Attachment
(Total Score and Carbon Calculator)

MALAYSIAN CARBON REDUCTION AND ENVIRONMENTAL SUSTAINABILITY TOOL
(“My**CR**EST”)

Carbon Calculator
Scorecard Design

Info:
1) All Grey box is auto computed and not allowed for editing
2) White box is the only box for user to input the details
3) Green box for default value, red for input, blue is auto calculated

IS	Infrastructure and Sequestration	SITE INVENTORY ANALYSIS ON GREENERY	Cr	Max Pts: Required

Step	Procedure

1

ISreq1 Site Inventory Analysis On Greenery

TABLE 1A	NATURAL ECOLOGY AND LANDSCAPE			
	NATURAL ECOLOGY AND LANDSCAPE SURFACE AREA	SURFACE AREA		TYPE OF VEGETATION/WATER BODIES (FREE TEXT)
1	GREEN OPEN SPACE			
	· FOREST RESERVES (INCLUDING URBAN FORESTRY)	0.00	M2	
	· PARKS	0.00	M2	
	· GRASSLAND (SPECIFY SURFACE AREA AND TYPE OF VEGETATION)	0.00	M2	
2	AGRICULTURAL LAND (SPECIFY SURFACE AREA AND TYPE OF VEGETATION)	0.00	M2	
3	WATER BODIES*			
	· LAKES (SPECIFY SURFACE AREA)	0.00	M2	
	TOTAL EXISTING GREEN AREA		M2	

- Fill up table 1A
- Total Existing Area Will Be Calculated on Surface Area column

2

TABLE 1B	TYPE OF TREE								
REQUIREMENTS	LANDSCAPE	EXISTING QUANTITY/AREA		QUANTITY/AREA PROTECTED1 & PRESERVED2		QUANTITY/AREA REMOVED3		AGE (YEARS)	DIAMETER4 (CM)	HEIGHT (M)
GROUP OF TREES (TO CALCULATE GREEN AREA)	SPECIFY TYPE OF VEGETATION									
	• NATIVE TREES	0.00	M2	0.00	M2	0.00	M2	0.00	0.00	0.00
	• PALM	0.00	M2	0.00	M2	0.00	M2	0.00	0.00	0.00
	• GRASSLAND	0.00	M2	0.00	M2	0.00	M2	0.00	0.00	0.00
	• SHRUBS	0.00	M2	0.00	M2	0.00	M2	0.00	0.00	0.00
	• TURF	0.00	M2	0.00	M2	0.00	M2	0.00	0.00	0.00
	• BAMBOO	0.00	M2	0.00	M2	0.00	M2	0.00	0.00	0.00
WATER BODIES	WATER BODIES									
	AREA	0.00	M2	0.00	M2	0.00	M2	0.00	0.00	0.00
INDIVIDUAL TREES	DIAMETER GREATER THAN 28 CM									

