



# INNOVATIVE USE OF FINANCIAL INSTRUMENTS AND APPROACHES TO ENHANCE PRIVATE SECTOR FINANCE OF BIODIVERSITY

Final Summary Report to

European Commission  
Directorate-General Environment

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## Executive Summary

This is the final summary report from the consortium led by Economics For The Environment Consultancy Ltd (eftec) on “*Innovative financial instruments and approaches to enhance private sector finance of Biodiversity*” (under contract 070307/2010/581922/ ETU/F1). The project reviewed a range of biodiversity financing issues in a relatively short space of time. A synopsis of the project’s Technical Report is provided in Section 1 of this summary report.

Analysis of the existing demand for and supply of finance shows there are substantial and unmet financing needs for biodiversity and ecosystem services. Regulatory gaps, market failures, lack of understanding, and concerns over risks in relation to expected financial returns limit current private sector involvement in biodiversity financing. Even in environmentally-conscious financial activity (e.g. “Socially Responsible Investing” and “Impact Investing”) biodiversity has a relatively low profile.

The project examined a number of potential policy intervention areas where innovative financing actions could be considered at the EU level, including coordinated policy developments for compliance markets (e.g. on biodiversity offsets and bio-carbon credits), or backing new investment opportunities on natural capital (e.g. in Green Infrastructure). Suitable financial instruments to help establish markets involving private finance within each area were considered, including interventions to tackle risk: either reducing it by taking on a higher proportion of associated risks to initiate innovative activities (as in REDD+), or by enabling significant risks that are correlated with biodiversity opportunities (e.g. governance in individual countries) to be shared across broader investment options and participating actors or partners.

The project’s review of these areas considered the barriers that markets in other ecosystem services face. Market failures over public goods and policy failures were identified. The latter include perverse subsidies in EU agriculture and fisheries policies (that currently encourage provisioning services for market goods from ecosystems at the expense of biodiversity protection and other types of ecosystem services), and also subsidies and permitting to projects in other sectors (e.g. transport, energy, housing) with no mitigation of the projects’ impacts on biodiversity and ecosystems.

Based on this review, the project then focussed on some more specific issues relating to supporting carbon credit actions, use of biodiversity offsets and establishing green infrastructure. The cross-cutting issues of risk within the relevant financial instruments, as well as availability and provision of information about biodiversity in investments, were also considered further. The analysis on these selected areas and cross-cutting issues are presented in Section 2 of this report.

To investigate issues further, the project conducted consultations with over 20 experts in private sector finance and held a workshop on the 3<sup>rd</sup> May at the European Investment Bank offices in Brussels to discuss interim conclusions. The consultations with experts were based on a detailed proforma to guide discussions. The proforma used to guide these consultations, the experts consulted and a note that facilitated the workshop discussion are all appended to the Technical Report (see Annexes 1, 2 and 3).

The key factor is that EU actions should offer greatest potential for stimulating additional biodiversity benefits through economically viable activities that can attract the involvement of private finance (to have practical bankable actions or projects) in the relatively short term (within 10 years). On the basis of this analysis, a series of recommendations are made in Section 3 of this report. The recommendations aim to encourage developments in the biodiversity and ecosystem services markets. Developing these markets could help achieve "no-net loss" for biodiversity and meet Target 2 of the new EU 2020 Biodiversity Strategy (EC, 2011a) which relates to halting biodiversity loss while maintaining and restoring ecosystems and their services.

The project's findings are summarised below in terms of:

- Areas selected for further analysis:
  - (Biodiversity) Offsets, and
  - Green infrastructure
  - Supporting bio-carbon markets;
- Other policy intervention areas:
  - Pro-biodiversity businesses, and
  - Payments for Ecosystem Services (PES)
- Cross-cutting issues:
  - Risk, and
  - Information on Biodiversity and ecosystems services
  
- **(Biodiversity) Offsets**

Biodiversity offsets are conservation activities intended to compensate for the residual, unavoidable harm to biodiversity caused by development projects (BBOP, 2009). Encouraging offset practices could be a way of implementing action 7 under Target 2 of the new EU 2020 Biodiversity Strategy (EC 2011a) which announced a 'no net loss' initiative by 2015. Voluntary pilots to extend the use of offsets across a selection of Member States over the next few years can provide vital information on how to design and implement schemes at EU level. While a range of developments are necessary for the increased use of offsets, the key factor is a strengthened requirement for integrating and implement "no net loss" in land use impacting policies.

Establishing market based instruments for biodiversity offsetting (e.g. habitat banking) would help to expand the use of biodiversity "no net loss" practices within a number of

“impactful” industries (e.g. housing construction, transport and energy infrastructure, tourism) and develop the commensurability of metrics and standards for those offsetting practices and projects. It would build on existing private sector pilot activity in the EU, and global best practice.

A comprehensive and coordinated package of measures could be developed at EU level within the context of a ‘no net loss’ initiative. This could involve: extending offsetting requirements through amendment of existing regulations (e.g. EIA/SEA) and/or a proposed new (possibly ‘framework’) legal instrument on offsetting; develop policy guidance or guidelines; adoption of offsetting requirements for EU-funded projects; technical assistance and sharing of best practice among Member States (e.g. on institutional arrangements for offsetting, biodiversity baseline information, strategic land-use planning for offsets); and provide support to seed market investment. A possible road map for the period of 2012-15, to prepare the ground for this “no net loss” related package could involve: supporting pilot projects in Member States; research and awareness raising on the problem (biodiversity loss) and ways to mitigate for it, so to build support for offsets; assessing the market opportunities available; and developing EU standards on the metrics, certification and accreditation systems/guidance needed to operate any offsets system.

It must be recognised that there will be barriers to increased use of offsets. For example, offsets can be seen as “green-wash” and objections are likely to be raised about their implementation and maintenance costs, although evidence from the UK suggests these may not be significant (GHK, 2011). Furthermore, requirements for offsets can increase the costs of projects. Therefore, the EU’s ability to require offsets in projects it supports with Community funds may be restricted where it is in international competition with other project investors who do not require offsets.

- **Green Infrastructure**

There remains a communications need surrounding the term ‘Green Infrastructure’ (GI). In the context of EU policy, the concept relates to the interconnectedness of habitats and ecosystems that underpins ecosystem service provision. For the purpose of this project, the distinction between GI and payments for ecosystem services (PES) is one of scale and nature: GI provides for the management of the resources (natural capital assets) that underpin ecosystem services from a large area (or network of natural capital and resources). PES takes the form of payments for the flows of benefits resulting from natural capital and can be applied at a local, smaller scale. Considering habitats and ecosystems as GI can enable better and more efficient management of natural capital for multiple ecosystem services (e.g. biodiversity conservation, mitigation of natural risks and climate change adaptation).

Major barriers to delivering more PES activity (including that involving the private sector) is the need for multi-lateral (rather than bilateral) transactions and long term

investment. These could be tackled through brokering multi-lateral deals (involving multiple land managers (e.g. farmers) and multiple buyers (e.g. insurers, Government, and water utility company(-ies)), and through public-private partnerships. Green infrastructure offers potential as a way of organising long term biodiversity or ecosystem outcomes across a number of sectors (e.g. sustainable agriculture, sustainable forestry, eco-tourism, aquaculture), and therefore of addressing these barriers.

The current Agricultural, though rural development, and Cohesion policies present some opportunities for supporting Green Infrastructure. However, the current level of support under Pillar I of the Common Agricultural Policy (CAP) increases the opportunity costs of managing or making necessary adjustments to rural land-use systems in ways that enhance green infrastructure. Similar restrictions may apply from increased opportunity costs of land in urban and coastal areas that are used for housing and tourism development. The reform of the CAP and other funding instruments in the next EU budget recognises future opportunities to address these barriers and provide funds for Green Infrastructure (EC, 2011b).

- **Supporting bio-carbon markets**

High-biodiversity carbon (bio-carbon) credit actions involve reducing carbon emissions through protecting or restoring carbon in biodiversity-rich habitats. They present a significant opportunity for financing at the same time climate mitigation and biodiversity conservation.

However, there is ongoing uncertainty over statutory drivers of demand for credits. As there is no policy support in the European Commission to make the necessary linkages between forest carbon projects and the EU ETS at present, caution is needed on how to make such links in the future. The majority of the private finance sector experts consulted view the carbon market, particularly through REDD+, as probably the easiest way to bring private finance into biodiversity conservation in the short term at least, and do not consider the possibility of ‘flooding’ of existing carbon markets or other risks as significant. However, without clear statutory drivers, activity will remain limited to investments that target voluntary markets. Within these, attempts are underway to address issues such as governance, measurement, monitoring and verification) which the EU observe and support.

The opportunity for action to develop bio-carbon from biodiversity conservation actions that protect soil-stored carbon in the EU and neighbouring countries is potentially high and needs to be further explored. In particular, peat-based wetland habitats in Eastern Europe have high carbon and biodiversity values. Where peat habitats have been damaged, there is potential to significantly increase these values (through restoration projects).

