
Written evidence submitted by the Renewable Energy Association to the
House of Commons Environment, Food and Rural Affairs Committee
inquiry on the State of peatland in England

Executive Summary

- The Renewable Energy Association (REA) welcomes the EFRA Committee's inquiry into how peatland in England has been degraded, the environmental impacts of that degradation, and how it can be restored. In this document the REA has focussed on issues – we perceive and have been informed about - that influence the replacement of peat in growing media and soil improver products.
- The REA suggests that the England Peatland Strategy, expected to be published by the end of 2019, becomes linked to a UK-wide Peat Alternatives for Growing Media and Soil Improvers Strategy (or strategies developed by each country within the UK).
- We appreciate that maintaining the quality of products for the amateur and professional horticulture markets is important and there is horticulture/growing media industry desire to grow more sustainably. The industry has worked towards overcoming barriers to wider adoption of peat-reduced and peat-free growing media products, especially for the amateur horticulture market, and reducing its impact on peatland degradation. The professional horticulture industry seems unlikely to substantially reduce its use of peat until peat-free growing media are well proven.
- The UK growing media industry has invested over £100 million in developing peat-free and peat-reduced products and also in the alternative materials required for making them. Examples of alternatives are composted bark, coconut fibre, coir (which is pith from coconut husks), wood fibre and composted green waste. They say their investments and efforts have reduced reliance on peat and accelerated the role of quality alternative growing media materials. The REA recognises that it takes time to research, develop and achieve reliable supply of alternatives to peat which are of sufficient quality and quantity. We welcome initiatives/projects that are already underway – including those which are supported by Defra - and covered in section 3. We have suggested some other actions relevant to all bulky raw materials/substrates that are already or could be used in reduced-peat and peat-free growing media.
- Considering waste-derived composts' potential to replace more of the peat, the UK's composting industry has a successful track record in supplying compost for use as soil improvers (conditioners and mulches) and in manufactured topsoils and growing media in a range of markets. More use of composts in growing media in future is dependent upon supply of sufficient quantities at times of year when manufacturers require them, sufficient quality and at delivered-to-manufacturing-site prices that make them competitive with other non-peat raw/bulky materials.
- Considering UK waste- and non-waste derived digestates' potential future role in peat-reduced and peat-free growing media, dewatered, matured and/or partially dried digested solids could be the focus of research and development projects. Already published, relevant research should be reviewed and digestates in any such research compared with any similar ones being produced in the UK.

1. The Renewable Energy Association, our interest in responding and point of contact

- 1.1. The REA is a not-for-profit trade association, representing British renewable energy producers and promoting the use of renewable energy in the UK. It has around 550 corporate members, making it the largest renewable energy trade association in the UK. The REA helps its members build commercially and environmentally sustainable businesses whilst increasing the contribution of renewable energy to the UK's electricity, heat, transport and green gas needs.
- 1.2. The REA's Organics Recycling Group comprises 207 members, numerous of which operate commercial **composting** facilities, and its 'Biogas Group' comprises 215 members, numerous of which operate commercial scale **anaerobic digestion (AD)** facilities. The REA also represents the energy from waste sector, with members involved in the delivery of advanced conversion technologies and traditional energy recovery projects.
- 1.3. The REA works with stakeholders with the aim of achieving policy and regulatory frameworks for renewables and organic waste recycling that deliver an increasing contribution to the UK's electricity, heat, recycling and transport needs. The Wood Heat Association is a subsidiary of REA, the largest renewable energy industry association in the UK. More info about the REA is at <https://www.r-e-a.net/about>
- 1.4. The inquiry's question 5 is the one relevant to REA interests and ability to submit evidence; 'What should be included in the forthcoming England Peatland Strategy?' Many of our compost producing members would like to supply more waste-derived composts for use in growing media (as at least a partial substrate) and/or as soil improvers, and some of our digestate producing members would like to develop and supply waste- and non-waste derived, dewatered, matured digestate fibre for use in (as at least a partial substrate) growing media and as soil improver products used in amateur horticulture, parts of the professional horticulture market and in soft landscaping. To date, some types of UK waste-derived composts have a successful track record as partial replacement material for peat substrates in growing media and as the sole material in a range of soil improver products.
- 1.5. This response is written and submitted by Emily Nichols, REA Organics Recycling Group Technical Manager (enichols@r-e-a.net, 07771 556231). The REA would be pleased to discuss the issues covered in our response if invited to meet with EFRA committee members.

