

NDA

Nuclear
Decommissioning
Authority



LLW Repository Ltd

**NDA National LLW Strategy Group
August 2008**

LLW Baseline 2008

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NDA National LLW Strategy Group - August 2008



Agenda

- Strategic Review Aims
- Assets and Infrastructure
- LLW inventory
- Costs and Liabilities (SECTION REDACTED)
- Key Working Assumptions
- Summary

Strategic Review Aims

- The LLW Strategic Review will establish a baseline for LLW in the UK in terms of:
 - Current and future site strategies
 - Existing assets and infrastructure
 - Inventory
 - Existing waste routes
 - LLW management costs
- This 2008 baseline will then become the benchmark for measuring savings



LLW Assets and Infrastructure - Process

- Key part of baseline
- Information on existing assets has principally been compiled from the following sources:
 - Integrated Waste Strategies
 - Waste Categorisation Reports
 - Site visits
 - Industry knowledge
- Mapping of existing RSA authorised facilities
- Review of proposed facilities

LLW Assets and Infrastructure

Typically all sites have:

- Small-scale sorting & size reduction processes and equipment
- Monitoring Equipment
- Loading and packing equipment for HHISOs
- Low-Force Compaction (e.g. in-drum)
- Access to High Force Compaction service for compactable waste via LLWR contracts

Some sites have:

- Wet or Dry Decontamination equipment (e.g. for metals)
- Incinerators
- Contracts with 3rd party waste treatment suppliers (UK and overseas)

LLW Assets and Infrastructure – Future?

Many sites considering options for enhanced capability for:

- Characterisation and forecasting
- Sorting and Segregation
- Decontamination (wet & dry)
- Metal recycling (decontamination & melting)
- Incineration
- On-site VLLW disposal
- On-site LLW disposal

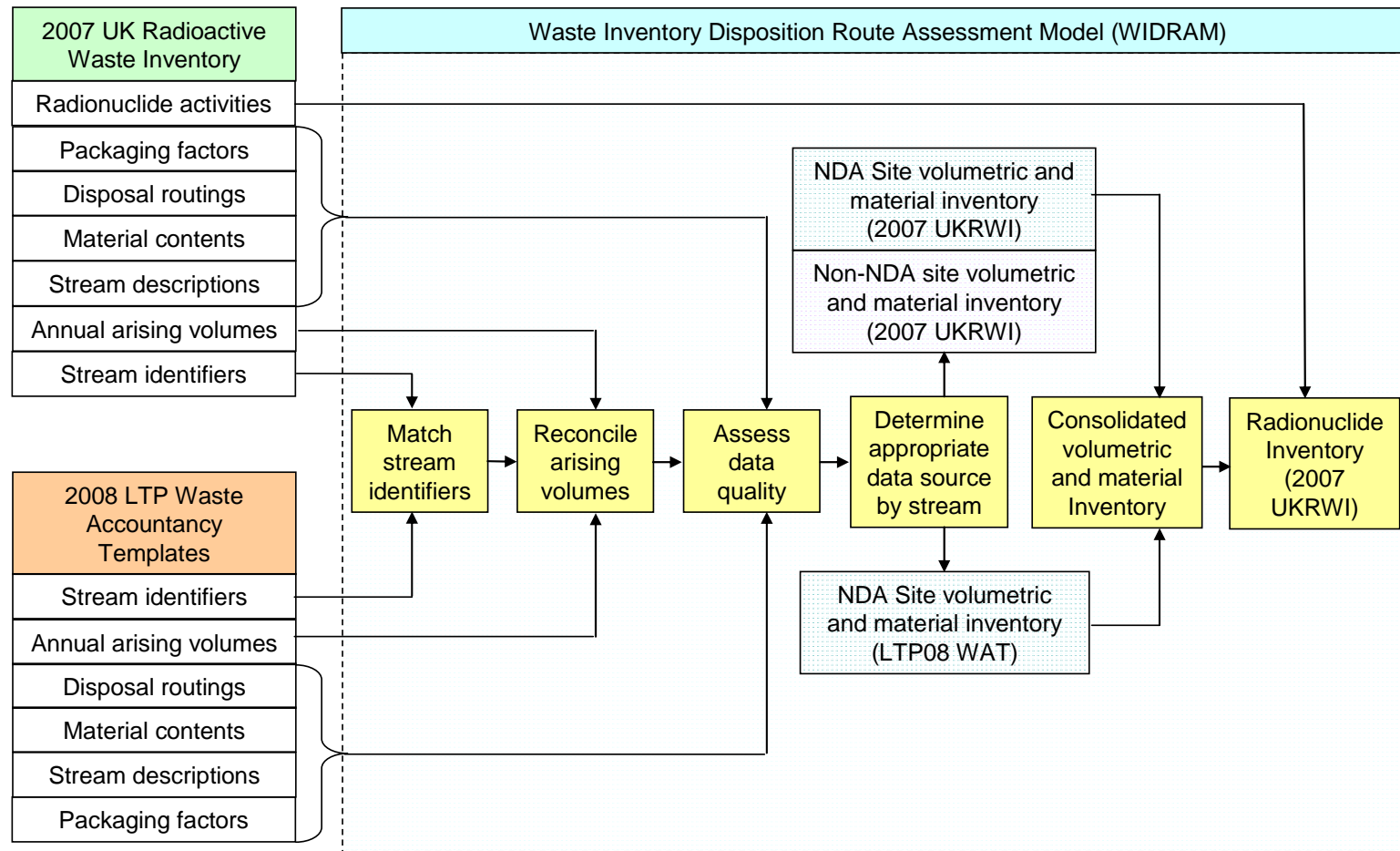
LLW Inventory – the Issues...