- **Pro-Biodiversity Businesses (PBB)**

Biodiversity businesses are a growing area of interest. Potential for biodiversity business support by the EC and other International Financial Institutions to bring new investments from the private sector into biodiversity conservation in the EU at present is currently limited due to the opportunity costs enhanced by CAP payments and development opportunities, high SME transaction costs and low rates of return from biodiversity investments. Although this was not a focus of the project, it nevertheless generated significant discussion amongst experts, including comments that it should become a priority for Action at EU level. There is a strong case for prioritising support for biodiversity business (especially SMEs) within and EU biodiversity financing policy and related actions. Doing so offers a route for targeting subsidies to both biodiversity and rural development objectives through existing businesses, therefore at lower cost than pure public spending.

To do so, future PBB support for SMEs needs to be integrated into existing and future funding lines through innovations in the use of funds to involve:

- Combinations of funding from different policies and their instruments (such as Rural Development Fund, Fisheries, Cohesion funds, Social funds, etc);
- Use of blended financial packages (involving both providing grants and loans);
- Support from targeted technical assistance, and
- Targeting potential PBBs in clusters in order to reduce transactions costs, increase environmental effectiveness across neighbouring SMEs, and allow product labelling to align green procurement measures between large corporations and SMEs.

Outside the EU, pro-biodiversity business pilot investments have provided proof of concept (of outside investment into the funds with biodiversity-based business models), and are being developed further (e.g. the Eco-enterprises funds).

- **Payments for Ecosystem Services (PES)**

PES are justifiably receiving significant attention for environmental policy makers, as they are a promising concept for developing instruments to deliver biodiversity and ecosystem service objectives. PES are usually a voluntary bilateral transaction with a well identified buyer and seller of an ecosystem service. When defined more broadly, the key areas examined in this study (i.e. bio-carbon, offsets, GI) are specific examples of PES. Beyond these the approach has not been considered in detail, but has overlaps with the analysis of GI and PBB, as shown in Figure 2.

- **Biodiversity Investment Risks**

Managing investment risks is an important cross-cutting issue restricting private sector finance in biodiversity. There are many different types of risks involved in financing projects that can benefit biodiversity which currently makes it very difficult for the private sector to invest. A number of options are available for 'softer' approaches to reduce risk in pro-biodiversity investments which can be utilised to address risk-reduction needs across a range of biodiversity investment opportunities.

A generic approach to reducing biodiversity investment risks is not considered feasible, but specific suggestions to address risks are included under the main areas analysed in this report. They include policy driven risks and start-up risks.

The key issue in relation to the areas examined for this project is often policy or regulatory risk. The EC can take action to address these by following good practice and examining thoroughly available options in policy design. This is particularly important to environmental compliance markets, such as carbon-credits or offsets, which are driven by regulations. It may be helpful to support policy makers in thinking about the effect of their decisions and communications on markets.

Measures to address start-up risks in biodiversity and ecosystem service markets include underwriting initial demand for biodiversity offsets, and supporting pilot activity (e.g. with research grants or co-financing of pilots) in green infrastructure, PES and biodiversity offsets. These approaches can be enabled through inclusion of innovative financing instruments within the next multi financial framework. Reducing risk in investments in biodiversity and ecosystem services markets must be one priority objective of an EU biodiversity financing facility. In particular, risk can be bought down in terms of the cost of finance for investments in biodiversity and ecosystems services.

- **Information**

Lack of relevant biodiversity and ecosystems services information in investment decisions is a cross-cutting failure that restricts private sector activity in several of the biodiversity finance options investigated. There are many existing initiatives in this area, addressing information needs at all levels, and so the tools available to provide information on biodiversity and ecosystem services to the private sector can be expected to improve in the future. Given the range of current initiatives, further activity by the EC at EU level should focus on promoting existing concepts, tools and techniques, as making access to information more readily available.

- **Summary of Actions**

Within the issues examined above there are a number of principles for action, and for the roles of the EC and International Financial Institutions. These are shown in Figure 1 below in relation to the different parts of potential public and private investment finance. At the bottom is the relatively small volume of funds controlled solely by public sector European institutions (spent directly or invested unilaterally). The top section represents the vast levels of finance controlled by the private sector, a very small fraction of which currently engages with biodiversity impacts. The central section is where financial instruments can be used by the public sector to encourage the private sector to invest in projects that are beneficial to biodiversity that they would not otherwise invest in.

Figure 2 summarises these actions for the potential policy intervention areas. They include actions that address regulatory and policy risks (e.g. in compliance markets). Development of these actions is unpredictable and subject to policy development procedures within the EC. However, this uncertainty should not delay pursuing the other actions identified - these can be prepared so that when the policy advances are considered, necessary supporting measures are feasible and actionable.

An option to coordinate these preparatory actions and contribute to the EU 2020 Biodiversity Strategy (EC, 2011a) objectives by further enhancing the use of Innovative Financing Instruments is to possibly establish an EU Biodiversity Finance Facility, with the co-operation of the European Investment Bank. This could be core-funded through EU funds or the private/financial sector (the EU LIFE programme and/or by the Facility taking a small % (<1%) payment from funds handled), and could bring together EU-level actions into a one-stop shop for investments in biodiversity and ecosystem services markets. Such a facility could:

- Research and promote the use of private sector finance for biodiversity;
- Develop technical assistance for the delivery of BES objectives;
- Coordinate relevant public investments, increasing their effectiveness through uses of financial instruments to stimulate investment (e.g. establishing Public Private Partnerships for GI) or to reduce risks (e.g. soft loans for startups in new biodiversity markets), and thereby leverage private sector funds, and
- Develop ideas to promote and support an EU research and innovation partnership on innovative financial instruments for biodiversity and ecosystem services.

Figure 1. Summary of Potential Biodiversity and Ecosystem Service Finance

	Relative Sizes of Available Capital	Financial/Market/Support Instruments	Relevant Activities	
			EC	Public and Institutional Banks (EIB and EBRD)
Funding Source	Private	Compliance markets Voluntary markets Business opportunities	Coordinate advanced bio-carbon market commitments Provide BES information to markets	
	Blend of Public & Private	Risk-sharing tools Lever private capital, and/or support pilots Technical assistance	Reduce policy risk, particularly in environmental compliance markets	Support projects that prove viability of biodiversity investment concepts (e.g. Bio-carbon Bonds)
			Promote concept of private finance for biodiversity delivery EU biodiversity financing facility	Support blended bio-carbon funds Use of Offsets as a condition of investments (where possible) Support multilateral deals for Green Infrastructure Technical assistance to build capacities (metrics, monitoring, verification, etc)
	Public	Pilot projects Technical assistance	Reform perverse subsidies Use of Offsets as a condition of spending Biodiversity support from across funds	Technical assistance to build capacity (e.g. biodiversity businesses, offsets markets, bio-carbon verification)

Innovative financial instruments to increase effectiveness of public spend and/or engage private funds in biodiversity.

Figure 2. Summary of Actions for Areas Analysed

Potential BES Market	Business Models	European Policy Action		
		Provide Information	Address Risks	Other
<b>Biodiversity Offsets:</b> Compliance market in credits to ensure no net loss from development of land.	Compliance market mainly dependent on strengthened land use planning requirement to compensate for impacts from development.	Technical assistance to develop biodiversity baseline information to assess equivalence.	Pursue strong implementation of no net loss commitment in EU 2020 biodiversity strategy.  Seed market investment: soft loans to start-up credit supply businesses, and co-guarantee initial purchases of credits.	Coordinate EU-wide action to implement no net loss through greater use of biodiversity offsets.  Technical assistance to develop land-use planning systems.
<b>Green Infra-structure (and PES):</b> manage the habitats and ecosystems that underpin ecosystem service provision.	Potential public-private partnerships based on public and/or private payments for ecosystem services. Private payments more likely through brokering of deals between multiple providers and beneficiaries.	Promote concept and highlight potential benefits.	Commit portion of available long term public funding to supporting BES outcomes as part of co-benefits with other objectives such as land-use and rural development (e.g. through CAP reform).	Support pilot projects and brokering of multi-purchaser deals.  Investigate public-private partnership models for long-term management.
<b>Bio-carbon:</b> reducing carbon emissions through protecting or restoring carbon in biodiversity-rich habitats	Investment to supply bio-carbon credits to voluntary markets (or for compliance with emissions constraints, IF policy/ regulatory framework drives sufficient demand).	Develop and pilot monitoring and verification systems for biodiversity gain from bio-carbon.	Pursue agreement on post-2012 global carbon targets.  Provide driver of demand for credits, either linked or parallel to existing regulations.	Coordinate advanced market commitments to purchase bio-carbon credits (including private sector compliance buyers)  Develop credits from EU habitats.
<b>Pro-biodiversity businesses and PES</b>	Coordinate different EU funds which support existing businesses which provide BES benefits.	Develop pro-biodiversity product labelling in EU.		Technical assistance to develop Platform to allow SMEs access to funds from private and multiple public sources.

# 1. Synopsis of Technical Report

## 1.1 Project Purpose

There are significant shortfalls in the finance required for biodiversity conservation. Globally a further US\$300 billion per year may be required to secure biodiversity into the future (see Technical Report Section 1.2). Given the current constraints on public budgets, which are the primary funders of biodiversity conservation, this leaves a clear need to involve private finance to help bridge this gap.

