CL:AIRE Conference

26th September 2013

ReUSE Programme

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RSK

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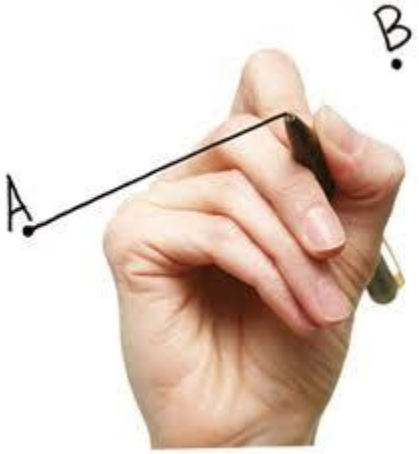
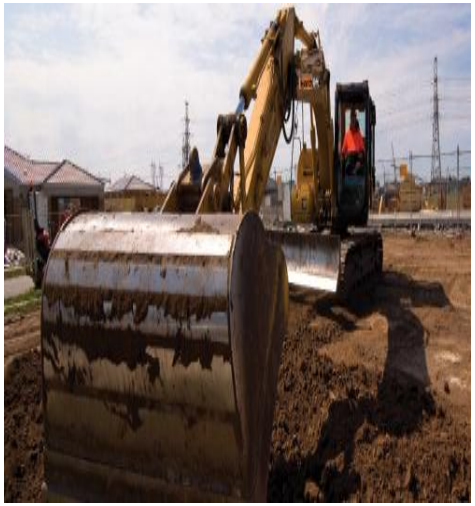
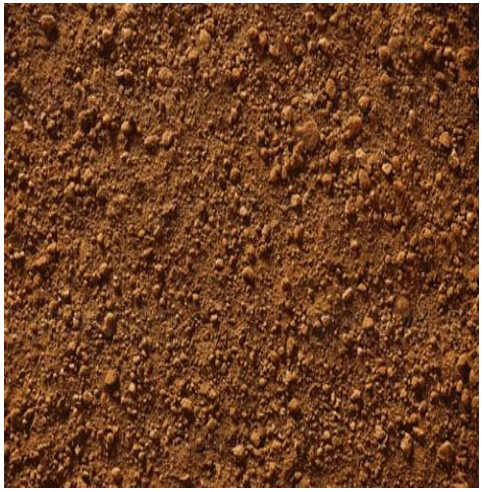
CONTENTS

What is ReUSE?

Resource Use, Sharing and Efficiency Initiative







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RESOURCES CONTEXT

Context ‘Resources Revolution’

- 80 per cent of UK manufacturing company chief executives claimed raw material shortage was a risk to their business, particularly as real commodity prices had surged by 147 per cent since 2000
- Carbon Trust survey of CEOs demonstrates many believe that within 5-10 years resource constraints will significantly impact business models
- McKinsey report ‘Resource Revolution’ 2012 forecast that 30 per cent of global demand for resources in 2030 could be met through better management

Linear and Circular Economies

Linear economy

> take, make, dispose

Circular economy

> ‘design out’ waste - Waste does not exist—products are designed and optimised for a cycle of disassembly and reuse

> strict differentiation between consumable and durable components

> renewable energy

WASTE CONTEXT

Background to Waste Framework Directive

- Waste was one of the first issues that EU environmental legislation tackled in the 1970s.
- Waste Framework Directive was adopted in 1975
- Protection of human health and environment
- Waste hierarchy (prevent, reuse, recycle, dispose)
- Common waste definition introduced in 1991

'Waste means any substance or object that that the holder discards', intends to discard or is required to discard'

Waste on Brownfields and Con Land

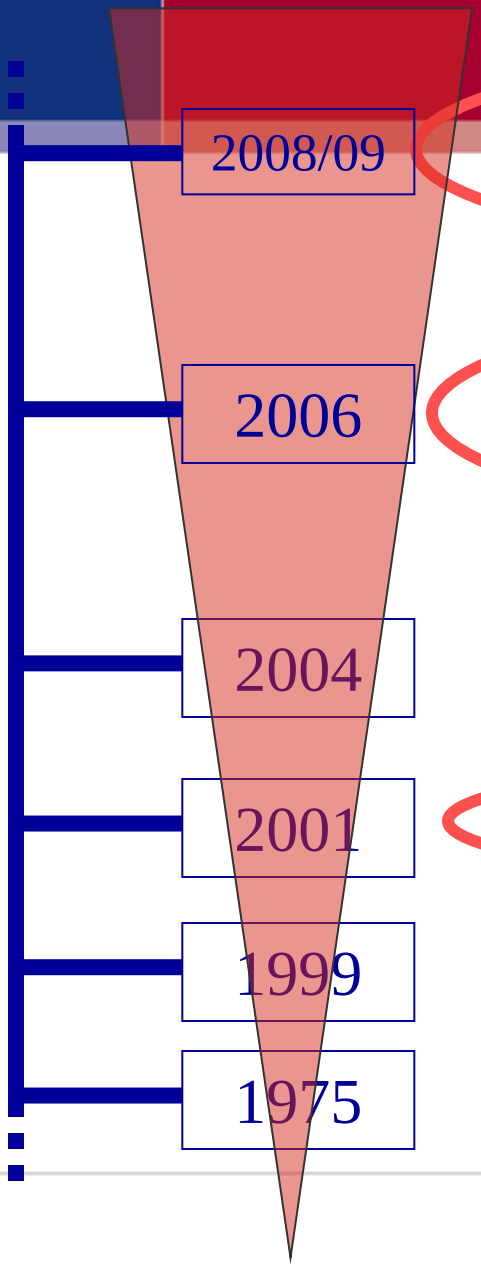
Through progressive interpretation of case law more materials came to be considered as waste or potential waste:

