BNPB3: Plasterboard - legislation and policy drivers

Version 1.3

This Briefing Note and referenced information is a public consultation document and will be used to inform Government decisions. The information and analysis form part of the Evidence Base created by Defra's Market Transformation Programme.

1 Summary

This Briefing Note presents the legislation and regulations relevant to plasterboard disposal and the voluntary commitments and targets involved. An overview of the legislation/regulation/voluntary commitments is presented and their relevance to plasterboard product waste explained. These need to be considered in terms of their effect on the relevant stakeholders and their respective activities in the marketplace. This Briefing Note also presents legislation and policy drivers from other countries that may contribute to better UK end-of-life resource efficiency.

2 UK legislation and policy drivers

National Waste Strategy (England and Wales) 2000

The Strategy was set up to outline a vision for future waste management in the UK, and details the UK Government's 20-year plan to promote recycling and re-use and reduce the countries' dependency on landfill.

The Waste Strategy introduced the waste hierarchy that puts waste management options into a ranking system based on order of environmental preference (ie reduce, re-use, recycle, recover and disposal). The strategy was set up by the former DETR and has been under review by Defra. Consultation on the strategy has concluded and the strategy which is currently being revised is due for publication in May 2007.

The Landfill (England and Wales) (Amendment) Regulations 2005

The Landfill (England & Wales) Regulations 2002 implemented Council Directive 99/31/EC on the landfilling of wastes. This legislation set out strict operational and technical requirements for landfill disposal designed to reduce the negative effects of landfill. The regulations redefined the waste being disposed of to landfill. Landfills may no longer accept waste types such as tyres and liquid wastes, and new waste acceptance criteria (WAC) must be used to classify material. Landfills themselves are classified as 'Hazardous', 'Non-hazardous' or 'Inert' and traditional co-disposal methods can no longer be used.

Most plasterboard waste is currently disposed of in landfills. With the reclassification of landfills, fewer landfills are available and disposal costs should increase. Also, all waste must be pre-treated (physically, chemically or thermally) before acceptance into landfill. Physical treatments include segregation and volume reduction.

From 16 July 2005, the Landfill Regulations implemented a further change on specific waste acceptance criteria for gypsum wastes, stable non-reactive hazardous wastes and asbestos wastes. Environment Agency (EA) Regulatory Note 11 (RGN 11) gives guidance on the best practice for the disposal of wastes with high sulphate (10% or more) or gypsum content. These may be disposed of only in 'high sulphate mono-cells' in non-hazardous waste landfills. This will include all plasterboard waste. These mono-cells should be designed specifically for sulphate-containing wastes and will not accept biodegradable waste which would react with the sulphate-containing wastes to produce harmful leachates. This will increase the landfill cost of plasterboard waste.

The EA RGN 11 gives guidance on high sulphate wastes and stable non-reactive waste (SNRW), including asbestos waste, contributing to confusion as to whether plasterboards are considered hazardous waste. Gypsum (plasterboard) waste is NOT hazardous, but if a product contains more than 10% sulphate content, which plasterboard does, the product will have to be disposed of in a mono-cell. The guidance document states, as a footnote, that a mixed skip can contain up to 10% plasterboard and still be landfilled in non-hazardous landfills. This has provided a loophole for waste producers and waste transfer stations to dilute plasterboard waste with other waste in order for it to be landfilled in mixed cells.

There are currently two known mono-cells, situated on Humberside and in Peterborough, that accept high sulphate waste (ie plasterboards). Mono-cells are expensive to construct and very time-consuming, with regards to EA licence applications. As high sulphate waste is a low-value product compared to asbestos, which is a more profitable material to accept, most applications for construction of mono-fills are currently for asbestos.

It is known that the Environment Agency has not issued any new permits despite IPPC applications being made. The current situation is fragile as, whilst there is a shortage of permits for new mono-cells for landfill, there are very limited options for disposal of the waste. The industry currently exploit the 10% rule which has resulted in weakening the recycling business. Tighter enforcement of the 10% rule and/or reducing it to 3% or 4%, for instance, must be accompanied with appropriate action by the EA to ensure that it responds to landfill mono-cell applications at the same time.

The legislation aimed to improve standards of environmental management and not to simply ban landfill of high sulphate waste. It should enable more recycling to be achieved but until an infrastructure is fully established, landfill needs to be retained for the foreseeable future (eg for highly contaminated demolition wastes and waste such as plasterboard glued to laminates and insulation).

European Hazardous Waste Directive 91/689/EC (HWD)

The Hazardous Waste Directive (91/689/EC) provides a precise and uniform definition of hazardous waste using a list of 14 distinct hazardous property classifications listed in the European Waste Catalogue (EWC). The EWC is a comprehensive list of materials and the concentrations that constitute them as either hazardous or non-hazardous.