Biodiversity per se and many of the services it underpins are public goods. For public goods most of the flows of benefits are unaccounted for due to the absence of markets or because markets are incomplete. One way of capturing the benefits of biodiversity conservation is to invest in it, but markets on their own often fail to achieve this. For example, a study in Costa Rica shows that, while oil revenues that could be realized after deforestation of a particular area would amount to about US\$200 million, the actual cost in terms of losses of ecosystem services were likely to be in the region of US\$2 billion (TEEB, 2010). Thus, while conservation would mean provision of US\$2 billion worth of benefits, for the oil company it represents opportunity costs of US\$200m of not realised revenue (and a lower level of profit, once operating and other costs have been taken into account).

The conservation benefits are only relevant to the market if governments implement policies that reflect total economic value at a national level and at least capture some of this in cash terms. Such markets rely upon regulation which adds a political and policy risk to involvement by the private sector. They are relatively new and so have unknown investment risks related to them and the projected returns may not be high. Governments can play a number of roles here, including making long term commitments that reduce policy risks, and using novel finance instruments to reduce investment risks.

This study aims to bring together policy-maker's and private sector's views and analyse the conditions, opportunities and limitations for private sector finance for biodiversity to:

- Identify the motivating factors behind the current private sector involvement in biodiversity financing;
- Identify the gaps and constraints (such as lack of awareness on the part of both finance suppliers and demand side - how much people know about what's possible) in the current legal and institutional framework that inhibit private finance and make recommendations on how these could be overcome;
- Identify types of biodiversity projects with a bankable potential and analyse the types of project promoters and beneficiaries that can bring forward these projects;
- Undertake a scoping study on the current and potential future (over the next 10 years) demand for biodiversity-related projects by private sector; and

- Analyse the potential contribution of the European Commission (EC), EU Institutional/International Financial Institutions like the European Investment Bank (EIB) and other relevant European institutions, through specific innovative financial instruments, towards the promotion of bankable biodiversity projects and their funding.

This study is concerned with how financial instruments designed to encourage private sector finance for biodiversity can be used to achieve public policy targets such as those of the EU's 2020 biodiversity strategy. The study aims to help pursue smart and sustainable economic growth based on research and innovation, as highlighted in the EU budget review (EC, 2010).

## 1.2 Policy Context

In March 2010, the EU Council agreed a new biodiversity headline target: *'To halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss'*<sup>1</sup>.

The Commission adopted on 3 May 2011 the new EU 2020 Biodiversity Strategy<sup>2</sup> designed to deliver this headline target. Council endorsed this strategy on the 21 June, and stressed the importance of further work to operationalise the 'no net loss' objective of the Strategy for areas and species not covered by existing EU nature legislation and of ensuring no further loss or degradation of ecosystems and their services. The strategy recognises the need for innovative financing instruments to bridge the funding gap, both at EU and international level. It provides policy signals that should encourage investments from the private sector in biodiversity-related projects. It promotes in particular, investment in green infrastructure, and refers to the potential use of 'compensation or offsetting schemes' as a means to ensure 'no net loss' of biodiversity and ecosystem services.

While biodiversity is not highlighted as a main priority in the EU's overall 2020 Strategy, the 2020 Biodiversity Strategy is identified amongst the key deliverables and supporting strategies of the Resource Efficiency Flagship Initiative. Principles within the EU Budget Review paper and Multi-Annual Financial Framework communication (EC, 2011b) can be utilised to extend biodiversity funding, particularly a results-driven budget, reforms of Common policies, i.e. the CAP (Common Agricultural Policy) and CFP (Common Fisheries Policy), driven by sustainability and the need for a more integrated Territorial and Cohesion policy. These could increase the support and financing for biodiversity protection, and the leveraging of private investment into natural capital.

However, the current economic conditions mean that public budgets are even more limited than before and regulations and taxes are sometimes seen as further constraints

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<sup>1</sup> European Council, 25/26 March 2010. Conclusions.

[http://www.consilium.europa.eu/uedocs/cms\\_Data/docs/pressdata/en/ec/113591.pdf](http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/113591.pdf)

<sup>2</sup> COM(2011)244 final, op cit.

on economic growth<sup>3</sup>. Public funding instruments should therefore work together to leverage investment from the private sector. For example, blending of EU grants and EIB loans in the past has effectively tripled the impact of EU external spending (EC, 2010).

Traditionally biodiversity conservation has primarily been funded from public funding sources so primarily central or regional governments' budgets. Secondary funding has come from private non-profit organisations and funds. NGOs have also played an important role in the development of innovative financing measures. For instance Verde Ventures is an investment fund set up by Conservation International. Its funding of \$15.6 million to date has provided for the protection and restoration of over 300,000 ha of "important lands" in 13 countries. It makes investments through local agents in private biodiversity dependent and/or enhancing businesses.

For profit driven businesses, biodiversity has historically been considered, if considered at all, as a risk or liability. However, gradual changes in perception are observable and the emergence of businesses beneficial to biodiversity is apparent, such as:

- **Growth of Sustainable and Responsible Investment Markets** with estimated total Sustainable and Responsible Investment (SRI) assets under management at €5 trillion in Europe, as of December 31, 2009 (Eurosif 2010).
- **Biodiversity-friendly products and services** and associated certification schemes and ecolabels have seen persistent growth in recent years. For instance the UK saw expenditure on sustainable fish increase from £70m to £178m between 2007 and 2009 (154%) despite growth in overall household expenditure of just 1%<sup>4</sup>. The sustainability of fish certification schemes will be actively promoted in the new CFP.
- **Markets for ecosystem services** are being developed which have the potential to provide new funding streams. These include habitat banking, targeted payments for ecosystem services such as carbon storage and watershed protection, product labelling, and bio-prospecting.
- **Innovative financing mechanisms for protected areas** will be necessary if we are to add to the traditional public financing. Options for attracting finance are being developed. For example, a European Commission project led by RSPB is exploring the potential to combine commercial loan funding with public subsidies to establish 'Pro-biodiversity businesses' which maintain or enhance biodiversity (RSPB, *in preparation*). It demonstrates a potential to establish profitable SMEs which create employment in rural areas, potentially gaining revenue from public payments in return for providing public ecosystem services, and sale of biodiversity-friendly products and services into private markets.
- **Principles for Sustainable Insurance**. The Insurance Commission<sup>5</sup>, which consists of leading insurers and reinsurers, promotes the consideration of environmental and social governance issues in the sector's business principles, standards and operations. The actions include risk management, underwriting, product and

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<sup>3</sup> Although environmental taxes may incentivise resource efficiency and allow reductions in taxes on employment, thereby stimulating economic activity and increasing welfare.

<sup>4</sup> <http://www.goodwithmoney.co.uk/ethical-consumerism-report-2010>

<sup>5</sup> [http://www.unepfi.org/work\\_streams/insurance/index.html](http://www.unepfi.org/work_streams/insurance/index.html)

service development, claims management, sales and marketing, and investment management.

These nascent business areas face considerable **barriers** to greater investment. These include:

- Low rate of return unattractive to venture capitalists who pursue other markets;
- Many biodiversity businesses remain too small to attract investment;
- Lack of understanding amongst bank managers of the business models;
- Lack of strong and reliable metrics of biodiversity to gauge impacts on conservation, on reputations, or on investment returns;
- Market failures (e.g. for some public goods, it is impossible to get private returns) mean that there are some services that are very difficult to attract financing and therefore will continue to rely upon public financing;
- Dependence upon regulation - and worries over changes in policy, and
- Weak investment climate.

The EU however has reasons to look into private finance and to help overcome the difficulties of biodiversity business. For instance, the European Community and Member States (MS), as Parties to the Convention on Biological Diversity (CBD), committed at COP10 (Nagoya, 2010) to increase substantially the mobilization of financial resources from all sources for effectively implementing the CBD Strategic Plan for 2011-2020. The EC and Member States biodiversity action plans and targets have been adjusted in the light of the CBD (Aichi) targets, which are also reflected in the new EU 2020 Biodiversity Strategy (EC, 2011a). The EC and MS will also need to provide financial support (directly, and via GEF) to third countries in support of implementation of the CBD Strategic Plan.

At COP11 all Parties will need to further consider the need for, and possible development of, additional mechanisms to enable parties to meet their commitments. Therefore the EC and MS need to continue to develop their positions on additional financial tools and appropriate mechanisms in advance of COP11. It is relevant to note here that, at COP10, a draft decision on policy options for innovative financial mechanisms (UNEP/CBD/COP/10/L.46) was withdrawn in the final plenary. Many developing countries were cautious about innovative financial mechanisms, requesting that they should be supplementary to the CBD's financial mechanism, and cautioning against the commodification of biodiversity. These concerns must be taken into account as part of any further policy developments in relation to financial instruments for the CBD.

### **1.3 Biodiversity Priorities and Conservation Costs**

Global biodiversity priorities and obligations are hard to define. The "Hotspots" approach is perhaps the best-known global conservation planning tool. Hotspots have influenced conservation investment strategies since the 1980s and over US\$750 million have been invested into hotspot protection. The most recent definition includes 34 hotspots which have lost at least 70% of their original extent and now cover only 2.3% of the Earth's

surface. By protecting the identified 2.3% of the total area of the Earth we would protect around 50% of all plant species and 42% of all terrestrial vertebrate species<sup>6</sup>.

