

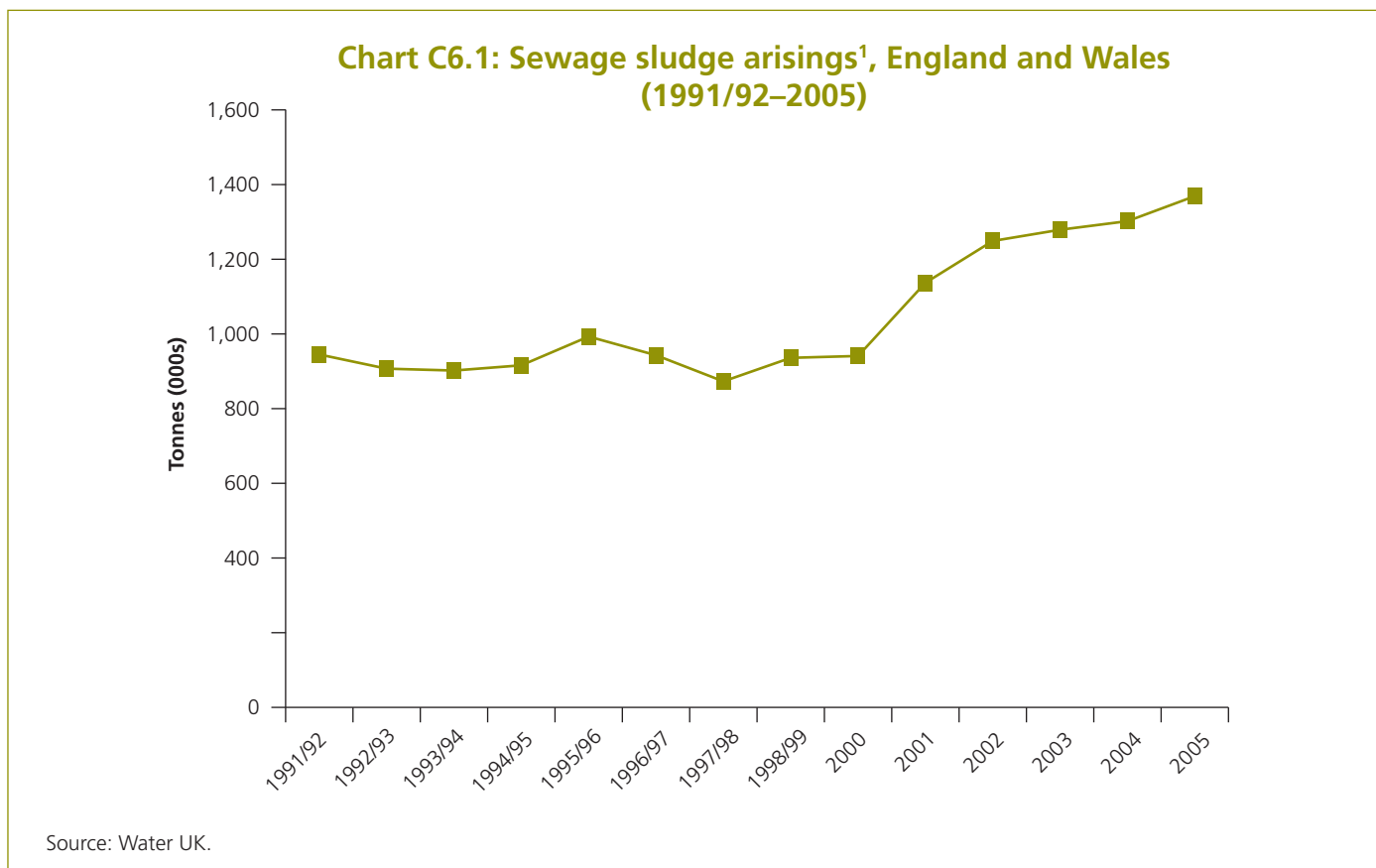
Definitions and rationale

1. Sludge is an unavoidable by-product of the sewage treatment process. Production is inevitable and cannot be curtailed. It is important that continuous and appropriate routes for recycling and disposal are maintained to ensure that the environment and public health are not put at risk.

Arisings, trends and projections

2. In 2005 the equivalent of nearly 1.4 million tonnes of dry solids was produced in England and Wales.

3. By 2010 it is estimated that the total volume of sludge for disposal will increase to 1.6 million tonnes due to more households being connected to the sewerage system and more stringent requirements for the treatment of sewage effluent. Chart C6.1 below shows sewage sludge waste arisings in England and Wales for 1991/92–2005



¹ As dry weight.

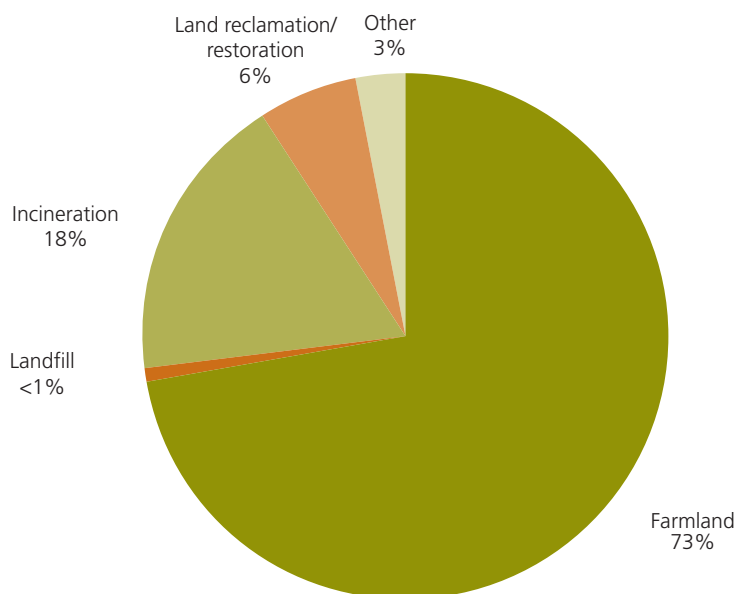
Management routes

4. Disposal by dumping at sea, which previously accounted for about one quarter of production, was banned in 1998 by regulations implementing the EU Urban Waste Water Treatment Directive (91/271/EEC).