Demolition rubble and Made Ground – contaminated and uncontaminated – used on-site

Secondary and Recycled Aggregate e.g. Pulverised Fuel Ash

Soil including topsoil and natural ground

Waste and Soil Time Line in the UK



2008/09

CoP EPP Exemption Review Revised WFD

2006

EA Guidance
MTL/Remediation Position Statements

2004

Van Der Walle
Remediation Licensing Task Force

2001

EA Guidance on Waste and Remediation

1999

AGS Position Paper

1975

Waste Framework Directive

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UK construction 70,000 activities/year that should be controlled by an Environmental Permit or an exemption (HBF estimate)

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Waste Classification!
Waste Permitting!

Suitable for Use!
Risk Based Land Management!

Waste Management

Contaminated Land Management

Destination:
Protection of Human Health and the Environment
Sustainable Reuse of Materials

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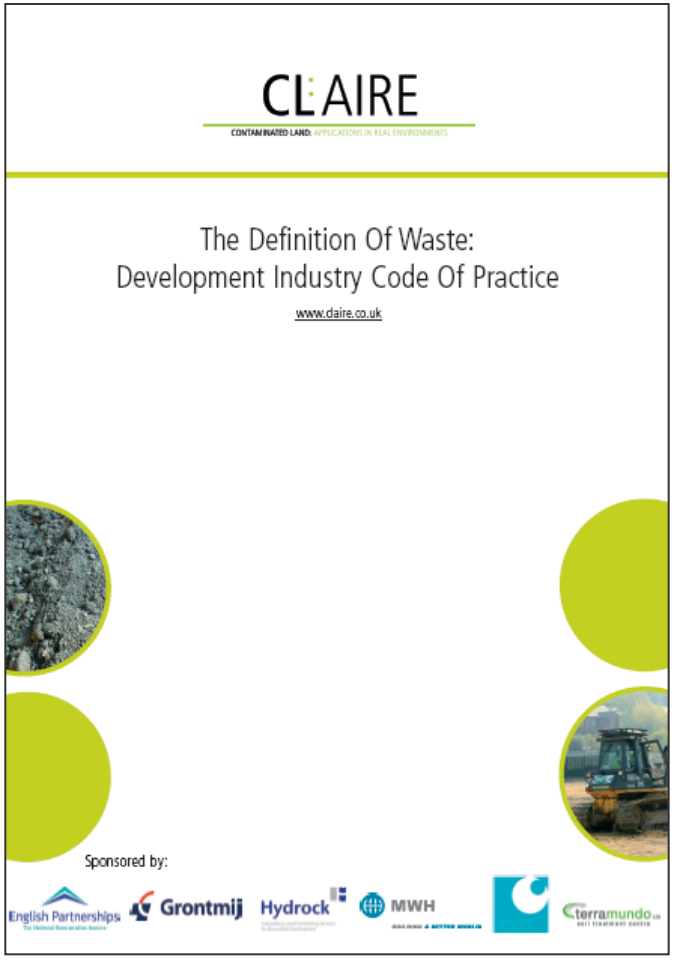
CL:AIRE: Code of Practice



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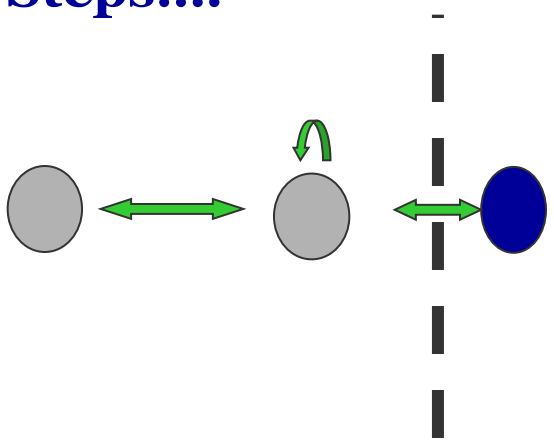
WHY ReUSE?