- LLW inventory data exists in multiple databases:
 - UK Radioactive Waste National Inventory (formerly NIREX)
 - WIDRAM (managed by Nexia for NDA)
 - LTPs / IWS
- Data is not always consistent
- Recent progress has been made – datasets are now converging
- Issues:
 - Different types of information (volume/material type/time)
 - Reporting differences between sites
 - Data is difficult to access/analyse
 - Reporting burden for sites?
 - Difficult for LLWR to forecast waste arisings

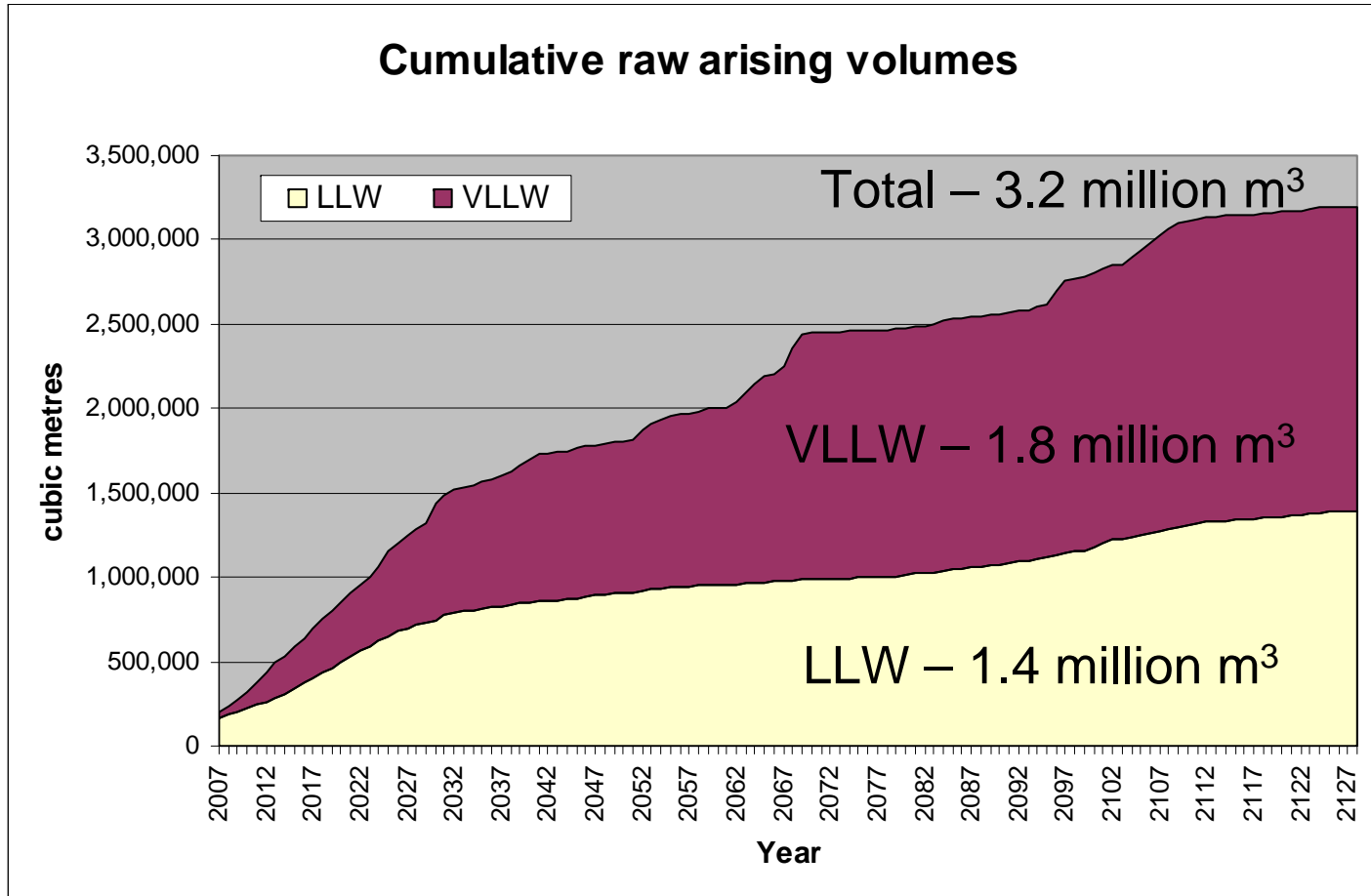
LLW Inventory 2008 - Process

- Baseline UK LLW inventory has been measured at 1st April 2008
- Developed from two key data sources:
 - 2007 UK National Inventory
 - LTP08 Waste Accountancy Templates (WAT)
- Preliminary assessment of most relevant data source for each wastestream
- WAT volumes were given priority in most cases for NDA sites
- 2007 National Inventory data used for non-NDA sites
- Assumed that the disposition routes are consistent with the current site LLW strategy and authorisations