- Fill up table 1B with all columns

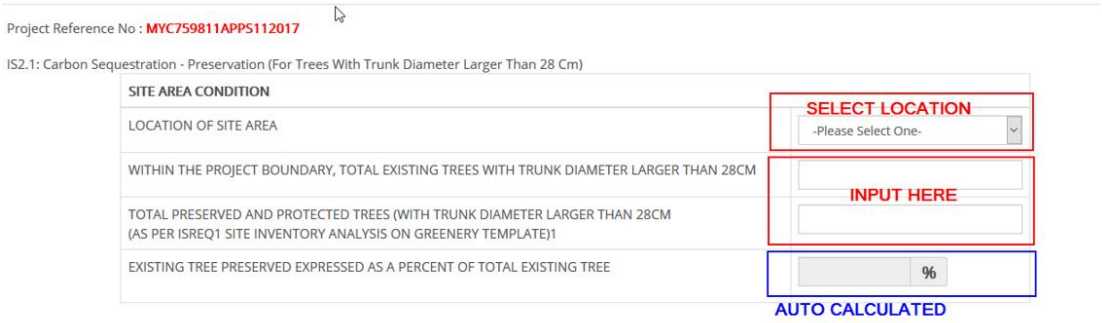
3

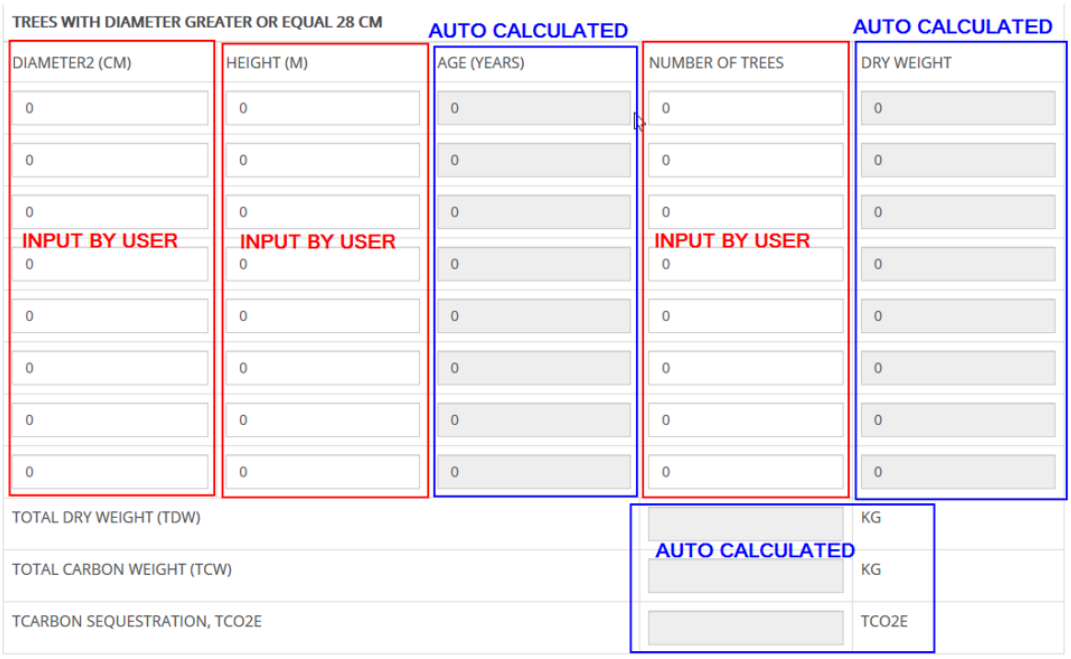
- System will calculate
  a) total existing green area (m2), total existing tree number

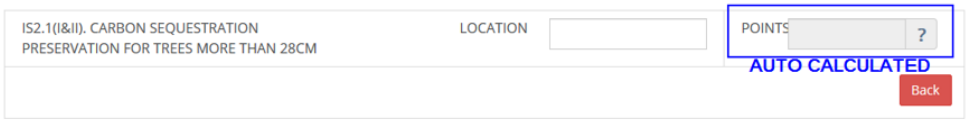
b) total protected and preserved area (m2), total protected and preserved tree
c) total removed area (m2), total remove tree number

4	▪ Action: Click on Confirm button to save.

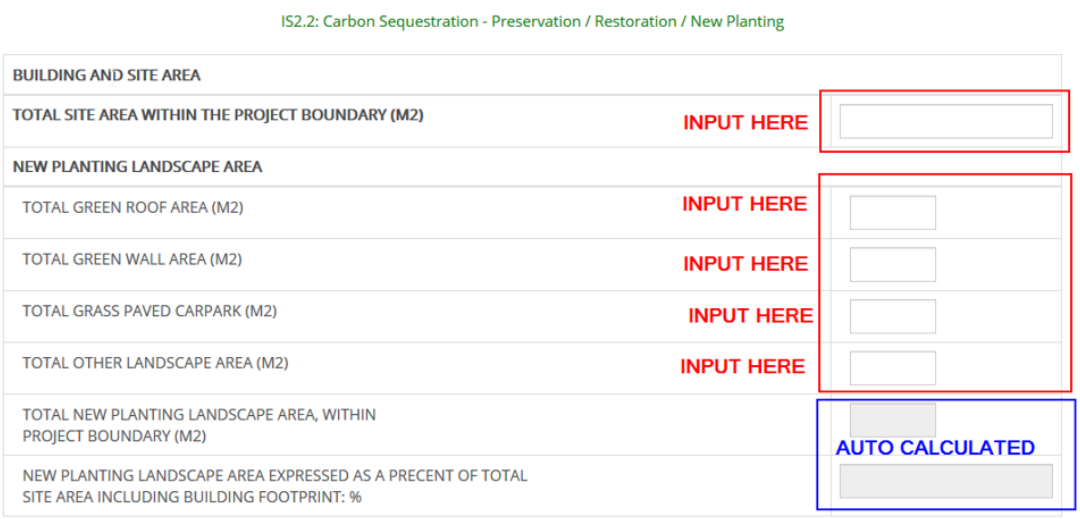
IS	Infrastructure and Sequestration	IS2 2.1	Preserve more than 80 Percent of trees	Cr	Max Pts: (2)