Why ReUSE?

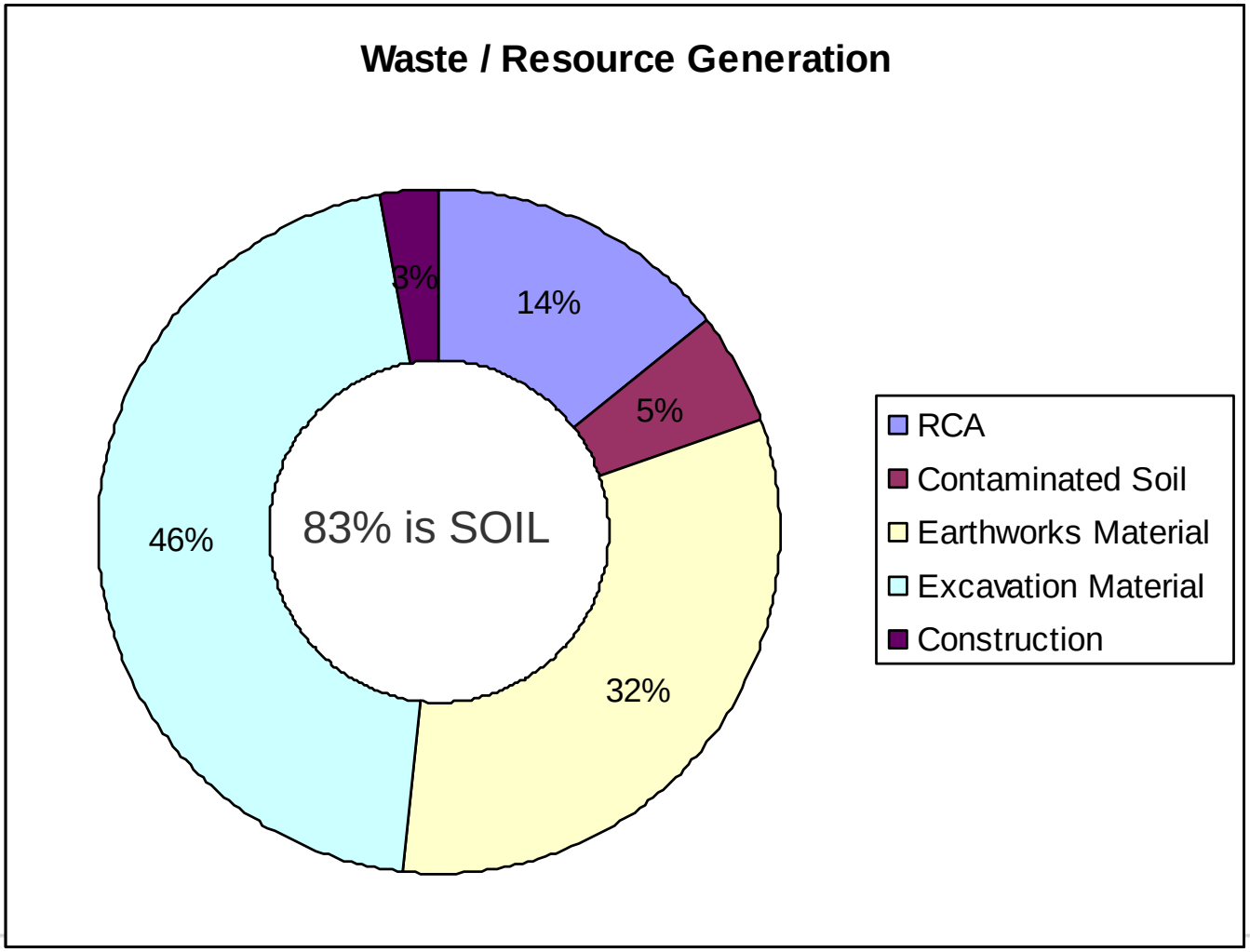
"achieving cultural change where all materials are considered as resources and only discarded as waste once value has been reviewed and discounted"

TW Waste and Resources Strategy & Action Plan, 2010

Next Steps....



Evidence Base (1)