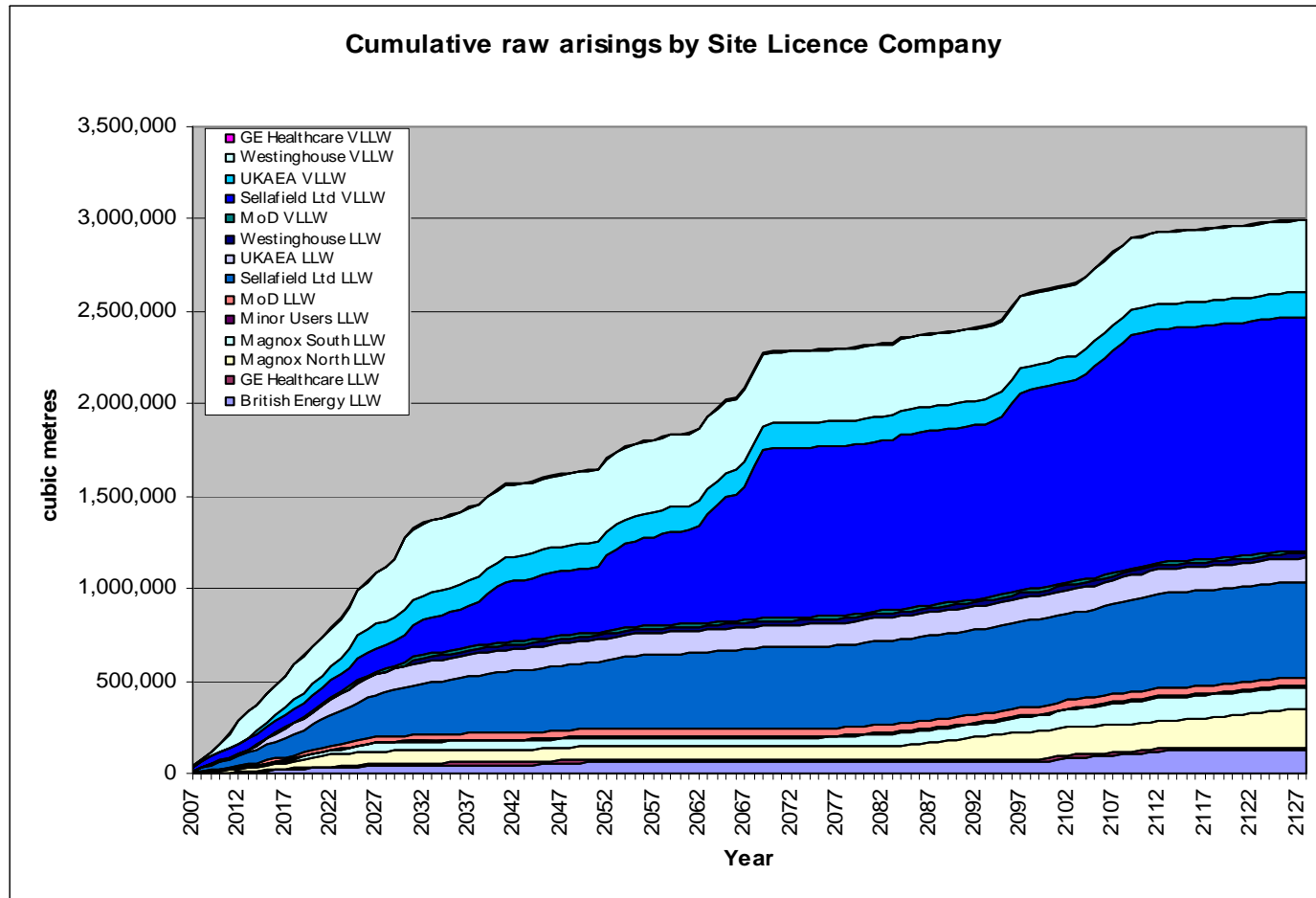
LLW Inventory 2008 - Process



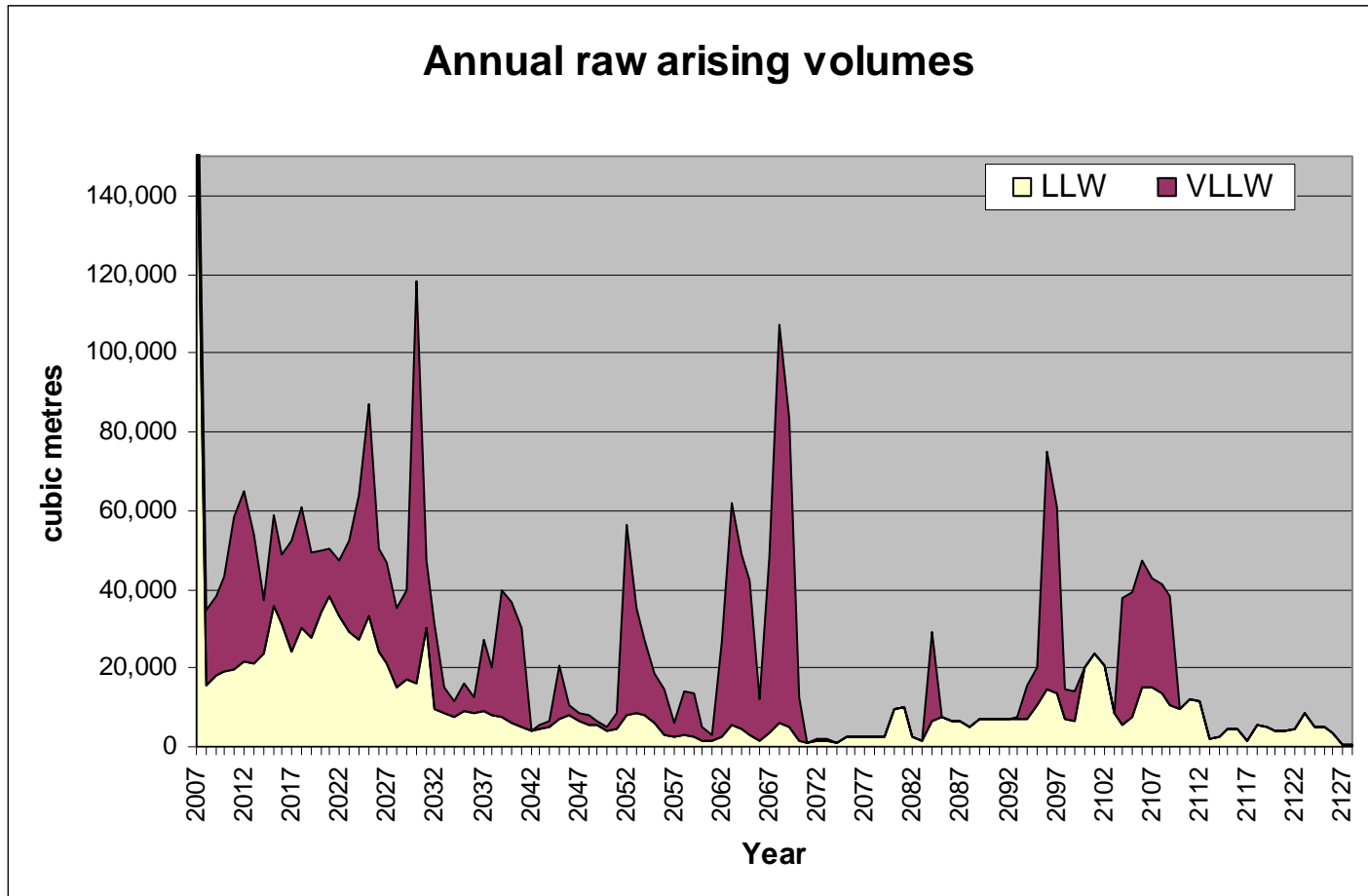
LLW Inventory 2008



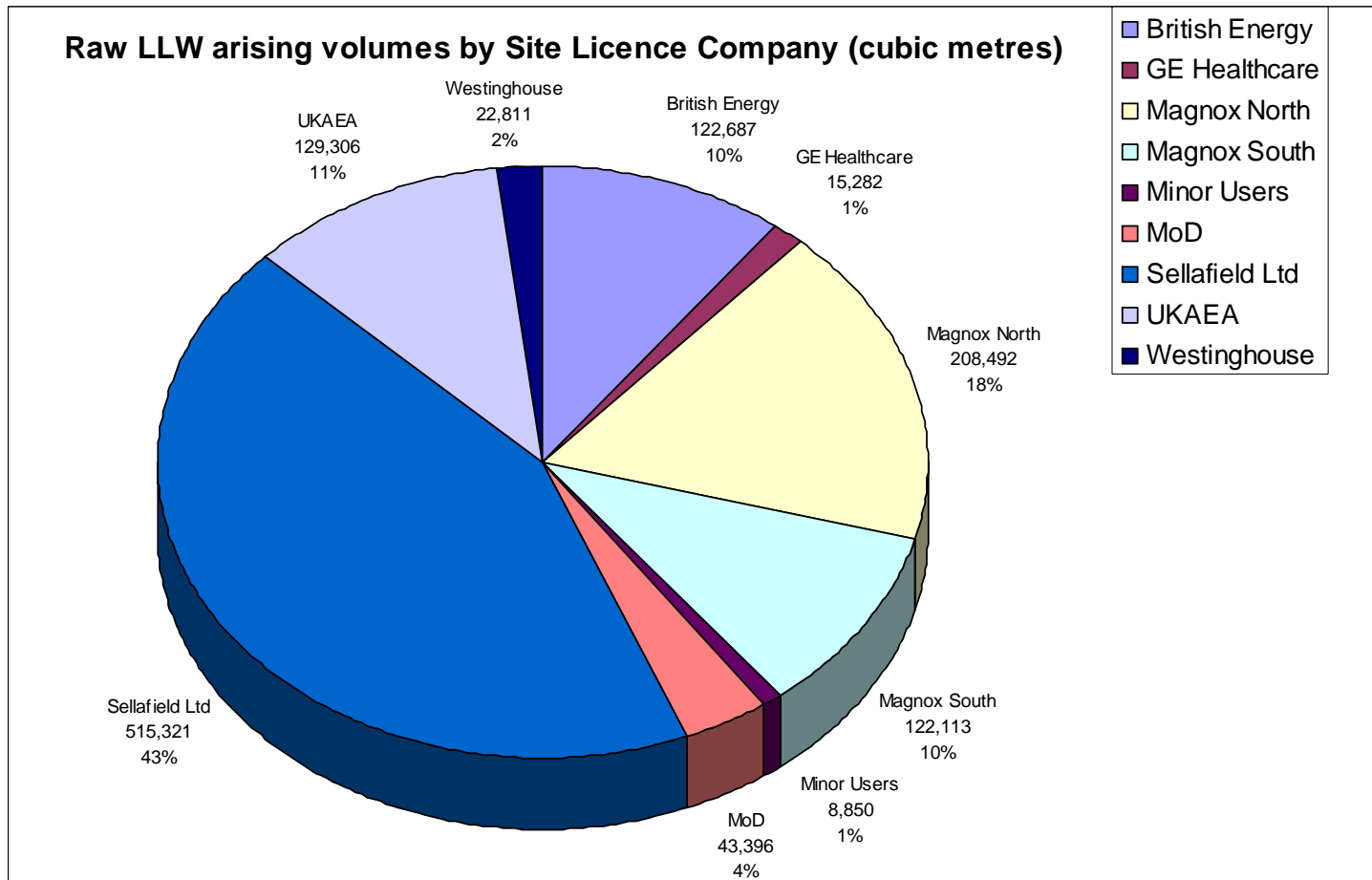
LLW Inventory 2008



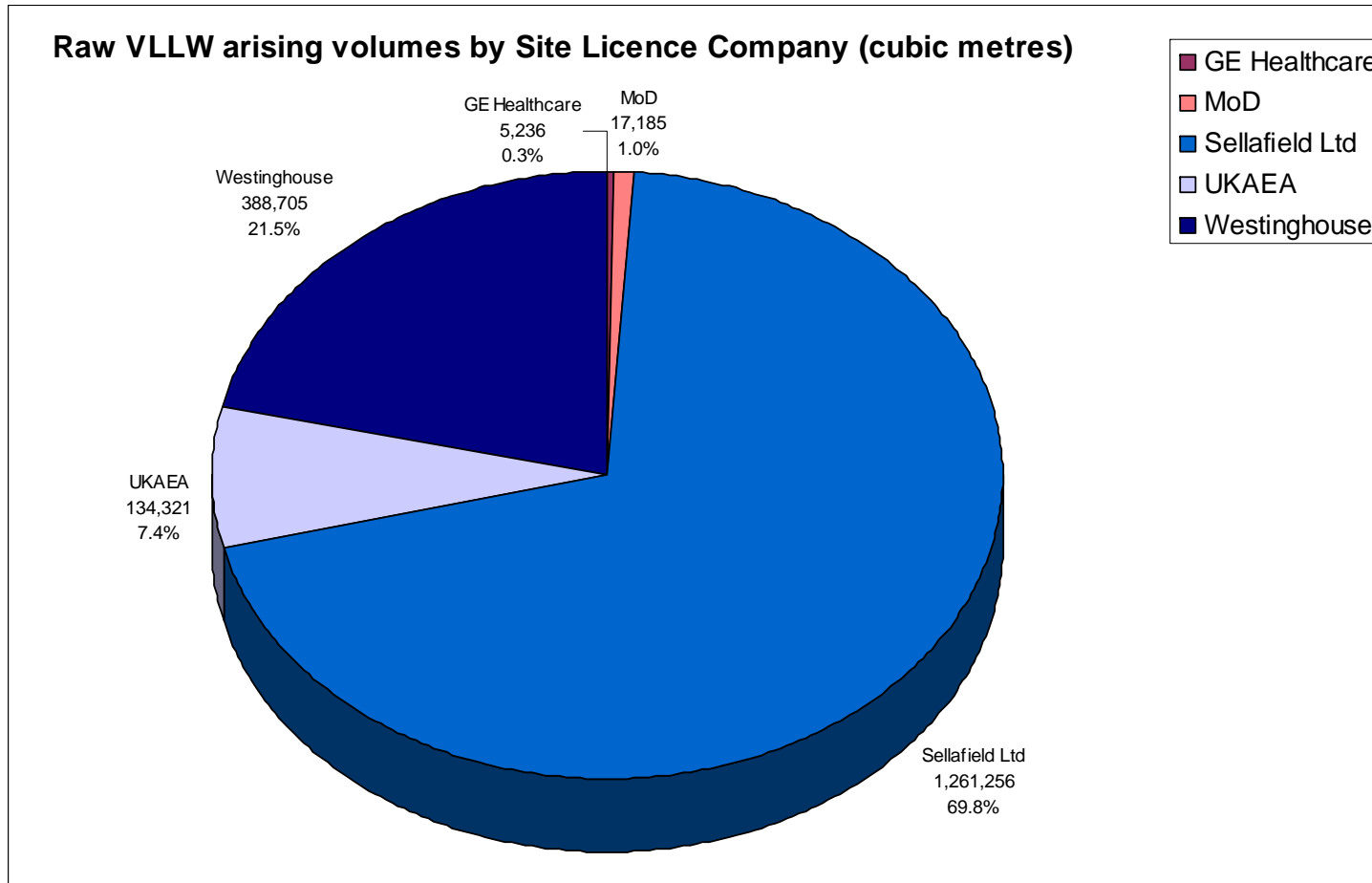
LLW Inventory 2008



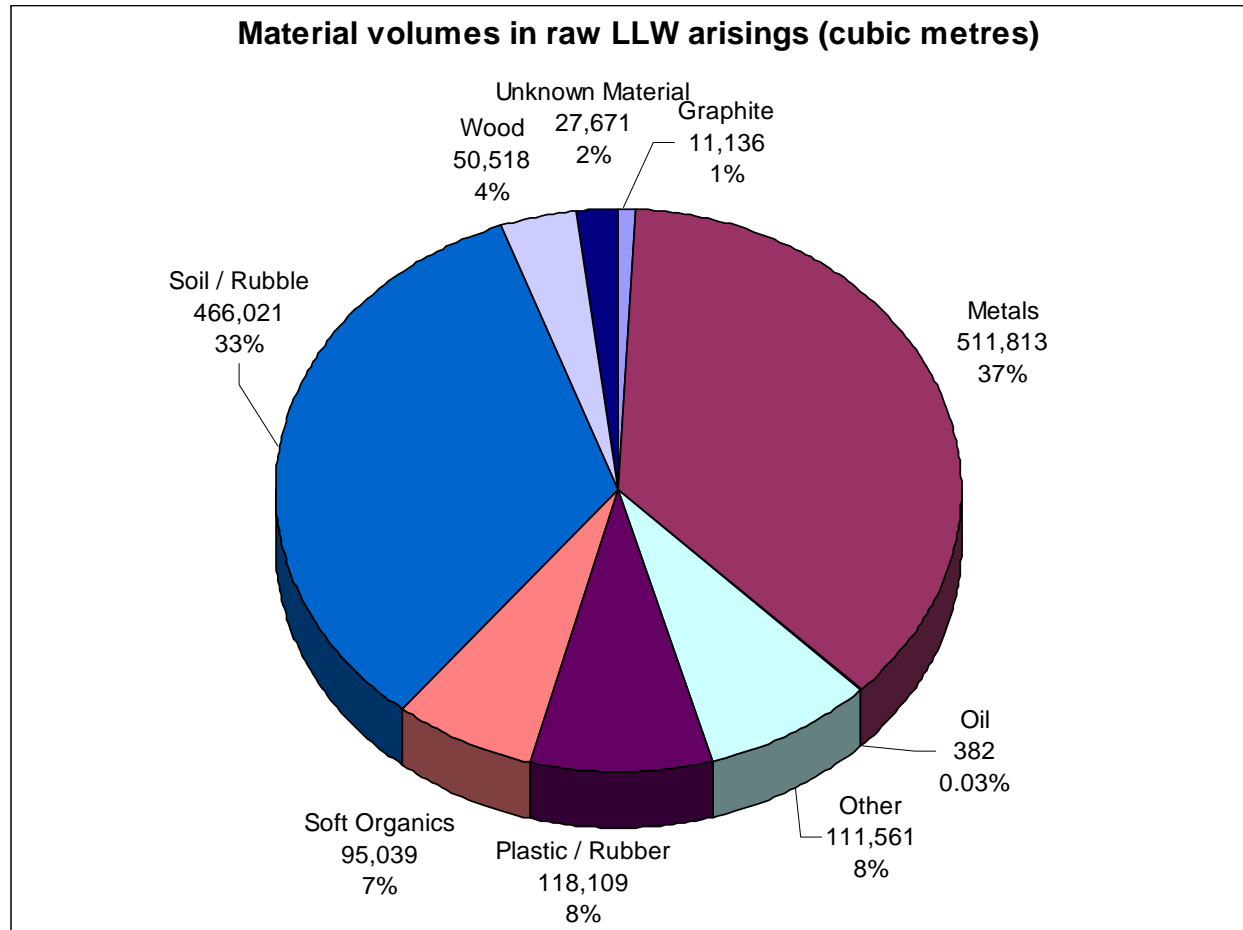
LLW Inventory 2008



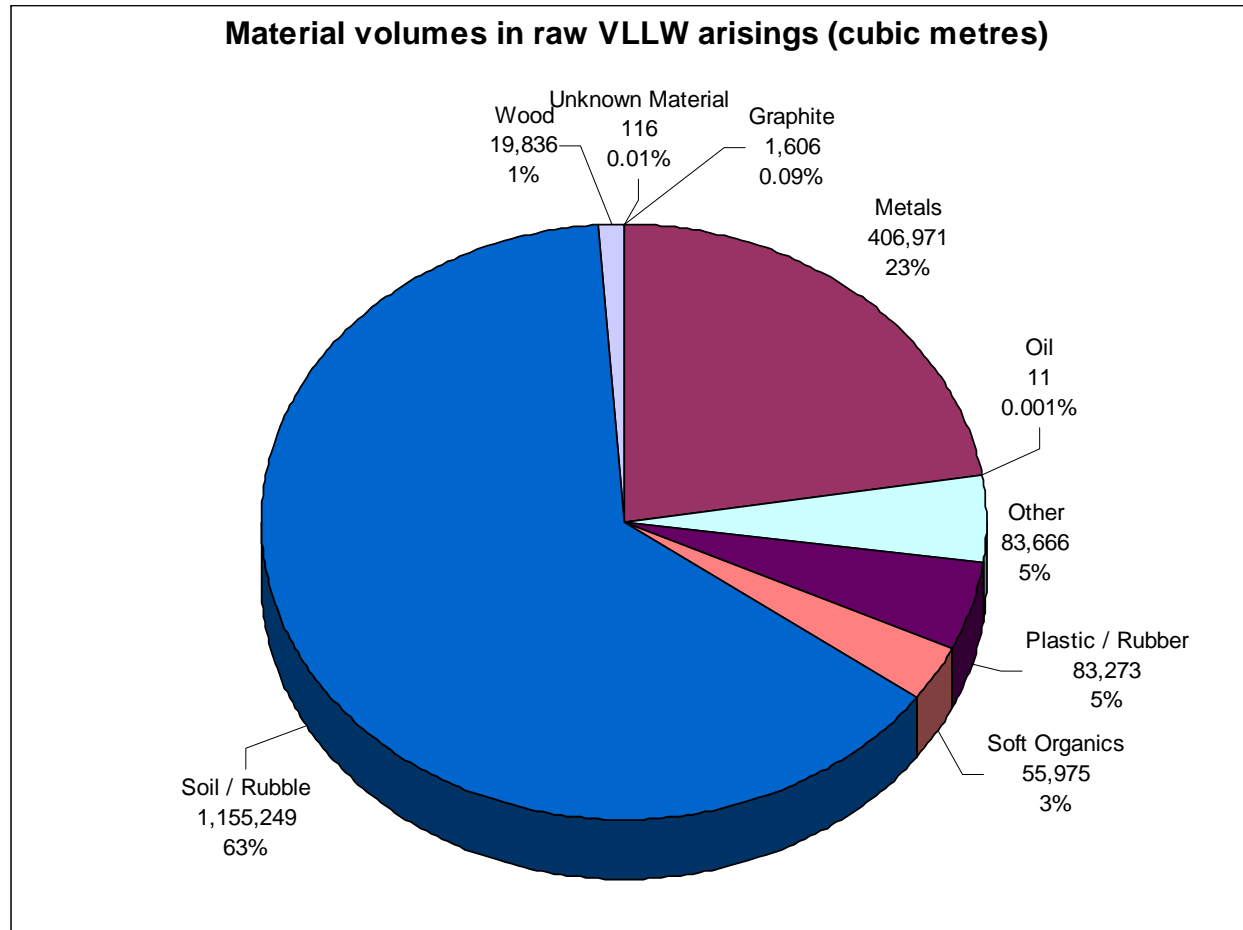
