# Resource requirements for Aichi Targets 2-4 – the "Macro-economics" cluster

## Progress report for High Level Panel Meeting

**27 July 2012**

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# Resource requirements for Aichi Targets 2-4 – the “Macro-economics” cluster

First draft report for High Level Panel Meeting

A report submitted by ICF GHK

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# Contents

# 1 Introduction

This report presents a first draft assessment of the resources required to meet the “Macro-economics” cluster of Aichi Biodiversity Targets, comprising:

- **Target 2** relating to biodiversity values and their integration into plans, strategies and accounting systems;
- **Target 3** relating to negative and positive incentives;
- **Target 4** relating to sustainable production and consumption.

The report has been prepared by GHK Consulting Ltd in accordance with terms of reference set by Defra, for discussion at the High Level Panel meeting in Cambridge on 2-3 August 2012.

The report outlines the methods applied and presents an initial draft assessment of resource needs. The research has yet to be fully completed and the assessment will be refined in order to prepare a final report by 15 August 2012.

The following three sections present assessments of the resources required to meet each of the three Targets.

# 2 Aichi Target 2

**By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.**

## 2.1 Introduction

Target 2 calls for the integration of biodiversity values into a wide range of national and local policies, strategies and processes, including planning, development and poverty reduction strategies and processes and national accounting and reporting systems.

The Target recognises that the values of biodiversity are not at present widely reflected in decision-making, and the failure to take account of them in other policies, plans and processes, including development and poverty reduction strategies, can contribute to biodiversity loss. Most national accounting and reporting systems also fail to recognise the value of biodiversity and ecosystems, so that they are paid too little attention in the formulation and monitoring of national policy. Taking account of the values of biodiversity in relevant decision-making processes and national accounting systems should contribute to better outcomes for biodiversity, and facilitate the delivery of the other Aichi Targets.

A key issue in interpreting the Target relates to the definition of "biodiversity values". While the term, and the reference to national accounting systems, may imply the use of monetary estimates of the value of biodiversity where they are available, we suggest that it should also include broader qualitative and quantitative assessments of biodiversity and its contribution to ecosystem services and to development and livelihoods. A broader interpretation of "biodiversity values", such as that adopted in TEEB, will facilitate integration into the range of different processes and strategies covered by the Target.

As biodiversity values are not fully understood and documented in many countries, we interpret the Target as requiring efforts to assess these values in order to promote their integration into policies, strategies, processes and accounting systems.

The following milestones were suggested for the Target:

- By 2012, work on biophysical inventories of biodiversity and associated ecosystem services is initiated and, by 2014, a work programme for reflecting biodiversity and ecosystem values in national accounts is developed;
- By 2014, the opportunities derived from the conservation and sustainable use of biodiversity, and the fair and equitable sharing of benefits arising from the use of genetic resources, are integrated into Poverty Reduction Strategy Papers (PRSPs) and other national development plans, and are routinely included in environmental impact assessment, strategic environmental assessment and spatial planning;
- By 2018, the most important aspects of biodiversity and ecosystem services are reflected in national statistics.

Target 2 links with most of the other Aichi Targets by helping to establish a favourable policy environment and institutional arrangements to allow change in other policy areas. It links closely with Target 1 – which seeks to raise awareness of biodiversity and its value – focusing particularly on raising awareness among policy-makers rather than other stakeholders and the wider public.

## 2.2 Actions

Meeting Target 2 is likely to involve the following actions, largely undertaken at national and sub-national level:

1. National assessments of biodiversity values. Such assessments will help to document and highlight the values associated with biodiversity in each country, and provide an evidence base for efforts to integrate these values into policies, planning processes,

development and poverty alleviation strategies and plans, and national accounting systems.

2. Actions to raise awareness of the values of biodiversity among policy makers, and to integrate them into a range of relevant policies, strategies and processes. This is likely to require a programme of advocacy and series of meetings and events to raise awareness among policy makers, planners and stakeholders, and to promote the integration of biodiversity into relevant plans and processes.

**3.** Specific initiatives to integrate biodiversity into national accounting and reporting systems. This will require capacity building measures and the development of methodologies for data gathering and analysis.

## 2.3 Method of assessment

Based on consultations with international experts and stakeholders, and a review of relevant documentation, the following approach has been used to assess the resources required to deliver each of the three identified actions required to meet this Target.

### 1. National Assessments of Biodiversity Values

National assessments of biodiversity and ecosystem services and their value could be addressed through a national TEEB study in each country, which would collate and document evidence of the value of biodiversity and ecosystems nationally, as well as the importance of integrating these values into policies, plans and strategies.

Efforts are underway to establish national TEEB studies in a number of countries. Information provided by the TEEB Secretariat identifies 33 current TEEB inspired studies at the national and regional level. These vary in their scale and state of development – they include a range of local, national and regional studies, some focusing on particular ecosystems, and a mixture of scoping studies and full assessments.

The scope of national TEEB studies varies widely, which results in wide variations in the resources required. National studies range from reviews of existing literature on the value of biodiversity and ecosystem services to more detailed assessments involving consultations with multiple stakeholders and compiling and combining biophysical and economic data and models. Some studies have attempted comprehensive assessments at the national level, while others have focused on particular ecosystems, areas or conservation issues.

For the purpose of meeting Target 2, there is a requirement for overall studies at the national level that examine the values and benefits of biodiversity and ecosystems in each country and identify the key priorities for integrating these values into national policies, plans and strategies. This will not necessarily require comprehensive or fully monetised value assessments, but requires structured assessments that address the range of benefits that biodiversity provides to different groups and sectors across the country as a whole, and its linkages with a range of different policies.

The resources required to deliver national TEEB-like studies have been reviewed through consultations with the TEEB Secretariat and with reference to relevant literature, including the GEF-6 needs assessment.

### 2. Integration of Biodiversity Values into Policies, Strategies and Plans

Once evidence has been compiled on biodiversity values in each country, efforts will then be needed to integrate these values into relevant policies, plans and strategies. The priorities for this will vary by country – for example in some countries integrating biodiversity values into development and poverty reduction strategies will be a priority, while in others there will be a greater focus on spatial planning or sectoral development strategies. These priorities will determine the target audiences, which might include development agencies, local or regional planning authorities, economic development interests, business groups, the farming and forestry sectors and others.

The work is likely to involve communications, meetings and workshops designed to raise awareness of biodiversity values among target audiences and to identify and take forward priorities for integration.

It is anticipated that the main resources required to achieve this will be:

- Staff time – employing one or more advocates to raise awareness of biodiversity among policy makers and to advocate integration of biodiversity values into relevant plans and strategies;
- Expenses – to cover costs of publications and organisation of workshops;
- Consultancy – specific studies on options for integration into particular policy areas.

An average resource requirement per country has been estimated based on a review of international staff costs for policy advisers, and appropriate budgets for other expenses, and this has been scaled up to assess likely resource needs at the global level.

### 3. Developing National Accounting and Reporting Systems

The target calls for action to integrate the value of biodiversity into national accounting and reporting systems. This requires working with central banks and ministries of finance in different countries to include measures of natural capital and ecosystem services in national accounts, and building the institutional structures and methods of data collection and analysis to achieve this.

