



WRAP: Designing Out Waste International Open Ideas Competition

INTRODUCTION & INVITATION

The construction industry is the UK's largest user of natural resources and producer of waste. Each year around:

- 400 million tonnes of material is used;
- 120 million tonnes of waste is produced - more than one third of the UK's annual waste;
- £1.5 billion is wasted in unused materials; and
- 25 million tonnes of construction, demolition and excavation waste is disposed to landfill.

As well as financial implications, this impacts on the environment not only in the loss of natural resources but also in carbon emissions from the manufacture and transport of wasted materials and their degradation in landfill.

Design professionals and architects can make a real difference in reducing this waste, by considering how their design decisions in the development of a project influence materials use and waste creation during its construction.

The UK construction industry has adopted a strategic target of halving the amount of construction, demolition and excavation waste going to landfill by 2012, through adopting and implementing standards for good practice in reducing waste, recycling more, and increasing the use of recycled and recovered materials.

All parts of the supply chain - clients, contractors, designers and consultants, manufacturers, waste management companies - have a role to play in the industry as a whole in achieving this target.

Many organisations are already taking a lead, particularly many major clients and contractors, as the business benefits from taking action are numerous and compelling. For example, the true value of waste leaving a construction site is more than 10 times the cost of disposal when the value of materials and labour are added.

In recent years, initiatives to reduce waste to landfill have concentrated on managing site waste more effectively to enable increased recycling, but clearly reducing waste from being created in the first place has a far greater positive impact than simply

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managing the waste that does arise. Whilst site activities such as handling and storing materials more carefully can contribute to reducing wastage, the biggest opportunities to reduce waste occur at the earliest stages in the construction process - during the evolution of the design.

Empowering design teams to identify and act upon these opportunities to design out waste is therefore key in achieving the sector commitment target of halving construction waste to landfill by 2012. WRAP is providing tools and guidance to enable architects and designers to identify, prioritise and implement design options that reduce construction waste.

This design competition is an integral part in raising awareness of the importance of designing out waste in construction projects. Selected ideas will be showcased as exemplars in demonstrating innovative yet practical approaches to reducing construction waste through design.

Invitation

WRAP has great pleasure in announcing an International Open Ideas Competition. WRAP is asking competitors to address the process of design and construction – in doing so to demonstrate how waste can be designed out of a project. WRAP intends that competitors will use the principles and methodology of *Designing out Waste – a working guide for design teams* published by WRAP this year. The competition is open to practising architects and qualified professionals from other construction-related disciplines, together with students of architecture, design and construction-related subjects. The ideas competition challenges competitors to develop innovative and practical ways to reduce construction waste through design, helping to raise awareness throughout the industry of the positive power of design.

WRAP: Waste & Resources Action Programme

WRAP helps individuals, businesses and local authorities to reduce waste and recycle more, making better use of resources and helping to tackle climate change.

Established as a not-for-profit company in 2000, WRAP is backed by government funding from England, Scotland, Wales and Northern Ireland. More information on WRAP can be found at www.wrap.org.uk.

WRAP works through a range of programmes. One of these programmes works with the construction industry to reduce costs and increase efficiency through the better use of materials. WRAP has launched **The Construction Commitments: Halving Waste to Landfill** – a voluntary agreement which provides the key delivery and measurement framework through which industry can support and deliver the

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target of halving waste to landfill by 2012. For more information visit www.wrap.org.uk/construction

A series of tools, guidance and case studies to help the construction industry (see www.wrap.org.uk/construction/tools_and_guidance/index.html) have been available for some time, and in 2009 WRAP launched *Designing out Waste - a Design Team Guide*. A PDF version of this guide is available to download under 'Supporting Documents'. The guide gives background to *Designing out Waste* in construction projects and demonstrates a process that designers can use to identify, prioritise and implement design options to reduce construction waste. This prioritisation is critical to ensure that the best design options to reduce construction waste are focused on - rather than trying to design out every source of waste - which would be overly time consuming. The guide also offers categorised examples of the range of ways that design can reduce construction waste. *Designing out Waste* offers designers five basic principles within which there are many individual opportunities. These are Design for:

- Reuse and Recovery;
- Off site Construction;
- Material Optimisation;
- Waste Efficient Procurement; and
- Deconstruction and Flexibility.

These principles enable designers and architects to address the issue of designing out waste. Properly integrated, they can have a major impact on the bottom line as well as reducing waste to landfill. For example, the Environment Agency has estimated that the true cost of waste on a commercial office project is around 4% of project value. For further examples of the drivers for reducing construction waste, please refer to the *Designing out Waste* guide.