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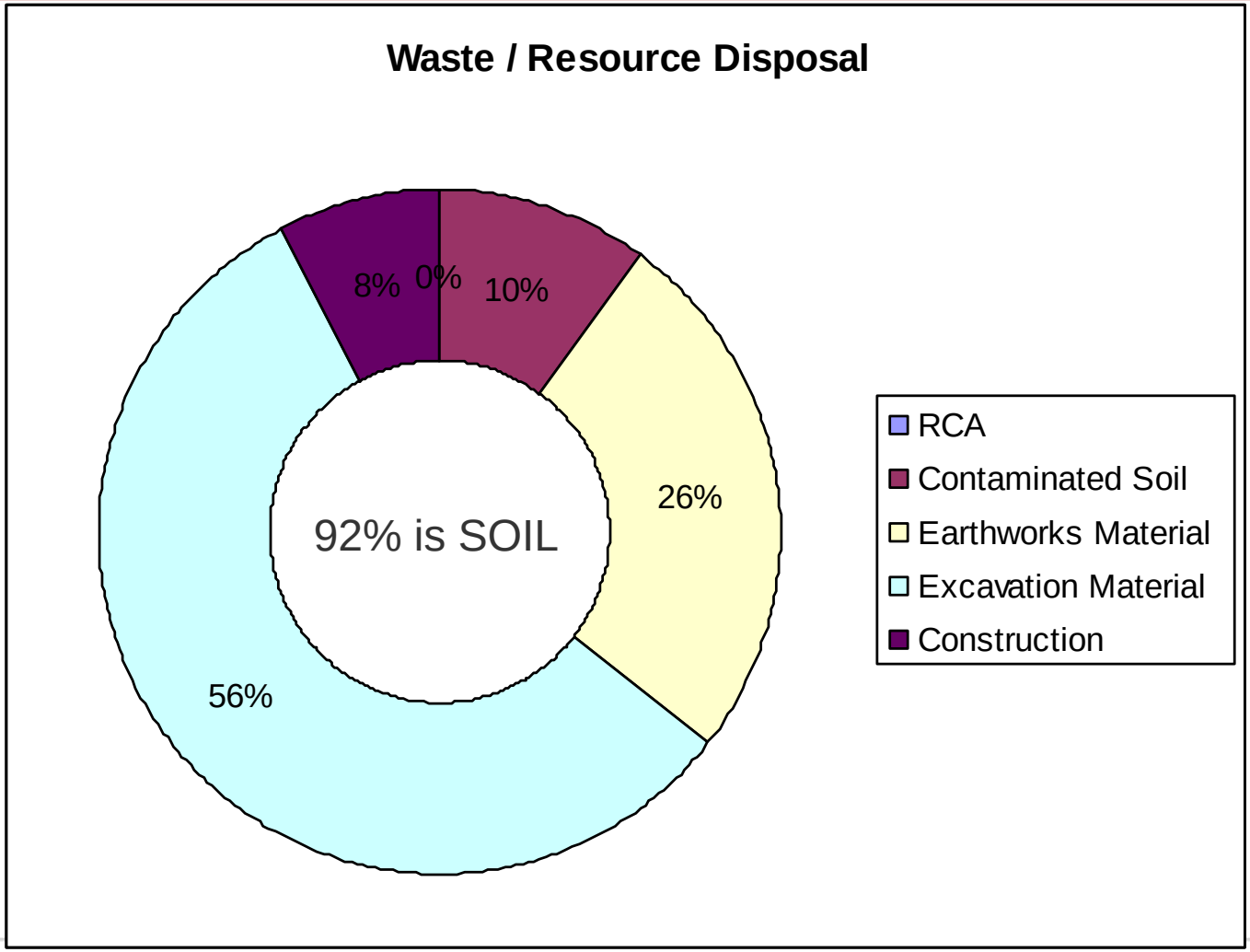
Evidence Base (2)



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What does ReUSE do?

Promotes Waste and Resources objectives by:

- Being Commercially Led
- Focus on zero mass balance ‘beyond the site’
- Legal Compliance
- Measurement

With a focus on:

- Data Quality
- Design Phase: Planning
- Construction Phase: Material Exchanges

Business Benefits Summary

>Reduced disposal and landfill tax costs

>Reduced materials purchase costs

>More control over the value of material imports / exports from contractors

>Measurement – COMBINE, CR commitments

>Improved sustainability– links to NPPF, community engagement and planning

>Highly commended Construction Excellence Award!

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ReUSE Development

- Early development stages in late 2011
- Follows current UK law (via EU Waste Directive, exemptions) and voluntary guidance (CL:AIRE Code of Practice and WRAP Protocol)
- RSK Technical support, IT development
- Internal Steering Group of senior personnel and key representative functions (technical, commercial, production)
- Two pilot studies in the Midlands