Accounting methodologies are being developed internationally. The System for Environmental-Economic Accounts (SEEA) is an internationally agreed method for accounting for material natural resources such as minerals, timber and fisheries, and was recently adopted by the UN Statistical Commission.

Wealth Accounting and the Valuation of Ecosystem Services (WAVES) is a global partnership that aims to promote sustainable development by ensuring that the national accounts used to measure and plan for economic growth include the value of natural resources. The objectives of WAVES are to establish environmental accounts in six to ten countries and incorporate these into national policy analysis and development planning, to develop internationally-agreed guidelines for ecosystem accounting, and to spread environmental accounting through a global partnership. WAVES was launched in 2010 and is developing methodologies for ecosystem accounting, as well as working with five developing countries (Botswana, Colombia, Costa Rica, Madagascar and Philippines) to develop and implement national accounting systems. The first priority of WAVES is to implement the SEEA and use the methods that are internationally recognized. The second is to help develop an agreed methodology for measuring ecosystem services[1]. A Multi-Donor Trust Fund has been established and fundraising for implementation phase (2012 through 2015) is ongoing with a proposed budget of $15 million.

At the RIO+20 summit in June 2012, fifty-seven countries, the European Commission and a number of businesses[2] supported a communiqué that calls on governments, the UN system, international financial institutions and other international organisations to strengthen the implementation of natural capital accounting around the world, building on the work of the WAVES programme[3].

The WAVES programme therefore represents the agreed model for developing national accounting systems across the world. An analysis of the resources used by national WAVES partners can therefore be used as the basis for a global assessment.

We are in contact with the WAVES programme with a view to obtaining further data on which to base the assessment. At this stage only a preliminary analysis can be attempted.

[1] WAVES Partnership (2012) Moving beyond GDP - How to factor natural capital into economic decision making. http://www.wavespartnership.org/waves/sites/waves/files/images/Moving_Beyond_GDP.pdf

[2] http://www.wavespartnership.org/waves/sites/waves/files/images/NCA_List_of_Supporters.pdf

[3] http://www.worldbank.org/en/news/2012/06/20/massive-show-support-action-natural-capital-accounting-rio-summit

## 2.4 Assessment of resource needs

### 1. National Assessments of Biodiversity Values

Discussions with the TEEB Secretariat indicate that the costs of national TEEB studies range from less than $30,000 for a literature review in Georgia to up to $1.25 million for the most detailed studies. The combined cost of 5 in-depth developing country studies currently being supported through the TEEB process is $5 million, an average of $1 million per study. These costs also vary according to the size of the country and the scale and range of different services and values being assessed.

The GEF 6 needs assessment recognises the range of resource requirements for different studies and suggests an average requirement of $500,000 per study as a one-off investment. It proposed that studies should be prioritised in regions with high biodiversity and ecosystem service values; the investments required to support studies in 10-50 countries were estimated at between $5.0 and $25.0 million.

The average investment estimated by the GEF 6 needs assessment seems reasonable given that the resources required for individual country studies are likely to range from less than $100,000 for very small countries to more than $1 million for larger countries with more complex and valuable ecosystems.

However, it would also be possible to envisage different scenarios which involved more or less detailed assessments. For example, a lower cost option focusing largely on existing evidence and aiming to provide an accessible and policy focused report at national level as a basis for awareness raising, advocacy and policy development work might involve an average investment of $250,000 per study, while a more detailed analysis, including collation and analysis of more detailed biophysical as well as economic and social data might involve a higher level of investment averaging $750,000 per study.

To undertake these assessments in all countries of the world would require approximately 195 studies (including those in which studies are already underway)[4]. The cost of achieving this would therefore be $97.5 million (mid-point estimate), or between $49 million and $146 million for the low investment and high investment scenarios. These investments would be largely made over the years 2013 to 2015 inclusive. These are estimates of total resource needs and include current expenditures.

As our knowledge of the value of biodiversity and ecosystems improves over time, and since the process of integrating these values into decision making will be an on-going process, there is a strong case to undertake further update studies in the future. Annual expenditures averaging $100,000 per country (mid-point scenario) - or $50,000 - $150,000 per country for the low investment or high investment scenarios respectively - would fund follow up studies over time. Total global resource needs for these ongoing expenditures would therefore be $19.5 million per annum (range $9.8 million – $28.3 million per annum) from 2016 onwards.

### 2. Integration of Biodiversity Values into Policies, Strategies and Plans

The resources required to deliver this action have been estimated as follows:

- **Employment of policy advisors** – 1-3 policy officers could be employed in each country to raise awareness of the value of biodiversity among policy-makers and to further the integration of these values into key plans and strategies. Priorities would be determined on a national basis and according to the findings of the national TEEB studies. International data on wage rates for central government policy advisors suggests an average cost of $45,000 per employee per annum, including overheads and support costs[5]. The resources required are therefore estimated to average $45,000 to

[4] There are approximately 195 countries in the world. 193 nations are members of the UN and there are 193 parties to the CBD (including the EU). TEEB like studies will be needed in all of these countries.

[5] Data on wage rates for central government policy advisors are available on the website www.wageindicator.org. These indicate that monthly wage rates vary widely between countries from less than $100 to more than $4,000. Grouping countries in quartiles according to GDP per capita suggests a mean average salary of $22,500 per

$135,000 per country per annum, which would amount to an investment of $26 to $77 million for 195 countries over a 3 year period;

- **Events, publications and consultancy** – additional resources will be required to cover the costs of workshops and events, publications, and further research and consultancy on specific policy issues, as required. Adding an additional budget for these items of $50,000 per policy officer would require an additional budget of $28.5 to $85.5 million over three years.

These figures give an overall estimate of investment needs of $54 million (low), $108 million (medium) or $162 million (high) over a three year period 2013-2015.[6]

As raising awareness of biodiversity values and integration into plans and processes is a long term process, there would be a requirement for ongoing expenditures, which might involve an annual budget averaging $60,000 per country (to cover the costs of employing one policy advisor with additional expenses for workshops and publications).

#### 3. Developing National Accounting and Reporting Systems

Further details are being sought from the WAVES programme about the resources required to develop national accounting systems in different countries. Only a preliminary outline assessment is possible at this stage. However, it is known that the WAVES programme has an overall proposed budget of $15 million over the 2012 to 2015 period and is working to develop methodologies to account for natural capital and ecosystem services, as well as to develop national accounting systems in five countries. If it is assumed that 50% of this budget is devoted to the country level work, this would imply an average budget of $1.5 million per country to develop the required national systems.

If similar levels of investment were required in all countries of the world, this would suggest an overall budget of $300 million would be required to develop national accounting systems globally (based on work in a further 190 countries in addition to the current WAVES budget). While at least 24 countries already have some form of natural capital accounts[7], some further development work would be required in most countries in accordance with developing international standards and methodologies.

There would also be a requirement for ongoing expenditures to collate and publish natural capital and ecosystem accounts annually. The required costs are difficult to estimate at this stage but can be expected to be less than the initial development costs, and could perhaps amount to around $200,000 per country per year.

