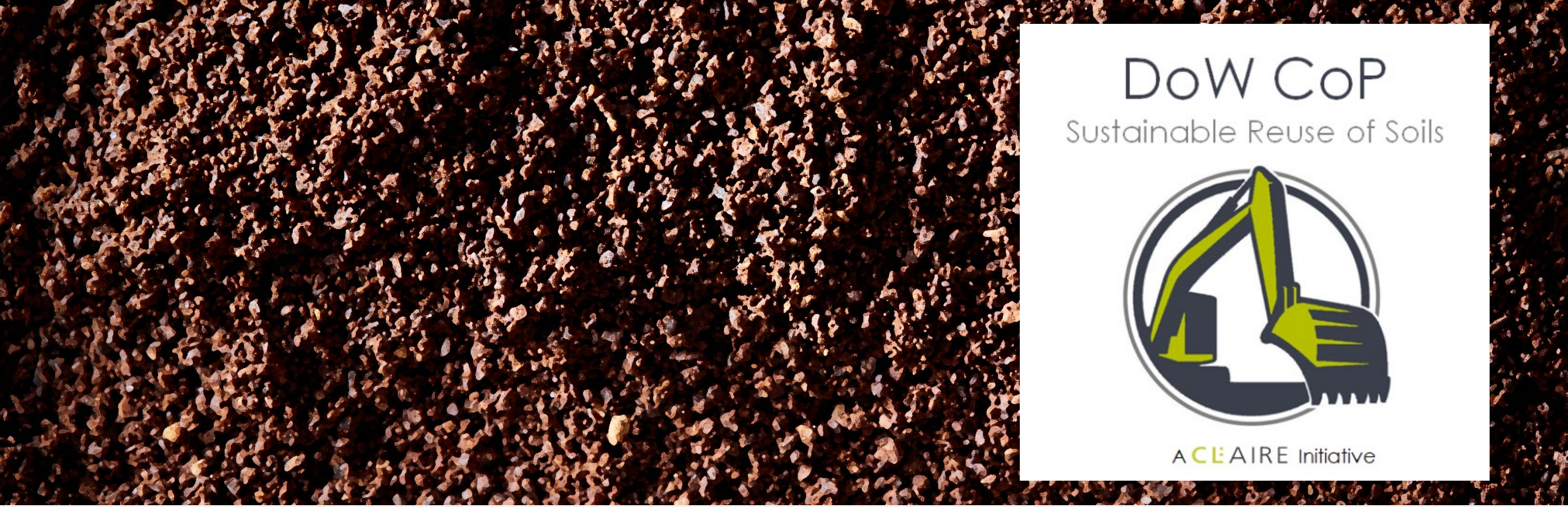


Evolution of Soil Reuse in the UK Development Industry

By Nicholas Willenbrock – Director, CL:AIRE

CL:AIRE was created with the backing of the UK Government in March 1999

Not-for-profit, private-public organisation.

Initially to encourage the demonstration and research of practical solutions for the remediation of contaminated land.

- 25 years.
- CL:AIRE - championing and verifying the performance of innovative remediation technologies, providing a sustainable alternative to disposing of waste in landfill sites.

Respected industry figurehead

- relied upon by key influencers for providing objective, scientifically robust appraisals of remediation technologies and effective methods for monitoring and investigating sites.
- a trusted agent for progressing initiatives and frameworks linking Government and industry.

CL:AIRE: an independent evaluation

Technology & Research Group (TRG)

- fundamental to CL:AIRE's success
- scientifically robust, peer-reviewed literature
- renowned experts within their specialist fields

CL:AIRE's reputation for the dissemination of uniquely evaluated demonstration and research projects is largely due to the working of the TRG.

Kim Baines – International Atomic Energy Agency (Chair)
Liz Gray – Ramboll (Deputy Chair)
Bob Barnes – Environment Agency
Simon Burr – Campbell Reith
Ruth Chippendale – Shell
Seamus Lefroy-Brooks – LBHGEO
Max Coleman – Caltech
Steve Edgar – Vertase FLI Ltd
Mark Hodson – University of York
Sarah Poulton – Natural Resources Wales
Mike Rivett – GroundH2O plus Ltd
Steve Thornton – University of Sheffield
Karen Young – Jacobs UK Ltd

Soil Reuse - Background and Drivers

1990s Planning Policy

Policy promoting brownfield site development and housing

Development Drivers

60% new housing on brownfield sites, driving land contamination assessment and remediation

