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**The requirement for improving greenhouse gases flux estimates for peatlands
in the UK**

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1 Introduction

Under new climate change legislations (Climate Change Act, 2008), action to reduce greenhouse gas (GHG) emissions will be required from all sectors of UK society. The recognition that most of UK soil carbon is held below our feet in carbon-rich soils has led to a need for better quantification of the role of different management practices in UK peatlands on reducing GHG emissions.

Peatland ecosystems are unique, specialist habitats recognised under international and national legislation, acting as key stores of terrestrial carbon. Peatlands contain over half the estimated 10 billion tonnes of carbon stored in UK soil, and a loss of only 5% of UK peatland carbon would equate to the total annual UK anthropogenic GHG (IUCN peatland inquiry, in press). Damaged peatlands can be restored to reduce these emissions, but there is a need for better empirical emissions data to improve understanding and appropriate use of such management practices.

To improve available understanding of the role played by peatland in UK GHG emissions, a consortium of governments and agencies¹ commissioned a review published by JNCC to establish the emission factors which could be derived from research so far, the level of completeness and uncertainty, and the degree to which currently deployed research effort will address the key deficiencies (Worral *et al*, 2011). A second report (Evans *et al*, 2011) presents the research needs required to improve quantification of the C / GHG fluxes to and from UK peatlands.

This paper provides an overview of that review, targeted to specific UK policy needs and compiled by the project steering group and JNCC. It is aimed at UK policy makers and research providers, and outlines a framework for prioritisation of research needs.

¹ Countryside Council for Wales, Defra, DECC, Forestry Commission, Joint Nature Conservation Committee, Natural England and Scottish Natural Heritage; with additional input contributed by Scottish Government, Scottish Environment Protection Agency, and Welsh Government.