2. REA answers to question 5 and recommendations for action

Question 5 asked 'What should be included in the forthcoming England Peatland Strategy?'

- 2.1. The REA asks that Defra works with relevant industries on **a strategy for further development of alternatives to peat for growing media and the soil improver products** which include peat. Given the intention to publish the **England Peatland Strategy** by the end of 2019, we suggest this strategy acknowledges that a peat alternatives strategy is being developed, these strategies are linked and that future review of England's Peatland Strategy takes into account reduced use of peat in growing media and soil improvers.

- i. Why? Some soil improver products include peat; is this technically necessary and if not, can quantities and qualities of non-peat substrates become adequate and how could they become price competitive? Many growing media products include peat and opinion differs in the industry as to whether, in terms of technical characteristics and performance, the entire growing media products range can become peat free.
- ii. Our contacts in the growing media industry tell us that wholesale restoration of peatland is mainly prevented by the lack of a sustainable peat-free alternative that can be mass produced and used without peat additive, which also does not contaminate the ecosystem and has the same performance as peat. Good understanding amongst stakeholders of what suitable bulky raw materials are available and at what prices is essential.
- iii. In the past Defra has held regular meetings with relevant industries with specific focus on alternatives to peat for growing media. Broadly, the aims were to survey and report on changes in types and quantities of bulky substrates used in relevant product types (growing media and some soil improver products) and support the development and use of alternatives to peat in those products.
- iv. In former days as The Composting Association (prior to an organisation name change then merger with the REA), we used to participate in those meetings and found them useful, e.g. for helping the composting industry to understand the needs of the growing media industry. For some years the Waste and Resources Action Programme (WRAP) supported projects which raised growing media industry awareness of waste-derived composts potentially suitable for use in growing media and developed, published and updated 'Guidelines for the Specification of Quality Compost for use in Growing Media' (see http://www.wrap.org.uk/sites/files/wrap/Growing_Media_Specification.pdf) and 'Compost Production for use in Growing Media – a Good Practice Guide' (see http://www.wrap.org.uk/sites/files/wrap/Growing_Media_Good_Practice_Guide.pdf).
- v. WRAP is no longer active on this topic and although the REA and Renewable Energy Assurance Limited - our subsidiary company which develops and manages certification schemes including ones for waste- and non-waste derived composts and digestates - work on developing markets for composts and digestates, we can spend more time on actions when inclusive and regular meetings on the general topic of alternatives to peat are organised by stakeholders such as Defra.

2.2 The REA has considered but decided not to call for a ban on the use of peat in growing media.

- i. Why? There is difference of opinion in the growing media industry as to whether this is technically feasible across the entire growing media product range. One of our contacts in the growing media industry – a key manufacturer of those products – says 'there are insufficient of the right quality raw materials at the right price'. As an example, government subsidies for generating renewable energy from non-waste biomass materials means the biomass facility operators can pay higher prices for wood based products (e.g. virgin wood and bark); this has driven up the price of wood-based materials in general. Non-peat bulky 'raw materials are between twice and five times the price of peat and as demand for them increases the price gaps will increase. If we go peat-free we must accept this will cost more.'

2.3 The REA has considered calling for higher taxation of peat use in growing media. However, we do not call for that and instead suggest a **review of product price sensitivity** amongst consumers and perhaps also professional users of growing media. Below the REA has suggested other actions which will enable clearer sight of the challenges associated with using non-peat bulky raw materials and give the growing media industry more time to finish developing and implement initiatives that support their further reduced use of peat.

