

Should Development of Peatland in the UK Support a Research Levy?

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Introduction:

Carbon-rich peatlands cover approximately 15% of the UK land area. The most recent estimates of carbon storage suggest that the UK total is 2302 Mt. with Scotland contributing the greatest single proportion of this (70%)¹². The recently published land use strategy for Scotland recognises the importance of conservation of peatlands and carbon storage within the landscape, and lays out the principle that where land is suitable for carbon storage this should be recognised in decision making².

It has become increasingly evident to many professionals working on peatlands that the progress of development in these areas has outpaced our knowledge of the consequent environmental effects. Within the financial constraints of individual projects and organisations there is often not the opportunity to fund major research projects to increase the knowledge base for the consequences of such development activities on carbon-rich landscapes. The type of science funded by research councils does not always address the questions which are important to the user community, at least over the timescale of concern. Here we explore how a levy on peatland disturbance could help fund evidence-based management of peatlands and what the impacts of such a levy might be on economic development.

A peatland levy

The suggestion of a levy on the extraction of commercially traded peat for horticultural use was initially proposed in 1998³ by Baroness Young of Old Scone whilst she was chairman of Natural England (then English Nature). There have been more recent calls for a similar levy on commercial peat extraction by the RSPB^{4,5} and the Aberdeen Centre for Environment and Sustainability⁶. In these instances a levy was proposed as an instrument to change behaviour (reduce damage) and safeguard peatland resources. To date, such levies have not been implemented.

However, other industrial processes that change the structure, and therefore possibly functioning, of established peatlands have not yet been considered. In the last decade there has

¹ Billet et al (2010) Carbon balance of UK peatlands: current state of knowledge and future research challenges. *Climate Research* 45:13-29.

² Getting the best from our land. A land use strategy for Scotland (2011) The Scottish Government.

³ <http://www.britarch.ac.uk/ba/ba33/ba33news.html> (accessed Jan 2011)

⁴ <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmtreasy/memo/taxpolicy/m43.htm> (accessed Jan 2011)

⁵ http://www.rspb.org.uk/Images/Financingnature_tcm9-262166.pdf (accessed jan2011)

⁶ <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmenvfru/writev/556/19.htm> (accessed Jan 2011)

been a large increase in the development pressures on UK peatlands. It is widely considered that one of the most important of these is from windfarm construction, but other development activities include mining (removal of overburden), road building (as part of national road building programmes or on private land), construction, infrastructure projects and likely soon small-scale hydropower implementation may also impact on peatlands. Whilst some of these activities do not require peat extraction and removal from site (and so are not extractive processes) they may involve translocation of peat and thus potential disruption to the hydrological connectivity and ecological functioning of the existing peatland ecosystem and of the translocated peat⁷. The impact on carbon processing and sequestration, hydrological function and biodiversity of the resultant peatland matrix remains somewhat unknown.

The development of a situation where management activities are being undertaken in the absence of an appropriate evidence base has resulted in three important consequences for the stakeholder community concerned for the management of these environments.

- 1) **An extended debate between developers and regulators regarding the appropriate management** of a number of the issues. For instance, there has been a discussion ongoing for several years regarding the management of peat disposed into borrow pits. Such discussions have the potential to generate a demand for significant resources and add considerable delays to particular developments. In the absence of good quality research evidence, decisions are made based on professional judgment which has been widely debated and may lead to conflicts between professionals in different sub-disciplines.
- 2) **A piecemeal approach to generating good quality research** evidence which can support evidence-based management. Developers that fund applied research bear all the risks of such a venture, whilst the entire development community might reap the benefits should the output become shared knowledge. Thus unsurprisingly, we are aware of newly-developed environmental management techniques are not shared in order to preserve a commercial advantage for the originator.
- 3) **Research that is undertaken is usually site-specific, project-specific and short term, and rarely strategic or long-term.** Hence there is usually insufficient background evidence to allow the results to be transferred to other sites. In addition, long-term changes in response to changing land use, for example vegetation community composition change or hydrological regime change, remain undocumented.