Alternative "low cost" (investment of $1 million and annual running cost of $150,000 per country) and "high cost" (investment of $2 million and annual running cost of $300,000 per country) scenarios are suggested.

Further information and discussion with the WAVES programme will be used to further develop and refine these preliminary estimates.

## 2.5 Results

### 2.5.1 Estimate of Investment Needs and Ongoing Expenditures

Delivery of Aichi Target 2 is estimated to require a total investment of $505 million and on-going annual expenditures of $70 million (medium investment scenario, Table 2.2). Total resource needs for this scenario over the 2013-2020 period are estimated at $857 million,

annum for policy advisors. Doubling this figure to take account of additional employment costs and overheads gives an average cost of $45,000 per employee per annum.

[6] These estimates exceed those used in the GEF-6 needs assessment which put the estimated the cost of activity to "facilitate strategic programming to value biodiversity" at $200,000 US per country, as a one-off contribution to cover the costs of analysis, development of a work programme and capacity building measures. However, the GEF-6 needs assessment was based on a contribution rather than an overall cost assessment, and focused on developing countries only, where unit costs are lower.

[7] WAVES Programme (2012) *op. cit.*

requiring an average of $107 million per year to be allocated to relevant actions over this period. Alternative estimates of resource requirements under “low investment” and “high investment” scenarios are also given in Tables 2.1 and 2.3 respectively.

The largest expenditures are required for action 3 – development of national accounting systems – which accounts for nearly 60% of the estimated overall costs.

**Table 2.1 Target 2 - Estimated Investment Needs and Ongoing Expenditures – Low investment scenario ($m)**

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. National TEEB Studies | 48.8 | 9.8 | 97.5 | 12.2 |
| 2. Policy integration work | 54.2 | 11.7 | 112.7 | 14.1 |
| 3. National accounting initiatives | 205.0 | 29.3 | 351.3 | 43.9 |
| **Total** | **307.9** | **50.7** | **561.4** | **70.2** |

**Table 2.2 Target 2 - Estimated Investment Needs and Ongoing Expenditures – Medium investment scenario ($m)**

| Action | Investment needs (2013-2015) | Ongoing annual expenditures (2016-2020) | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. National TEEB Studies | 97.5 | 19.5 | 195.0 | 24.4 |
| 2. Policy integration work | 108.3 | 11.7 | 166.8 | 20.9 |
| 3. National accounting initiatives | 300.0 | 39.0 | 495.0 | 61.9 |
| **Total** | **505.8** | **70.2** | **856.8** | **107.1** |

**Table 2.3 Target 2 - Estimated Investment Needs and Ongoing Expenditures – High investment scenario ($m)**

| Action | Investment needs (2013-2015) | Ongoing annual expenditures (2016-2020) | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. National TEEB Studies | 146.3 | 29.3 | 292.5 | 36.6 |
| 2. Policy integration work | 162.5 | 11.7 | 221.0 | 27.6 |
| 3. National accounting initiatives | 395.0 | 58.5 | 687.5 | 85.9 |

### 2.5.2 Additional Resource Needs

#### 1. National Assessments of Biodiversity Values

The figures above present an overall estimate of the resources required to undertake national TEEB studies across the world. The budgets currently being allocated to national TEEB studies are not precisely known but can be expected to amount to approximately $10-$15 million over the next three years, suggesting an additional investment requirement of anything between $35 million (low investment scenario) and $135 million (high investment scenario), or between $70 million and $250 million in the 2013 to 2020 period as a whole.

#### 2. Integration of Biodiversity Values into Policies, Strategies and Plans

The resources required for this action are largely additional to current allocations.

#### 3. Developing National Accounting and Reporting Systems

The current WAVES budget is $15 million, while 24 countries currently have some form of natural capital accounts. Overall it is likely that current levels of investment in national accounting systems are likely to be around $10 million annually, suggesting additional investment requirements of $175 to $365 million over the 2013 to 2015 period.

As one eighth (24/195) of countries currently have some form on natural capital based accounts, current annual expenditures are likely to be around one eighth of their required levels, suggesting additional ongoing annual expenditures of $25 to $51 million will be needed.

## 2.6 Discussion

### 2.6.1 Discussion of estimates of resource needs

The above figures are somewhat speculative and should not be regarded as precise estimates of the resources required to deliver Target 2. There is some degree of flexibility in the scale of effort that could be devoted to the different activities identified, which could result in different cost estimates.

That said, the actions identified are based on current programmes of action being undertaken internationally, for which the ranges of costs are known, and the likely magnitude of investments and ongoing expenditures required is therefore unlikely to diverge substantially from that required. If anything, the estimates should be regarded as conservative given the scale of the challenge in assessing biodiversity values and particularly in integrating them into the different plans and processes.

### 2.6.2 Benefits of delivering the Target

Integration of biodiversity values into plans, strategies and accounting systems should help to ensure that the true value of biodiversity is reflected in decision making, which in turn should help to reduce the rate of loss of biodiversity and ecosystem services. This will deliver a wide range of benefits for people and the economy. By helping to maintain natural capital, it should contribute to sustainable livelihoods and promote the long term sustainability of economic development.

### Benefits of Natural Capital Accounting

Natural capital accounting can contribute to better decision making, providing countries with information to help them improve the management of ecosystems for the benefit of people and the economy as well as biodiversity. For example, it is helping to inform decision making about:

- Management of scarce water resources in Mexico and Australia;
- How to maximise the benefits of tourism to local economies in Zanzibar;
- The health and fisheries benefits of cleaning up Manila Bay in the Philippines;
- The management of natural resources in Andalucia, Spain; and
- Decoupling economic growth and energy consumption in Norway and the Netherlands.

It is hoped that the development of ecosystem accounting through the WAVES programme will help Botswana to diversify its economy through management of its ecosystems; Madagascar to finance more than 60,000 square kilometers of protected areas; and the Philippines to manage its marine fisheries.

*Source: WAVES Partnership (2012) – Moving Beyond GDP*

### 2.6.3 Funding opportunities

This Target aims to further the conservation of biodiversity by integrating biodiversity values into wider plans and processes – therefore much of the impetus is likely to come from the biodiversity conservation community and there will be a need for funding from core biodiversity budgets. However, since delivering the Target plays an essential role in achieving sustainable development globally, there will be a wide range of beneficiaries and there is scope to secure funding from a range of sources such as governments, businesses and international development agencies, building on the international partnerships that have already been established to finance both the TEEB and WAVES initiatives.

## 2.7 Next steps and timetable

This report will be revised to reflect the comments and inputs of members of the High Level Panel.

It is intended that a Final Report will be prepared by 15 August 2012

# 3 Aichi Target 3

**By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.**

## 3.1 Introduction

Target 3 calls for elimination or reform of incentives and subsidies harmful to biodiversity, and the development of positive incentives for the conservation and sustainable use of biodiversity.

Incentives harmful to biodiversity include government subsidies that encourage activities damaging to biodiversity, as well as other policies and practices that fail to take into account the value of natural resources or the existence of environmental externalities. It is therefore important to identify policies and practices that generate such perverse incentives and formulate plans to remove or reform them.

