrate the potential level of benefits
4. Understand who might benefit
5. Support conversations, look at wider funding opportunities
6. Understand benefits to investigate further

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For more information and to download BeST, visit:

<http://www.susdrain.org/resources/best.html>

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Studio Engleback, Curtins Consulting & Kevin McCloud

Thank you

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