- i. Why? Although higher taxation of peat use in growing media could result in peat becoming more expensive to use than non-peat bulky raw materials it will not address quantity and quality challenges when seeking to source those alternatives. Any substantial tax increase when peat is used in growing media would increase the price of such products. In amateur horticulture, these products are non-essential for many gardeners and it seems likely that annual sales of relevant product types would go down, including sales of containerised plants to this market.
- 2.4** The REA calls for Defra to resume its past support for **surveying and reporting on quantities of each type of raw material** (i.e. bulky substrate) **used in soil improvers and growing media** (those products supplied to market sectors that are current users of products that consist of or include peat). Regular reports should include aggregated data and statistics must be presented such that organisations who provide raw data remain anonymous.
- i. Why? Manufacturers have agreed to measure what they use of each raw material and share it between the Horticulture Trades Association, Growing Media Association, Agriculture and Horticulture Development Board and Defra.
- ii. Store-based and on-line retailers of growing media and soil improvers should be required to do the same, provided data is gathered, managed and reported such that individual retailers' product recipes (including their bulky substrate contents) are not disclosed or decipherable in any reports or other information made available by Defra.
- iii. Information on raw material use will help stakeholders to monitor progress on reducing the use of peat in these product types. The REA believes the retail side should be included because without it, it would be much harder to assess the extent to which retailer-imported quantities of wholly or partially peat-based growing media and soil improver products are changing.
- 2.5** The REA asks Defra to consider thorough **investigation** of the **challenges** that limit **greater use of non-peat bulky raw materials** and **evaluate whether, how and when they could be overcome**, for each relevant raw material.
- i. Why? Such an exercise could consider challenges identified by the growing media industry and which raw materials are subject to which challenges, e.g. quantity (including locations and whether adequate quantity can be supplied at the times of year when manufacturers need them), quality (including consistency), prices and which policies are affecting prices. See sections 3 and 4 with regard, respectively, to composted and anaerobically digested materials.
- 2.6** The REA calls for Defra to **investigate the feasibility and implications of a) a ban on peat use as or in soil improver products and b) higher taxation** – or a charge or other financial mechanism – **of soil improvers that consist of or include peat**. Investigation should consider whether there are any technical reasons to continue allowing such use of peat and whether the quality, quantity, consistency and supply of peat free substrates at competitive prices (e.g. taking into account transport distances and costs) is substantially inadequate. If there are such inadequacies, what are the prospects of overcoming them?
- i. Why? Few soil improver products consist of or include peat; most are based on green compost (see section 3), bark or spent mushroom compost. However, some consist of or include peat and during time-limited on-line research the REA has found at least one such soil improver product.

- ii. Within the soil improver product range, soil conditioners are for incorporation in soils to improve their ability to sustain healthy germination and growth of plants. The REA is aware that ericaceous (lime-hating) plants need the soil in which they grow to be between pH 5.0 and 6.0; incorporation of peat is one way to amend soil pH where change is needed (a product example is Westland Horticulture's Irish Moss Peat, see <https://www.gardenhealth.com/westland-irish-moss-peat>). However, we hope that available alternatives to peat-based soil improvers are sufficient in terms of their technical characteristics and that any short-comings in terms of quantity, other aspects of quality, consistency and price competitiveness can be overcome.
- 2.7** The REA welcomes Defra Task Force support for project 7; this project is underway and is developing a **Performance Standard Protocol**. It will include testing all new components (e.g. bulky substrates) and growing media mixes which contain any new component, to ensure quality plants can be grown in the mixture.
- i. Why? Plants grown in UK-produced growing media need to achieve an adequate stage of growth/development within a commercially viable timescale. If UK produced growing media cease to perform as well as imported ones and/or become significantly more expensive than imported ones, the latter are likely to increase and export of UK produced growing media are likely to decrease (assuming government / devolved administrations in the UK don't ban or tax (at a higher rate) peat-included growing media use in the UK (whether produced domestically or imported) and peat-included growing media for export from the UK.
- 2.8** The REA welcomes Defra Task Force support for the **Responsible Sourcing Calculator** and hope this includes commitment to support its regular review and revision when necessary.
- i. Why? This calculator allows all growing media components to be assessed against stringent environmental criteria. It should be regularly reviewed and updated when appropriate so that it continues to appropriately take into account advances in assessment of positive and negative impacts on the environment. The growing media industry contact we have communicated with says composted materials are appropriately evaluated when assessed using the calculator.
- 2.9** The REA welcomes continued work between Defra, growing media manufacturers and wildlife charities to develop and introduce a **Growing Media Responsible Sourcing Scheme**. This scheme will result in growing media and soil improver products being labelled with a traffic light system score – similar to the A to G grading used in the energy efficiency rating scheme – that indicates the environmental credentials of the materials it contains.
- i. Why? The labelling aspect of this scheme will provide a simple and quick way to increase consumers' awareness of environmental impacts associated with product choices they make and may result in a higher percentage of customers choosing products with better environmental credentials. This scheme takes into account waste-derived compost that has achieved product status (i.e. certified compliant with PAS 100 and the Compost Quality Protocol). A growing media industry contact we have communicated with says it could take into account other peat-alternative materials (e.g. dewatered, matured digested solids from waste and non-wastes sources) and this scheme is 'being well supported by Defra'.

