Material change for a better environment

Information Sheet

The Net Waste Tool

A design-stage tool for reducing the cost and quantity of construction waste

WRAP's Net Waste Tool is a freely accessible online resource, available at www.wrap.org.uk/nwtool

The Tool calculates the potential waste arisings on your construction projects, shows you how you can improve your recycled content and quantifies the overall Net Waste for the project it will help you to:

- generate the waste forecasts needed for your Site Waste Management Plan (SWMP);
- identify the top opportunities to cut construction costs by wasting less material;
- define actions to include in the SWMP;
- optimise your choice of skips;
- adopt more reused materials and higher recycled content in building products without increasing costs; and
- evaluate performance against corporate targets for reducing waste to landfill.

Users:	design team – often the project quantity surveyor
When:	starting early in the design, at RIBA Stage C or D
Inputs:	basic cost plan data
Cost:	a few hours effort, depending on project size
Benefits:	save on material costs and disposal costs use the results to demonstrate corporate responsibility meet the legal requirement for a SWMP in England

What will the Tool tell me?

MAIN INDICATORS

Cost of waste – value of materials and cost of disposal

Quantity of waste – tonnes and volumes

Reused and recycled content

Net Waste – balance between value wasted and value of recovered materials used

FORECAST PERFORMANCE AT BASELINE PRACTICE

MY TARGETED OUTCOME

Savings in:

Material costs

Disposal costs

Waste quantities

Carbon impact

Reuse of materials

POTENTIAL PERFORMANCE AT GOOD PRACTICE

BEST PRACTICE

Acknowledgements:
The Net Waste Tool has been developed with the assistance of Cyril Sweett and Solstice Associates, with significant input from Arup, BRE, Davis Langdon, Faithful + Gould and Scott Wilson.

KEY STEPS:

Enter basic project parameters (or use an existing project as a template)

Define the project timeline

1 Add components:
Select the components and specifications for your project from a large drop-down list.

You can amend data such as costs, quantities and wastage rates from the default values, and create bespoke specifications.

2 Set waste reduction actions:
The Tool identifies which components are expected to be the major sources of waste (by value or quantity).

Select lower wastage rates for key components and the associated actions you will include in the SWMP.

3 Set waste segregation options:
The Tool forecasts the quantity of each waste stream each month and identifies the segregation strategy that minimises disposal costs subject to any space constraint.

Enter which waste containers you will bring on site each month and edit the default skip rates to estimate total cost more accurately.

4 Set waste recovery options:
The Tool calculates the expected quantity of waste to landfill.

Enter the target recovery rates for different waste streams and materials, and define actions you will include in the SWMP to deliver this performance.

5 Set recycled content Quick Wins:
The Tool identifies the top cost-competitive opportunities to increase overall use of reclaimed and recycled materials.

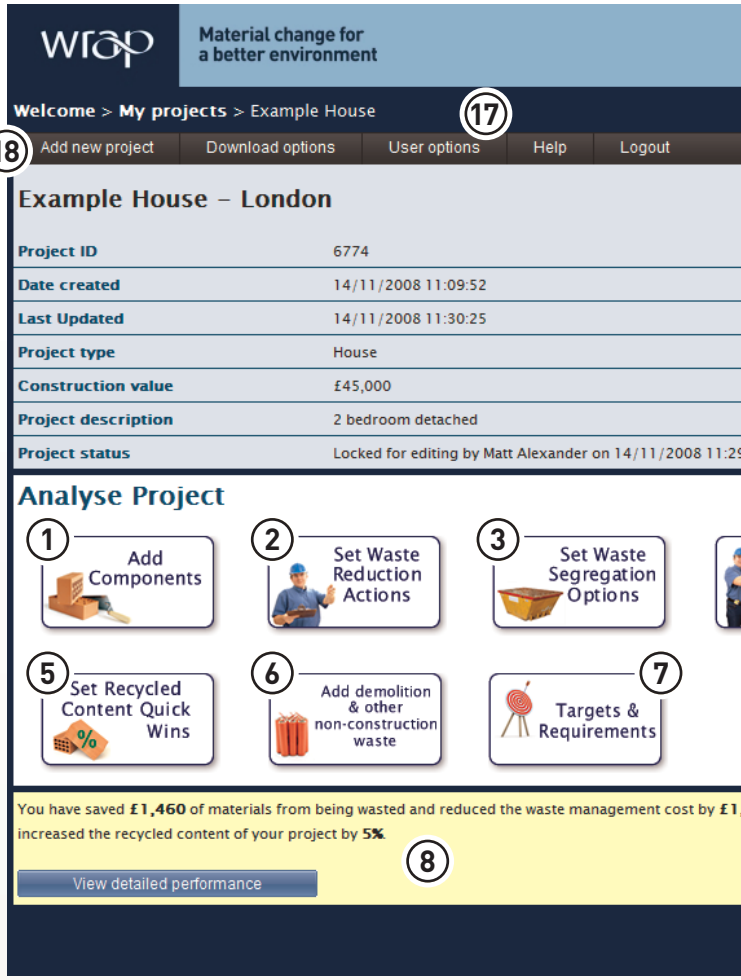
Enter which of these Quick Wins will be adopted on this project.

Input forecast data to your SWMP

Subsequently, upload actual waste data for reporting and analysis

18 Project setup:
When setting up your project, enter general details on gross floor area, number of storeys etc. The tool then estimates the quantities and costs of components. The project QS can overwrite these details later.

You can also create a new project based on a previous dataset (including example projects provided by the Tool).



6 Add demolition and other non-construction waste:
Enter data on demolition and excavation wastes if available/relevant.

The Tool will estimate quantities of materials from building demolition which can be reused in new build.

