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Key challenges in implementing the System of Environmental-Economic Accounting**Natural capital and ecosystem accounting in the United Kingdom****Note by the Office for National Statistics and the Department of Environment, Food and Rural Affairs, United Kingdom***Summary*

The paper discusses the importance of measuring and monitoring the use and value of natural assets in order to manage them better. As natural assets and the services they provide are part of national wealth, the Government of the United Kingdom committed to taking action to capture these values in the nation's balance sheet. The paper introduces the road map, published by the Office for National Statistics in December 2012 that sets out the timetable for the development of ecosystems accounts.

The paper highlights the key challenges in implementing natural capital accounting and the development of ecosystems accounts. These include ensuring sufficient financial support, identifying priorities for the development work, managing stakeholder expectations, designing a coherent framework and solving data and validation issues.

I. Measuring what matters

1. The United Kingdom (UK) Government's White Paper on the Natural Environment, *The Natural Choice*, committed to growing a green economy in which the benefits of nature would be recognised and valued. Natural assets and the services they provide are part of our nation's wealth, and therefore the White Paper commits the UK Government to taking action to capture these values in the nation's balance sheet. A number of international developments, such as the United Nations led study "*The Economics of Ecosystems and Biodiversity*", the "Stiglitz" report on *Measuring Economic Performance and Social Progress*, the Convention on Biodiversity (CBD) agreement to incorporate the values of biodiversity into national accounting systems by 2020, the World Bank Wealth Accounting and the Valuation of Ecosystem Services (WAVES) programme and the Rio+20 United Nations Conference on Sustainable Development, point in the same direction.

II. Background to the interest in ecosystem accounting

2. The importance of measuring and monitoring the use and value of natural assets in order to manage them better was firmly established on the UK agenda through the completion of the UK National Ecosystem Assessment (UK NEA), which was an unprecedented national level ecosystem assessment in terms of scale and depth. The UK NEA is a key source of information about the current state of the UK ecosystems and the ways in which they provide services. The report was supported by an economic analysis which emphasised the broader value of nature as opposed to the direct market benefits or provisioning services and demonstrated how meaningful valuations of these other services at the national scale could be obtained.

III. System of Environmental-Economic Accounting

3. Over the last few years, the international community has made progress in a number of areas of Environmental Accounts. Of particular note is the development of a United Nations framework for environmental-economic accounting under the aegis of the United Nations Statistical Division. Volume II on the United Nations System of Environmental-Economic Accounting (SEEA) deals with the development of ecosystems accounts. It was presented to the United Nations Statistical Commission (UNSC) in February 2013 and was endorsed as a state of the art research document. Volume I containing the central framework of environmental-economic accounting was approved as an initial version of an international standard by the UNSC in February 2012.

4. The UK is committed to supporting this process, by contributing to the development of the SEEA and by supporting the World Bank's WAVES programme.

IV. Development work within the United Kingdom

5. Following on from the White Paper Commitment, the Office for National Statistics (ONS) published a roadmap in December 2012 setting out the timetable for the development of ecosystems accounts in the UK and the process for managing the programme of work. This addition to the maintenance and further development of the existing environmental accounts has been published annually by ONS for over 13 years.

The ONS and the UK Ministry of Environment (Defra), together with a wide range of other organisations, are now working on the following priorities, as set out in the roadmap:

(a) A pilot account for **woodlands**, to be completed in 2013. This will enable the conceptual framework to be tested, and will meet policy priorities following recent concerns about the impact of tree diseases and the UK Government's commitment to include the value of ecosystems services within the annual reports of the Public Forest Estate;

(b) Initial work on accounts for **wetlands** and **enclosed farmland**, selected because of policy priorities and the availability of relevant data; it is also intended to commence in 2013 on the development of accounts for the **marine environment**, which will raise new conceptual and data challenges;

(c) We are also committed to developing **cross-cutting accounts for carbon**, water and soils, with carbon accounts being identified as an early priority;

(d) Work will also begin in 2013 in developing wider natural capital estimates within the framework of **comprehensive wealth accounts**, in order to provide an immediate overview of the value of natural capital within the UK.

V. Key challenges

6. The implementation of natural capital accounting and the development of ecosystems accounts in the UK raises a number of challenges:

(a) The need to ensure the engagement and support of the Finance and Environment Ministries: Within the UK this will at least partly be achieved through the aegis of the Natural Capital Committee (NCC), which was established in 2012 as an independent expert body advising the Economic Affairs Committee (chaired by the Chancellor of the Exchequer) on the sustainable use and efficient management on natural capital. The NCC and the Ministry of Environment are both closely involved at a senior level in the development of ecosystems accounts within the UK;

(b) The identification of priorities for the development of the accounts: This is made easier in the UK because of the availability of the National Ecosystem Assessment. Nevertheless the roadmap was only agreed after extensive consultation and a formal review of progress in two years' time will be needed in order to ensure that the correct priorities have been identified;

(c) The need to manage stakeholder expectations: In the UK we have tried to balance the demand for quick wins (through the development of pilot woodlands accounts and immediate improvements to the overarching estimates of natural capital) with a longer term research agenda (for example on marine ecosystem accounts). Regular stakeholder engagement is seen as a key component of the work plan. It should also be recognised that ecosystem accounts do not address all sustainability issues: whilst trade-offs can be analysed within the accounting framework, they will need to be extended in order to assess irreversible depletion or damage in relation to environmental limits/thresholds;

(d) The need for a coherent conceptual framework: Ecosystems accounting is a relatively unexplored area and further conceptual work will be required before the accounts can prove their value. There are few established practitioners in this area and with the different professions involved (statisticians, economists, scientists) there is also a need to ensure that stakeholders have the same understanding of terms and concepts. We are addressing this need through the publication of discussion papers which will set out the framework we are working to and some of the issues we are trying to resolve;

(e) Data and valuation issues: These relate particularly to the need for spatially detailed data and to the challenges of valuing services which have no market price. Clearly data providers need to be involved at an early stage. The suitability and reliability of various valuation techniques is a potentially contentious issue and one which we intend to manage by close collaboration with both UK and international experts in this area. It will clearly be important to be as open and transparent as possible about the accuracy and compatibility of valuations derived using different approaches.

VI. Concluding remarks

7. This will be a long journey: statistics are often most valuable only once a time series has been established, and it will be several years before regular and robust accounts are established. We recognise that the roadmap established in the UK, and the initial work on specific accounts, are just the first but essential steps in this journey.

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