2.10 The REA calls for **Defra** consideration of and decision on what **support** they'll provide for **manufacturer transition** to peat-free and peat-reduced growing media products, as far as is technically and economically feasible.

- i. Why? Changing awareness of, trialling, reviewing outcomes from trials, committing to change, and sourcing non-peat materials (in sufficient quality and quantity at appropriate times of year and at affordable prices) tends to consume considerable staff time and, in terms of trials, requires significant money.
- ii. The Growing Media Responsible Sourcing Scheme will take time to become widely used amongst growing media manufacturers and for this to feed through to products on shelves in retail stores and in warehouses that dispatch direct to consumers who purchase growing media on-line.

3. Quantity and quality of composted materials and recommendations relevant to their use in growing media

3.1 Waste-derived composts used in the manufacture of growing media and as soil improvers (wholly or as an ingredient) have tended to be those made from separately collected **plant** materials only (e.g. garden and parks plant wastes and others from agricultural, horticultural and forestry sources). To the best of our knowledge a much lower quantity of composts derived from **food and plant** wastes have been used, one of the reasons being their tendency to have higher electrical conductivity properties; this is one of the factors which limits the proportions in which many waste-derived composted can be used in growing media.

3.2 In the remainder of the REA's response in this section composted plant wastes are termed **green compost** and composted food and plant wastes are termed **green+ABP compost**.

3.3 Figures in Table 1 shows a 201,272 tonne drop in the use of **green compost** in growing media and as or in soil improvers made by all growing media manufacturers in the UK and Ireland between 2011 and 2017. Green compost represented 13.8% of the bulky substrate materials used in growing media and soil improvers in 2011 but this had fallen to 8.1 % in 2017. One of our contacts in the growing media and soil improver manufacturing industry believes this fall is because:

- i. William Sinclair's, a previous large user of green compost, was sold to Westland Horticulture who chose not to (and still don't) use green compost (this accounts for the reduction from 2015 – 2017);
- ii. growing media manufacturers started using and increased their use of wood-fibre in the period 2011 to 2015; and
- iii. increased numbers of local authorities (LAs) charging for separate collection of garden/green wastes has driven down the tonnages delivered for composting (for example, one of the REA's compost producing member's input material tonnages fell significantly when some of their supplier LAs started charging for separately collecting garden/green wastes.

