Mike SUMMERSGILL
President 2013/14, CIWEM
The Chartered Institution of Water and Environmental Management
“CIWEM is the natural home for all environmental professionals”

David Rooke, UK Environment Agency Floods Manager

Over 9000 Members; >1500 Overseas, in 96 Countries
Policy Outputs

- Briefing reports
- Policy Position Statements
- Consultation Responses
- Ministerial Letters
- Government meetings
- International outputs
Publications

• 2 peer review Journals:
  – Water and Environment Journal
  – Journal of Flood Risk Management

• The Environment magazine

• World Environment app
ENVIRONMENTAL PHOTOGRAPHER OF THE YEAR
Landfills in the UK –
Towards Building a Resource Management Industry
Landfills in the UK –

Liability or Opportunity?
Mining for Useful Materials
Building upon old landfills
Landfills in the EU/UK–

Some Numbers:

150,000 Landfills in Europe
22,000 historical in England/Wales
2000+ EA/SEPA registered in UK
465 still ‘Operational’ by 2010
Recycling rates in the UK rose faster in the first decade of the 21\textsuperscript{st} Century than in any other European country. Landfill Tax or PR effects?

Although the UK started from a low base in 2001 – when recycling rates were just 12\% for all municipal waste – it increased the greatest amount by 2010, reaching 39\%; on a par with the average for Europe. Some goes to CHP.

But we still Landfill half: 50\%; Netherlands = 1\%.
**Myth** - The older the landfill, the less they would be biodegrading + gas generate?

Losco 1980’s – found that pre-WW2 landfills were still gassing Methane.

Led to introduction of a >250m offset development ‘protection’ zone.
Where are these older landfills?

On old Gravel pits & Riverside sites. 
Problematic due to geology / waters

Many Commercial landfills on old Industrial sites; being redeveloped.

Opportunity for Public Open Space. 
Potential for Solar Energy ‘farms’.
Landfill Mining?

Commercial Landfills have more chance of useful ‘single’ resources.

Older Domestic landfills have very little resource expectation; more modern ones have metals in electronics etc, but also plastics.
Building on Landfills?

CIRIA C557:2001 – Civil Engineering methods predominate market.

Ground Improvement: DC, S/S, Vibro

Piling of Structures still the ‘safe’ choice. Introduces problems in many situations.
Landfill Removal/Relocation

Uncertainty is taken away.

Resources can be Sorted/Recovered

Releases ‘locked’ land; realises Value

Already done in Sharjah in 2007/8? - University City Road – 7.5 Million cum Sorted for new Road Access
Current UK Example

Housing Development in Thames Valley, in an ‘Urban fringe’.

Pictures from CL:AIRED annual technical visit; courtesy VertaseFLI
Sandford Farm – Site Description

VertaseFLI has been employed to undertake remediation works required at the Sandford Farm site (east of Reading) to allow the redevelopment with approximately 600No residential properties, private gardens and large areas of public open space (POS).

The site comprises an area of 20 hectares of worked-out gravel pits, subsequently filled with industrial/commercial waste under Berkshire County Council license, until completion in the 1990’s.

The site is bounded by residential properties to the west and south, and a watercourse (the Old River) to the east – with more recent landfilling east of the Old River, and a Country Park to the north.
Sandford Farm – Site Description

VertaseFLI will excavate a total of 300,000 cum of material, of which 100,000 cum is inert clay capping and the rest is landfill within ‘cells’.

Expected recovery percentage is 90%+ incl. wood, metals, textile...

Phased approach to allow early handover of initial phases and to allow progression of the housing development works by the Client:

• Excavation of waste from Phase 1AA commenced Feb ‘13.
• All physical remediation works and platform reinstatement are programmed for completion by July 2014.
Sandford Farm – Site Processes & Treatment Train

**Excavation** – Proceeds in a rational basis, edge to edge

**Dewatering** – Cell residue pumped to treatment plant

**Sorting/Screening** – Plastics, Metals, Timber, etc

**Soil Washing** – Separate out 4 Sand & Gravel fractions

**ReCombination** – Create Highways Spec. backfill

**Verification/Handover** – NHBC and Council EHO + EA.
Sandford Farm - Groundwater Lagoons
Excavation Work
Sorting Operations
Screened Products
Soil Washing
Backfilling & Compaction
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Are children being sufficiently educated to deal with future environmental challenges? Vote: ciwem.org #EnvironmentalEducation

CIWEM HQ added 4 photos.
Have you downloaded the latest edition of World Environment on your tablet?


Here's a peek at what you're missing:

With the Climate Change Act requiring the UK to reduce its greenhouse gas emissions by 80% by 2050, the water industry must make a...

Paul Horton
Director of Membership & International Development at Chartered Institution of Water & Environmental Management

Blueprint for Carbon Emissions Reduction ciwem.org
The UK water industry is a large consumer of energy and emitter of carbon, much of which is associated with the electricity it uses, though it also makes significant direct emissions. As an industry it is also well placed to become a significant...
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