TEEB estimated that global subsidies total between $1 and $2 billion annually, with many of them harmful to the environment and biodiversity. These figures include estimated global subsidies for agriculture of $261 billion annually (2006-2008); energy $556bn (2008); fisheries $15-35bn (2008); transport at $238 -306 bn (of which environmentally harmful subsidies – EHS – are estimated at $173-233bn) and water $67bn (EHS - $50bn)[8].

The extent of other perverse incentives relating to a failure to price externalities or to properly value natural resources is more difficult to quantify. TEEB notes that subsidies (and other perverse incentives) come in many forms, and can include direct transfers of funds, potential direct transfers (to cover possible liabilities), income and price supports, tax credits/exemptions/rebates, low-interest loans and guarantees, preferential treatment and use of regulatory support mechanisms (e.g. demand quotas), as well as implicit income transfers when natural resources or services are not priced at full provisioning cost. Some subsidies are clearly visible in government budgets while others are not accounted for in national budgets.

Eliminating or reforming biodiversity harmful subsidies will have benefits in reducing pressures on biodiversity from economic activities, in freeing up budgetary resources that can potentially be used for beneficial activities, and in enhancing economic efficiency by correctly pricing goods and services.

Reform of incentives and subsidies harmful to biodiversity should therefore yield economic benefits over time and – where it involves on-budget subsidies – deliver savings in resource requirements. However, achieving this will require resources to be invested in activities to identify harmful incentives and to develop and implement strategies for reform.

Positive incentive measures encourage the achievement of biodiversity-friendly outcomes or support activities that promote the conservation and sustainable use of biodiversity. They can be further differentiated into direct and indirect approaches. Direct approaches typically provide monetary incentives which seek to emulate market prices — they generally involve paying relevant actors to achieve biodiversity-friendly outcomes. Examples include long-term retirement (or set aside) schemes; conservation leases, covenants or easements; tax incentives; and schemes providing payments for ecosystem services. Indirect approaches seek to support activities or projects that are not designed exclusively to conserve or promote the sustainable use of biodiversity, but have the effect of contributing to these objectives. Many of these incentives are non-monetary (or 'non-market') in nature (although

[8] TEEB – The Economics of Ecosystems and Biodiversity for National and International Policy Makers (2009).Chapter 6 – Reforming subsidies

they may have financial implications for the provider); for instance, the official recognition of the role of local communities in the context of community-based natural resource management programmes.

The development of positive incentives may be funded to some extent through resources currently spent on harmful subsidies (e.g. through reform and redirection of agricultural subsidies in OECD countries), but will also require investments to identify priorities, design incentive schemes, develop capacity and implement pilot projects.

Possible milestones for this Target were specified as follows:

- By 2012, transparent and comprehensive subsidy inventories and inventories of possible positive incentive measures are established by all OECD countries, and an assessment of their effectiveness against stated objectives, of their cost-efficiency, and of their impacts on biodiversity, is being initiated;
- By 2014, prioritized plans of action for the removal or reform of subsidies that are harmful to biodiversity and for the development and application of positive incentives, are prepared and adopted;
- By 2020, subsidy programmes identified in the plans of action are being effectively reformed or phased out, and positive incentive measures identified in the plans of action are being effectively phased in.

Target 3 links with most of the other Aichi Targets, especially those which deal with sectors or ecosystems affected by harmful incentives (e.g. agriculture and fisheries subsidies) or involve actions that would benefit from the introduction of positive incentives for biodiversity. Incentive reform can be considered an essential enabling activity that should contribute to meeting these other Targets.

A key question relating to the scope of actions costed under this Target is the extent to which the assessment considers the costs of scaling up positive incentives for biodiversity at global level. Positive incentives will play an important role in the delivery of many of the Aichi Targets. For example:

- Incentive measures will play an important role in the delivery of sustainable agriculture (Target 7) – for example through the role of agri-environmental payments in market creation and through premiums for organic food;
- Payments for Ecosystem Services (PES) have an important potential role to play in the protection, maintenance and enhancement of a variety of ecosystems such as wetlands and forests (Targets 5, 7, 14, 15);
- Global incentive mechanisms such as REDD+ and carbon markets will be important in protecting forests and other habitats (Targets 5, 7, 14, 15);
- Incentive measures will also help to deliver required management actions in protected areas (Target 11).

The resources required for these types of incentive measures are being examined in relation to the assessments being undertaken for each of these other Targets, and are therefore not addressed here, in order to avoid double counting.

The assessment of resources required for Target 3 therefore focuses on the evidence and enabling activities required to provide the appropriate framework and incentive structures required to deliver the Aichi Targets as a whole. This will include studies, policy development, capacity building measures and the development of pilot programmes, while the costs of global up-scaling of positive incentives are addressed separately in relation to the other Targets.

## 3.2 Actions

Meeting Target 3 is likely to involve the following types of action, largely undertaken at national and sub-national level:

1. National studies to develop inventories of biodiversity harmful incentives, set out the case for reform, identify and appraise reform options, and establish action plans for the removal or reform of these incentives.

2. Policy actions to advocate reform proposals within governments, undertake legal analyses and impact assessments, develop and implement reform packages, and engage with affected stakeholders.
3. Studies to identify and appraise options for positive incentives for biodiversity, and to develop action plans for their introduction.
4. Capacity building measures and pilot projects to develop and test positive incentive measures.

## 3.3 Method of assessment

Based on consultations with international experts and stakeholders, and a review of relevant documentation, we propose the following approach to assessing the resources required to meet this Target.

### 1. National Studies of Biodiversity Harmful Incentives

National studies will provide a foundation for incentive reform by identifying harmful incentives, gathering evidence of their environmental, social and economic impacts, identifying barriers to reform and enabling actions that will facilitate reform, specifying and approving reform options, and setting out action plans for the elimination and reform of these incentives.

These studies can apply checklists and toolkits that have been developed internationally. For example, the OECD has developed and applied a checklist approach to identify and analyse environmentally harmful subsidies, the EU has developed a guidance tool for reform of environmentally harmful subsidies and the UK has adapted this to the reform of biodiversity harmful incentives. These tools define "subsidies" broadly to include the under-pricing of natural resources. Applying these toolkits in a structured way across all economic sectors and ecosystems should provide a firm evidence base with which to tackle biodiversity harmful incentives.

Studies will be required in all countries with potentially biodiversity harmful incentives. The cost of these studies will vary according to the scale and variety of subsidy and incentive schemes. An assessment of the resources required can be made by estimating the ranges of costs for studies of different sizes and multiplying these by the numbers of countries in which studies are needed. Evidence of the costs of work undertaken in different countries will be supplemented by estimates made by assessing time requirements and costing these at appropriate daily rates.

### 2. Policy Actions to Implement Reform Proposals

Once action plans for elimination and reform of biodiversity harmful incentives have been developed, there will be a need for further policy development work. This will require advocacy of reform within governments, development of detailed reform proposals, undertaking legal analyses and impact assessments, developing and implementing reform packages, and engaging with affected stakeholders.