Communicating Waste Regulation

ReUSE Materials and Terminology

Soil

Topsoil & Subsoil

RCA

Recycled Aggregate

SUITABLE FOR USE

CAN	**NCAN**
Clean And **N**atural	Not Clean And **N**atural

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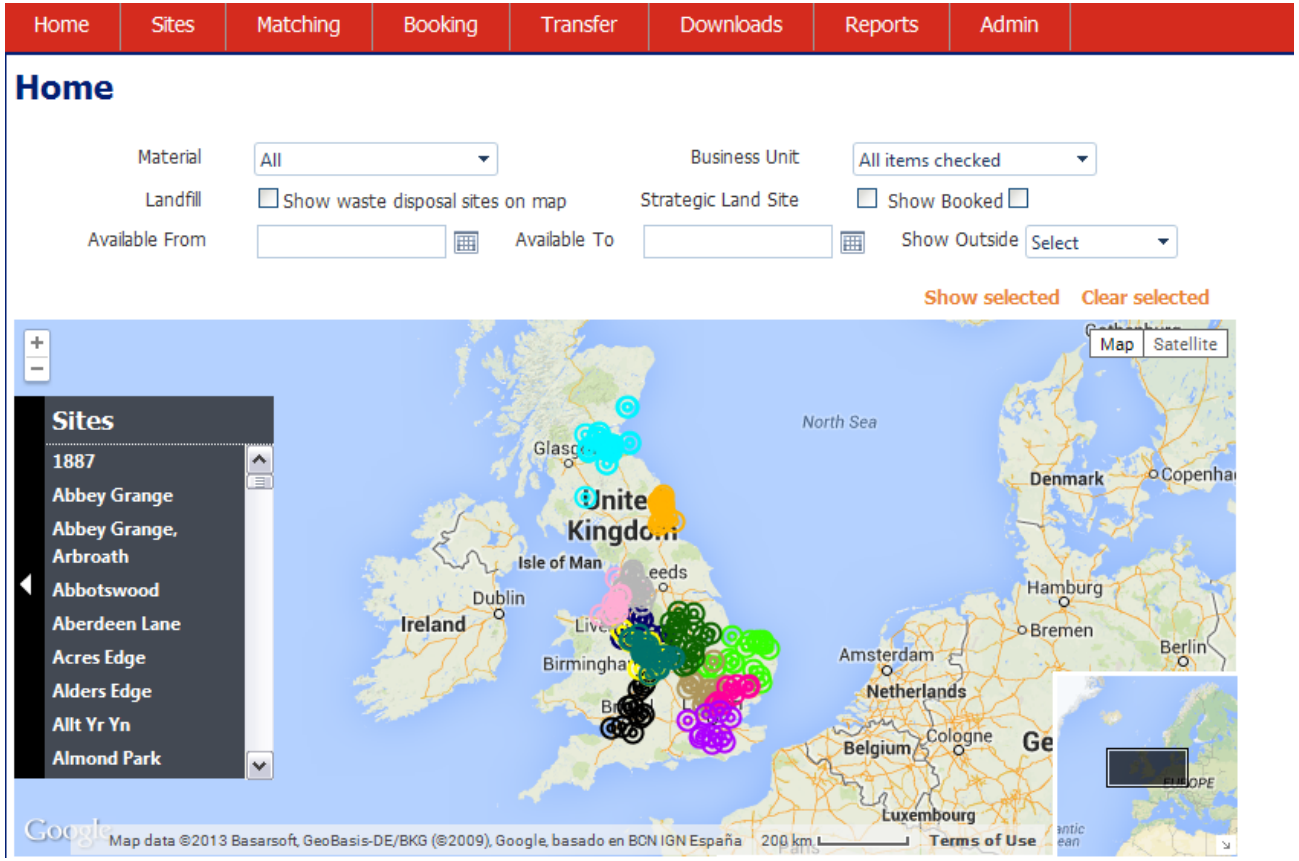
HOW IT WORKS

National Materials Map (NMM):

An interactive web-based mapping tool that shows live site material location, type and status and identifies suitable sites for sharing.

Includes:
> TW Sites
> Strategic Sites
> Landfills
> STCs



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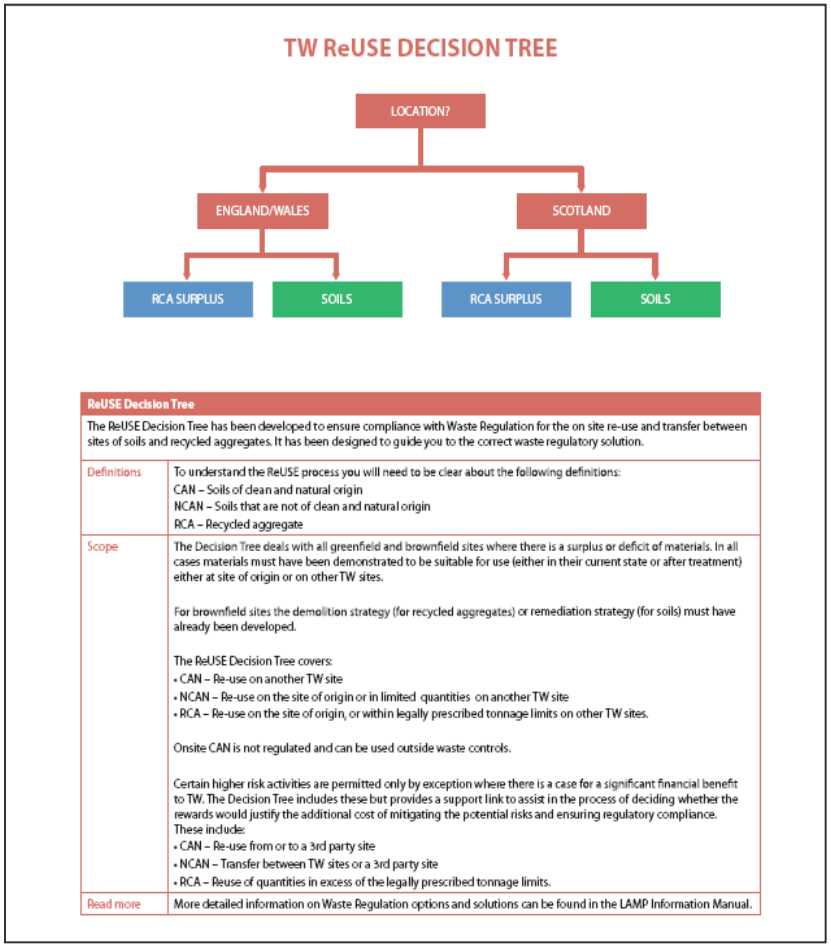
ReUSE Decision Tree