Sustainable Growth Models

Promoting quality assurance processes for remediation and sustainable growth

Challenges and Alternative Approaches

Regulatory Challenges

Dual regulation and blight issues in waste permitting

Local Agreement Model

Creation of an agreement for material re-use in the Channel Tunnel rail link

Developer Request

Developers seeking alternative approach due to blight impact

Development of DoW CoP

Industry Collaboration

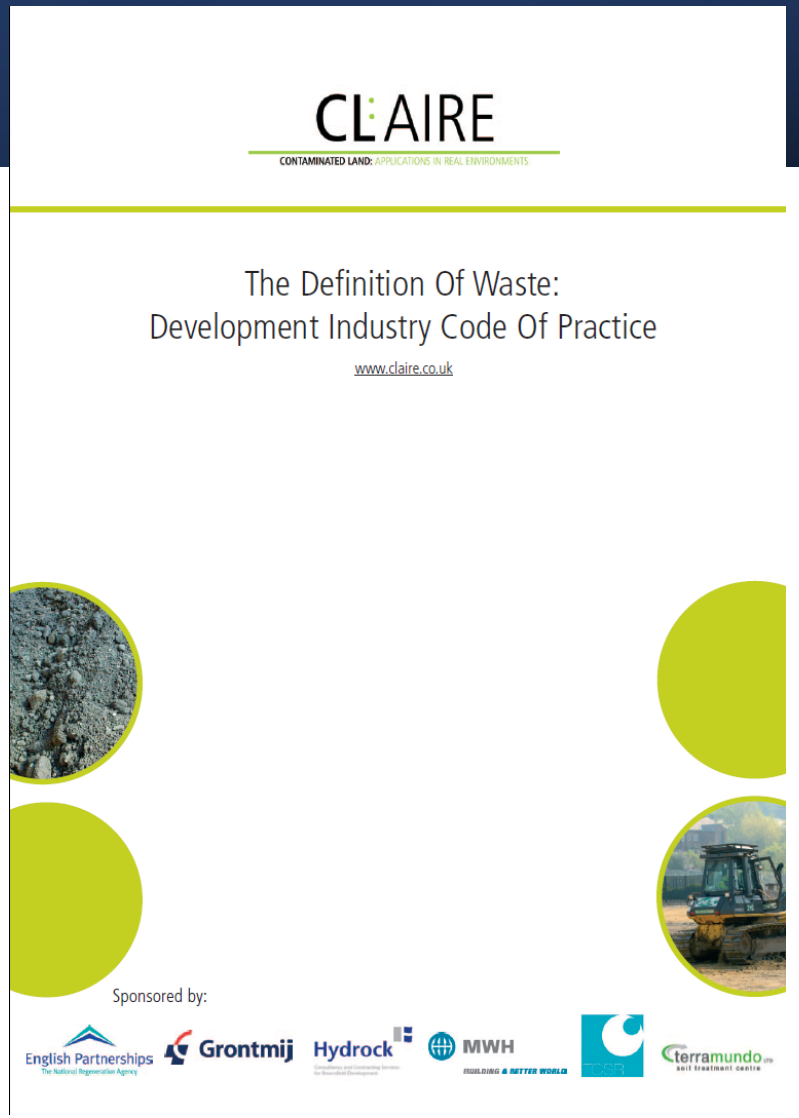
Collaborative effort to address waste management challenges