5. The Urban Waste Water Treatment Directive (UWWTD) states that sludge should be re-used whenever appropriate and that disposal routes should minimise the adverse effects on the environment.

6. Recycling to farmland is the current main disposal route (73% in 2005, up from 59% in 2000), followed by incineration (18% down from 22%). Disposal to landfill has significantly decreased in recent years (6% down to 0.5%) and use in land restoration/reclamation has increased (6% from 0%).

Chart C6.2: Management of sewage sludge waste, England and Wales (2005)



Source: Water UK.

Policies and targets

7. The EU Sewage Sludge Directive aims to protect the environment (particularly soil) when sewage sludge is used in agriculture, and is implemented in the UK through the Sludge (Use in Agriculture) Regulations (1989). All the water companies follow the Safe Sludge Matrix,² an agreement made in December 1998 between Water UK and the British Retail Consortium, which bans the use of untreated sludge on agricultural land. There is also a non-statutory code of practice.³

² See http://www.adas.co.uk/media_files/Publications/SSM.pdf for further information.

³ See <http://www.defra.gov.uk/environment/water/quality/sewage/sludge-report.pdf> for further information.

8. Sewage sludge may be recovered to non-agricultural land under the European Council Directive on Waste. The permitting requirements of the Directive are mainly implemented in the UK through the Waste Management Licensing Regulations 1994 (as amended). In this context non-agricultural land can include non-food crops that are not grown in short rotation with food crops.

9. The Government supports the recycling route as being the best practical environmental option (BPEO) in most circumstances. This aligns with the UWWTD and with the principals of the waste hierarchy of reduction, re-use, recovery and then disposal.

10. No targets are set for the different routes, but each of the ten privatised water and sewerage treatment companies (sludge producers) was required to produce a sludge disposal strategy as part of the business planning process for 2005–2010. Defra sets the policy and regulatory framework, but choice and operation of the disposal routes is a matter for the companies.

Implementation and timescales

11. The Sewage Sludge regulations came into force in 1989 and the EU Commission intends to revise the Sewage Sludge Directive in 2007. The Waste Framework Directive is also currently being revised.

12. The Waste Management Licensing Regulations came into force in 1994 and amendments to the permitting exemption for spreading treated sewage sludge to non-agricultural land were made in 2005. A revised suite of exemptions from waste management licensing is due in 2009 and this may affect the conditions under which treated sewage sludge may be spread to land under a permitting exemption.

Roles and responsibilities

13. The water and sewerage companies are responsible for managing the recycling and disposal routes of the sewage sludge produced by their sewage treatment works. They must comply with the requirements of the Sewage Sludge Directive, the Waste Framework Directive and the Urban Waste Water Treatment Directive.

14. The Environment Agency is the enforcement authority for the relevant legislation. The Water Services Regulatory Authority (Ofwat) is responsible for ensuring that the companies are adequately funded to carry out their functions, which include sewage sludge disposal.

Infrastructure and capacity needs

15. The water and sewerage companies are responsible for developing the necessary infrastructure to recycle or dispose of the sewage sludge produced by their sewage treatment works.

16. Most treatment is currently aimed at ensuring that sewage sludge can be safely used for recycling as a soil improver. Disposal routes involving incineration are currently limited. Any increase would involve long-term investment and consideration of the overall impact on carbon emissions.

References and other information

Research plays a valuable role in supporting sludge recycling and the controls which are applied to it. Industry lead research has considered the agronomic and soil quality benefits of sludge recycling to agricultural land. Information on research into sludge recycling can be found in the 2006 Final Report: Review of Research on Recycling of Sewage Sludge to Agricultural Land.

http://www.defra.gov.uk/science/project_data/DocumentLibrary/WT03051/WT03051_4104_FRP.doc

Europa Environment Sewage Sludge:

<http://ec.europa.eu/environment/waste/sludge/index.htm>

The Sludge (Use in Agriculture) Regulations 1989 (SI 1293 as amended by SI 880 in 1990)

http://www.opsi.gov.uk/si/si1989/Uksi_19891263_en_4.htm

Guidelines for the Application of Sewage Sludge to Agricultural Land – The Safe Sludge Matrix, April 2001

http://www.adas.co.uk/media_files/Publications/SSM.pdf

EC Directive 2006/12/EC on waste (the Waste Framework Directive)

<http://europa.eu/scadplus.leg/en/lvb/121197.htm>

The Waste Management Licensing Regulations 1994 (SI 1056 as amended)

http://www.opsi.gov.uk/si/si1994/Uksi_19941056_en_8.htm

The Waste Management Licensing (England and Wales) (Amendment and Related Provisions) (No. 3) Regulations 2005

http://www.opsi.gov.uk/si/si2005/uksi_20051728_en.pdf