

## Use of Crop Residues in Anaerobic Digestion Plants

### Background

Anaerobic digestion (AD) is a managed biological process in which biodegradable waste is broken down by naturally occurring micro-organisms in the absence of oxygen to produce a stabilised residue, commonly called “digestate”, which is rich in nutrients such as nitrogen, phosphorus and other elements required for healthy plant growth and fertile soil.

This Position Statement sets out how SEPA will regulate the use of crop residues in AD processes and the use of digestate outputs from such AD process. It should be read in conjunction with our previous positions on the licensing of AD activities<sup>1</sup> and the use of PAS110 certified digestate<sup>2</sup>.

Crop residues are wastes and their use in an AD plant would therefore require a waste management licence. However SEPA recognises that this is disproportionate and may be a barrier to the use of such plants and has decided to adopt a regulatory position to allow their use without waste regulatory controls.

Note that the Pollution Prevention and Control (Scotland) Regulations 2012 (PPCR) require that any biological treatment plant that has the capacity to accept more than 100 tonnes per day of waste has a permit. This position only applies to plants below this threshold. Any plant operating above the PPCR threshold will require the appropriate permit.

### What crop residues are covered by this position?

The following are examples of crop residues covered by this position<sup>3</sup>:

- Misshapen, bruised or undersized fruit and vegetables separated out on the farm or in a pack-house as being unsuitable for sale as food for consumption
- Parts of fruit and vegetables such as leaves, roots and toppings that are removed as part of the processing for sale. This may be in a pack-house or at a farm.

This regulatory position does not cover:

- crops that have been rejected due to the presence of or damage by pests or plant diseases,
- source segregated fruit and vegetables from supermarkets, restaurants or households,
- food processing residues resulting from the manufacture of food and drink such as fruit or vegetable peelings or pulp

all of which must be managed in accordance with the relevant waste regulatory requirements. Any crops which have been rejected due to the presence of or damage by pests or plant diseases should be treated in accordance with good plant health practice.

N.B Energy crops (i.e. crops intentionally grown specifically for use as feedstocks for AD plants) are not wastes and are not the subject of this position statement.

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<sup>1</sup> [http://www.sepa.org.uk/media/156787/wst\\_ps\\_anaerobic\\_digestion\\_plants.pdf](http://www.sepa.org.uk/media/156787/wst_ps_anaerobic_digestion_plants.pdf)

<sup>2</sup> <http://www.sepa.org.uk/media/219842/wst-ps-016-regulation-of-outputs-from-anaerobic-digestion-processes.pdf>

<sup>3</sup> This list may be revised or updated where appropriate. If you think your material should qualify under this position, please contact SEPA and ask to speak to someone from the National Operations Waste Unit or by emailing [zerowaste@sepa.org.uk](mailto:zerowaste@sepa.org.uk)

## Which AD plants are covered by this position?

This position applies only to AD plants that accept crop residues (either as the sole feedstock or as a supplement to purpose grown energy crops) but do not accept any other waste materials such as manures and slurries and distillery wastes. The AD plant does not need to be located on the farm or grading facility producing the original crop or crop residues, and may accept inputs from multiple producers.

## SEPA's Position on the use of crop residues in AD Plants

SEPA will not take seek to take enforcement action where an AD plant using crop residues as described above, either on their own or mixed with purpose grown energy crops, operates without a waste management licence provided the following requirements are met -

- The capacity of the plant is less than 100 tonnes per day
- The operation of the AD plant must not endanger human health or use processes or methods which could harm the environment, in particular, by causing risk to water, soil, plants or animals; by causing nuisance through noise or odours; or by adversely affecting the countryside or places of special interest (these are "the Relevant Objectives"). Any plant that fails to meet any of the Relevant Objectives, for example by causing nuisance through odour shall not be covered by this regulatory position and SEPA may take appropriate enforcement action in accordance with its Enforcement Policy and associated Guidance.
- No other waste materials (including manures and slurries) are used as feedstocks in the process
- Any crop residues which are stored at the AD plant prior to their use in the plant must be stored securely and such storage must comply with the Relevant Objectives
- The crop residues are produced as an integral part of a production process
- The crop residues are only used as a green energy input and the use is lawful i.e. the crop residues fulfil all relevant product, environmental and health protection requirements for the specific use.

**If the crop residues are mixed with manures and slurries or any other agricultural waste inputs, the activity should be registered as an exempt activity under paragraph 51 of Schedule 1 to the Waste Management Licensing (Scotland) Regulations 2011 (WMLR).**

## SEPA's Position on the use of Digestates from Crop Residue Fed Plants

SEPA will not seek to take enforcement action if the digestate is used as a fertiliser without a waste management licence being in place if:

- the only feedstock to the AD plant is crop residues as specified above and the output is spread as a fertiliser on agricultural land in compliance with other regulatory controls, such as the PEPFAA Code, the Four Point Plan and the NVZ Regulations<sup>4</sup>, OR
- the feedstock for the AD plant consists of specified crop residues mixed with manures and slurries or with a non-waste feedstock e.g. crops grown specifically for AD, and the resulting digestate is spread as a fertiliser on agricultural land in compliance with other regulatory controls, such as the PEPFAA Code, the Four Point Plan and the NVZ Regulations. (NB If manures and slurries are used as an input the anaerobic digestion activity must be carried out in compliance with paragraph 51 WMLR in order to be exempt from the requirement to hold a waste management licence.)

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<sup>4</sup> The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008  
[SEPA Position statement - reference number](#)

- the digestate has been pasteurised or has been tested to demonstrate for the absence of relevant pathogens. All digestates derived from potato waste MUST originate from a system that includes a pasteurisation step if they are to be applied to potato land (see WRAP report on Digestate quality and safety for agriculture<sup>5</sup>).
- the use of the digestate as fertiliser does not result in a failure to meet any of the Relevant Objectives.

If the crop residue feedstock is mixed with other waste feedstocks (except manure and slurries) e.g. waste animal feed, green waste including any crops not specifically grown for AD and excess silage then the resultant digestate will be regulated as waste.

Excessive use of AD residues may be regarded as a disposal operation and would require a permit under the Pollution Prevention and Control (Scotland) Regulations 2012.

Please Note that this regulatory position applies only in respect of waste regulatory controls. The requirements of other regulatory regimes such as the Water Environment (Controlled Activities) (Scotland) Regulations 2011 may still apply. You are advised to check with your local SEPA office or on the water regulation pages of the SEPA website<sup>6</sup>.

### **Limitations**

**This statement applies only in Scotland. The terms of this statement may be subject to periodic review and be changed or withdrawn in light of technological developments, regulatory or legislative changes, future government guidance or experience of its use. SEPA reserves its discretion to depart from the position outlined in this statement and to take appropriate action to avoid any risk of pollution or harm to human health or the environment.**

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<sup>5</sup> <http://www.wrap.org.uk/content/digestate-quality-and-safety-agriculture>

<sup>6</sup> [http://www.sepa.org.uk/water/water\\_regulation.aspx](http://www.sepa.org.uk/water/water_regulation.aspx)