The resources required for these activities will include:

- Staff time – including in engagement with government colleagues, policy development, impact assessment and engagement with affected stakeholders;
- Legal and consultancy studies regarding specific aspects of reform;
- Publications, communications and events.

The resources required have been estimated using appropriate estimates of unit costs, in order to assess the costs of these actions on a national basis.

### 3. Studies on Positive Incentives

In countries where positive incentives are lacking or undeveloped, studies will help to inform priorities and options for the development of such incentives, identify barriers and enabling factors, assess key design issues, and develop recommendations for the development of

new incentive measures. As well as identifying opportunities for new incentives at the national level, studies will also help to examine the potential of international schemes (such as REDD+ and carbon markets) in providing positive incentives for biodiversity.

The cost of these studies will vary according to the scale and complexity of the needs to be addressed and the potential incentive schemes to address them. An assessment of the resources required can be made by estimating the ranges of costs for studies of different sizes and multiplying these by the numbers of countries in which studies are needed. Evidence of the costs of work undertaken in different countries will be supplemented by estimates made by assessing time requirements and costing these at appropriate daily rates.

#### 4. Capacity Building Measures and Pilot Projects for Positive Incentives

In countries which currently lack positive incentive schemes for biodiversity, implementation of such schemes will depend on development of appropriate institutional structures, delivery capacity and administrative arrangements, and on tackling challenges related to land tenure and other potential barriers. Pilot projects will help to develop and test the required structures and delivery arrangements.

These needs can be addressed through projects to develop and trial incentive schemes in different countries. The costs can be assessed with reference to similar schemes which have been introduced in different countries. For example, by 2010 the GEF had funded 42 projects involving Payments for Ecosystem Services schemes, including 14 in which PES was the central element. These 14 schemes involved GEF funding of $70 million and co-financing of $395 million, and included high profile national PES schemes in Costa Rica, Mexico and other countries. These have included projects to build the human and institutional capacity required by stakeholders to develop and implement PES schemes (at global, national and local scales), to value ecosystem services, and/or to develop and implement pilot PES schemes financed either by governments or by arrangements between buyers and sellers.[9]

The GEF 6 needs assessment includes costings for a similar action, and, as the GEF will be a major funding source for this activity, it is important that the two assessments are aligned.

## 3.4 Assessment of resource needs

#### 1. National Studies of Biodiversity Harmful Incentives

The costs of national studies to identify biodiversity harmful incentives, identify and prioritise options for reform and develop action plans to implement these priorities will vary between countries according to the size of their economies, the complexity of their policy frameworks, and the salaries and fees of researchers.

The overall average cost of a national study might be in the region of $100,000. [10]

Studies should be prioritised in those countries with larger and more complex economies where biodiversity harmful incentives are likely to be of significant concern. Undertaking work in 50, 100 or 150 countries would require a one off investment of $5 million, $10 million or $15 million respectively.

#### 2. Policy Actions to Implement Reform Proposals

The resources required to deliver this action have been estimated as follows:

- **Employment of policy advisors** – 1-2 policy advisors could be employed in each country charged with taking forward specific proposals for incentives reform, engaging with relevant government departments and stakeholder groups. This activity would tend to focus on high and middle income economies, as well as some of the larger developing

[9] Global Environment Facility (2010) Payment for Ecosystem Services. www.theGEF.org

[10] Based on between 100 and 200 days' work at an average global rate of $500-1000 per day, which will vary between countries.

economies. The average cost is estimated at $60,000 per employee per annum, including overheads and support costs[11]. The resources required are therefore estimated to average $60,000 to $120,000 per country per annum, which would amount to an investment of $9 million to $54 million for 50-150 countries over a 3 year period;

- **Events, publications and consultancy** – additional resources will be required to cover the costs of workshops and events, publications, and consultancy and legal studies on specific policy issues, as required. Adding an additional budget for these items of $100,000 per year would require an additional budget of $15 to $45 million over three years.

These figures give an overall estimate of investment needs of $24 million (low), $57 million (medium) or $99 million (high) over a three year period 2013-2015.

As reform of incentives is a long term process, there would be a requirement for ongoing expenditures, which might involve an annual budget averaging $100,000 per country (to cover the costs of employing one policy advisor with additional expenses for workshops, publications and fees).

#### 3. Studies on Positive Incentives

The costs of national studies to identify priorities for positive incentives, develop and appraise options for the development of these incentives, examine design issues and formulate proposals for incentive schemes are expected to be similar to those for harmful incentives above – averaging $100,000 per country.

Studies should be prioritised in those countries where positive incentives are least developed. Undertaking work in 50, 100 or 150 countries would require a one off investment of $5 million, $10 million or $15 million respectively.

#### 4. Capacity Building Measures and Pilot Projects for Positive Incentives

The GEF 6 needs assessment recognises that the GEF has supported similar projects in recent years to develop economic incentive measures for the conservation and sustainable use of biological diversity. Projects have piloted approaches through ecotourism, revenues for protected area management, and payment for ecosystem services schemes. Projects funded so far by the GEF range from $6.5 million US up to $24 million US and the GEF co-funding ratio ranges between 10 – 30%.

The GEF 6 needs assessment suggests an allocation of $8m per project (after accounting for incremental reasoning), for a total of 10, 20 or 30 projects, resulting in an overall investment by the GEF of between $80m and $240m. This investment includes support for capacity building measures.

If it is assumed that the GEF provides 20% of the total investment required for these projects, this suggests total resource requirements averaging $50 million per project or between $400 million and $1200 million in total over the 2014 to 2018 period.

## 3.5 Results

### 3.5.1 Estimate of Investment Needs and Ongoing Expenditures

Delivery of Aichi Target 3 is estimated to require a total investment of $877 million and on-going annual expenditures of $10 million (medium investment scenario, Table 3.2). Total resource needs for this scenario over the 2013-2020 period are estimated at $927 million, requiring an average of $115 million per year to be allocated to relevant actions over this period. Alternative estimates of resource requirements under "low investment" and "high investment" scenarios are also given in Tables 3.1 and 3.3 respectively.

[11] Based on an average wage rate for policy advisors of $30,000 per annum, derived from www.wageindicator.org doubled to take account of additional employment costs and overheads. This is higher than the figure used for Target 2 because there would be a greater focus on middle and high income economies.

The largest expenditures are required for action 4 – support for positive incentive schemes – which accounts for 86% of the estimated overall costs.