However, the priorities of conservationists are not merely the protection of the greatest abundance of genetic variance globally. In Europe, natural habitats generally offer lower levels of genetics and species diversity, and a significant amount of wild natural heritage has been historically depleted. Therefore, the focus of biodiversity conservation has been on habitat conservation and restoration, but has also included preserving the diversity of cultural landscapes formed by extensive farming activities. Globally, conservationists, through the ecosystem services approach, are learning to interweave their work with development, flood defence, nutrition, pollination provision, recreation, eco-tourism and the spiritual needs of communities (to name but a few ecosystem services). As such the future prioritisation of biodiversity conservation can be expected to increasingly realign its finances to also drive the protection of the services provided by healthy and biodiverse ecosystems.

The current balance sheets for biodiversity conservation are not sufficient to achieve these aims. The most detailed information about costs of biodiversity management in the EU comes from the analysis of the costs of managing the Natura 2000 network. The terrestrial network consists of roughly 26,000 sites and covers almost 18 per cent of the EU territory<sup>7</sup>. Gantioler et al (2010) estimated the costs of managing Natura 2000 (including one-off costs such as designation) at €5.8 billion per annum over the 2008-2014 period for the EU-27. On average it was estimated that the cost of managing the network is €63/ha/annum.

European biodiversity conservation outside Natura 2000 sites relates largely to sympathetic management of landscapes (especially forestry and agricultural land) and marine areas for biodiversity. Sympathetic management can be defined in many ways and over different extents. Beaufoy and Marsden (2010) estimated that €16 billion/year would be required to maintain High Nature Value (HNV) farming systems in all Member States which mainly differs from Kaphengst et al's, (2011, in preparation) cost estimate of €4.37 billion mainly because they relate to different assumptions in the areas likely to qualify for HNV payment (80 million and 26 million hectares respectively).

Kettunen et al (2011) estimate that, for 2007-2013, EU funding instruments, (i.e. LIFE+ Nature & Biodiversity, EAFRD Natura 2000 payments and ERDF category 51) provide €3.8 billion for biodiversity conservation, amounting to around €550 million/year. This refers to dedicated financing lines for Natura 2000/biodiversity only. Kettunen et al (2011) add to this an assumption that a maximum of around 25% of the projected Community agri-environment spending in 2007-2013 is likely to contribute in some way to the management of biodiversity and the Natura 2000 network. Based on these figures and similar assumptions on positive effects and synergies of other, more general funding lines, the total annual EU funding available for biodiversity in the financial period 2007-2013 could be estimated at up to €1.15 billion / year.

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<sup>6</sup> [http://www.biodiversityhotspots.org/xp/hotspots/hotspotsscience/key\\_findings/Pages/default.aspx](http://www.biodiversityhotspots.org/xp/hotspots/hotspotsscience/key_findings/Pages/default.aspx)

<sup>7</sup> Natura 2000 barometer, May 2010

[http://ec.europa.eu/environment/nature/natura2000/barometer/index\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/barometer/index_en.htm)

Globally, the cost of protecting an envisaged 15% of the land and 30% of marine area within the objective of creating a global network of protected areas is estimated at US\$45 billion per year (IUCN 2010a). However, estimates for total biodiversity protection spending needs have been made of around US\$290-385 billion per year (Parker and Cranford 2010). The Global Canopy programme estimate current global spending of between US\$36-\$38 billion/year less than half of which is spent in developing countries (Parker and Cranford 2010). This estimate attempts to include all sources (government, charitable and private) for both indirect and direct funding for habitat and biodiversity protection.

It should be noted that estimates of this kind necessarily rely on assumptions and extrapolations. Given that current activity is significantly lower and success rates often difficult to measure, the impact and funding required to scale up to total global protection is highly uncertain. However, what is clear from the available is the enormous scale of the shortfall in funding necessary to slow or halt biodiversity loss at global level.

## 1.4 Private Finance & Biodiversity Issues

In general, banks and businesses have a relatively limited understanding of biodiversity, their impacts on it and its impacts upon their business. Biodiversity is therefore a low priority as a material business issue.

If considered at all, biodiversity can be seen in many different ways, i.e. as a **risk, liability, opportunity or asset**. The risk is to either lose reputation or ability to work in an area due to the damaging effects of business activities. The opportunity is the opposite of the risk since acting to ameliorate impacts on biodiversity can improve reputations or improve relations with government and people so easing provision of licenses to work (e.g. markets for certified fish or timber). Finally, biodiversity becomes an asset, which, if managed correctly, can provide a stream of sustainable and profitable goods and services (e.g. through ecotourism).

Despite the current business perceptions of biodiversity as a low priority, there are signs of change as numerous initiatives are developing tools to manage biodiversity risk and correct the information failures in areas and markets which damage biodiversity. Currently the major drivers for this are risks to operation through damage for which the company may be liable or which may damage their reputation.

However, investing in pro-biodiversity business is still a relatively new area, and so the risks associated with it are hard to measure or high in relation to the returns. Biodiversity conservation might have low monetary returns relative to risk factors, but the broader (non-market and 'social') benefits can be much higher. Given these high social benefits of biodiversity conservation it is reasonable for governments to invest at a higher risk to return rate than private businesses.

This report is primarily concerned with the instruments with which the European Commission, International Financial Institutions and other European institutions might

stimulate the currently weak investment climate for biodiversity (for example, that they might use to ameliorate these risk issues). Government investments might then be used to leverage private finance through various financial instruments which shift risk onto public institutions and away from private finance:

- **Bonds** can be issued by EU institutional banks such as the EIB or EBRD to enable private investments in projects which would not otherwise take place.
- **Blending of Public and Private** capital through co-financing and co-investment can mean the co-founding of a financial instrument or guaranteeing a percentage of the risk of investment with local investment institutions.
- **Carbon Markets** offer valuable lessons in the development of an environmental market, and provide an established environmental mechanism onto which biodiversity delivery could be attached, reducing transactions and other costs that might otherwise be encountered in novel biodiversity markets.

Biodiversity also suffers from market failures which government can play a part in remedying. The key forms of market failure are:

- Biodiversity is a **public good** meaning that it is difficult or impossible for it to be solely owned and traded by a single party.
- **Information failures** for biodiversity are myriad from a lack of understanding of the processes by which it supports fundamental services such as clean air and water to a simple lack of accurate population estimates.
- **Poor governance** is often problematic over time as investors must be confident that the regulations which one government enacts (e.g. placing a price (or value) on biodiversity protection) will be upheld by subsequent governments.

Given these conditions, the largest existing markets that benefit the environment are compliance markets - for example involving carbon emissions (e.g. the EU ETS) or biodiversity and ecosystems (e.g. wetland banking in the US). The financial markets contain a growing range of ethical or SRI products, but the proportion of biodiversity-related activity in these is relatively low.

EUROSIF<sup>8</sup> applies the following definition to SRI: *A generic term covering any type of investment process that combines investors' financial objectives with their concerns about Environmental, Social and Governance (ESG) issues.* SRI can take the form of dedicated funds, and more broadly involves mainstream investment using ethical investment approaches.

SRI assets under management amounted to €5 trillion in Europe, as of December 31, 2009. This figure includes €1.2 trillion of 'Core SRI' and €3.8 trillion for 'Broad SRI'. The market share of SRI compared to the overall European asset management market represented 10% in 2009, if considering 'Core SRI' only (Eurosif 2010). The SRI market is currently fast

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<sup>8</sup> Eurosif (the European Sustainable Investment Forum) is a pan-European network and think-tank whose mission is to develop sustainability through European Financial Markets. Current Member Affiliates include institutional investors, financial service providers, academic institutes, research associations, trade unions and NGO's. <http://www.eurosif.org>

evolving, with a substantial increase in assets, and variety of screening approaches and information sets on biodiversity. These make it difficult to compare how different products and services have taken up the issue; although there are an increasing number of SRI thematic funds, they still tend to focus to a large extent on climate change and renewable energy. Biodiversity issues are merely touched upon by the set up of funds on tangible assets such as forests.

Measuring impacts upon biodiversity presents significant technical challenges and introduces further uncertainty (and risk) for private sector. How this impact is assessed differs between institutions and research companies and depends on what is practicably measurable. Attempts have been made to provide methods and frameworks to aid the development of SRIs in the face of information paucity. For instance, at the end of 2010, over 800 investment institutions from 45 countries had joined the Principles for Responsible Investment (PRI) initiative<sup>9</sup>. When signing up to the principles, investors commit to including environmental, social, and corporate governance (ESG) issues in their decision-making in a transparent manner. PRI, however, does not specifically mention biodiversity, and measures taken to enforce the implementation of the principles have only been adopted in rare cases and remain indirect (e.g. failed reporting leading to exclusion from UN Global Compact). The Equator Principles<sup>10</sup> are defined as a *financial industry benchmark for determining, assessing and managing social and environmental risk in project financing*. PRI has been developed for the investment community more broadly whereas the Equator Principles address players investing into single projects in a way that is *socially responsible and reflect sound environmental management practices*.

## 1.5 Selection of Potential Policy Intervention Areas for Analysis

The study started with a list of six areas where financial instruments for the private sector and the willingness of the private sector to provide funds and to accept the conditions of finance were explored:

### 1. Biodiversity Conservation Within and Outside the EU

Relevant financial instruments include EU co-financing of Natura 2000 network, including marine areas, in the EU<sup>11</sup> and establishing rules for financing development projects outside EU (e.g. by EIB) for safeguarding protected biodiversity / nature sites and due diligence with regards to the overall environmental/biodiversity impacts. Biodiversity protection actions outside the EU are also included and can be co-financed through development aid.