A digitally interactive flow chart that guides you to the most appropriate material regulatory solution for your site

> England/Wales & Scotland
> Soils and RCA
> Brownfield and Greenfield

> CL:AIRE CoP
> Exemptions
> WRAP CoP
> Helpline



TW ReUSE DECISION TREE

ReUSE Decision Tree

The ReUSE Decision Tree has been developed to ensure compliance with Waste Regulation for the on site re-use and transfer between sites of soils and recycled aggregates. It has been designed to guide you to the correct waste regulatory solution.

Definitions	To understand the ReUSE process you will need to be clear about the following definitions: CAN – Soils of clean and natural origin NCAN – Soils that are not of clean and natural origin RCA – Recycled aggregate
Scope	The Decision Tree deals with all greenfield and brownfield sites where there is a surplus or deficit of materials. In all cases materials must have been demonstrated to be suitable for use (either in their current state or after treatment) either at site of origin or on other TW sites. For brownfield sites the demolition strategy (for recycled aggregates) or remediation strategy (for soils) must have already been developed. The ReUSE Decision Tree covers: • CAN – Re-use on another TW site • NCAN – Re-use on the site of origin or in limited quantities on another TW site • RCA – Re-use on the site of origin, or within legally prescribed tonnage limits on other TW sites. Onsite CAN is not regulated and can be used outside waste controls. Certain higher risk activities are permitted only by exception where there is a case for a significant financial benefit to TW. The Decision Tree includes these but provides a support link to assist in the process of deciding whether the rewards would justify the additional cost of mitigating the potential risks and ensuring regulatory compliance. These include: • CAN – Re-use from or to a 3rd party site • NCAN – Transfer between TW sites or a 3rd party site • RCA – Reuse of quantities in excess of the legally prescribed tonnage limits.
Read more	More detailed information on Waste Regulation options and solutions can be found in the LAMP Information Manual.

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NMM Surplus / Deficit Spreadsheet

These totals will change according to the amount of material transferred

This information is the information you will record in the NMM The amount and date the material will be needed

Materials Sharing - CASE STUDY DATA

All quantities in cubic metres

RCA - Recycled Aggregate

CAN - Clean and Naturally occurring soil

NCAN - Not Clean and Naturally occurring soil

Surplus / Donor Sites	Calculated Surplus Materials				Current Surplus Materials							
	RCA	NCAN	CAN Subsoil	Topsoil	RCA	Date available	NCAN	Date available	CAN Subsoil	Date available	Topsoil	Date available
Site 1	0	300	25,500		0		300	30-Nov-12	25,500	30-Nov-12	0	
Site 2	0	0	0		0		0		0		0	
Site 3	200	0	4,000	1,95	200	10-Dec-12	0		4,000	26-Nov-12	1,950	3-Jan-13
Site 4	2,950	0	0		2,950	5-Dec-12	0		0		0	
Site 5	3,000	0	0		3,000	7-Dec-12	0		0		0	
Site 6	0	0	19,800	70	0		0		19,800	14-Dec-12	700	7-Jan-13
Site 7	1,500	24,000	0		1,500	7-Jan-13	24,000	28-Nov-12	0		0	
Site 8	0	0	14,900	1,50	0		0		14,900	7-Dec-12	1,500	2-Jan-13
Site 9	5,750	0	13,600		5,750	9-Jan-13	0		13,600	4-Dec-12	0	
Site 10	0	0	0	2,80	0		0		0		2,800	13-Dec-12
Site 11	0	860	16,500	1,45	0		860	3-Dec-12	16,500	10-Dec-12	1,450	10-Dec-12
Site 12	4,800	0	0		4,800	14-Dec-12	0		0		0	
Totals	18,200	25,160	94,300	8,400	18,200	-	25,160	-	94,300	-	8,400	-