**Table 3.1 Target 3 - Estimated Investment Needs and Ongoing Expenditures – Low investment scenario ($m)**

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. Studies – negative incentives | 5.0 | 0.0 | 5.0 | 0.6 |
| 2. Policy work to reform negative incentives | 24.0 | 5.0 | 49.0 | 6.1 |
| 3. Studies – positive incentives | 5.0 | 0.0 | 5.0 | 0.6 |
| 4. Positive incentive schemes | 400.0 | 0.0 | 400.0 | 50.0 |
| **Total** | **434.0** | **5.0** | **459.0** | **57.4** |

**Table 3.2 Target 3 - Estimated Investment Needs and Ongoing Expenditures – Medium investment scenario ($m)**

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. Studies – negative incentives | 10.0 | 0.0 | 10.0 | 1.3 |
| 2. Policy work to reform negative incentives | 57.0 | 10.0 | 107.0 | 13.4 |
| 3. Studies – positive incentives | 10.0 | 0.0 | 10.0 | 1.3 |
| 4. Positive incentive schemes | 800.0 | 0.0 | 800.0 | 100.0 |
| **Total** | **877.0** | **10.0** | **927.0** | **115.9** |

**Table 3.3 Target 3 - Estimated Investment Needs and Ongoing Expenditures – Medium investment scenario ($m)**

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. Studies – negative incentives | 15.0 | 0.0 | 15.0 | 1.9 |
| 2. Policy work to reform negative incentives | 99.0 | 15.0 | 174.0 | 21.8 |
| 3. Studies – positive incentives | 15.0 | 0.0 | 15.0 | 1.9 |
| 4. Positive incentive schemes | 1200.0 | 0.0 | 1200.0 | 150.0 |

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| **Total** | **1329.0** | **15.0** | **1404.0** | **175.5** |

### 3.5.2 Additional Resource Needs

Some countries are currently taking action to identify negative incentives and assess options for reform, as well as to examine options for the development of positive incentives. Current levels of investment are not known but are likely to be a small fraction of those required.

For action 4, the GEF 6 needs assessment provides some data on recent resource allocations which can be compared with identified needs. Up until now the GEF has funded up to 10 projects in each period; this suggests that funding 10 new projects would involve a continuation of recent levels of expenditure, 20 projects would require a doubling of expenditure, and 30 projects a tripling of expenditure. Therefore no increase in resources required would be required under the "low investment" scenario, while a $400 million increase (including co-funding) would be required under the "medium investment" scenario and an $800 million increase under the "high investment" scenario.

## 3.6 Discussion

### 3.6.1 Discussion of estimates of resource needs

The costs of actions 1-3 are somewhat speculative and should not be regarded as precise estimates of the resources required. There is some flexibility in the scale of effort that could be devoted to these different activities, which could result in different cost estimates. However, the costs of these actions are relatively small.

Action 4 is based on proposals in the GEF 6 needs assessment, as well as recent rates of co-funding, so unit costs can be assessed with a greater degree of uncertainty. However, the resources required are sensitive to the scale of activity that is deemed to be required, with the GEF 6 needs assessment assuming that anything between 10 and 30 projects could be funded. As the levels of investment required for this activity are much greater than for the others, the overall cost estimates vary widely according to the number of projects assumed to be funded.

As for Target 2, the estimates can be regarded as conservative given the scale of the challenge in reforming negative incentives and in developing positive incentives.

### 3.6.2 Benefits of delivering the Target

Removal or reform of negative incentives will have a range of benefits, including:

- Protection of biodiversity;
- Maintenance of ecosystem services;
- Improvements in economic efficiency, through better pricing of natural resources and externalities, helping to ensure better allocations of resources;
- Budgetary savings, especially through reductions in subsidies.

#### Reforming negative incentives – the EU Common Agricultural Policy

The CAP has contributed to a massive reduction in Europe's biodiversity, particularly through the role of price supports in encouraging the expansion and intensification of agricultural production, with the loss of habitats and unfarmed features, increased use of pesticides and fertilisers, and growth in stocking rates and grazing pressure. The CAP has also been expensive for EU taxpayers and impacted negatively on producers in developing countries, through the subsidised export of surplus production on world markets.

Successive reforms of the CAP since 1992 have decoupled support from production, helping to reduce the incentives for intensive production and the adverse impacts of the CAP on trade and producers in other countries. Although the overall cost of the CAP to taxpayers has yet to be significantly reduced, a proportion of the budget has been shifted to agri-environment and rural development programmes, including support for biodiversity

friendly farming, and more progress could be made in this area through further reform.

The benefits of developing positive incentives will include:

- Enhanced conservation of biodiversity;
- Increased delivery of ecosystem services, with benefits for people and the economy;
- Enhanced attitudes of land managers and local communities to biodiversity;
- Diversification of rural incomes and new opportunities to generate income through conservation activities;
- Improvements in economic efficiency, by creating markets for services that were previously under-priced and under-delivered.

### Benefits of PES – e.g. Costa Rica

To be added

### 3.6.3 Funding opportunities

Initial work to identify negative incentives and options for positive incentives may need to be funded primarily from core biodiversity budgets, as the required action is motivated primarily by biodiversity concerns.

Assessments of reform options for negative incentives, and development of action plans for reform may attract resources from other government departments, especially where a need for reform has been identified for financial, economic or social reasons – finance ministries and sectoral ministries (e.g. agriculture, fisheries, energy) may contribute to this process.

The development of positive incentives will deliver benefits for both the land management sector and for beneficiaries of ecosystem services (e.g. water companies, communities, property interests and the public at large). There may be opportunities for funding from beneficiaries through PES schemes (e.g. water sector, insurers, property interests), from a range of government departments (e.g. agriculture, forestry, water resources, energy) and from development agencies (because of the importance of natural capital and ecosystem services for development).

## 3.7 Next steps and timetable

This report will be revised to reflect the comments and inputs of members of the High Level Panel.

It is intended that a Final Report will be prepared by 15 August 2012

# 4 Aichi Target 4

**Aichi Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.**

## 4.1 Introduction

The Strategic Plan for Biodiversity recognises that many individuals, businesses and countries are currently making efforts to substantially reduce their use of fossil fuels, with a view to mitigating climate change, and calls for similar efforts to ensure that the use of other natural resources are within sustainable limits.

Target 4 calls for the development and implementation of plans for sustainable production and consumption, designed to keep the impacts of use of natural resources within safe ecological limits. In the context of this target *all levels* refers to the different sectors of society from local to international and from citizens and private entities to public institutions and government. CBD guidance also stresses that attaining SCP is a long term process and that the Target does not require that sustainable consumption and production is achieved by 2020 but that meaningful steps have been taken or measures put in place by 2020 to achieve it. The need for sectoral as well as cross sectoral actions is also emphasised.

Meeting this Target is likely to require the development of evidence about the ecological impacts of production and consumption patterns of governments, businesses and stakeholders, and the definition of safe ecological limits. Evidence is needed on the ecological impacts of the consumption and production of different types of products. Because achieving SCP requires co-ordinated global action, there is a strong case for international actions to collect shared evidence and agree priorities. Once evidence has been collated and priorities and limits defined at a global level, there is then a need for the development of plans by national governments and businesses.

The United Nations Conference on Sustainable Development (Rio+20) adopted the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP). This is a concrete and operational outcome that responds to the 2002 Johannesburg Plan of Implementation (JPOI) which calls to all stakeholders to "Encourage and promote the development of a 10-year framework of programmes (10YFP) in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems...".[12]

While a number of initiatives have been undertaken at international and national level to develop evidence about SCP and to identify priorities for achieving it, much of this work has focused on other environmental issues (e.g. greenhouse gas emissions) and there has been relatively little focus on biodiversity. More targeted work to evidence the impacts of production and consumption of different products on biodiversity, to define ecological limits, and to develop plans to achieve SCP, would therefore be of benefit.

