SEPA
Position statement

Manufacture and use of Biochar from Waste

Background

Biochar is the solid remains formed by the controlled pyrolysis of organic matter in an oxygen depleted environment. It has the potential to improve soil quality and enhance crop production as well as providing long term storage of carbon in the environment.

This interim position applies to the manufacture and use of biochar from specified waste materials. It does not cover biochar manufactured from specifically grown non-waste materials which SEPA does not consider to be waste unless it is being discarded.

In this position, "biochar" means the porous carbonaceous solid produced by the thermochemical conversion of organic materials in an oxygen depleted atmosphere which has physiochemical properties suitable for the safe and long-term storage of carbon in the environment and for soil improvement.[1]

Waste management activities are regulated by SEPA under the Environmental Protection Act 1990 and the Waste Management Licensing (Scotland) Regulations 2011[2] (WMLR). The WMLR contain a list of activities that can be exempted from the requirement to hold a waste management licence (WML), known as 'waste exemptions' and described in Schedule 1 to the WMLR. There is currently no waste exemption for the manufacture or the use of biochar made from waste materials. Therefore the law currently requires a Waste Management Licence to be held for such activities.

However, in certain circumstances SEPA considers that the requirement for a WML would be disproportionate for small scale manufacture of biochar from specified wastes or for its subsequent specified uses because the environmental and human health risks from such activities could be adequately controlled under a waste exemption. SEPA has therefore discussed the prospects for an amendment to the WMLR with the Scottish Government and this will be considered at the next review.

Until an amendment is consulted on and made to the WMLR, this Regulatory Position Statement sets out circumstances in which SEPA will not require a waste management licence for the manufacture and certain uses of biochar from specified waste streams.

For the purpose of this position, biochar must be produced under conditions optimised toward delivery of a particular function in soil, including maximum biological stability, maximum agronomic benefit, mitigation of trace gas emission, or any combination of the same.

Since the production of biochar can be carried out separately from the use of biochar, this position is in two parts. Operators intending to use waste derived biochar under this position should ensure that it has been produced only from the wastes listed and under the conditions specified.

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[1] This definition was developed by the UK Biochar Research Centre based at the University of Edinburgh
[2] http://www.legislation.gov.uk/ssi/2011/228/made/data.pdf

Interim Regulatory Position on the Manufacture of Biochar from Specified Wastes

Until such time as the WMLR are amended to include the manufacture of biochar from specified wastes, SEPA will not require end users to hold a waste management licence for the manufacture of biochar from specified wastes in the following circumstances -

(1) The biochar is manufactured from the waste types listed below, by burning in a combustion unit specifically designed for this process where that unit is —

> (a) an exempt incinerator for the purposes of Section 5.1 (incineration) of Schedule 1 to the Environmental Protection (Prescribed Processes and Substances) Regulations 1991, or an excluded plant for the purposes of Section 5.1 of Part 1 of Schedule 1 to the Pollution Prevention and Control (Scotland) Regulations 2000 (as amended) and has a capacity of less than 50 kg per hour; or
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> (b) not an incineration plant, a co-incineration plant or an excluded plant for the purposes of Section 5.1 of Part 1 of Schedule 1 to the 2000 Regulations; and

(2) No more than 30 tonnes of wastes listed in paragraph 5 below is stored at the site where they will be used at any one time. Storage of feedstock materials must comply with the requirements of the Duty of Care[3].

(3) The production activity must be registered in advance with SEPA by completing page 2 of the "Simple Exemption Notification Form"[4] and submitting it to SEPA via waste@sepa.org.uk

(4) The activity must be consistent with ensuring the attainment of the relevant objectives specified in paragraph 6 of schedule 4 of the WMLR.

(5) Only the following types of waste can be used to manufacture the biochar:

Codes[5]	Type of Waste
02 01 03	untreated wood waste from agriculture, horticulture and forestry activities[6]
02 01 07	untreated wood waste from agriculture, horticulture and forestry activities[6]

Interim Regulatory Position on the Use of Waste Derived Biochar

Biochar produced in accordance with the above provisions will still be regarded by SEPA as a waste material in terms of the law and so may only be used in accordance with the relevant waste management controls. However, as set out above there is currently no waste exemption that covers the use of such waste derived biochar.

However, SEPA will consider waste derived biochar produced in accordance with this position as an acceptable waste in Part 1 of Table 2 of paragraph 7[7]. This will allow the registration of a

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[3] Further information on the Duty of Care is available on the SEPA website: http://www.sepa.org.uk/waste/waste_regulation/waste_carriers_and_brokers/duty_of_care.aspx

[4] Available on the SEPA website: http://www.sepa.org.uk/waste/waste_regulation/application_forms/idoc.ashx?docid=785b433f-34af-404c-b19b-960fe178cb24&version=-1

[5] Codes referred to in the European Waste Catalogue – http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2000D0532:20020101:EN:PDF

[6] The wastes listed do not include all of the wastes specified in the European Waste Catalogue under the code referred to. Only the waste types listed are acceptable for use under this position.

[7] Paragraph 7 of Schedule 1 to the WMLR.

paragraph 7 waste exemption for the use of this waste derived biochar on specified land where such treatment results in benefit to agriculture or ecological improvement[8].

Applications to register such uses of this waste derived biochar should describe the material being used by reference to EWC code 020103 and the description "biochar derived from pyrolysis of untreated wood waste from agriculture, horticulture and forestry activities".

All other requirements of the exemption must be met, including details of the benefit to agriculture or ecological improvement expected from the treatment and analyses of the biochar and receiving soil.

This activity must be registered with SEPA at least 21 days before the activity is due to begin.

Where waste derived biochar is produced or used in circumstances that do not meet the terms of this position statement, and the end user cannot demonstrate evidence of compliance with its terms, this statement will not apply to the manufacture or use of the biochar. In such circumstances, the producer or user of such biochar will require a waste management licence for those activities or will risk committing an offence.

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

Useful Links

DEFRA recently commissioned a report on the benefits and issues associated with application of biochar to soil: http://randd.defra.gov.uk/Document.aspx?Document=SP0576_10058_FRP.pdf

Further information on the conditions of a paragraph 7 exemption, along with the relevant registration forms and guidance notes are available on our website:
http://www.sepa.org.uk/waste/waste_regulation/application_forms/exempt_activities.aspx

[8] Schedule 2 to the WMLR sets out the terms of how benefit of agriculture or ecological improvement will be assessed.