The introduction of the Hazardous Waste Directive has brought into question the classification of plasterboard. Controlled waste is classified by two distinct types: non-hazardous (inert and non-inert) and hazardous. Gypsum wastes, including plaster, plasterboard and other gypsum products, are usually classified as 'non-hazardous' but non-inert. The EWC Classification Code for plasterboard and plaster waste arising from construction or demolition is: '17 08 02 gypsum based construction materials'. However, demolition waste gypsum may become contaminated and then be classified as hazardous; EWC Code 17 08 01* refers to "gypsum-based construction materials contaminated with dangerous substances".

Producer Responsibility Obligations (Packaging Waste) Regulations 1997 (Amended 1999)

This regulation sets out the responsibility of companies that produce or handle packaging waste to deal with their own packaging material waste. All businesses with an annual turnover of £2 million or more, or that handle at least 50 tonnes of packaging each year must comply with the regulations. Shared producer responsibility is applied whereby all parts of the UK packaging supply chain contribute towards meeting the recycling and recovery targets. Responsibility is assigned to each part of the chain as a percentage obligation, dependent upon the type of activity undertaken by the company. The share of responsibility is apportioned as: 6% for raw material manufacturers, 9% for converters, 37% for packer/fillers and 48% for sellers. There is also a 100% obligation on transit packaging around imported goods.

Table 1 UK packaging business recovery and recycling targets 2004-08

Material	2004	2005	2006	2007	2008
Paper	65%	66%	68%	69%	70%
Glass	49%	55%	61%	66%	71%
Aluminium	26%	28%	30.5%	33%	35.5%
Steel	52.5%	55%	58%	60%	61.5
Plastic	21.5%	22%	22.5%	23%	23.5%
Wood	18%	19%	20%	20.5%	21%
Overall recovery	**63%**	**65%**	**67%**	**69%**	**70%**
Minimum recycling*	94%	94%	94%	95%	95%

*The minimum percentage of recovery to be achieved through recycling.

The Packaging Waste Regulations will influence the way in which plasterboard manufacturers package their products. Plasterboard products are generally supplied shrink-wrapped on timber bearers. Manufacturers have been taking steps to reduce the amount of packaging waste arising from their products. An initiative, taken

several years ago, was to stop applying 'end tapes' to pairs of boards which were viewed as an unnecessary and waste-producing item[1].

One plasterboard manufacturer no longer uses wooden pallets, opting instead to use dunnage, strips of waste plasterboard. Over 50 boards, approximately 1.8 to 2 tonnes, can be stacked on this version of a pallet (5 x100 mm wide strips), which is then wrapped[2]. Dunnage is returnable and merchants usually keep them separate for return. If they are not returned, they can, if facilities exist, be placed in a plasterboard skip to be recycled.

Draft Soil Strategy

The Government proposes to consult on a draft soil strategy for England in the near future, whilst in Wales, the National Assembly is considering how a similar strategy should be developed. The strategy will bring together many individual policies and activities that contribute to soil protection and improvement into a single coherent and comprehensive strategy. It will be one of the follow-up documents to the Sustainable Development Strategy, with an overall aim to promote the sustainable use of soil.

The Code for Sustainable Homes (CSH)

Launched in December 2006, the Code is a voluntary initiative, by CLG and industry, to actively promote the transformation of the building industry towards more sustainable practices by requiring buildings that use energy, materials and water resources more efficiently. Within England, the Code replaced the EcoHomes scheme developed by BRE. The Code introduces minimum standards for energy and water efficiency at every level of the Code (see table below), therefore requiring higher levels of sustainability performance in these areas to achieve high Code ratings.

	Minimum standards within each level of the Code	
	Energy	**Water**
Code level	***% better than Part L 2006***	***Litres/person/day***
1	10	120
2	18	120
3	25	105
4	44	105
5	100	80
6	Zero carbon home	80

Materials and waste have minimum standards at the entry level of the code only, details of which are given in the table below.

[1] Knauf website, www.knauf.co.uk
[2] Personal communication with Lafarge.

Minimum standards within the entry level of the Code	
Materials	**Waste**
Environmental Impact	***Site Waste Management***
At least 3 of the following 5 key elements of construction are specified to achieve a BRE Green Guide 2006 rating of at least D – Roof structure and finishes – External walls – Upper floor – Internal walls – Windows and doors	Ensure there is a site waste management plan in operation which requires the monitoring of waste on site and the setting of targets to promote resource efficiency.

The code is likely to have an impact on the plasterboard market. Plasterboard can contribute to lower energy demand in buildings and its use to form key elements of construction that are a minimum standard requirement in terms their environmental impact for the code could influence developers. Manufacturers are likely to need to prove the sustainability of their product, by using materials efficiently.

Building Regulations

The Building Regulations apply in England and Wales. Pressure to include efficiency and effectiveness improvements in the building control process, and to extend sustainability measures within the Building Regulations, culminated in the *Sustainable and Secure Buildings Act 2004*. This gives new powers, under the Building Act 1984 and Building Regulations, to improve the sustainability of buildings. Potential areas for improvement include facilitation of sustainable development through sustainable use and management of materials and waste management (demolition, re-use and recycling).