### 2. Supporting Biodiversity Businesses

This involves supporting businesses whose activities are related to sustainable use of biodiversity (e.g. nature tourism, natural resource-based industries, organic agriculture and aquaculture, pharmaceuticals, bio-mimicry, etc.). Financial instruments could include

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<sup>9</sup> [www.unpri.org](http://www.unpri.org)

<sup>10</sup> <http://www.equator-principles.com/principles.shtml>

<sup>11</sup> Including through structural and cohesion funds, European Fisheries Fund and EAFRD and LIFE+.

intermediated lending such as dedicated global loans, or catalytic participation in specialised private equity infrastructure funds, venture capital or micro finance funds.

### **3. Sharing Financial Risks**

Sharing financial risks with business or financial institutions investing in activities that are related to sustainable use of biodiversity: financial instruments include subordinated debt, mezzanine finance, investment in junior shares in funds or credit enhancement (to individual loans/bonds or to portfolio of loan securitization). The existing EC - EIB Risk Sharing Financing Facility (RSFF) is an example of this in the context of R&D and innovation related investments.

### **4. Supporting Carbon Credit Actions**

The financial support looked at is particularly in the form of establishing, maintaining and enhancing carbon sequestration. This is already taking place now on a voluntary basis, for example through projects under the Clean Development Mechanism, some of which already include biodiversity features. Any proposal around the REDD+ idea that might be agreed internationally and be put in place in the future could include actions towards this direction.

### **5. Market-Based Instruments**

Supporting the setting up of market based instruments like Payments for Ecosystem Services (PES), biodiversity offsetting and mitigation banking: these instruments are still generally at an experimental stage. The exception to this is the use of agri- and forest-environmental payments that have acquired a sizable magnitude, but still operate at primarily a voluntary basis and at a micro-level and not in a particularly co-ordinated manner. Although PES can provide a focused and tailor made approach to respond to biodiversity management needs, they need to assume a sizable scale and coverage to reach a good level of effectiveness. There is increasing interest in particular from private businesses, insurance sector and financial institutions as discussions in the context of the Resource Efficiency, one of the Europe 2020 flagships, and the implementation of the Environmental Liability Directive and wider purpose pilot projects in France and the UK show.

### **6. Green Infrastructure**

Green infrastructure (GI) projects (both man-made and natural capital or their combinations) that can offer ecosystem services at least some of which can be sold (e.g. water treatment and purification, carbon sequestration and storage). These can also be linked to climate change adaptation or resource/energy efficiency financing activities, and can be linked with several of the opportunities listed under areas 2, 3, 4 and 5 above. For the purpose of this project, the distinction between GI and PES schemes is one of scale and nature: GI involves the management of resources that underpin ecosystem services from a large area (or network of natural capital). GI investments are mostly in infrastructure and spatial planning projects that invest in that capital, while PES involves

the everyday management activity for and sale of flows of services from all or part of that capital.

The project identified one further area:

#### **7. Providing Financial Markets with Biodiversity and Ecosystem Services Information**

This involves incorporating biodiversity related information within investment rating and information tools. This includes using such information in corporate research or ratings, market indices that include environmental criteria (e.g. FTSE4Good Index), and other information supplied to those managing socially responsible investment funds.

The thinking behind the inclusion of this seventh area is in response to the widespread information failures that are a feature of the six areas described above. Increased availability and provision of information (e.g. through baseline data or investment ratings) can be a potential solution to this barrier.

The detailed analysis of these areas is contained in Section 4 of the technical report. Based on this analysis, the following SWOT analysis was produced (see Table 1).

<b>Table 1: SWOT of Areas of Analysis</b>					
	<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Conclusion</b>
<b>Biodiversity conservation within and outside the EU</b>	Focused on biodiversity outcomes	Multiple severe market failures	Scale of investment could be substantial within the timeframe required	Lack of financial viability of businesses, due to specific regulatory requirements (e.g. development constraints within protected areas)	Significant market failures and other business constraints (SMEs, market viability) make suitability of private-finance based models for direct biodiversity conservation questionable
<b>Supporting Biodiversity Businesses</b>	Focus on existing businesses. Examples already operating	Possible limits on availability of businesses in low-risk countries, and market failures. Reliance on 3rd sector may limit private funding	Existing models could be expanded significantly. New models to spread risks of SME investment across multiple locations	Unstable governance over property rights of businesses	Significant market failures and other business constraints (SMEs, viability). However, focus on existing businesses may overcome this, and existing examples offer a model to expand
<b>Sharing Financial Risks</b>	Strong leverage and supporting innovation	Higher risks and uncertain outcomes	Significant because this is a cross-cutting measure and biodiversity-finance markets are poorly developed in relation to risk	Market failures as described in rows above	Offers significant, but unknown, potential. Most likely to stimulate new innovations in biodiversity finance. Could be used broadly to tackle risk, or targeted to supporting investments in all other areas
<b>Supporting Carbon Credit Actions</b>	Building on existing environmental market structures. Strong demand, scalability	Reliance on uncertain policy drivers/regulatory system. Verification and monitoring systems need to be tested under pressure of global markets and scrutiny	Significant for tropical forests. Also peat habitats (and possibly some other soil types) in EU and neighbourhood	Global policy uncertainty. Displace pressure from forests to other ecosystems. Conflicts over land tenure/forest rights. Insufficient safeguards leading to biodiversity loss.	The EIB's carbon funds experience and partners mean it is well placed to develop biodiversity add-ons in Carbon mechanisms. Completing 'proof of concept' and/or demonstration projects in this area could be a priority

	Strengths	Weaknesses	Opportunities	Threats	Conclusion
<b>Market Based Instruments</b>	Offsets practices and examples of PES established. Increasing private sector interest and some relevant experiences in EU. Can expedite development, and deliver greater ecological benefit than current on-site compensation requirements.	Lack of information on how ecosystem services change with management or offsetting. Reliance on regulation. Offsets only directly benefit biodiversity not already protected (but can indirectly help give more connected and bigger networks of sites).	Development of offsets market on basis of EU leadership. Brokering more complex PES deals. Recognition of no net loss and PES in EU 2020 Biodiversity Strategy reduces policy risk	Potential lack of market demand for, and political will to regulate for, offsets. Lack of availability of land, e.g. due to conflicts over land tenure, or continuing land-use subsidies may be a barrier	Realistic prospects for progress on biodiversity targets to 2020 through coordinated offsets/no net loss policy; PES options may need more policy development effort. Some uncertainties to overcome on risks, leverage, coverage
<b>Green Infrastructure</b>	Scale appropriate to sustainable environmental management. Recognition in EU 2020 Biodiversity Strategy reduces policy risk	Lack of information on how ecosystem services change with management. Possible reliance on public funding	Integration into wider land-use planning. Brokering complex deals. Synergies with climate change mitigation and adaptation objectives	Ability to keep pace with climate change adaptation needs?	Greater prospects for private involvement than PES, but uncertainty over how its management can contribute to biodiversity targets. Needs private markets in PES and/or public-private partnership approaches to develop to reduce reliance on public payments.
<b>Market Information</b>	Raise profile of biodiversity across financial sector	Biodiversity benefit is indirect and difficult to measure	Use of existing metrics, build on investors' familiarity with carbon and 'green GDP'. Link to accountability for biodiversity impacts	Won't enter mainstream financial activity if further information cannot be linked to better financial return	Not a strong option for objectives of this project. However, information failures restrict other areas, so could be given more attention

The analysis summarised in Table 1 acted as the basis for discussions within the project steering group that led to the selection of three intervention areas and two cross-cutting issues, for further analysis and investigation. The selection and was the subject of some disagreement within the steering group and among experts who gave inputs to the project. In particular, Supporting Biodiversity Business was seen as an area with significant potential, and Payments for Ecosystem Services are also regarded as important.

- **Intervention areas:**
  - i. Market-based Instruments - Offsets
  - ii. Establishing Green Infrastructure
  - iii. Supporting Carbon Credit Actions
  
- **Cross-cutting issues:**
  - A. Addressing investment and policy risks.
  - B. Providing market information about biodiversity.

The selection made was based on the particular focus of this project. It does not imply that the areas not selected for further analysis should not be priorities as part of wider initiatives to implement conservation objectives or secure biodiversity funding in innovative ways. The consultations undertaken for the selected areas revealed information about pro-biodiversity business that is highly relevant to the policy options surrounding private sector biodiversity financing, and therefore some coverage of this area was included in the further analysis and conclusions.

The selected areas (or areas for intervention) were examined in more detail through consultations with relevant experts:

- Interviews were undertaken with experts in private sector biodiversity finance. The experts spoken to and the proforma used to guide discussions with them are shown in Annexes 2 and 3 of the technical report.
- A project workshop held at the EIB offices in Brussels on 3<sup>rd</sup> May 2011. A note summarising the workshop discussion is appended to the project's Technical Report, and the key points from the workshop are reflected in this summary report.

Section 2 below contains further analysis of the prioritised areas, and also additional details in relation to Supporting Biodiversity Businesses.

## 2. Key Observations on Potential Policy Intervention Areas

This Section summarises analysis of the areas selected by the project for detailed investigation. It builds on the SWOT analysis constructed in the Technical Report and summarised in Section 1, using inputs from the project workshop and consultations with experts in the private finance sector.