ANALYSING YOUR PROJECT

7 Targets and requirements:
Enter any targets or client requirements for waste reduction, recovery and use of recovered material.

Data aggregation: 17
You can analyse schemes comprising multiple projects/buildings, such as housing developments.

You can also collate overall results for your corporate portfolio, e.g. for annual reporting.

Project type: 16
You can set up housing, infrastructure, refurbishment, retail, office, education, health, residential, external works and bespoke projects.

DEFINING YOUR PROJECT

Charts: 15
These 'dashboard' charts show your project's targeted performance on key metrics compared to industry baseline and god practice.

Project audit history: 14
Summarise the changes to project data made during each user session.

Upload actuals: 13
Enter waste totals from your project's SWMP, either monthly or at the end of the project.

This will allow you to compare actual performance against forecast, and aggregate results across projects to get your corporate total.

Guest users: 12
The project owner can authorise additional users to read and/or enter project data.

Also identify project responsibilities for waste management to include in the SWMP.

View selected components: 11
Review the details of components and specifications entered for your project.

View detailed performance: 8
Click here for headline metrics and KPIs, including the value and quantity of waste/waste to landfill at baseline, good, forecast and actual practice.

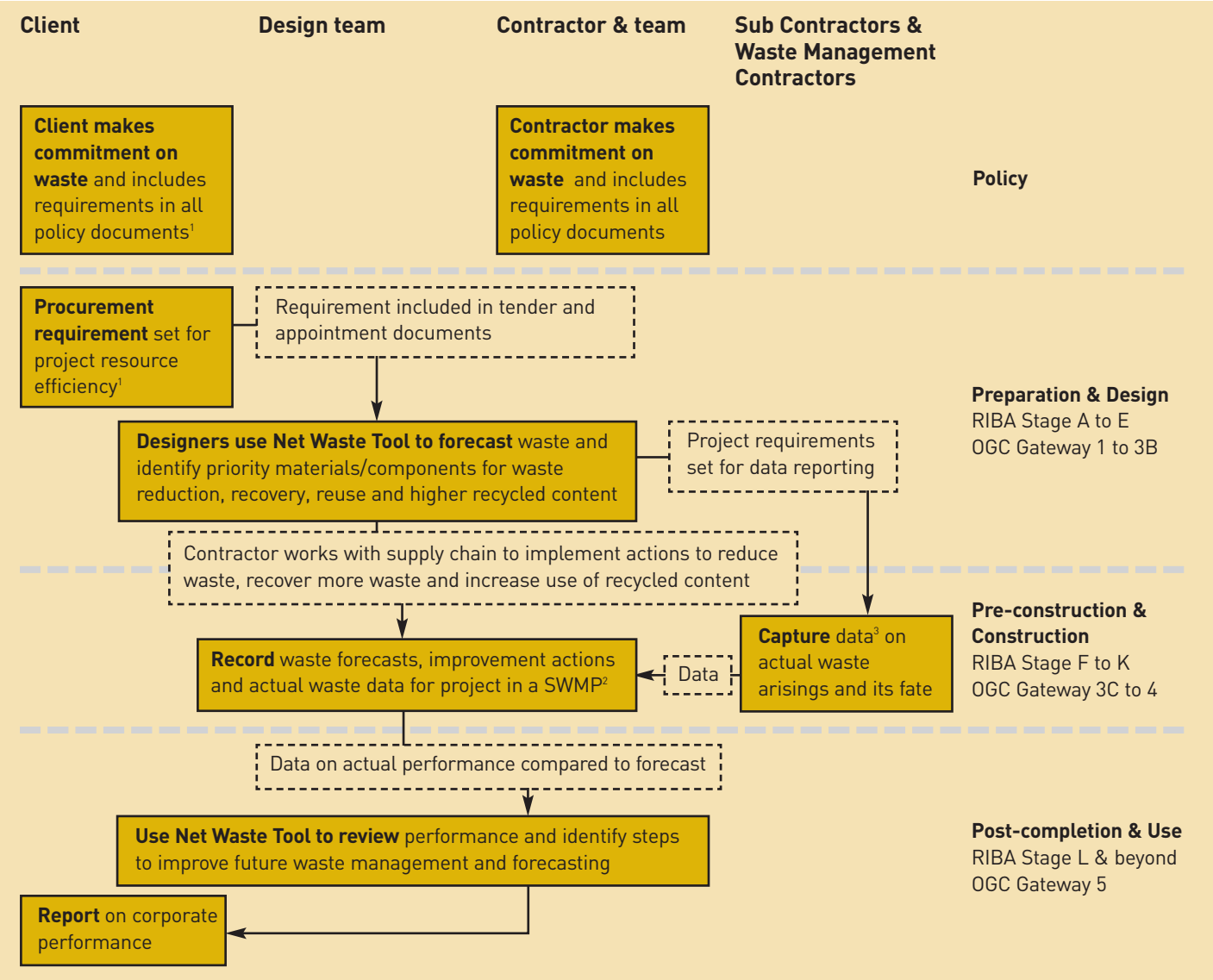
Review project timeline: 9
Enter the start and end month for constructing each project element (substructure, walls etc). The Tool can then identify which waste containers are needed on site each month.

Generate reports: 10
Download spreadsheet reports detailing project performance.

Details can be cut and pasted into your SWMP.

MANAGING YOUR PROJECT

The role of the Net Waste Tool within the project life cycle:



1 WRAP provides model wording for policy, tender and appointment documents.
2 WRAP provides a SWMP Template. Alternatives are available such as BRE's SMARTWastePlan, and various contractors use their own bespoke SWMP frameworks.
3 Various waste capture and data reporting systems are used. The best known is BRE's SMARTWaste.

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