Table 1. Annual production of growing media and soil improver products from data supplied by all major growing media manufacturers in the UK and Ireland

	2011	2015	2017
Total Growing Media & Soil Improvers	3,111,097	2,678,500	2,789,376
Composted Green Waste	428,150	323,085	226,897
Percentage	13.8%	12.1%	8.1%

Source: Figures compiled on behalf of the Growing Media Association and Horticultural Trades Association

Table 2. Input tonnages to composting processes certified by Renewable Energy Assurance Limited and their compost production tonnages per annum, as reported at the end of 2018

Composting process locations	Input tonnes to composting processes per annum					Compost tonnes per annum		
	Green (plant) wastes only	'Green only' % of all input types	'Green and Animal By-Product' wastes	'Green+AB P as % of all input types	Total of all input types	'Green compost'	'Green+AB P compost'	Total of all compost types
England	2,183,000	71	874,000	29	3,057,000	822,056	329,124	1,151,180
Wales	122,000	90	13,000	10	135,000	48,002	5,115	53,117
Scotland	136,000	50	134,000	50	270,000	59,161	58,291	117,452
Northern Ireland	73,000	32	156,000	68	229,000	25,142	53,727	78,869
Total	2,514,000		874,000		3,057,000	954,361	446,257	1,400,618

Source: figures in unshaded cells are from Renewable Energy Assurance Limited's (REAL's) Compost/Biofertiliser Certification Schemes' Annual Report 2018 (see <http://www.qualitycompost.org.uk/information/scheme-statistics>). Figures in shaded cells have been calculated by the REA using figures reported by REAL.

- 3.4** Note: In this context, animal by-products are materials derived from animals and controlled under EU and national laws. The majority of ABPs fed into the composting processes associated with table 2 are animal-derived foodstuffs and catering wastes that were fit for human consumption but have become wastes at various stages in the food supply chain (including within households).
- 3.5** Taking account of these latest available figures, the 226,897 tonnes of green compost (aka 'composted green waste' used by non-composting manufacturers of growing media and soil improver products in 2017 represents **23.8 %** of an approximate 954,361 tonnes per annum green compost product production capability that composters reported at the end of 2018. {These compost products certified by REAL are ones derived from wastes which have achieved product status and can be supplied, stored and used without being subject to waste regulatory controls. UK total compost output was estimated to have been 3.51 million tonnes in 2014 and total product status compost was reported to be 3,216,762 tonnes (3.22 million tonnes) (WRAP, 2017, Organics Recycling Industry Status Report 2015.)}
- 3.6** Considering the figures only, there is potential for more green compost to be used in peat-free and peat-reduced growing media if manufactured quantities increase and/or the proportion of green compost in them can be increased (**N.B.:** given its typical characteristics green compost tends to be used at 20 % vol/vol in good quality growing media). Similarly, there is potential for more 'green +ABP' compost to be used in peat-free and peat-reduced growing media, albeit in

generally lower proportions due to some characteristics less well suited to growing media applications.

- 3.7** (Green and green+ABP composts are already substantially supplied as soil improvers for use in a range of markets that include amateur and professional horticulture.)
- 3.8** However, for successful commercial use of more green and green+ABP composts in growing media their quality must be adequate and consistent, sufficient amounts must be supplied at the times of year when the growing media and soil improver manufacturing facilities need them, compost sources must be within economic transport distance from the manufacturing facilities (composts are a relatively high-bulk-density-but-low-priced renewable resource), physical contaminants in numerous composts need to be reduced, and compost prices need to be a) high enough that the manufactured growing media and soil improvers market is a commercially sensible sector for composters to sell to and b) not so high that non-compost bulky substrates are chosen by the manufacturers.
- 3.9** These factors make increased supply complex and so **the REA recommends** that Defra considers commissioning an **appraisal of the composting sector's potential to supply more compost for use in growing media** and, preferably, this would be part of a wider assessment that includes the potential for increased use of other non-peat raw materials that could be used.
- 3.10** More needs to be done to reduce the amount of physical contaminants in local authority and some commercial sector biodegradable wastes collected for composting (or anaerobic digestion). For example, too many householders are putting non-compostable plastics in their bins for garden wastes, food wastes and, in some areas, garden and food wastes combined. (Bin and caddie liners are a more complex issue we have chosen not to write about here.)
- 3.11** The growing media industry says it is difficult to remove physical contaminants (e.g. glass, metal and plastic) from composted materials made from waste types that include such contaminants; through on-site process steps the composting industry removes much of the physical contaminants that arrive with the wastes but removal is imperfect and their removal and transport costs and gate fees charged by disposal/other recovery facilities that accept these contaminants make this waste very costly to manage.
- 3.12** As the REA understands it, physical contaminant concentrations in composts supplied for use in growing media are very low but we are unsure whether the manufacturers carry out any treatment steps/steps that aim to remove such contaminants (environment protection regulators would assume they do not unless the manufacturing site has a permit to manage waste materials and/or is registered 'permit exempt'), how successful they are and what proportion of the compost particles are removed with the contaminants. In addition, we have previously heard feedback that other available waste-derived composts are unsuitable because their physical contaminants concentrations are too high (non-compostable plastics are the common problem).
- 3.13** **The REA calls for** central government to provide **adequate funding** that enables local authorities to put sufficient resources into **householder education** on what should and shouldn't be put in their food, garden and food+garden waste bins so physical contaminants in those wastes go down, especially non-compostable plastics. If central government will not provide the funding then it should allow local authorities to raise the necessary money through council tax for collection of core waste materials.