### 2.1 Biodiversity Offsets

Biodiversity offsets and habitat banking are a relatively new environmental market. Offsets are conservation activities intended to compensate for the residual, unavoidable harm to biodiversity caused by development projects (BBOP, 2009). By giving companies some level of choice as to how they can meet their regulatory obligations vis-à-vis biodiversity, offsets can help them find the cheapest possible means of achieving a biodiversity target, and create an incentive to go beyond that target. Biodiversity offsets can be driven by regulation, but are also undertaken voluntarily.

As discussed in Section 3.8.1 of the Technical Report, reducing the cost of compensation or remediation is not the only incentive for businesses to offset their impacts. Businesses can also see returns from using offsets, for example, through relaxation of on-site compensation requirements and streamlined planning approval, reputation enhancement (CSR) and favourable access to capital. Demand for offsets is primarily driven by regulation (as in the US and elsewhere), which can support markets in which businesses create offsets that are stored and traded ('Habitat Banking').

Encouraging these practices could help develop and extend "no net loss" (NNL) protection on a targeted EU wide basis. This could then inform the delivery of the new EU 2020 Biodiversity Strategy action to develop a No Net Loss Initiative by 2015 - which itself provides a signal to developers and other stakeholders of possible EU-level support for offsets. Clear regulatory direction will reduce private sector concerns over the policy risks that are part of new markets driven by compliance regulations.

It must be recognised that there will be barriers to greater use of offsets in this way. Practical hurdles must be overcome to ensure offsets' relevance, completeness, consistency, transparency and accuracy.

Firstly, objections may relate to the increased cost burden placed on economic activity related to land use development. This is an inevitable problem of many policy approaches even if the costs concerned are relatively low. For example, modelling of offsets policy proposals in England suggests it would have annual costs of between

0.1% and 0.8% of the overall value of new build construction output in England (GHK and efttec, in prep.). The increased cost burden is in most cases likely to be modest in relation to the uplift in land value arising from designation for development, and represents an extension of the polluter pays principle.

Secondly, there may be barriers as to where offsets (or the policies that lead to them, like IFC PS6) can be required. They may be difficult for the International Financial Institutions to insist upon, for example when their role in a project is to provide guarantees, or invest in bonds, or when competing investors do not raise such requirements.

Thirdly, there may be barriers in terms of trust in the market systems involved, especially given the problems in the Carbon-compliance market (fraud, price volatility). To some extent, these barriers can be mitigated by guidelines on best or expected practice, including assurance standards for parts of offsets systems including for:

- Policies and practices within private businesses using offsets to compensate for their impacts on biodiversity;
- Individual offset actions (i.e. that generate credits), and
- Systems within geo-political areas where offsets can be used, including land-use planning, baseline biodiversity information, and governance structures. Governance should be through distinct regulators for land-use planning and offsetting activities, and have to be supported by sufficient public and private sector capacity to undertake tasks like verification and monitoring, and public sector capacity to ensure compliance with regulations.

The latter governance issues are an area where technical assistance from EU institutions could play a role in developing the use of offsets. There can be particular challenges in this area regarding land tenure (especially in developing countries without established land-use planning systems), but getting the governance of offsets right is considered fundamental for the credible development of local/regional markets. Assurance of these systems can provide greater certainty for investors and reduce reputational risk. Investors want to see that, if offsets are being used, the system is valid (they don't want to be associated with weakening planning systems), that companies are managing their own environmental issues (company assurance), and that compensation is of good quality (offset assurance) with the necessary guaranties of permanence.

### ***Potential Action at EU level***

Establishing market based instruments for biodiversity offsetting would help to deepen the use of offset practices within a number of “impactful” industries (e.g. housing and other construction, transport infrastructure development) and develop the

commensurability of metrics and standards for those practices. This is considered feasible based on existing best practice if a coordinated package of measures could be developed at European level. This could involve:

- A new (possibly framework) EU directive and/or adjustment of existing regulation (e.g. SEA/EIA Directives), and supporting guidance, laying out minimum standards for offsets. This could cover:
  - Clarifying and bringing together guidance on how offsets can be applied in a coherent manner with other EU legislation (i.e. to cases involving Birds and Habitats Directive designated habitats and species, and Environmental Liability Directive cases);
  - Applying offsets and mitigation for land use development planning outside Natura 2000 sites, in line with existing guidance (e.g. provided by BBOP/IFC PS6/Equator Principles). To have widespread effects, this would entail a strengthened requirement for No Net Loss in land use policies.
- European institutions could provide leadership by adopting requirements for no net loss in EU-financed activity inside and outside the EU in two ways. Firstly, applying conditions on use of offsets within investments (e.g. by International and EU Financial Institutions) could help pioneer further development of these techniques and the policies that underpin them. Secondly, favouring partnerships working with other financial institutions that apply requirements for offsets, such as in IFC performance standard 6<sup>12</sup>. However, the limitations to such leadership must be noted - the EU will not always have the market power to make such conditions binding.
- The EC giving preferential financial treatment (e.g. lower interest rates on loans, or investments taking a higher share of risk) to habitat banks/projects adopting the guidance (providing this is permitted under competition rules in the European single market).
- Technical assistance to countries (including some new Member States and accession countries, but also developing countries) to develop necessary pre-conditions for offsets where these do not exist, including:
  - An appropriate and robust land-use planning regime;
  - Biodiversity baseline information as a basis for prioritisation of different habitats and species with offsets criteria and regulation, and
  - Appropriate governance regimes.
- Investment in start-up of private sector businesses investing in creating offsets (i.e. banks of credits) to provide liquidity to new markets where the use of offsets is being initiated. This could be done through:

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<sup>12</sup> International Finance Corporation, performance standard on Performance Standard 6: Biodiversity Conservation and Sustainable Natural Resource Management

- Providing ‘soft’ loans with preferential terms over longer payback periods that reflect the length of time it may take to establish offsets markets.
- Co-funding national or local Government advanced commitments to purchase credits at a minimum price (that would be used to offset the impacts of public-sector developments) in order to create a minimum level of future demand that will reduce investment risks for private sector.

This package of actions could not be expected to be implemented immediately, so a roadmap is needed for the period 2012-2015, to guide progress towards it. This could involve:

- Building political will and demand, e.g. by raising awareness of the extent and cost of biodiversity loss arising from development, bringing developers, environmental NGOs on board and discussing modalities for the way forward.
- Based on accepted principles, assessing the market opportunities available in more detail, (the types and extent of projected development across EU MS which may generate offsets, availability of receptor sites).
- Assessing legal, policy and planning frameworks in Member States, for example exploring potential contractual arrangements for ‘in perpetuity’ offsets.
- Clarifying the costs and benefits of offsets and to whom these accrue (developer, landowner, regulator etc) - i.e. developing an impact assessment reflecting variations across the EU in land uplift value resulting from permitting for development, and implications for offsets.
- Developing standards on the metrics, certification and accreditation systems/guidance needed to operate an offsets system.
- Supporting pilots in selected Member States of offsets projects themselves, and organisations/systems for offsetting banks (credit broker institutions) and trading platforms.

The Commission might help build critical mass by bringing together ‘first mover’ developers and encouraging others to join in order to move towards a ‘tipping point’ in favour of offsetting. The now real prospect of possible future regulation (No Net Loss Initiative) is likely to help bring developers to the table.

This package of activity can increase private sector spending on biodiversity as evidence to date indicates. In both France and the UK, private companies are now developing biodiversity offsets in anticipation of markets developing. Indeed, the recent Natural Environment White Paper promotes local voluntary pilots to develop the use of offsets in England. In Germany, private investors have considered entering the market and then decided not to because of insufficient or not transparent regulatory drivers. However, even this negative response points to the usefulness of the package presented here.

While a range of activities are necessary, the key factor for a successful offset policy is a strengthened requirement for no net loss in land use policies. There must be political will and a legal requirement to implement no net loss. A clear role exists for the EC to coordinate action across national and/or regional planning systems, by governments at local and national levels, businesses and developers, investors and NGOs.

## **2.2 Green Infrastructure**

This project's research revealed that the most common understanding of Green Infrastructure (GI) tended to be the 'greening of grey infrastructure', i.e. reducing the impact of infrastructural projects. There remains a communications need surrounding the term 'Green Infrastructure' to embed a common understanding of it amongst relevant stakeholders.

In the context of EU policy and this project, the concept relates to the interconnectedness of habitats and ecosystems that underpins ecosystem service provision. It has an important role in providing adaptation capacity to climate change, and includes habitats inside and outside protected areas, i.e. the broader landscape matrix. This explanation of GI was understood by consultees of the project, and allowed them to relate it to their work, despite the use of the term in this way not being familiar.

For the purpose of this project, the distinction between GI and payments for ecosystem services (PES) is one of scale and nature: GI provides the resources (natural capital assets) that underpin ecosystem services from a large area (or network of natural capital). PES takes the form of payments for the flows of benefits resulting from natural capital, and can be applied at a local, smaller scale. GI represents an asset which the private finance sector could own, and generate profits against based on PES.

Although policy on GI is still developing, it is seen as a promising route to bring private sector finance into biodiversity conservation. GI outcomes are linked to biodiversity policy objectives with direct contributions to restoration of ecosystem services. A viable business model is less clear in this area, but it potentially involves long term management of GI that provides assets which private finance can invest in. The management of the GI maintains flows of ecosystem services, which generate revenue through payments by public bodies and/or in private PES markets if these develop.