It may therefore be suggested that those who are responsible for the development of peatlands should also be responsible for the provision of better understanding of the impacts of such development. Research output may work in two ways, in some cases revealing impacts that were not previously known and in other cases confirming the absence of significant impacts in areas which have been used by opponents to developments on peatlands, potentially a net advantage to the developer. One possible model that accommodates the need for strategic applied research would be the implementation of a levy on commercial developments on peatlands, with the funds generated used to commission research that informs management decisions pertinent to the types of development upon which the levy is made.

⁷ Lindsay R (2010) Peatbogs and Carbon. A Critical Synthesis.
http://www.rspb.org.uk/Images/Peatbogs_and_carbon_tcm9-255200.pdf.

In Scotland, the suggestion of a levy builds on the recently published 'Windfarms and Peatlands Good Practice Principles' agreed between a number of conservation groups and the Scottish Renewables Forum⁸. The two principles most closely aligned to a levy, in order of relevance are:

- i) **Principle 4:** The renewables industry will engage with stakeholders to provide support for applied research into key areas of peatland science relevant to understanding the impacts of development on the various peatland qualities including biodiversity, carbon and hydrology.
- ii) **Principle 3:** The renewables industry will assist in improving the knowledge base on the impacts of development on peatland and the effectiveness of peatland rehabilitation through putting in place scientific monitoring and sharing of data with other stakeholders, where appropriate.

These principles are relevant to any industry wishing to site developments on peatlands. The levy mechanism explored here will ensure a fair, funded, participatory process in which such development can occur without over-burdening the UK peatland resource.

Proposed levy functioning

To gain acceptance among stakeholders, such a levy has to be designed to provide maximum return from the acquired resource. We suggest several principles important for the effective functioning of such a levy.

- i) **The levy is made per unit volume of peatland translocated** (whether on-site or off-site) and this is quantified from the analysis undertaken for the EIA and supplementary information that informs planning approval.
- ii) **The levy is held and administered by an impartial regulatory organisation** such as the environment agencies (EA, SEPA) or government (UK or devolved) environment department, in consultation with a steering group with representation from stakeholder organisations.
- iii) **The levy is collected to fund applied research concerning the management of peatlands** which will be used to support management decisions pertinent to the types of development activities upon which the levy is made.
- iv) **Research will be prioritised:** projects that are most likely to provide maximum knowledge gain and benefit the maximum number of contributing stakeholders should be the most likely to be funded.
- v) **All research funded by the levy is scientifically robust** and the results are peer-reviewed. The expectation is that findings from the research will be published in scientific journals with an international readership. This research will also be publicised within the stakeholder community by relevant organisations and also disseminated through articles in professional magazines and journals.

⁸ <http://www.scottishrenewables.com/MultimediaGallery/00ed11c0-3253-4ffc-b9f8-02aa9f96aec8.pdf> (accessed Jan 2011)

Workshop discussion

The dialogue above was presented to stakeholders including representatives from the developers, regulatory bodies, consultancies and research bodies at a NERC CLAD (Carbon Landscapes and Drainage, www.clad.ac.uk) Knowledge Exchange Network workshop on 13th February 2011. Film footage and transcripts of the discussion at this CLAD meeting can be found on the CLAD website⁹, and CLAD TV¹⁰.

The main points to emerge from the discussion were as follows

- i) No individual or groups expressed outright opposition to the idea of a levy in principle, although there was some uncertainty as to how well receive such a suggestion might be received by developers when they were asked to contribute.
- ii) The implementation of a levy would have to be carefully managed as taxation powers are not devolved from the UK government in Westminster.
- iii) The renewables industry should not be specifically targeted. There are number of development activities which have impacts and all should be treated equally with respect to the imposition of a levy.
- iv) There is a clear need to address important questions systematically regarding the environmental impacts of developments on peatlands through high quality applied research.
- v) The levy might well be a fair and equitable way of distributing risks and rewards throughout the developer community.
- vi) The aims of the suggested levy might also be achieved through the current system of community benefits funded by developers. This would mean a widening of the definition of community benefits to include improvements to the environment and ecosystem services.
- vii) A levy specific to developments on Scottish peat might act as a disincentive to develop infrastructure in Scotland.