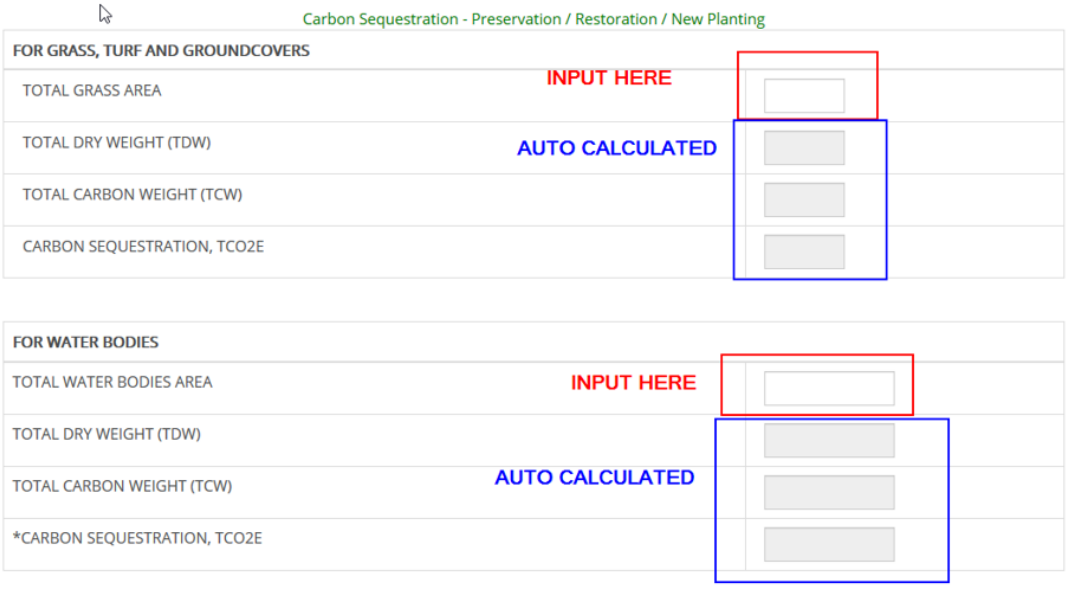


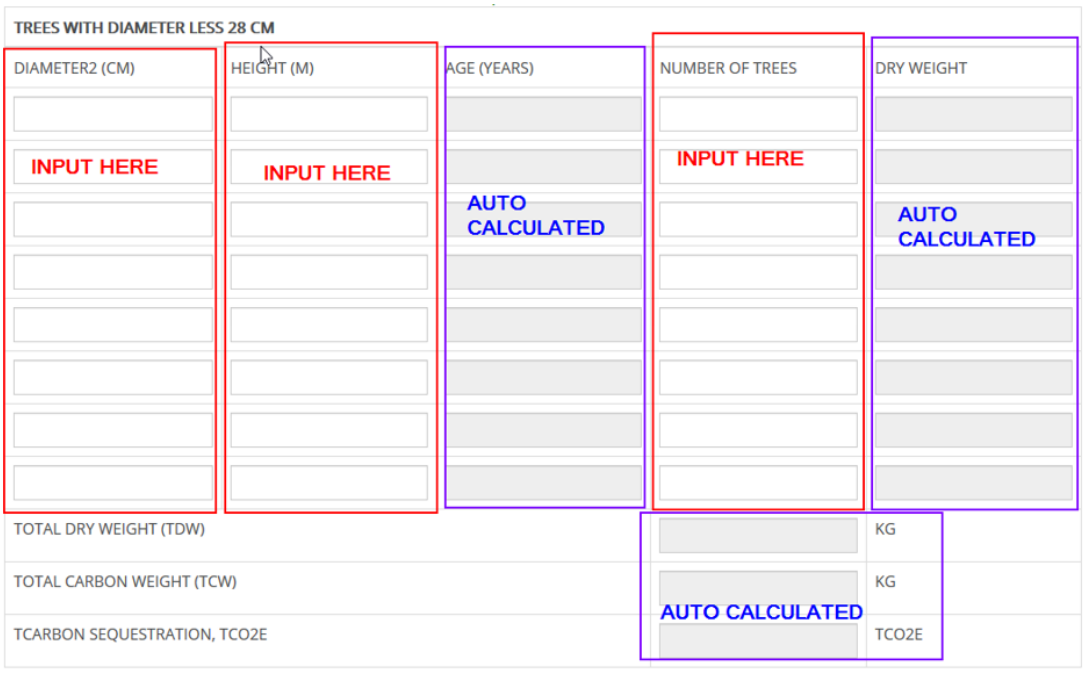


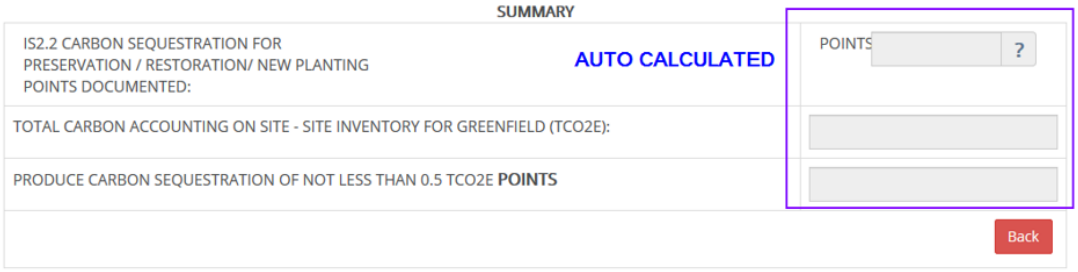


IS	Infrastructure and Sequestration	IS2 2.2	Carbon Sequestration - Preservation/Restoration/New Planting	SUB






TREES WITH DIAMETER LESS 28 CM
DIAMETER2 (CM)
HEIGHT (M)
AGE (YEARS)
NUMBER OF TREES
DRY WEIGHT
INPUT HERE
INPUT HERE
INPUT HERE
AUTO CALCULATED
AUTO CALCULATED
TOTAL DRY WEIGHT (TDW)
KG
TOTAL CARBON WEIGHT (TCW)
KG
AUTO CALCULATED
TCARBON SEQUESTRATION, TCO2E
TCO2E


SUMMARY
IS2.2 CARBON SEQUESTRATION FOR PRESERVATION / RESTORATION/ NEW PLANTING POINTS DOCUMENTED:
AUTO CALCULATED
POINTS
?
TOTAL CARBON ACCOUNTING ON SITE - SITE INVENTORY FOR GREENFIELD (TCO2E):
PRODUCE CARBON SEQUESTRATION OF NOT LESS THAN 0.5 TCO2E POINTS
Back