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THE COMPETITION

Competition Format

The RIBA Competitions Office is managing the selection process on behalf of WRAP, with Malcolm Reading (Malcolm Reading Consultants) appointed as RIBA Architectural Adviser and Jury Panel Chair. Competitors should not make contact directly with the Adviser during the competition stage, but direct all queries to the Competitions Office in the first instance.

The selection process will follow the format of a single-stage, International Open Ideas Competition. There is no actual site or project, but the intention is to explore innovative and practical ways to reduce waste in the design and construction process, making use of the principles set out in the *Designing out Waste* guide.

Competitors will be required to submit up to three (x3) A2 design boards, a supporting narrative statement, together with electronic versions of the submission material. These will be assessed anonymously by a Jury Panel and an aggregate Design Fund of £20,000 (inclusive of VAT) will be available for distribution at the discretion of the Panel. The Jury will reward initiative, good ideas and practical solutions that are imaginatively communicated.

Please refer to 'Eligibility & Registration' for the eligibility categories and how to register for the competition. Further details regarding the full submission requirements, Jury Panel composition, Design Fund etc can be found under 'Competition Conditions'.

Competitors should note that it is WRAP's intention to feature selected entries on a specially designed web site (plus possible exhibition and/or design compendium) post-competition. WRAP also intend to establish a case study resource using the best examples from the Designing Out Waste Competition which will be promoted alongside other WRAP resources to clients and the construction industry. Authorship of the ideas will be duly credited in all publicity material and, post-Competition, all registered applicants will be offered the opportunity of attending one of WRAP's *Designing out Waste* workshop events.

The Challenge

By looking closely at the way we design, we can make a significant difference to the amount of construction waste arising and going to landfill. Some design solutions - such as re-using and recycling demolished material as aggregate or sourcing plasterboard cut to size - are fairly obvious, but there is also a whole range of opportunities to reduce construction waste through design. Some of these are captured in current WRAP case studies and in the *Designing out Waste* guide.

The Competition is to generate more ideas - design solutions - that reduce construction waste. Competitors are encouraged to apply creativity and skills to

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identify, prioritise and design innovative ways to reduce waste on construction projects, and so demonstrate the practical application of the principles set out in the *Designing out Waste* guide.

Competitors are encouraged to use the methodology outlined in the *Designing out Waste* guide when developing their entry.

Competitors shall choose from one of three project/site examples and show design solutions that implement innovative, practicable (considering buildability and commercial viability) and replicable measures, which will make a significant impact on waste reduction. As a guide, selecting and illustrating a small number of key design solutions per entry (< 10) would be considered appropriate.

The three project / site examples from which one should be chosen, are:

1. A flat, inner-city, brownfield site with old Victorian warehouse and terrace housing that is being developed for **mixed use residential, workspace, retail and open space**.
2. Development of a **new office and warehouse headquarters** on a landscaped business park with good transport links.
3. A new-build **primary school** in an inner-city area.

Building Data :

	Project 1	Project 2	Project 3
	Mixed use re-development	Office	Primary School
Building gross area	18,000m ²	6,000m ²	2,500m ²
New: Refurbished	25: 75	100: 0	100 : 0
No of storeys	Up to 4	3	1
Context	Limited access, close residential neighbours, sloping site, within a Conservation Area, some low level contamination on site	Flat site, roads and parking built, old gravel pit lake adjacent	Quiet, predominantly residential area, existing building surrounded by hard playgrounds
Client	Private developer	Pension fund	Primary School

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Competitors should assume that the three project /sites examples are located in the UK and the design solutions proposed should be applicable to the UK in 2009. In each of the examples, competitors are invited to create their own site features and design concept. Competitors should remember that the intention of the competition

is to show how construction waste can be reduced through design. Competitors should select **one** of the three project/site exemplars on which to base their entry.

SUPPORTING DOCUMENTS

- *Designing out Waste: a Design Team Guide*
- Competition Brief (pdf version)
- Registration & Declaration Form

Links to other sources of potentially useful information

- www.wrap.org.uk/construction

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ELIGIBILITY & REGISTRATION

Eligibility categories

The competition is open internationally under three categories: students; architects; and professionals from other construction-related disciplines.