Stakeholder comments:

Subsequent to the workshop all participants were invited to submit their thoughts on a preliminary draft of this manuscript, and these were catalogued under the following five sectors: Developers, Regulators, The Research Community, Environmental Consultants and Conservationists.

Developers:

Developers are concerned about the costs that such a levy would add to development project budgets. Any such levy should not exclusively target the renewables wind industry but all development activities affecting peatlands. It was also suggested that, were a levy to be imposed, it should not just be used to answer questions pertaining to carbon management specifically but also wider environmental questions (e.g. biodiversity, bird management, etc.). However, there was support for the attempt to devise a mechanism which would generate research findings which are distributed equally among user groups. Many user groups can't devote sufficient resources to research and a levy would be a better organising mechanism for such work than currently exists. A levy would overcome the problem of a piecemeal approach to research which does not result in a systematic overview of and solution to environmental questions.

⁹ www.clad.ac.uk

¹⁰ <http://www.youtube.com/user/n2242880?feature=mhum#p/u/2/hX2qNjOuU5k>

Developers also raised the problem of 'in-house' environmental research programmes which do not disseminate results to maintain competitive advantage. Some current 'in-house' developers supported the levy idea citing the example of bird studies undertaken for windfarms) which are thought to be poor value for money. Better designed experimental studies could be applied more strategically.

Developers also suggest that the aims of the suggested levy might be better met by appropriate changes to the current community benefit system rather than the imposition of a new levy.

Regulators:

Peatlands are a resource which are not otherwise charged for. Preliminary presentations of the principles of the levy indicate it is fair. There are a number of questions about the constitutional arrangements of a levy which would require answering. For example, a UK wide tax would obviously require UK government agreement. Attempts to arrange a levy on a devolved basis, for example only in Scotland, would be complicated by questions regarding whether such a levy would be considered to be a tax, as raising additional tax is not currently a devolved power.

The research community:

The community recognises that the research community can, and does, work on the research questions relevant to developments on peatlands without the need for a levy. However, a levy might provide additional opportunities to undertake science of some importance and answer the more applied questions raised by peatland development. It would be important for a commonly funded research programme to make data available on shorter timeframes than those dictated by publishing schedules.

Consultants:

Consultants have supported the views of developers that a peatland development levy should not be specific to the development of renewables. Concerns were also raised that if a levy were raised on a regionally devolved basis rather than uniformly across the union then development might be discouraged within those areas where it was imposed.

Conservationists:

This group has concerns that the implementation of a levy might supplant current environmental obligations rather than be additional to some current requirements. Conservation groups support the idea that data generated via any levy mechanism should be open access and made available in a timely manner. Conservationists have also supported to assertion by the developers that it might be more effective to develop the concept of payment for applied research programmes within the current system of community benefits rather than via a levy.

Conclusion *(to be completed upon submission of further stakeholder comments)*

Throughout all the discussions and consultations that CLAD has undertaken on the viability and acceptability of a levy no stakeholder group has provided a forceful rejection of the idea. We strongly believe that such a mechanism would be of significant benefit to those proposing developments on peatlands by making the decision making process more efficient and better informed. It will also ensure that better quality and more relevant research evidence is generated to inform management decisions and consequently contributes to better management of peatlands themselves. The points outlined in this paper encompass the work of several peatland stakeholder groups including developers, regulators, academics, conservation groups and consultants. We are aware that the consultation process has not been exhaustive and will welcome further responses, comments and discussion regarding proposals for a levy on development of peatland in the UK to support generic research into development impacts.