IS	Infrastructure and Sequestration	IS6 6.1	Heat Island Mitigation – Roof / Wall	Cr	Max Pts: (2)

IS6.1: Heat Island Mitigation - Roof/Wall

SELECT OPTIONS

OPTION	
AT LEAST 30% OF FLAT ROOF AREA IS PREPARED FOR SHADY TREES OR NON-INTENSIVE LANDSCAPING THAT IS GRASSY AREA OR SHRUBS	☑
AT LEAST 30% OF FAÇADE AREA MUST BE DESIGNED AS A LANDSCAPED WALL	☑

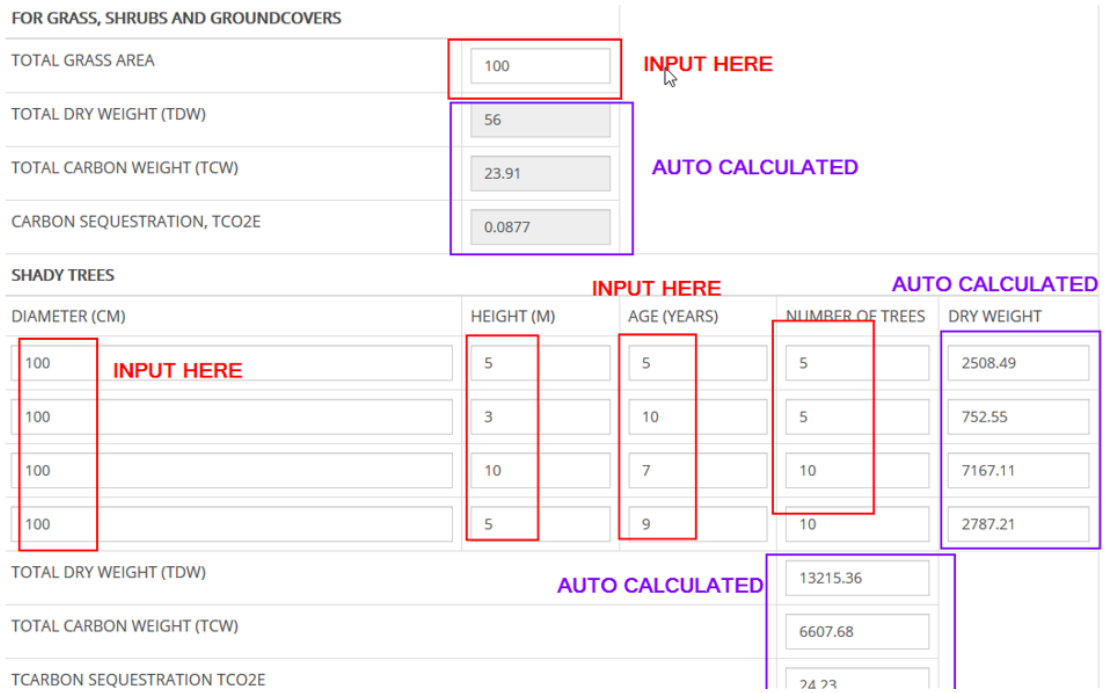
OPTION 1: VEGETATED ROOF	
TOTAL ROOF AREA (EXCLUDING MECHANICAL EQUIPMENT, PHOTOVOLTAIC PANELS AND SKYLIGHTS)(M2)	1000
TOTAL VEGETATED ROOF AREA (M2)	800
VEGETATED ROOF AREA, AS PERCENTAGE OF TOTAL ROOF AREA *THE VEGETATED ROOF AREA MUST BE AT LEAST 50% OF THE TOTAL ROOF AREA TO EARN 1 POINT.*	80
TYPE OF PLANTING	
GRASS, SHRUBS AND GROUNDCOVERS	☑
SHADY TREES	☑
FOR GRASS, SHRUBS AND GROUNDCOVERS	
TOTAL GRASS AREA	100
TOTAL DRY WEIGHT (TDW)	56
TOTAL CARBON WEIGHT (TCW)	23.91
CARBON SEQUESTRATION, TCO2E	0.0877