LLW Inventory 2008



LLW Inventory 2008



LLW Inventory 2008

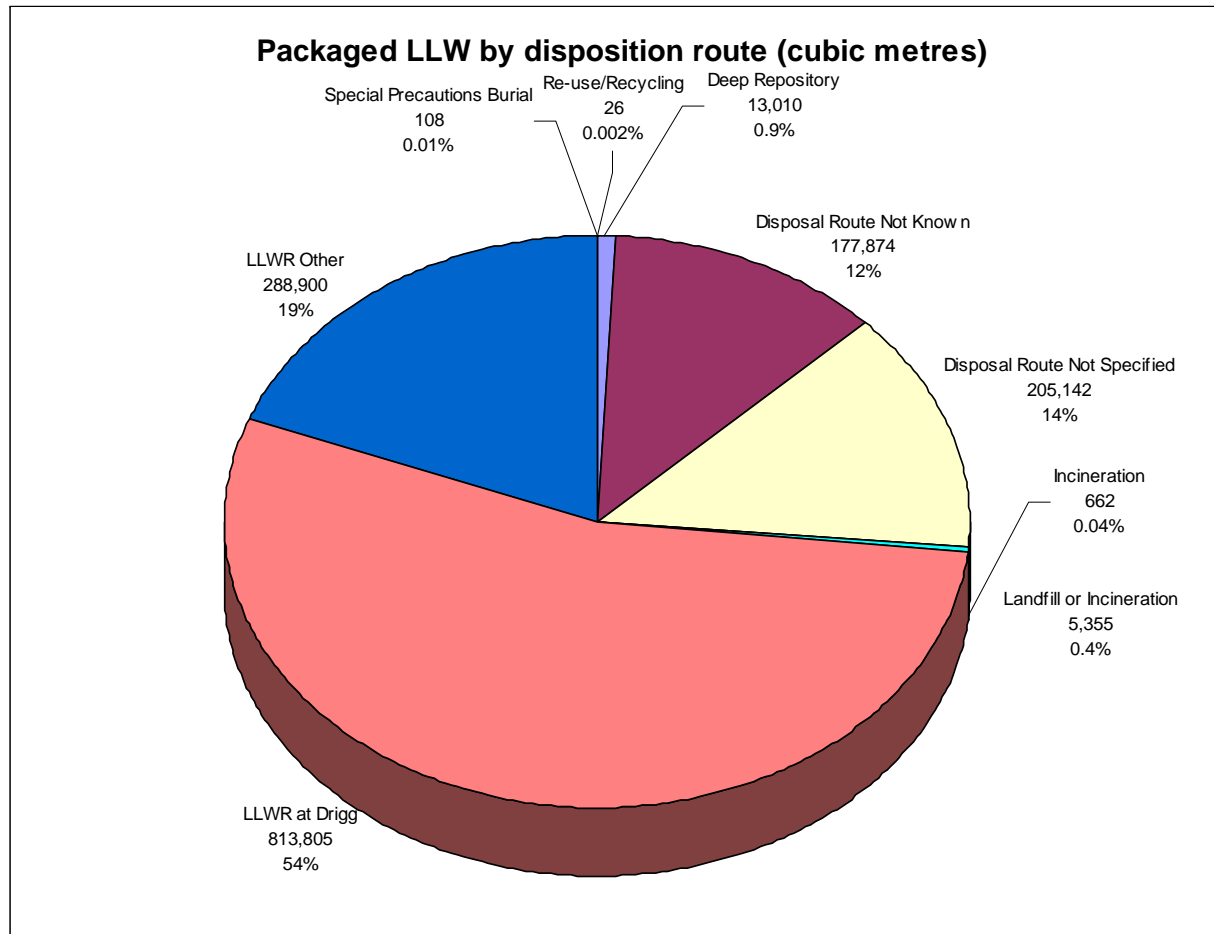


LLW Inventory 2008

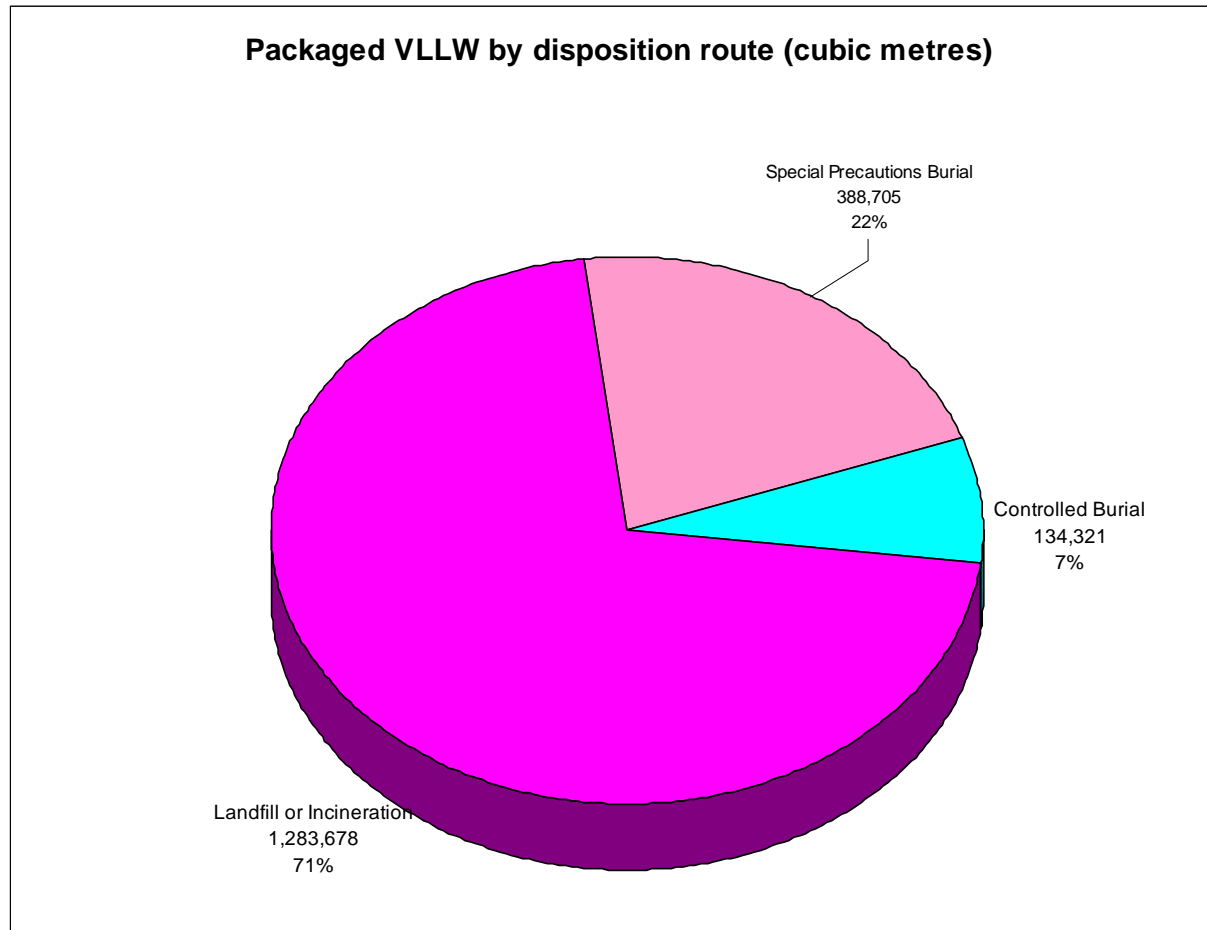
- Waste Routing Examples

Disposal Route Category	Covers
Deep Repository	Disposal to National ILW repository
	Disposal to unknown deep repository
Disposal Route Not Known	Disposal route identified by waste producer as 'Not Known'
Disposal Route Not Specified	Disposal route left blank in WAT or NI by waste producer
Incineration	Incineration at unspecified site
	Incineration at named site
Landfill or Incineration	Waste producer has identified two potential routes but cannot determine which of these it will be
	Landfill at unspecified site
	Capenhurst disposals to Clifton Marsh
	Sellafield disposals to CLESA
LLWR at Drigg	Existing LLWR
LLWR Other	Suitable for LLWR at Drigg, but arises beyond 2050 so waste producer has assumed will go to replacement LLWR
	Dounreay disposals to new LLWR facility at Dounreay
	Identified as not suitable for disposal to LLWR at Drigg but no other route determined
	Potentially will go to a local, purpose-built LLWR (e.g. in-situ at reactor site)
Re-use/Recycling	Will be reused or recycled
Special Precautions Burial	Springfields disposals to Clifton Marsh
Controlled Burial	Dounreay disposals to new LLWR facility at Dounreay
	Harwell disposals to unspecified site