	Deficits / Receiving Sites								
	Site 1			Site 2			Site 3		
	RCA	CAN Subsoil	Topsoil	RCA	CAN Subsoil	Topsoil	RCA	CAN Subsoil	Topsoil
Calculated Deficit	2,200	0	500	3,750	15,000	750	0	0	
Current Deficit	2,200	0	500	3,750	15,000	750	0	0	
Date required	13-Dec-12		9-Jan-13	17-Dec-12	3-Dec-12	11-Jan-13			
Total Transferred	0	0	0	0	0	0	0	0	0

This information is the information you will record in the NMM. The amount and date the material will be available

In these boxes you can record potential transfers and it will amend the surpluses / deficits of the sites involved

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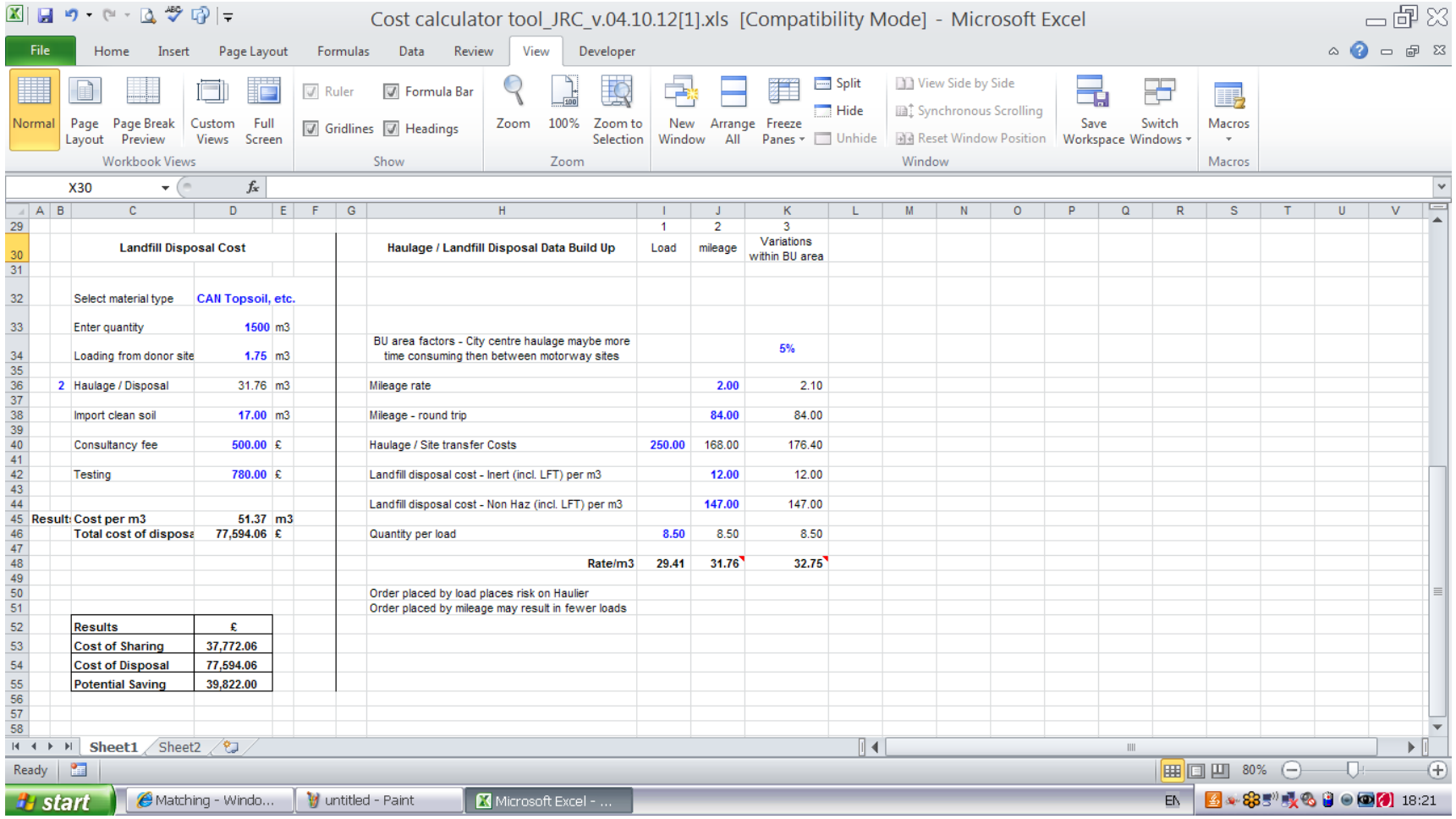
Cost Estimator and Calculator