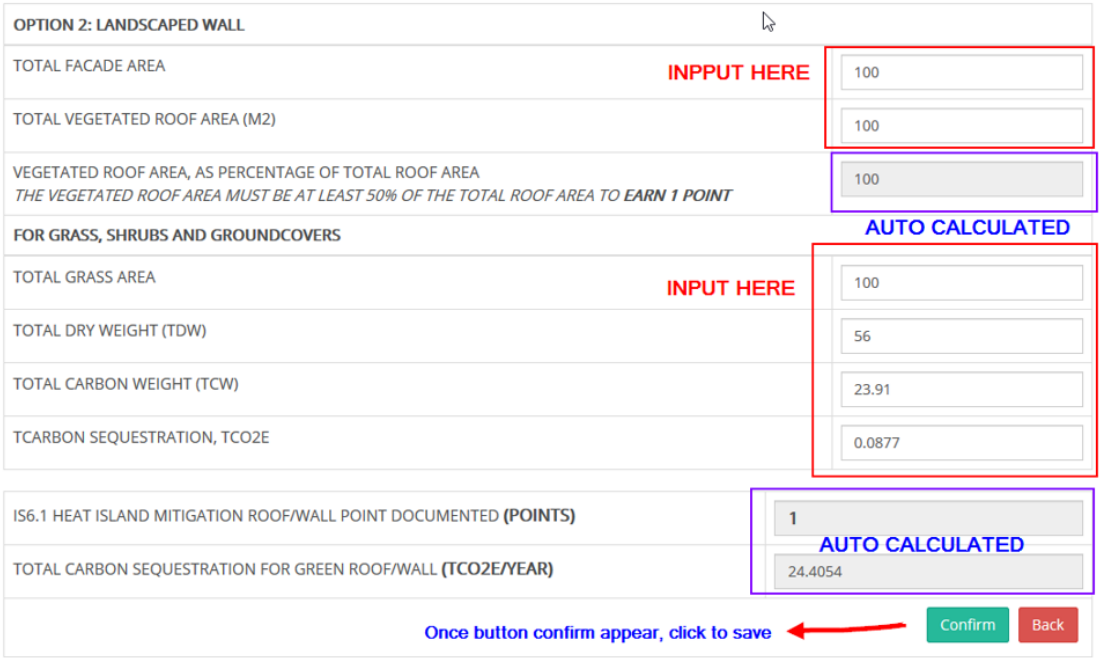
INPUT HERE

AUTO CALCULATED

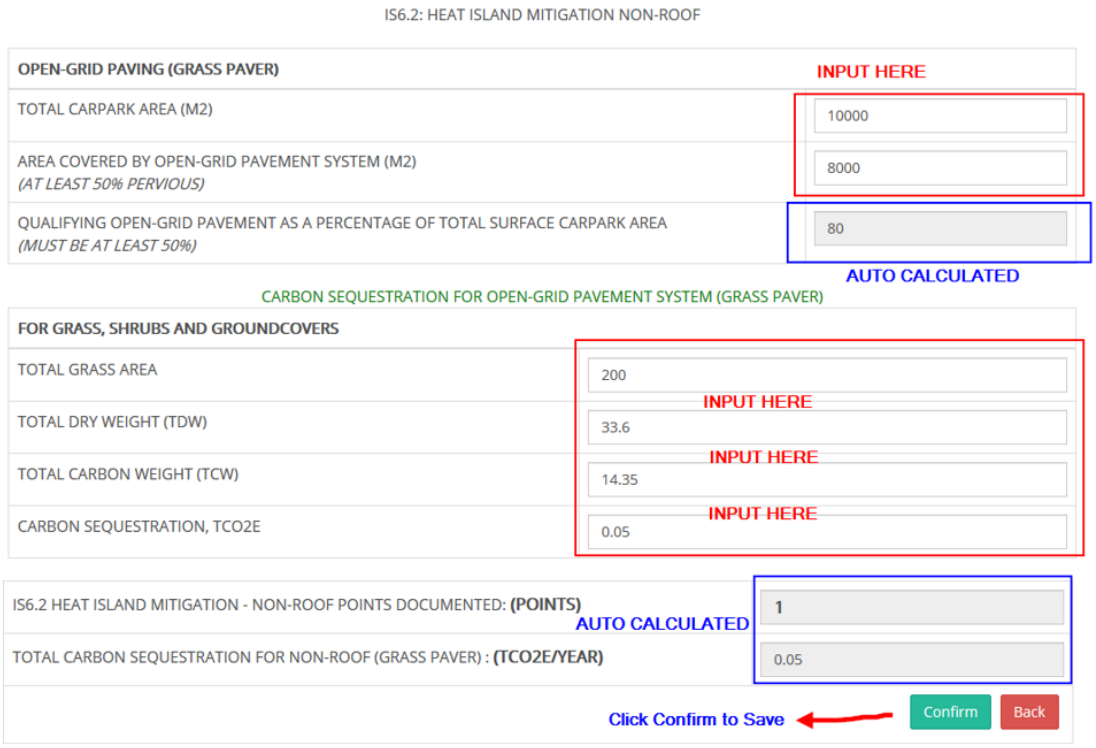
INPUT HERE

AUTO CALCULATED

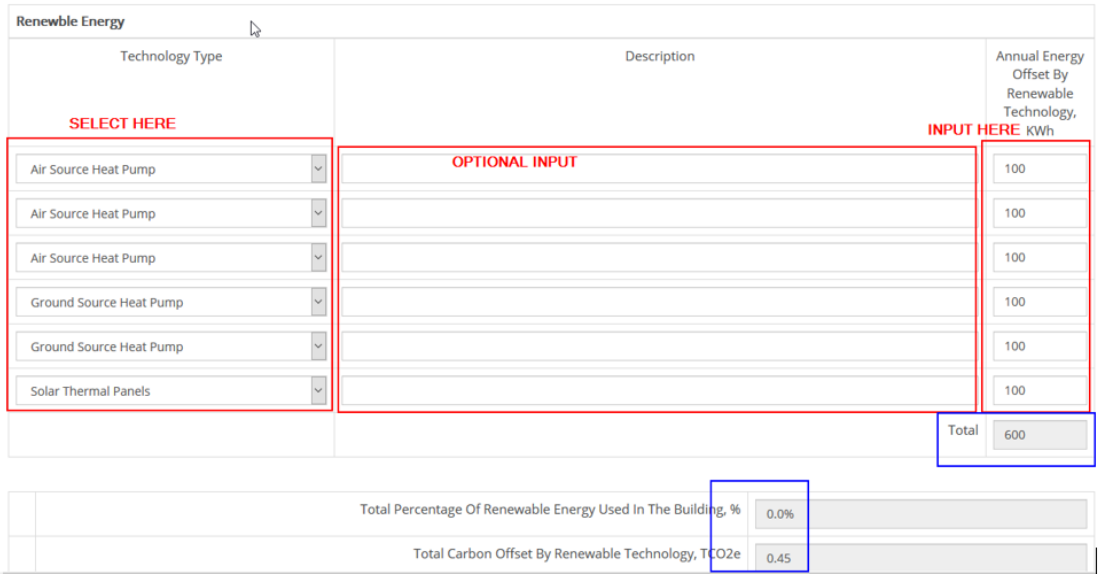

FOR GRASS, SHRUBS AND GROUNDCOVERS
TOTAL GRASS AREA
100
INPUT HERE
TOTAL DRY WEIGHT (TDW)
56
TOTAL CARBON WEIGHT (TCW)
23.91
AUTO CALCULATED
CARBON SEQUESTRATION, TCO2E
0.0877
SHADY TREES
INPUT HERE
AUTO CALCULATED
DIAMETER (CM)
HEIGHT (M)
AGE (YEARS)
NUMBER OF TREES
DRY WEIGHT
100
INPUT HERE
5
5
5
2508.49
100
3
10
5
752.55
100
10
7
10
7167.11
100
5
9
10
2787.21
TOTAL DRY WEIGHT (TDW)
AUTO CALCULATED
13215.36
TOTAL CARBON WEIGHT (TCW)
6607.68
TCARBON SEQUESTRATION TCO2E


OPTION 2: LANDSCAPED WALL
TOTAL FACADE AREA
INPPUT HERE
100
TOTAL VEGETATED ROOF AREA (M2)
100
VEGETATED ROOF AREA, AS PERCENTAGE OF TOTAL ROOF AREA
THE VEGETATED ROOF AREA MUST BE AT LEAST 50% OF THE TOTAL ROOF AREA TO EARN 1 POINT
100
AUTO CALCULATED
FOR GRASS, SHRUBS AND GROUNDCOVERS
TOTAL GRASS AREA
INPUT HERE
100
TOTAL DRY WEIGHT (TDW)
56
TOTAL CARBON WEIGHT (TCW)
23.91
TCARBON SEQUESTRATION, TCO2E
0.0877
IS6.1 HEAT ISLAND MITIGATION ROOF/WALL POINT DOCUMENTED (POINTS)
1
AUTO CALCULATED
TOTAL CARBON SEQUESTRATION FOR GREEN ROOF/WALL (TCO2E/YEAR)
24.4054
Once button confirm appear, click to save
Confirm
Back

IS	Infrastructure and Sequestration	IS6 6.2	Heat Island Mitigation – Non-Roof	Cr	Max Pts: (2)



EP	**Energy Performance Impacts**	**Req1**	**Building Envelope Performance**	**MAIN**	