Student category: Students of design, architecture and construction-related subjects. Students should be either enrolled on a full-time or part-time recognised course at a higher education institution, or partly qualified or trainee within one year of qualification. In the case of students of architecture, this means that you must **not** have completed RIBA Part III (or equivalent for international applicants).

Architect category: Qualified, practising architects who have completed RIBA Part III and are registered with the Architects Registration Board in the UK (or equivalent registration body for international applicants).

Other Professionals category: Designers and qualified professionals in other construction-related disciplines with an appropriate and recognised qualification.

Registration

Only registered competitors may submit an entry to the Designing out Waste Competition. The Competition will be subject to a non-refundable registration fee (to cover administration costs) of £25.00 (inc VAT) for professional competitors and £10.00 (inc VAT) for students. Competitors should complete and sign the [Registration & Declaration Form](#) and return it along with the appropriate remittance to:

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Cheques should be made payable to 'RIBA'. Please contact the Competitions Office for alternative payment options.

On receipt of the Declaration Form and Registration Fee, each Competitor will be issued with a unique entry reference number, which must be prominently displayed on all submission material. **Please note that registrations will close at the conclusion of business (17.30 hrs BST) on Tuesday 23 June 2009.**

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QUESTIONS & ANSWERS

A Memorandum in response to Questions submitted by the Friday 29 May 2009 deadline will be available to download after Monday 8 June 2009 from the 'Supporting Documents' section of the web site and will be e-mailed to all registered Competitors.

COMPETITION CONDITIONS

Competition Promoter

The Promoter of the Designing out Waste Competition is the Waste & Resources Action Programme.

Post Competition Commitment & Design Fund

The Designing out Waste Competition is following an Open Ideas format - there is no actual site, project or any post-competition commitment to appoint a designer.

An aggregate Design Fund of GBP £20,000 (inclusive of VAT) will be available for distribution between the eligibility categories. The Design Fund will be apportioned at the discretion of the Jury Panel, who will not be bound to make any single award in any category.

In addition, the Jury Panel may award commendations, which may or may not have monetary value attached to them.

The Promoter undertakes to allocate the Design Fund within one calendar month of the conclusion of the competition. The RIBA will inform Competitors of the amount awarded to them, who will then be required to submit an invoice to the RIBA Competitions Office.

No member or employee of the promoting body, nor the assessors, nor any partner, close associate or employee of them shall be eligible to compete or assist a competitor.

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Jury Panel

The Jury Panel will include representatives from WRAP, the construction industry and RIBA Architectural Adviser, Malcolm Reading of Malcolm Reading Consultants.

Names of Panel representatives will be updated on the website as soon as they are confirmed.

In the event of a Jury Panel member being unable to continue to act through illness or any other cause, the Promoter, in consultation with the RIBA, reserves the right to appoint an alternative Panel member.

Competition Programme

The anticipated programme, which may be subject to variation, is as follows:

Task	Date
Competition launch	Mon. 11 May 2009
Deadline for Competitors to raise Questions	Fri. 29 May 2009
Issue of Memorandum in response to Questions raised	Mon. 8 June 2009
Expiry of registration period	Tues. 23 June 2009
Deadline for submission of anonymous entries	Tues. 30 June 2009
Anonymous review of entries	Week commencing Mon. 6 July 2009 onwards
Jury Panel to meet and agree allocation of Design Fund	Thurs. 9 - Fri. 10 July 2009
Notification to Competitors	Wed. 15 July 2009
Public announcement of results	Fri. 17 July 2009

Clarification questions

Any questions which competitors wish to ask must be addressed to the RIBA Competitions Office, to arrive before close of business (17.30hrs BST) on **Friday 29 May 2009**. An explanatory Memorandum based on the questions submitted will be circulated to all registered competitors and uploaded under Supporting Documents after **Monday 8 June 2009**. This Memorandum will form part of the Competition Brief. Oral questions will not be accepted.

Submission Requirements

- Up to three (x3) A2 format (420mm x 594mm) boards presented in a landscape format, in a drawn or printed medium, in colour or black and white. Please note that the use of foam boards is not encouraged as they cannot be recycled.
- A bound accompanying narrative statement - maximum six A4 pages (12 sides, 12pt Arial typeface) describing the design solutions shown on the drawing, how

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they reduce construction waste and what makes them practical solutions, together with other supporting material. If possible, the statement should be printed on recycled paper.