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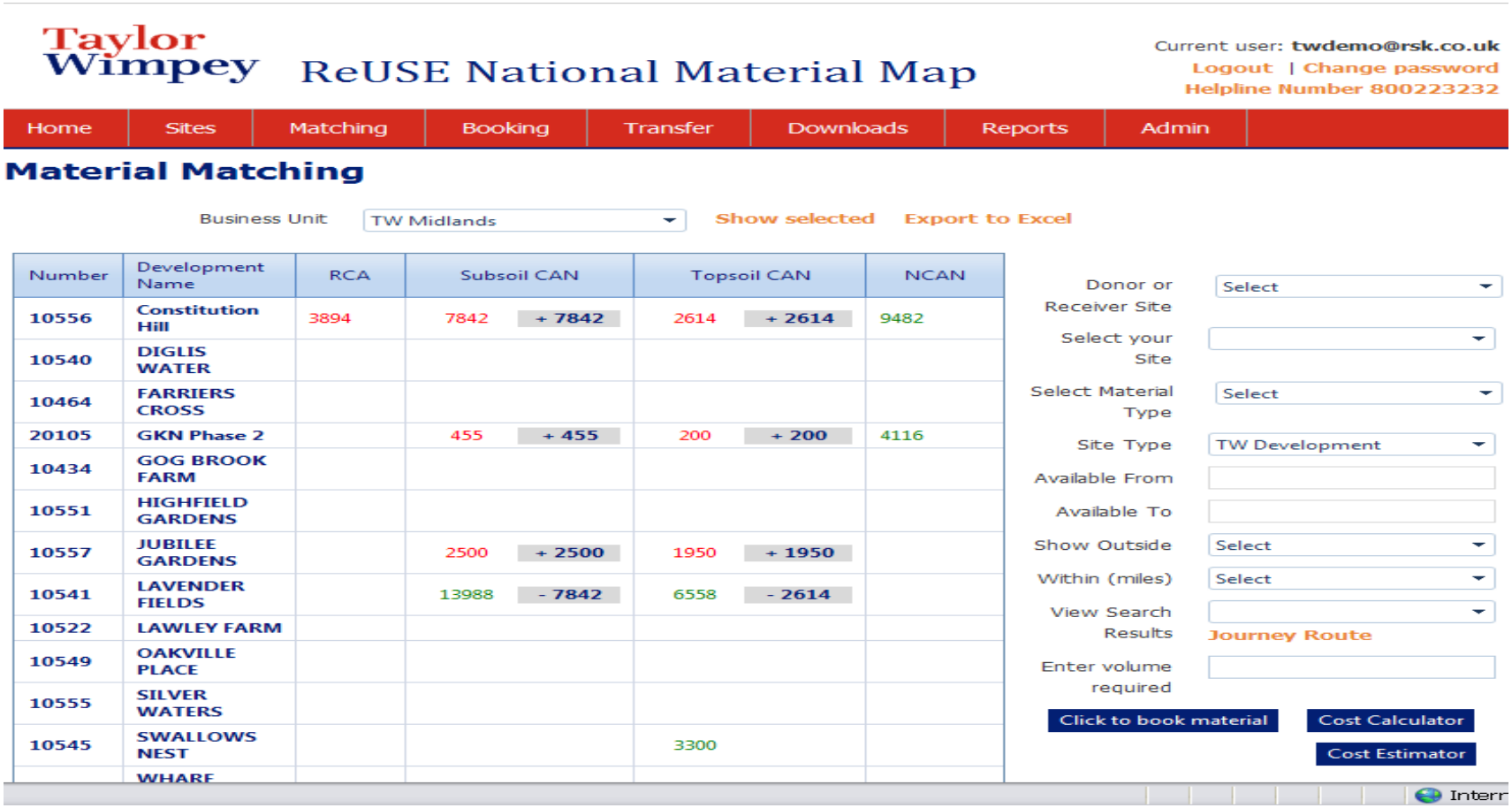
Matching, Booking, Transferring



ReUSE Documentation

1. Process Manual

2. Materials Management Plans (MMP)
   - >Greenfield site template
   - >Brownfield site template

3. Tracking Forms

4. Final Verification Report (FVR)

Case Study – Leybourne Grange

- A total of 23,300m^3 of clean soil was required to construct an acoustic bund
- An estimated **£300,000** was saved through importing soils from four donor sites
- The CL:AIRE Code of Practice (CoP) Materials Management Plan (MMP) was used to overcome the legal problems associated with the transfer of materials which otherwise would be considered as waste.
- Learning points for TW were identified in relation to ensuring soil quality control, designation of responsibilities, lines of communication, and physical inspection of imported materials

Conclusions

- There are significant commercial opportunities and business benefits from sharing materials between sites
- There are significant environmental benefits in terms of resource efficiency through reusing materials
- The CL:AIRE CoP is a significant enabler
- ReUSE makes use of GIS technology to enable transparency to materials data between sites and between regional businesses
- ReUSE has found a solution to the complexity of Waste Legislation through the ReUSE Decision Tree