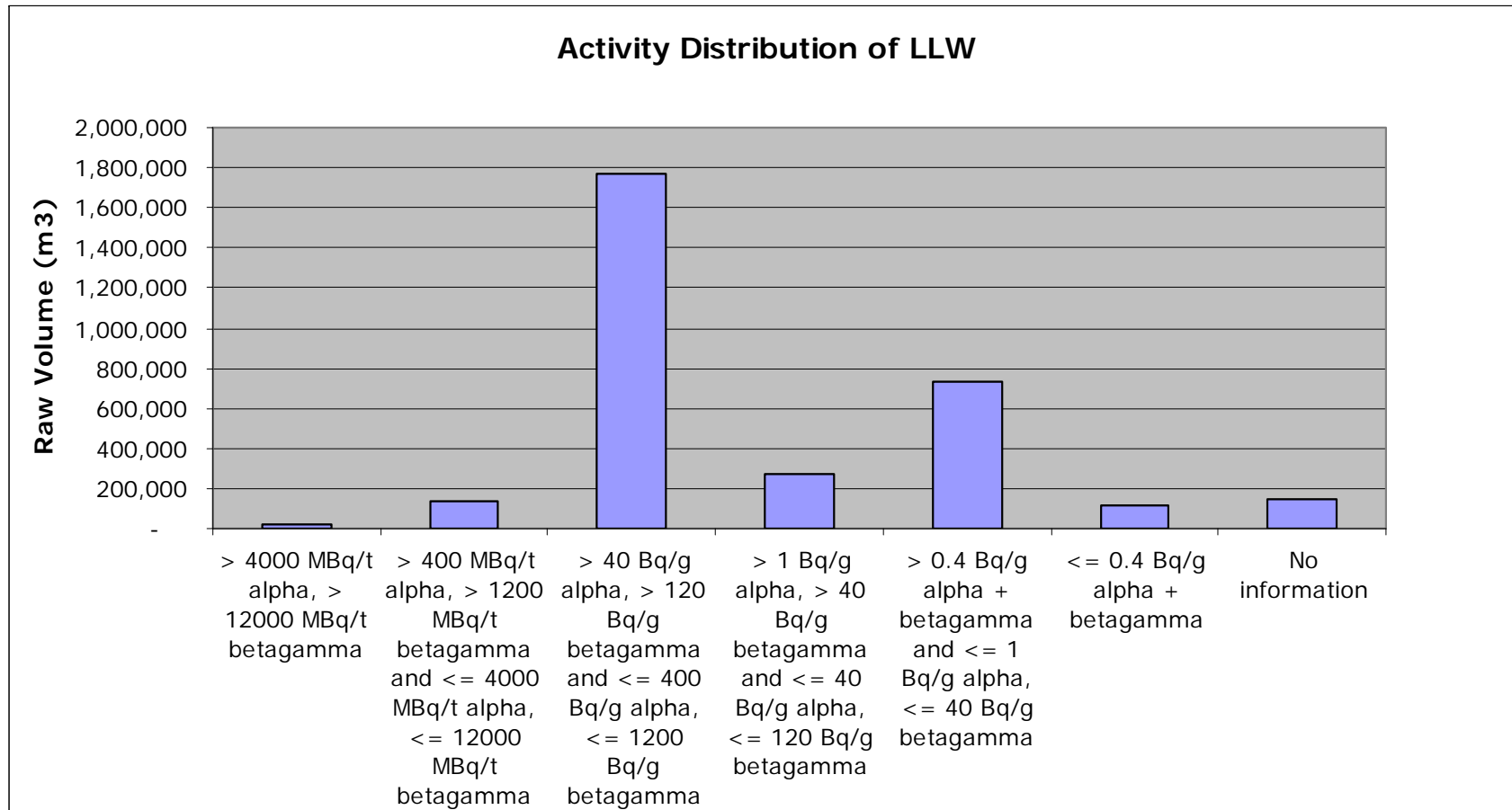
LLW Inventory 2008



LLW Inventory 2008



LLW Inventory 2008



LLW Cost and Liabilities - Process

- NDA needs to establish credible lifecycle LLW management costs to inform its strategic decision-making
- Lifecycle Cost Baseline for solid LLW will include:
 - Cost of LLW management facilities
 - Design
 - Construction
 - Operations
 - Decommissioning
 - Treatment (characterisation, packaging, conditioning, etc)
 - Transport
 - Disposal (LLW & VLLW)

LLW Cost and Liabilities

- SECTION REDACTED

Key Working Assumptions

- Analysis of the baseline must be based on the following key assumptions:
 1. There is a reasonable level of consistency between the different data within the same LTP (IWS, WAT, Costs, etc)
 2. Assumed baseline waste routings specified in the WATs are realistic (e.g. authorised) and represent current baseline strategy
 3. Disposal cost assumptions match the disposition routes specified
 4. Pricing rates set out in the current LLWR contracts have been used as a basis for costing unless good reason otherwise
- The validity of these assumptions is critical to providing confidence that the LLW baseline is robust, complete, and can provide a sound basis for analysis in the strategic review

Summary

- Draft 2008 LLW Baseline has been prepared
- Baseline is 'DRAFT' and some issues still need to be resolved prior to analysis
- LLW Volume - 3.2 million m³ (>55% VLLW)
- LLW Lifecycle Costs
- Large variation in unit costs between individual sites
- CD with LLW strategy, cost and volume summary to be issued to sites
- Need to work with sites to confirm completeness and validity of baseline (need responses by Sept 12th latest)
- Baseline key part of the Strategic Review process
- Becomes a tool for monitoring and will be updated every year