

Sustainable management of biowastes

Sewage sludge and septic tank sludge

This statement sets out our views on the sustainable management of treated sewage sludge (biosolids) and septic tank sludge. It will be of interest to central government, the water industry, some parts of the waste industry, agricultural advisors and farmers. It should be read in conjunction with our main position statement on biowastes.

Key issues

Sewage sludge is an organic material produced in the treatment of domestic waste waters. The amount produced has continued to rise steadily over the last decade.

Treatment of sewage sludge or septic tank sludge followed by use as a soil conditioner can:

- capture methane to produce energy
- stabilise soil
- reduce the need for chemical fertiliser.

Use as a soil conditioner requires controls to avoid detrimental effects from:

- chemical contaminants
- pathogens.

Sewage sludge comes from mixed sources, often including industrial discharges and may contain chemical contaminants which have the potential to damage soil. There is an extensive research base showing the level of risk to the environment or human health when used as a soil conditioner. Because we understand the risks, we are able to effectively control them or identify where additional controls are needed.

It is known that treated sewage sludge can contain pathogens. Where this material is used on agricultural land, there is potential for transport into the food chain. The water industry has invested heavily in controlling this risk through a number of measures including the [Safe Sludge Matrix](#).

Septic tank sludge is handled by non-water industry operators, some of whom still spread it untreated on land with few regulatory or voluntary controls. It is important that this limited practice does not undermine supply-chain confidence in the highly controlled use of treated biosolids from the water industry as a soil conditioner.

Our role

As a regulator:

- we regulate landfills, incinerators and certain sewage and sludge treatment centres through the Environmental Permitting Regulations 2007
- we control the use of sewage sludge and septic tank sludge on agricultural land used to grow food crops through the [Sludge \(Use in Agriculture\) Regulations 1989](#)
- we regulate application of both sewage sludge and septic tank sludge to non-agricultural land and land used for non-food crops. This is usually done under exemption from the Environmental Permitting Regulations.

As technical specialists and advisors:

- we have contributed to a substantial body of research into the treatment and use of sewage sludge in agriculture including work led by Defra and by the water industry
- we advise on improvements to water company assets, including sludge treatment needed as part of the [Asset Management Planning process](#). We also monitor the delivery of improvements
- we have taken results from the Long Term Sludge Experiments and other research to assess the standards in the sewage sludge regulations along with other soil protection guidelines. We will publish the results of this work in our soil standards 'Roadtesting' project in 2008.

Solutions - what we call for:

We recommend that the water industry should act on our advice about treatment technology in our main Sustainable management of biowastes position statement when planning sustainable sludge management strategies.

The water industry has called for even tighter independent scrutiny on their operations to ensure continued consumer confidence. In line with our modern regulatory approach, we would recommend a voluntary accreditation system rather than further statutory controls for pathogens.

We are working with Defra to improve the Sludge Regulations. This process has been ongoing for some years without completion. We wish government to revise the Sludge Regulations, to include:

- controlling the landspreading of septic tank sludge with controls equivalent to those for sewage sludge, including a ban on the spreading of all untreated sludge
- the statutory metal limits for copper and zinc to be in line with those of the current voluntary code of practice for agricultural use of sewage sludge

customer service line

08708 506 506

www.environment-agency.gov.uk

incident hotline

0800 80 70 60

floodline

0845 988 1188

- a charging scheme which enables us to recover our costs for enforcing these regulations.

We support government plans to use the results of the 'Long term Sludge Experiments' research to influence future changes in European legislation. We encourage them also to consider the outputs of our soil standards 'Roadtesting' project in reviewing national legislation.

In many circumstances, sludge use in agriculture is the best practicable environmental option. Sludge producers should recognise that there are alternative options that may also use sludge as a resource and deliver environmental benefits, provided those options meet appropriate regulation controls. An example would be thermal treatment of sludge to provide combined heat and power.

Background

Approximately 1.3M tonnes (dry solids) of sewage sludge was produced in 2006. The processes treating domestic effluent in septic tanks also produce an organic sludge. For both, the options for use or disposal are mostly restricted to treatment, followed by either:

- use as a soil conditioner (biosolids)
- incineration
- landfill.

Alternative technologies, for example incineration with energy recovery, have improved markedly over the last 10 years. In some circumstances they offer advantages over land spreading such as:

- better control of contaminants
- reduced requirement for transport.

A recent study sponsored by the Defra, UK Water Industry Research, Environment Agency, WAG and the Scottish Government (the '[Long Term Sludge Experiments](#)') has indicated that the current regulatory limits for some metals may not fully protect soil if used over an extended period of time.