Possible milestones for this Target were specified as follows:

- By 2014, Governments and major private-sector actors, at sector or company level, have developed assessments of their ecological footprint, and have developed sustainability plans to reduce it;
- By 2018, Governments and major private-sector actors can demonstrate progress towards sustainability.

Target 4 links with other Targets relating to natural resource use, including those for agriculture, forestry and fisheries. There are also significant links with Target 1, which deals with raising awareness of biodiversity, particularly because of the importance in SCP plans

[12] http://www.unep.fr/scp/

of raising the awareness of both consumers and producers about biodiversity and wider sustainability issues. Actions in pursuit of Target 4 are likely to complement, rather than duplicate or overlap with those undertaken for other Targets. It is assumed that the relevant awareness raising actions related to the biodiversity impacts of consumers and producers are delivered through Target 1 and other sector specific Targets, so to avoid double counting they are not separately assessed here. Instead this assessment focuses on the evidence and strategic actions required to guide awareness raising activities.

## 4.2 Actions

Meeting Target 4 is likely to involve the following actions:

1. International collaborative studies to assess the impacts of production and consumption of different products on biodiversity, to define ecological limits, and to specify action that governments, businesses and other stakeholders can take to achieve SCP.
2. National level studies focusing on key impacts of consumption and production patterns on biodiversity at the national level, in order to identify priorities for action and the potential role of different actors in the public and private sectors.
3. Development of national SCP action plans, involving collaboration between government, businesses and stakeholder groups, designed to ensure that national production and consumption respects ecological limits.
4. Development of national public procurement strategies designed to ensure that government purchasing helps to keep the impacts of use of natural resources within safe ecological limits.

## 4.3 Method of assessment

Based on consultations with international experts and stakeholders, and a review of relevant documentation, we propose the following approach to assessing the costs of meeting this Target.

[Further discussion is planned with UNEP SCP programme on this]

### 1. International collaborative studies

As a basis for action by governments, businesses and other stakeholders, an evidence base is required that assesses the impacts of consumption and production on biodiversity, identifies priorities for action, identifies safe ecological limits, and specifies actions that need to be taken to achieve SCP. Since biodiversity is impacted by global patterns of production, consumption and trade, international analyses are required examining the impact of different product types and/or sectors. Such an approach will help to identify priorities in the global context, avoid duplication of effort at national level, and provide a means of engaging with international companies keen to take steps to understand and address their impacts on biodiversity. The evidence gained can also help to inform analyses and strategies at the national level.

These international studies could focus on key products and services – these could be defined in terms of broad product groups known to impact on biodiversity (such as timber, fish, meat, biofuels, textiles, metals, etc.) and/or more specific product types (such as tuna, tropical shrimp, palm oil etc.). Key services such as tourism and construction could also be included.

The studies could be overseen by international working groups involving governments, businesses and stakeholder groups, helping to engage businesses and key stakeholders in the process. [13]

[13] A similar approach has been taken at national level by the UK government which has worked with businesses in different sectors to develop "product roadmaps" ( http://www.defra.gov.uk/environment/economy/products-consumers/) although these have so far focused on other environmental issues and paid limited attention to biodiversity impacts.

The work would build on existing SCP initiatives such as the 10-Year Framework of Programmes on Sustainable Consumption and Production, focusing more specifically on impacts on biodiversity (rather than wider resource use, waste and emissions) and how these should be addressed. The outputs of this work will include guidance about actions that should be taken by governments and businesses to keep the use of natural resources within safe ecological limits.

The resources required for these studies will be assessed through a review of relevant work undertaken internationally, and/or by estimating costs based on daily fee rates and the costs of organising meetings and events.

Between 10 and 20 studies could be undertaken, focusing on different products and/ or sectors. Each study could be steered by a partnership of businesses and government representatives, and involve a dissemination event. The work would be co-ordinated by a project officer over a period of two years.

### 2. National SCP studies

National efforts to develop and implement action plans for sustainable consumption and production need to be based on a robust evidence of the current impacts of production and consumption patterns on biodiversity. This will help to identify priorities for action, the key sectors and actors that need to be involved, the current initiatives that are contributing to these priorities and the further actions required, and the indicators that can be used to monitor progress.

CBD guidance makes clear that evidence will be needed of sectoral impacts as well as cross sectoral impacts at the national level. Undertaking a series of sectoral studies in each country would provide a means of engaging businesses at the national level, helping them to understand the impacts on biodiversity of sectoral production and consumption patterns, and to identify priorities for change.

This will therefore require a one off investment in research contracts and expenses for workshops, conferences and events.

Estimates of the resources required need to be aligned with those of the GEF 6 needs assessment, which proposes allocating resources to a series of national and sectoral ecological footprint assessments in priority countries.

### 3. National SCP action plans

Target 4 requires governments, businesses and other stakeholders to develop and implement action plans to achieve sustainable production and consumption. Building on the national and international studies, this could involve the formation of collaborative working groups at national level to develop and implement SCP action plans. Depending on national circumstances and priorities, these could involve sectoral working groups involving businesses and government coming together to agree actions for key product groups, and/or broader, cross-sectoral approaches to the development of national plans.

The resources required to developing these plans would include staff time (e.g. a project officer to provide a secretariat for the working group(s)) and expenses for events and publications.

As with action 2, estimates of the resources required need to be aligned with those of the GEF6 needs assessment which proposes allocating resources to actions to create enabling conditions for the development of plans, through action such as setting up joint platforms, policy improvement, better implementation and enforcement, improved governance and transparency, supporting the establishment of different sectors' sustainability standards, and disseminating best innovative business initiatives.

#### 4. National public procurement strategies

Building on this evidence base, governments can then take steps to ensure that public procurement strategies contain measures to ensure that public purchasing is consistent with maintaining the use of resources within safe ecological limits.

The actions required will vary by country, according to administrative structures and existing public procurement rules and procedures. However, they are likely to include:

- Feasibility studies (including analysis of procurement options, sourcing of supplies, and specification of proposed rules and requirements);
- Engagement and consultation across national, regional and local authorities;
- Development of guidelines and communication of requirements; and
- Monitoring of implementation.

The resources required will include consultancy fees, staff time and publications.

There would then be an ongoing need to support the implementation of the strategy. This could be achieved by employing an adviser to act as a central contact point, to monitor progress, issue guidance and provide advice.

### 4.4 Assessment of resource needs

#### 1. International collaborative studies

The costs of this action might include:

- Research – consultancy fees and expenses of $100,000 per study for 10-20 product/ sector based studies;
- Events – organisation of a meeting to disseminate the findings of each study, at an average cost of $20,000 per study;
- Project management – appointment of a project officer at a cost of $100,000 per year (including salary, expenses, overheads and support costs) for two years.

The above would involve a total investment of $1.4 million, $2.0 million or $2.6 million to undertake 10, 15 or 20 studies respectively.