4. Quantity and quality of anaerobically digested materials and recommendations relevant to their use in growing media

4.1 REAL's Compost/Biofertiliser Certification Schemes' Annual Report 2018 includes that by the end of 2018 there were 80 anaerobic digestion processes producing waste-derived digestates that achieved product status. They had a 'total registered annual throughput' of 4,291,000 million tonnes. The report does not state the total quantity of product status digestates produced at that time. Table 3 provides the most recent published data the REA is aware of and shows that in 2014 the total amount of product status digestate represented almost 22 % of the total amount of product and waste status digestate produced. The figures also show that AD processes producing only separated solid digestate produced 3.1 % of total digestate products in 2015 but the 'one or more of the above' tonnages in 2014 and 2015 do not reveal how much of that was separated solid digestate product.

Table 3. Amounts of different product-status digestate forms produced in 2014 and 2015 and total waste and product status digestates produced in 2014

Digestate form, as reported for each relevant AD process	Year: 2015	Year: 2015	Year: 2014	Year: 2014	Year: 2014	Year: 2014
	Product status digestates (tonnes)	% of total product status digestates	Product status digestates (tonnes)	% of total product status digestates	Total waste & product status digestates (tonnes)	Total product digestate as % of total product & waste status digestates
Unseparated, liquid digestate	1,764,000	73.5	802,794	80.4	Not reported	?
Separated liquid digestate	364,800	15.2	165,751	16.6	Not reported	?
Separated solid digestate	74,400	3.1	0	0.0	Not reported	?
One or more of the above	196,800	8.2	29,955	3.0	Not reported	?
Total	2,400,000	100.0	998,500	100.0	4,572,775	21.8

Source: Figures compiled by REA from WRAP's Organics recycling industry status report 2015, published April 2017. Report includes extrapolated data because responses were not gained for all operating AD processes.

- 4.2 The REA has not estimated the amount of UK-produced product status, dewatered, matured digestate solids produced in 2018 nor how much of them may be suitable for use in growing media (perhaps after further treatment such as partial drying).
- 4.3 Some product status digestates derived from source separated biodegradable wastes that tend to include physical contaminants, e.g. from household sources, may need further processing to remove more physical contaminants before being supplied for use in growing media. Other digestates made exclusively from purpose-grown energy crops would not include physical contaminants and so may be particularly worth exploring for potential use in growing media, e.g. after separating out the solids, maturing and/or partially drying those solids.
- 4.4 The REA suggests that Defra considers funding a **review of research into the use of digestates in growing media** for use in amateur and professional horticulture markets. This should include how similar digestates in published research are to UK-produced dewatered, matured digestated solids. The review should take into account characteristics of waste/material mixtures fed into AD processes. Defra consideration should include checking whether such a review is intended to be included, and in sufficient detail, in the research gap analysis that is planned as part of a project that REAL's Research Hub is working on procuring (it's currently at tender invitation stage).

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