EP	Energy Performance Impacts	Req1	Building Envelope Performance	MAIN

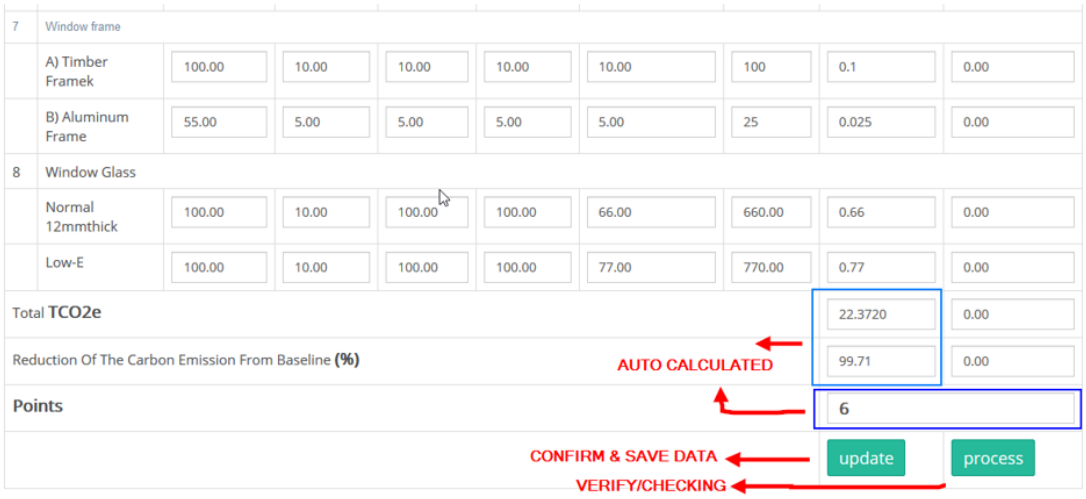
Building Energy Consumption

Item	Baseline Building (KWh/year)				Proposed Building (KWh/year)	
	Total Connected Load (KW)	Diversity Factor	Operational Hours	Building Energy Consumption (KWh)	Total Connected Load (KW)	Building Energy Consumption (KWh)
MECHANICAL						
Plant Room:	INPUT HERE	INPUT HERE	INPUT HERE	AUTO CALCULATED	INPUT HERE	AUTO CALCULATED
Chillers	0	0	0	0		0.0000
Chilled Water Pump	0	0	0	0		0.0000
Condenser Water Pump	0	0	0	0		0.0000
Cooling Tower	0	0	0	0		0.0000
Air System:						
Air Handling Unit, AHU(s)	0	0	0	0	0	0
Fan-Coil Unit, FCU(s)	0	0	0	0	0	0
Air-cooled Split Unit, ACSU(s)	0	0	0	0	0	0
Lighting & Small Power:		INPUT HERE			INPUT HERE	AUTO CALCULATED
Interior Lighting	0	0	0	0	0	0
Plug Load	0	0	0	0	0	0
Other Loads:						
Receptacle / Process Load	0	0	0	0	0	0
Elevators And Escalators	0	0	0	0.00	0	0.0000
Total Annual Energy Consumption, Baseline (KWh/year)				0.00		
Total Annual Carbon Emission, Baseline (TCO2e/year)				0.0000		
Total Annual Energy Consumption, Proposed (KWh/year)				AUTO CALCULATED		0.0000
Total Annual Carbon Emission, Proposed (TCO2e/year)						0.0000
Total Percentage Annual Energy Consumption Reduction, %						0.0000

EC	Lowering the Embodied Carbon	EC5	Lifecycle Analysis (LCA) – Building Works	MAIN