Environment Agency Document

Introduction of the first document on waste definition

Launch of DoW CoP

Introduction of the CL:AIRE Definition of Waste Code of Practice in 2008



Evolution to Version 2 and Future Development

Version 2 Development

Enhancements and inclusion of direct transfer scenario

Declaration Fees Scheme

Introduction to fund oversight, training, and administration

Prospects

Highlighting potential development of Version 3 and industry impact

Outlook and Industry Impact

Proposed Version 3

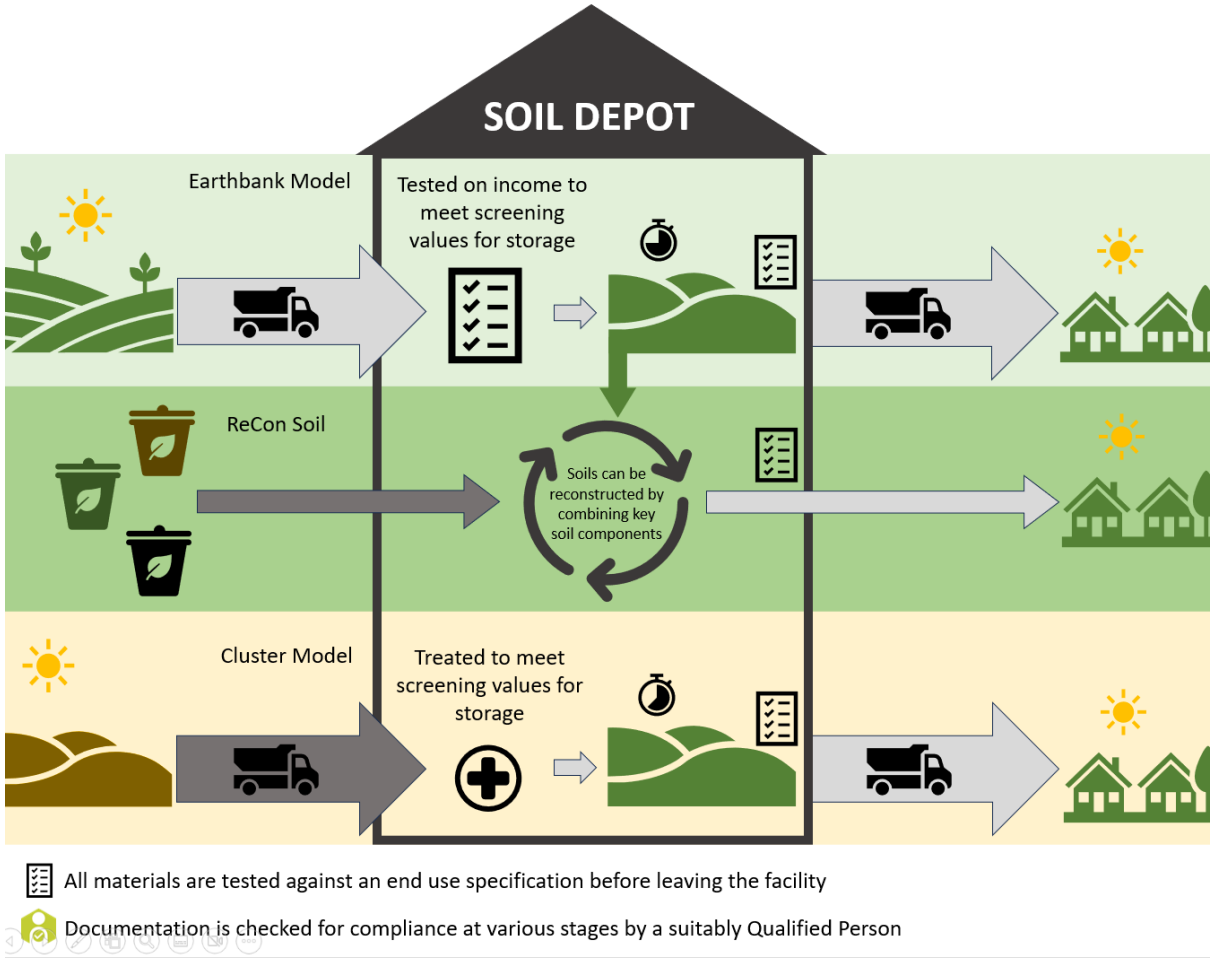
Ongoing development for additional soil reuse options

Defra Environmental Improvement Plan

Calls for additional measures to confirm soil as a resource

The Importance of Soil Depots

The potential impact of soil depots on sustainable soil reuse



The Importance of Sustainable Soil Reuse

Industry Support

Importance of industry support for sustainable soil reuse

Resource Sustainability

Safeguarding soil resources for a sustainable future

Cross-Sectoral Impact

Supporting climate change, food security, and biodiversity net gain

What’s the future? - Soil and its Importance

Soil supports biodiverse habitats and filters water entering rivers.

Plays a key role in flood management, holding water after heavy rainfall.

Provides a platform for construction and significant carbon storage.

Global Soil “Crisis”

Soil damage

Soil is in crisis due to intensive agriculture and population growth.

Erosion

Soil erosion rates in England and Wales: approximately 2.9 million tonnes annually.

Carbon

Degraded soil can emit greenhouse gases, contributing to climate change.

Soil Management Challenges on Construction Sites

Business as usual

Early enthusiasm for construction often leads to poor soil management.

Planning or lack of

Stripping sites and stockpiling soil without proper reuse planning.

The nature of construction

Heavy machinery use causes soil compaction, reducing soil quality.

Soil Waste and Landfill Issues

Disposal still common

Soil accounts for 58% of landfill tonnage in the UK.

Natural resource protection

Removing and separating soil leads to a loss of the natural resource.

Policy & Regulation

A policy and regulatory system needed to stop soil going to landfill.

Risks Associated with Displaced Soil

Soil displacement leads to potential risks from erosion, extraction, and climate pressures.

Lack of local potential receiver sites and non-alignment of donor and receiver sites.

Stockpiled soil may become waste and lose its value.

Reconstructed Soils and Their Benefits

Reconstruction

Lost soil can be reconstructed to support sustainable development and food security.

The Eden Project - Cornwall

Cornwall's Eden Project used reconstructed soil for construction in a sand quarry.

Increased value

High organic content and potential for use in high-value markets.

Conclusion

Continued monitoring and digital solutions can support soils management.

'Soil managers' in construction must step up as custodians of this resource.

CL:AIRE is committed to helping facilitate improved soil management through the DoW CoP.