#### 2. National SCP studies

The GEF 6 needs assessment proposes an allocation of $500,000 per country study.

Such a budget would enable a series of national sectoral studies, each involving one or more workshops or meetings, plus an overall national assessment – for example 8 sectoral studies at $50,000 each as well as an overall national assessment at a cost of $100,000.

The GEF 6 needs assessment proposes that funding is prioritised in 10-30 Least Developed and Small Island Developing States, as well as Parties with economies in transition, while also taking account of variations in economic structures, readiness and absorptive capacity. However, there is a strong case for undertaking such studies in all countries, including developed countries whose consumption patterns are likely to have the greatest impacts on biodiversity. Studies in developed countries would incur higher fee rates, but might be expected to draw on a more developed evidence base, such that the average cost proposed in the GEF 6 needs assessment could be assumed to work across all countries.

Undertaking 195 studies globally would require a one-off investment of $97.5 million, while a lower cost option could prioritise studies in 100 countries and involve an overall investment of $50 million.

#### 3. National SCP action plans

The GEF 6 needs assessment notes that the costs of enabling actions will vary by country and proposes an average allocation of $200,000 per country.

Such a budget could, for example, meet the costs of further consultancy fees to support the development of a national action plan, and/or the employment of a policy adviser responsible

for plan development and/or to provide a secretariat for sectoral working groups, as well as expenses for meetings and workshops. Since the evidence required would be developed under action 2 above, the main costs would relate to enabling, facilitative and engagement activities.

Based on this average cost per country, developing action plans for 195 countries globally would require an investment of $39 million, while a lower cost option could prioritise action in 100 countries and involve an overall investment of $20 million.

There would be an ongoing need to review and update these action plans periodically. A three yearly review at a cost of $100,000 per country would suggest ongoing annual expenditures of $6.5 million for 195 countries or $3.3 million for 100 countries.

#### 4. National public procurement strategies

The costs of integrating biodiversity considerations into public procurement strategies could include:

- Employment of a policy adviser for a three year period at a cost of $135,000 per country;[14]
- Expenses for feasibility studies, workshops and expenses averaging $100,000 per country.

Total investment would therefore average $235,000 per country. The investments required to develop strategies for 100, 150 or 195 countries (depending on needs and the degree to which existing strategies address biodiversity priorities) would be $23 million, $35 million or $46 million respectively.

There would then be an ongoing need to support the implementation of the strategy. This could be achieved by employing an adviser to act as a central contact point, to monitor progress, issue guidance and provide advice. This could be achieved through annual expenditure averaging $45,000 per country per year (including support costs), involving total annual expenditures of $5 million, $7 million or $9 million across 100, 150 or 195 countries.

## 4.5 Results

### 4.5.1 Estimate of Investment Needs and Ongoing Expenditures

Delivery of Aichi Target 4 is estimated to require a total investment of $174 million and on-going annual expenditures of $13 million (medium investment scenario, Table 4.2). Total resource needs for this scenario over the 2013-2020 period are estimated at $240 million, requiring an average of $30 million per year to be allocated to relevant actions over this period. Alternative estimates of resource requirements under "low investment" and "high investment" scenarios are also given in Tables 4.1 and 4.3 respectively.

The largest expenditures are required for action 2 – development of national SCP action plans – which accounts for 40% of the estimated overall costs.

[14] Based on global average costs of $45,000 per country per year, as in section 2.4 above

**Table 4.1 Target 4 - Estimated Investment Needs and Ongoing Expenditures – Low investment scenario ($m)**

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. International studies | 1.4 | 0.0 | 1.4 | 0.2 |
| 2. National studies | 50.0 | 0.0 | 50.0 | 6.3 |
| 3. National action plans | 20.0 | 3.3 | 36.5 | 4.6 |
| 4. Public procurement strategies | 23.5 | 4.5 | 46.0 | 5.8 |
| **Total** | **94.9** | **7.8** | **133.9** | **16.7** |

**Table 4.2 Target 4 - Estimated Investment Needs and Ongoing Expenditures – Medium investment scenario ($m)**

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. International studies | 2.0 | 0.0 | 2.0 | 0.3 |
| 2. National studies | 97.5 | 0.0 | 97.5 | 12.2 |
| 3. National action plans | 39.0 | 6.5 | 71.5 | 8.9 |
| 4. Public procurement strategies | 35.3 | 6.8 | 69.0 | 8.6 |
| **Total** | **173.8** | **13.3** | **240.0** | **30.0** |

**Table 4.3 Target 4 - Estimated Investment Needs and Ongoing Expenditures – Medium investment scenario ($m)**

| Action | Investment needs | Ongoing annual expenditures | Total resources (2013-2020) | Average annual resource needs (2013-2020) |
|---|---|---|---|---|
| 1. International studies | 2.6 | 0.0 | 2.6 | 0.3 |
| 2. National studies | 97.5 | 0.0 | 97.5 | 12.2 |
| 3. National action plans | 39.0 | 6.5 | 71.5 | 8.9 |
| 4. Public procurement strategies | 45.8 | 8.8 | 89.7 | 11.2 |
| **Total** | **184.9** | **15.3** | **261.3** | **32.7** |

### 4.5.2 Additional Resource Needs

Current expenditures relating to sustainable consumption and production are not known. However, while a number of relevant initiatives are on-going, there appears to be limited activity focusing on impacts on biodiversity and ecosystems. The required resources would therefore be largely additional to current allocations.

## 4.6 Discussion

### 4.6.1 Discussion of estimates of resource needs

The cost assessment is somewhat speculative and should not be regarded as providing a precise estimate of the resources required. There is some flexibility in the scale of effort that could be devoted to these different activities, which could result in different cost estimates. However, the costs of meeting the Target are relatively small, so that the assumptions employed will not have a large impact, in absolute terms, on the overall assessment of the resources required to meet the Aichi Targets.

The estimates can be regarded as conservative given the scale of the challenge in achieving sustainable consumption and production, although this action requires only that steps are taken to develop plans for achieving this goal.

### 4.6.2 Benefits of delivering the Target

Achieving sustainable consumption and production offers a wide range of benefits. As well as helping to conserve biodiversity and maintain ecosystem services (which will deliver a range of benefits for people and the economy), SCP aims to contribute to achieving patterns of economic development that are sustainable in the long term. More sustainable use of resources should yield gains in efficiency and reduce costs to producers and consumers. Businesses benefit from developing and implementing SCP policies through reputational benefits, cost savings, market positioning, and access to finance.

#### SCP initiatives in the UK

Defra initiatives on product roadmaps

CPET – sustainable timber procurement

[To complete]

### 4.6.3 Funding opportunities

As well as core biodiversity budgets, this Target has opportunities to attract funding from businesses. Engagement of businesses will be important in the development of SCP plans for different sectors, and this should provide opportunities to secure business funding for research and action planning, helping businesses to develop the evidence base and identify the actions they need to take to achieve sustainable business models that reduce their impacts on biodiversity over time.

## 4.7 Next steps and timetable

This report will be revised to reflect the comments and inputs of members of the High Level Panel.

It is intended that a Final Report will be prepared by 15 August 2012