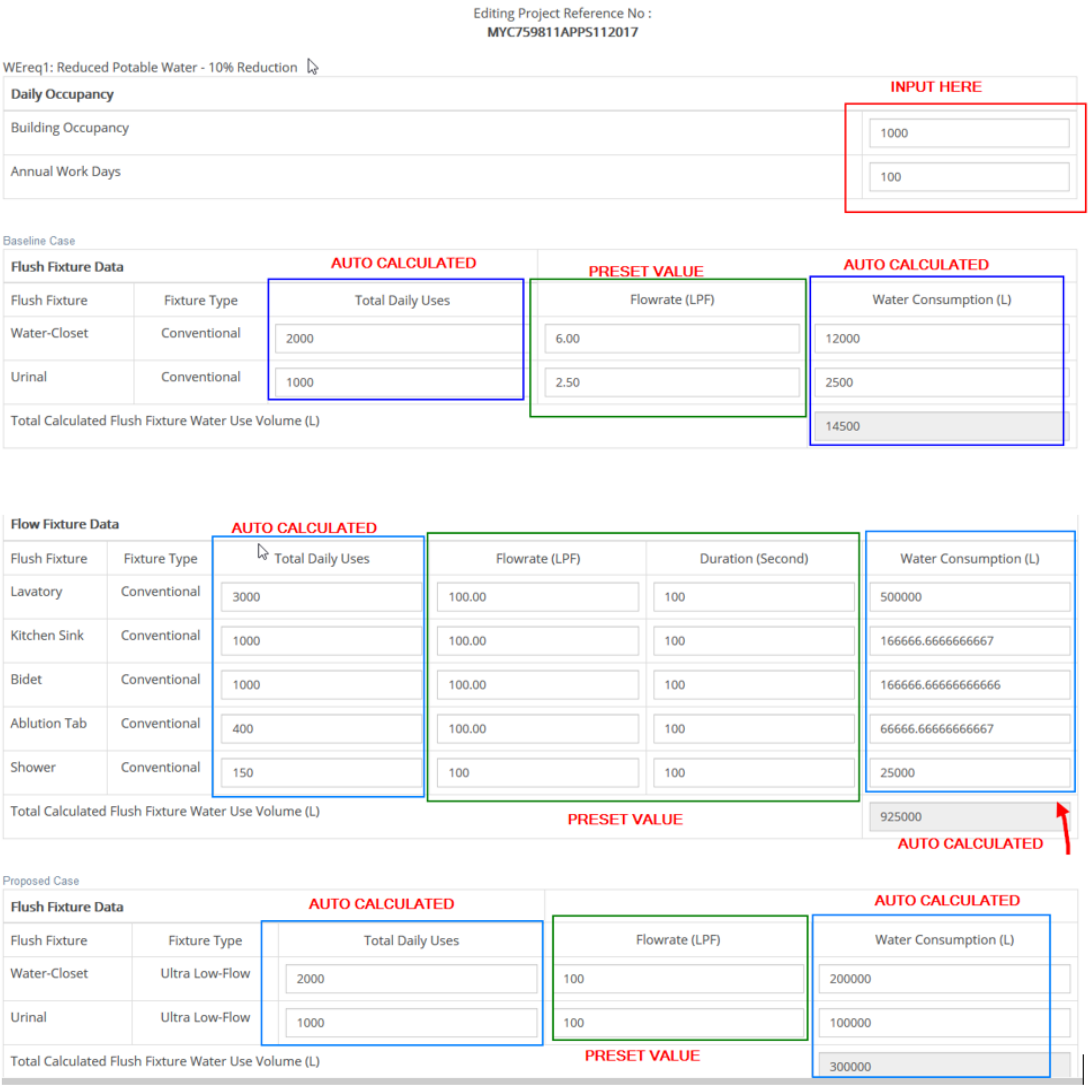
Proposed

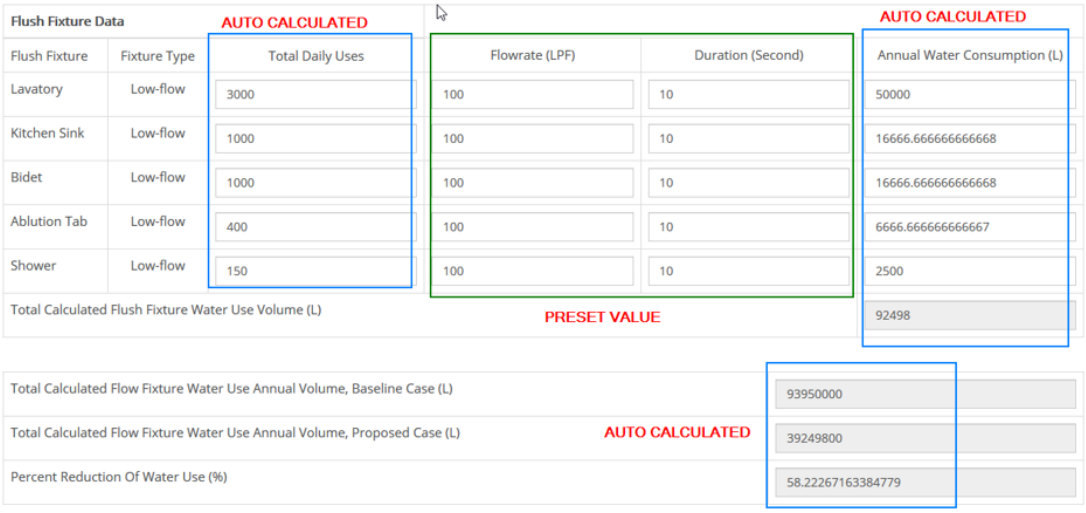
NO	Item	Description	kgCO2/kg Value A= From ICE	Quantity B= Extract From BoQ	Unit of materials	Facilitator must convert all BoQ Quantity to Unit kg C= See Note For Conversion	Total kgCO2e D=C*A	Total tCo2e E=D/1000	Conversion Note (from supplier or Web)
1	Slab								
	A) Concrete G30-0% Flyash	100.00	100.00	100.00	1.00	90.00	9000	9	0.00
	Rebar / BRC	100.00	9.00	9.00	78.00	88.00	792	0.792	0.00
	Formwork 20mmthick	0.00	0.00	0.00	0.00	0.00	0	0	0.00
	B) Steel Structure	0.00	0.00	0.00	0.00	0.00	0	0	0.00
2		<--	INPUT HERE	-->			AUTO-CALCULATED		OPTIONAL INPUT
	A) Concrete G30-0% Flyash	1000.00	10.00	10.00	10.00	10.00	100	0.1	0.00
	Rebar / BRC	100.00	10.00	10.00	10.00	10.00	100	0.1	0.00
	Formwork	100.00	10.00	10.00	10.00	10.00	100	0.1	0.00



7	Window frame								
	A) Timber Framek	100.00	10.00	10.00	10.00	10.00	100	0.1	0.00
	B) Aluminum Frame	55.00	5.00	5.00	5.00	5.00	25	0.025	0.00
8	Window Glass								
	Normal 12mmthick	100.00	10.00	100.00	100.00	66.00	660.00	0.66	0.00
	Low-E	100.00	10.00	100.00	100.00	77.00	770.00	0.77	0.00
Total TCO2e								22.3720	0.00
Reduction Of The Carbon Emission From Baseline (%)						AUTO CALCULATED		99.71	0.00
Points								6	
						CONFIRM & SAVE DATA		update	process
						VERIFY/CHECKING			

WE	Water Efficiency Factors	WE1	Water Conservation Strategies	MAIN





Flush Fixture Data

AUTO CALCULATED

AUTO CALCULATED

Flush Fixture	Fixture Type	Total Daily Uses	Flowrate (LPF)	Duration (Second)	Annual Water Consumption (L)
Lavatory	Low-flow	3000	100	10	50000
Kitchen Sink	Low-flow	1000	100	10	16666.666666666668
Bidet	Low-flow	1000	100	10	16666.666666666668
Ablution Tab	Low-flow	400	100	10	6666.666666666667
Shower	Low-flow	150	100	10	2500
Total Calculated Flush Fixture Water Use Volume (L)			PRESET VALUE		92498

Total Calculated Flow Fixture Water Use Annual Volume, Baseline Case (L)		93950000
Total Calculated Flow Fixture Water Use Annual Volume, Proposed Case (L)	AUTO CALCULATED	39249800
Percent Reduction Of Water Use (%)		58.22267163384779