- A CD-ROM containing electronic copies of the A2 Design Boards (PDF format) and the narrative statement (Word format). The PDFs of the design boards should be <<1Mb in size, since they may subsequently be uploaded to the WRAP and/or dedicated Competition web site. The CD-ROM should also contain publicity images (up to 3) for use in the printed and electronic media. These should be submitted in JPEG format, with low (72dpi) and high (300dpi) resolution versions of each image. The publicity images need not be exactly the same as those presented on the design boards, but should be representative of the design ideas proposed and be readily identifiable as such. The intention is that a gallery of publicity images will subsequently be uploaded to a dedicated web site.

Architectural models will **not** be accepted, although images of models used to develop the design proposal may be included on the A2 design boards.

Anonymity

The entries should be submitted and will be judged anonymously. All submission material should clearly display the unique entry reference number issued to each competitor on registration. In the case of the A2 display boards this number should be prominently displayed in the bottom right hand corner on the front face of each board. Any submission that has identifying marks (including corporate logos, text, insignia, or images that could be used to identify the submission's author) will be automatically disqualified. Competitor must be able to satisfy the competition organisers that the submitted ideas are an original piece of work and that he/she is the bona fide author of the design he/she has submitted.

Submission Method

Each entry should be submitted in a single package and sent, carriage paid, addressed to:

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- Overseas Competitors should note that for Customs purposes no commercial value should be assigned to the design submission. If a commercial value is given this may result in your submission being delayed and/or returned to you unopened, as the RIBA will not be liable for any Customs charges otherwise incurred.

- Submissions should arrive no later than **2.00pm** on **Tuesday 30 June 2009**. Late submissions will not be accepted and it will not be possible to submit entries via e-mail. UK Competitors should note that First Class post does not necessarily guarantee next-day delivery and should plan their submission schedule accordingly.
- Competitors requiring proof of delivery should enclose in their submission package a stamped, sealed envelope bearing the name and address of a nominated Third Party (other than the competition entrant in order to maintain anonymity) to receive the proof of delivery. Please also refer to the Anonymity section above.
- Competitors are advised **to retain copies of all design material submitted**. Whilst the Promoter and the RIBA Competitions Office will exercise all reasonable care, they will not be liable for loss or damage to the submission material which might occur either in transit, during exhibition, storage or packing.

Disqualification

Submissions shall be excluded from the Designing out Waste Competition:

- If received after the latest time stated under the Submission Method.
- If, in the opinion of the Jury Panel, it does not fulfill the requirements of the Competition Brief.
- If a Competitor shall disclose his or her identity, or improperly attempt to influence the decision.
- If any of the requirements of the Competition Brief and Conditions are disregarded.

Evaluation criteria

The Jury will reward initiative, good ideas and practical solutions that are imaginatively communicated. The submissions will be assessed against the following criteria:

- Demonstration that the drawings and narrative show innovative and practical ways in which the construction waste has been reduced through design on the project selected by the entrant. As a guide, a small number of key design solutions per entry (< 10) would be considered appropriate.
- Demonstration of the power of the design process in reducing construction waste, and that the quality of the architecture need not necessarily be sacrificed in this pursuit.
- Design solutions that build upon and extend the principles outlined in the *Designing out Waste* guide.
- Clear, concise communication of design solutions and potential to raise awareness of the *Designing out Waste* principles within the construction industry and beyond. Competitors are reminded that it is WRAP's intention to incorporate the best ideas into a case study resource that will support the *Designing Out Waste* guide.

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Publicity & Copyright

WRAP and the RIBA reserve the right to publicise the Designing out Waste Competition, any design submission, and the result in any way or medium they consider fit. Illustrations of any design - either separately, or together with other designs, with or without explanatory text - may be used without cost.

The ownership of Copyright will be in accordance with the Copyright, Designs and Patents Act 1988 - i.e. Copyright rests with the author of the submitted design. By submitting an entry to the competition, Competitors will grant WRAP permission to feature selected material in the case study resources to be developed to promote the Designing out Waste principles. Authorship of ideas will be duly credited in all publicity and case study resource material.

Notification of Result

The competition results will be published after notification has been given to all participating Competitors. Entrants should note that they will be expected to honour a confidentiality agreement to prevent information on the winning design ideas being leaked to the Press before any official announcement is made.

Competition Management & Enquiries

The Designing out Waste Competition is being managed and administered by the RIBA Competitions Office. All enquiries relating to the general conditions of this competition should be addressed to:

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The Promoters, the RIBA Adviser, nor other members of the Jury Panel should be solicited for information, as this may lead to disqualification from the Competition.

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