Approved Documents E and Robust Details introduced higher acoustic performance requirements for residential buildings. This will have an effect on the type of plasterboard used, which will tend to be thicker than is currently used. Approved Document B for fire reaction and resistance requires new European testing for products, which may affect the use of plasterboard in the future.

Sustainable Communities and modern methods of construction

The Government has published the Sustainable Communities Plan that outlines a major new house-building programme to meet the target of an estimated 3 million new households by 2016. The Government is encouraging modern methods of construction (MMC), which it believes can help the construction industry to produce the quantity and quality of housing we need. Specifically, from 2004, a quarter of new publicly funded social housing must use MMC.

Site Waste Management Plans (SWMPs)

The DTI introduced SWMPs as a voluntary code of practice in 2004. They are plans set out at the beginning of the project to identify the waste materials likely to arise and the way in which they will be managed. SWMPs are likely to be compulsory from April 2007, as a result of the Clean Neighbourhoods and Environment Act 2005.

The table below is an extract from a provisional SWMP case study:

The Site Waste Management Plan should include the following elements:
• *Identify and classify the types of waste expected to be produced.*
• *Seek quantification of how much waste will be produced.*
• *Handling and disposal procedures.*
• *Waste minimisation.*
• *Onsite recovery and re-use of materials.*
• *Monitoring, recording and auditing of waste.*
• *Waste targets.*
• *Individual subcontractor responsibilities for waste management.*
• *Main contractors' responsibilities for waste management.*
• *Meeting Duty of Care requirements.*
• *Register of permits and licences of waste carriers, transfer stations, landfills and waste managers.*

3 Potential policies and drivers adoptable by the UK

Policy changes should reflect the fact that recycling plasterboard waste needs to make economic sense for all stakeholders. There are three key areas to increasing the recovery of plasterboard waste for re-use and recycling:

1) Improve supply and processing of waste plasterboard to reduce contamination by improving and promoting source separation and good handling practices.
2) Assist operators aiming to invest in this market or currently involved in the market to develop their business.
3) Develop agricultural, composting and landscaping markets by:

- Satisfying EA criteria on soil amendment using recovered gypsum.
- EA clarification of legal route and agreeing a code of practice explicitly permitting an allowance of 5% organic material (paper component of board).
- Development, marketing and promotion of products.
- Investigation and research into application processes.

The following are policies that could be adopted to meet some of the key areas mentioned above. They have been derived from stakeholder dialogue, experience from other schemes and other countries.

- Incentive driven:

  It is not always economical for the construction company to source-separate at site. Tax incentives could be given for materials taken to a recycling facility instead of a landfill.
  Recycling equipment could be exempt from sales tax, or buildings and land used to convert waste into new products could be exempt from property tax.
  Financial incentives, offered through subsidy programmes, to recycle plasterboard waste.

- Tax driven:

  Government and/or local agencies could influence the cost structure of recycling facilities and landfills by taxing non-segregated plasterboard or offering tax breaks on separated materials.
  Producer responsibility (company pay). Either the company retains a percentage of the product's selling cost for managing the waste, or it could be compulsory that it offers take-back services.
  Polluters pay (consumer pay). This provides money to subsidise and encourage markets and recycling.

- Government driven:

  Through Government projects – designing and manufacturing standard sizes (manufacturers and designers).
  Withdrawal of the 10% allowance of plasterboard in skips.
  Withdrawal or reduction of the 10% allowance of sulphate in skips (not before more recycling capacity and/or high sulphate mono-cells are permitted under IPPC, otherwise plasterboard mountains and a huge environmental problem could result).
  Development of a plasterboard recycling infrastructure in the UK.

- Legislation driven:

  Totally ban the landfilling of plasterboard waste. This could be introduced within a clearly defined timescale, consulted and communicated effectively to stakeholders. In Vancouver, British Columbia (Canada), banning the disposal of plasterboard in landfills (in 1991) resulted in an aggressive development programme for recycling plasterboard into new boards. Lessons from Canada show that the banning of plasterboard from landfill can act as a driver to plasterboard recovery for recycling.
  The EA allowing recovered gypsum to be spread on land and composted.

- Research:

  Establish the volumes of plasterboard waste produced by demolition and refurbishment projects.
  Minimisation of plasterboard waste through education and design.
  End-market research (DTI & BREW funding) and end-market business development (WRAP).

Related MTP information

- BNPB1: Plasterboard - Industry, Product and Market Overview
- BNPB2: Plasterboard - Waste Management

Changes from version 1.2

Information on the National Waste Strategy review and its publication date have been updated. The Code for Sustainable Buildings information has been removed and replaced with details of the recently launched Code for Sustainable Homes.

Consultation and further information

Stakeholders are encouraged to review this document and provide suggestions that may improve the quality of information provided, email **info@mtprog.com** quoting the document reference, or call the MTP enquiry line on +44 (0) 845 600 8951.

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