A major barrier to delivering more PES activity (including that involving the private sector) is the need to broker multi-lateral deals. Green infrastructure offers potential as a way of organising biodiversity or ecosystem outcomes across a number of sectors

(e.g. sustainable agriculture, sustainable forestry, eco-tourism, aquaculture), and therefore of addressing this barrier. Activities in these sectors can contribute to green infrastructure, and are able to act as “proxies” for investment in biodiversity and ecosystems.

The current CAP and Cohesion policies reviews, and the Multi-annual financial framework (EC, 2011b), create some new opportunities for supporting Green Infrastructure. However, the current level of subsidy in Pillar I of the CAP creates a heightened opportunity cost to making necessary adjustments to rural land-use systems in ways that enhance green infrastructure. Similar restrictions may apply from increased land opportunity costs in urban and coastal areas providing for housing and tourism. This is because the subsidy favours a single provisioning service (agricultural output) as opposed to other types of services GI could provide.

### ***Potential Action at EU level***

GI is a relatively new concept, so it is important for the EU to provide a clear definition of what it really constitutes. Alongside this, a clearer understanding of what the EU’s natural capital base is, and the changes to ecosystem services that can result from its management, can be established. These need to be communicated and factored into broader thinking on natural resource management and economic development (e.g. reform of environmentally damaging subsidies).

There is a need to develop pilot GI projects, in particular with long term funding profiles that deliver multiple ecosystem services. Such projects are complex and inevitably risky, but there are ways that the EU could reduce risk and broker such multi-partner deals:

- Policy signals on future public funding for ecosystem services from GI are important, in particular this must be retained and strengthened as a long-term goal of the CAP during its current reforms, so that these funding opportunities remain in the next budget period.
- Risk sharing financial instruments could be used to underwrite/lever multilateral deals to manage GI. At this early and therefore high-risk stage in the development of GI projects, public finance may need to make first-loss commitments in such projects.
- As understanding, management and funding of GI develop, public-private partnership funding models can be considered in more detail. Private investment could be motivated by the ability to receive payments from both public and private buyers in return for ecosystem services provision (where this can be measured) from GI and/or maintaining GI in a certain condition.

## 2.3 Bio-Carbon Credit Actions

Carbon credit actions of interest here are those that have some additional criteria that enhance or conserve biodiversity at the same time as delivering carbon objectives, i.e., bio-carbon. Possibilities for instruments of this type exist globally in the form of the Clean Development Mechanism with biodiversity features and any REDD+ scheme that may be agreed and put in place in the future. They also exist in the EU and its periphery in terms of habitat restoration projects that prevent releases of soil carbon (in particular through peatland conservation projects).

REDD+ presents a significant opportunity for biodiversity conservation - one of its explicit aims is to demonstrate that carbon finance can support the objectives of the Convention on Biological Diversity on deforestation. The opportunity it offers is described as an immense potential co-benefit to biodiversity by UNEP FI (2011), and several major conservation NGOs support the use of REDD+ as a conservation tool (e.g. IUCN 2009, WWF 2009). It potentially combines both climate change and biodiversity protection goals in a compliance market. Since the COP 15 climate change meeting in Copenhagen in December 2009, more than US\$4 billion has been pledged by national governments to implement REDD actions and develop the REDD+ concept.

There is a viable business model, demonstrated through existing carbon markets and voluntary trades. The biodiversity 'product' is underpinned by monitoring and verification systems, and therefore market credibility is essential. There are several factors that could enable this to be scalable before 2020. Biodiversity is already a co-benefit of many forestry projects (and is reflected in the price of the associated carbon credits). The co-benefits are something investors are already asking for and, in some cases, are purchasing particular types of carbon credits as a proxy for biodiversity credits. Much work is already underway to prepare for a market in REDD+ credits - the voluntary market for forest carbon projects is paving the way in terms of measuring, monitoring, reporting, standards etc. High quality reporting, verification and monitoring are essential - otherwise risk to reputation is a deterrent to investment, and there is a wider risk of carbon markets further losing credibility.

Linkages between forest carbon projects and the EU ETS would significantly increase demand in this area. However, compliance through forest carbon credits is not currently considered an option for phase III of the EU ETS by the Commission. Significant stakeholders in the private finance sector suggest re-thinking this approach, as they consider this to be a significant opportunity for biodiversity finance. An initial linkage between EU emissions controls and forest carbon credits could be limited to a small percentage (say 1% increasing to 5%) of available markets in order to first test concepts in practice, and then monitor for adverse consequences elsewhere in carbon markets. Other options (such as a parallel bio-carbon market for the LULUCF sector which is not currently covered by the ETS) also need to be explored. Another approach to that avoids directly linking bio-carbon with the ETS is that revenues from

auctions of EU Allowances in Phase III could be used to support pro- biodiversity initiatives, as is currently done in Germany. The ETS Directive advocates that at least 50% of the auctioning revenues should be spent on mitigation activities, including REDD+ (EC, 2009).

Early investments of EU (and MS governments') money into REDD+ funds and perhaps rainforest bonds (whose coupons could be paid from REDD+ credits) could create some clarity on prices and standards for trading forest carbon. It could also encourage private sector capital to flow into such projects before any agreement on an international post-2012 climate change treaty or REDD+ agreement. Consultations with sector experts and recent investment fund activity (See Case Study C in Appendix 1) suggest that a relatively modest EU investment in such bonds could have a large multiplier effect (possibly a factor of 20+) on private capital, including from mainstream institutional investors not just existing carbon market investors.

There are a series of issues that would need to be addressed, at least to convince some stakeholders, in order for bio-carbon credits to develop as a mechanism that directs private sector finance to benefit biodiversity:

- There remain operational issues such as gaining the approval of indigenous peoples and the technical difficulties of monitoring and verifying actions in forest states.
- If the REDD+ mechanism eventually agreed upon is primarily a state-to-state transaction, this will greatly limit the potential role of private finance.
- The permanence and security of forest projects, their insurance, property rights issues, regulatory risk, and corruption are also challenges.
- There are concerns about extensive use of forest-carbon credits:
  - Displacing development pressures from tropical forests to other habitats;
  - 'Flooding' of existing carbon markets (EU ETS) with land carbon credits (REDD/LULUCF credits);
  - The extent of biodiversity conservation benefits in practice;
  - Monitoring to assure credit quality;
  - Having a confused focus due to multiple objectives being attached to credits, and
  - Still requiring proven metrics for measuring biodiversity benefits.
- Forest-carbon is not reflected in the analysis used to calculate annual emission abatements targets. If links to forest carbon are established from existing trading schemes, then there would be a need to re-evaluate of emissions reduction targets, in order to ensure that trajectories towards global greenhouse gas concentrations targets were maintained.

There are divergent views on the potential of investing in this area. On the one hand, there is limited policy appetite for linking up new market mechanisms to combat climate change in emerging economies with existing carbon markets, which may lead eventually to an increasingly fragmented carbon market. However, the carbon credit sector, notwithstanding the global policy uncertainty, has established market structures and would be rapidly scalable with appropriate policy and price signals. Others highlight the severe risk of following carbon markets as their credibility among many investors is now very low.

The majority of the expert stakeholders in the private finance sector consulted for this work do not view ‘flooding’ of existing carbon markets or other risks as significant. They view the carbon market as probably the easiest way to finance significant biodiversity actions in the short term at least.

As global bio-carbon markets develop primarily around forest-carbon, there remains an opportunity for action to develop carbon credits from biodiversity conservation actions that protect soil-stored carbon in the EU and neighbouring countries. In particular peat-based wetland habitats in Eastern Europe have high carbon and biodiversity value or potential (through restoration). Work is near completion on providing a market-acceptable emission reduction accounting methodology, which may result in a commercial voluntary carbon market deal being concluded (Karpowicz 2011).

Similar issues of monitoring and verifiability that arise in forest-carbon management also apply to soil (and peatland) carbon. Within the EU there is some ongoing work with a Communication from the EC on if and how to include LULUCF categories in future EU GHG reduction targets expected later this year. The medium-term objective should be the expansion of reporting on cropland, organic soils and all land use changes, which could lead to increased carbon deals.

### ***Potential EU Action***

There are a number of actions that could be taken at the EU level to increase private sector funding into biodiversity conservation through high biodiversity carbon credits.

The financial actors consulted indicated that firstly the EU could stimulate supply of such credits by:

- Playing a role in their up-front development, e.g. sponsor for pilots supporting REDD+ (or similar) credits.
- Reward sellers of high-biodiversity credits with an additional payment.
- Buying them, and selling them at loss as normal credits - with the loss representing global biodiversity conservation expenditure in the short-term, and an investment in this market in the long-term. However, this is understood

to go against the current rules for managing and spending the Community's Budgets.

These actions would encourage markets in which high biodiversity carbon credits are traded, within which EU action could help to lower transactions costs and develop trust in the market.

Secondly, the EU should aim to send the clearest possible positive policy signals about viable sources of future demand for biodiversity carbon credits. This is clearly not facilitated by the currently complex global political negotiations on climate change policy. While links between forest carbon and the EU ETS are not considered viable, other options should be pursued to provide clarity on a future regulatory framework that can provide a source of demand for forest-carbon - current uncertainty is a deterrent for most private sector actors as it makes it very difficult for them to manage risks.

Thirdly, the EU can aim to develop pilot schemes to promote opportunities for carbon credits from biodiversity conservation activities in the EU and neighbouring countries. This can target habitats with high biodiversity and carbon value (e.g. peatlands), and aim to demonstrate and test standards for appropriate accounting, monitoring and verification requirements. Peat credits projects demonstrating these concepts exist in Belarus and Ukraine, and further actions are being negotiated. There is potential for similar approaches and possible investments inside the EU, providing the high opportunity costs for land management as a result of the CAP can be overcome. If these opportunities are not developed now, they may be by-passed by global biodiversity-carbon activity, which remains focussed only on tropical forests.

Fourthly, financial risk sharing approaches could be developed to support the adoption of bio-carbon and biodiversity credits in mainstream institutional investment and support innovation. Regulatory risk will be the main private sector concern to address the critical question - how will Global, EU and national policies look at bio-carbon in the future? Co-investment approaches can also be considered in this space. These could include:

- Seed investment in bio-carbon funds;
- Facilitating "rainforest"<sup>13</sup> bond investments using the fund raising potential of public sector banks.
- Input to a platform for advanced market commitments to purchase bio-carbon credits, either by coordination by an international finance institution or by taking a stake (possibly on preferential terms) if it was coordinate by a private sector organisation. This could start by bringing together 'soft money' in the

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<sup>13</sup> In this context 'rainforest' is an investment term that means all types of Tropical Forests.

forest carbon sector, and could potentially help it lever private sector funds by blending this with commercial private investments in bio-carbon credit funds.

The EIB's experience with 'conventional' carbon funds means it is well placed to be involved in similar funds with a biodiversity component. Other activity in forest carbon projects in Europe is mainly at the level of national governments - e.g. Norway and the UK. If this becomes the norm, there may be no role for private sector finance, and the EC's involvement could be to coordinate Member State actions. The mandate for action taking outside the EU by EU Institutional Financial Institutions is less clear, in particular in terms of involvement in full-scale long-term investments (as opposed to pilots or establishing trading platforms).

## 2.4 Supporting Pro-Biodiversity Businesses

Pro-biodiversity businesses (PBB) are a growing area of interest, and have been the subject of detailed development work (e.g. Bishop et al 2008<sup>14</sup>). This work demonstrates extensive potential to develop PBB models in the EU and in developing countries. This potential arises from their:

- Ability to target SMEs within high-biodiversity value areas (where opportunities in large scale businesses are generally absent);
- Potential approach of clustering investments, which can reduce transaction costs (somewhat), motivate coordinated actions (e.g. across areas of Green Infrastructure), and provide location-branded pro-biodiversity products;
- Attractiveness to development banks who have been willing to fund research and development on PBB concepts and models;
- Feasibility of developing sound EU biodiversity impact measurement tools for PBBs in Natura 2000 areas based on site management plans, and
- Attractiveness as both a biodiversity policy tool and a rural development tool.

Although this was not selected as an area for further analysis, preliminary analysis shows that at this stage, the potential for PBB support to bring *additional* private sector investment into biodiversity conservation is limited because of the following barriers:

- In the EU (and elsewhere) PBBs in rural areas may face difficulties in terms of high opportunity costs from agricultural production subsidies (in the EU under the CAP);

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<sup>14</sup> <http://www.business-biodiversity.eu/default.asp?Menu=83&News=35>  
<http://www.smeforbiodiversity.eu/>

- The focus of PBB on SMEs brings high transaction costs for any support /capacity building scheme (despite clustering) and may limit scalability of individual businesses and schemes, and/or a reliance on third sector investment and brokerage and
- The rates of return on PBB may not be sufficient, in comparison to the policy risks and high transactions costs, to motivate significant private sector investment (and in particular to lever it at a high ratio).

Despite these, there are significant opportunities to utilise PBB to maximise the impacts of public funding on biodiversity goals within and outside Europe. For example public finance into rural development could be diverted to supporting PBBs. As a rural development mechanism, PBBs can justify support across a range of policies (e.g. Maritime, Agricultural, Enterprise, Environment, Regional and Cohesion, Climate Action, Competition) and funds (e.g. Cohesion, Rural Development, Research and Innovation). These funds already have systems developed to deal with SMEs.

Greatest potential arises in linking across these funds through a ‘biodiversity platform’ delivering technical assistance. Clustered PBB investments can provide product supplies from geographically identifiable areas that are suitable for ‘branding’ based on their biodiversity value (for example, through Natura product-labelling programs). The potential of such markets is indicated by the relative success of MSC and FSC labelled products with European Consumers.

Outside the EU, pro-biodiversity business pilot investments have provided proof of concept and are being developed further (e.g. the Eco-enterprises funds). However, further work is needed to expand this approach across diverse national governance regimes.

### ***Potential Action at EU level***

Within Europe, policy coordination across various policy areas is needed to develop support for biodiversity businesses. Firstly, financing streams targeting biodiversity businesses could be included across the range of different rural and SME support funds available in the EU. Secondly, environmentally harmful subsidies should be reformed in order to remove the barriers to the development of pro-biodiversity businesses.

Thirdly, in business areas with high potential, biodiversity technical assistance units (that have already been piloted) could be established to link investments through each of the ‘windows’ in the different funds to relevant businesses. This might help biodiversity business to be defined as an asset class and identifiable to investors.

## 2.5 Payments for Ecosystem Services (PES)

PES are an important part of the developing biodiversity policy. In fact bio-carbon credits and offsets proposals discussed above show two ways in which markets for specific ecosystem services might develop. Their selection reflects the fact that PES is a broad concept, which in itself may not be a suitable focus for policy. Instead, it may be better to view PES as an underlying model, for which sound principles and best practice exist, but which is delivered through more specific policy initiatives discussed above. The concept is useful for example in the current discussions of the CAP and CFP reform, to refocus existing subsidies towards rewarding ecosystem services. Further work is needed to explore the potential involvement of the private sector to purchase ecosystem services, and the extent to which existing schemes for water services<sup>15</sup> can be replicated.

## 2.6 Risk

Managing investment risks was identified as an important cross-cutting issue restricting private sector finance in biodiversity. Risk is a function of yield (i.e. the variability around realising intended yield), which is in turn based on business models. There are many different types of risks involved in financing of projects that can benefit biodiversity. There are issues with units, reporting and the underlying issue of climate change making it very difficult for the private sector to invest. However, environmental assets can theoretically have attractive risk profiles. For example, forestry investments are potentially ideal for long-term investors such as pension funds and insurance companies, who are responsible for managing most private sector capital.

A number of options available for ‘softer’ approaches to reduce risk in pro-biodiversity investments are discussed in Section 1.5 of the Technical Report. The key issue in relation to the areas examined for this project is often policy or regulatory risk. For the EU to take action to address this risk, two approaches are possible.

Firstly, public institutions can use financial instruments that share risks with the private sector. These measures absorb risks, so that its deterrence to private finance is reduced. It may be possible to design a generic biodiversity, or environmental, risk reduction financial instrument, which seeks to leverage investment into pro-biodiversity (environmental) activities. However, it should be noted that a focus solely on biodiversity risk may be difficult because it is part of a wider risk picture (e.g.

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<sup>15</sup> e.g.: Volvic (France) <http://www.danone.co.uk/BetterWorld/Environment/Water/ProtectingSources/> ; United Utilities (UK) <http://www.unitedutilities.com/scamp.aspx>; Vittel (France) <http://pubs.iied.org/pdfs/G00388.pdf>

overlapping with indigenous communities/rights, climate change), and that biodiversity risk may remain a minor influence on most investment decisions.

Secondly, policy can be designed to reduce the risks associated with it (CEMEP<sup>16</sup>), to:

- Include long-term commitments in order to reduce the risk from policy-changes in environmental markets (especially those where regulation of externalities is a driver of the market);
- Be clearly and boldly communicated, and
- Be backed by legal instruments in order to give the right conditions for development of environmental markets.

These two actions can be pursued independently or simultaneously and are related: risk-sharing expenditure may partly be a way of addressing policy risks. To the extent that policy risks can be mitigated through improved policy design, this spending is not optimal. However, policy design cannot eliminate risks, for example where policies require agreement in international negotiations.

The issue of policy design is particularly important to environmental compliance markets, as discussed under bio-carbon credits and offsets above. It may be helpful to support policy makers in thinking about the effect of their decisions and communications on markets. The tight laws governing communications processes regarding information concerning publicly listed companies illustrate the care that communications influencing markets require.

### ***Potential Action at EU level***

As a cross-cutting issue, the response to the risk barriers that prevent private sector investment in pro-biodiversity projects must also be cross-cutting. Two options are suggested.

Firstly, an initiative could be developed to make EU environmental policy-making more conscious of its effects on environmental compliance markets. This could involve highlighting to senior staff how their actions influence markets and what good practice involves in order to facilitate the consideration of such factors amongst the many other complications they face.

Secondly, financial instruments that are flexible enough to adopt different risk-sharing practices can be used and/or pilot projects can be undertaken. Different instruments may be needed in different pro-biodiversity investments, including the other areas analysed in this report, under which specific suggestions have been made:

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<sup>16</sup> <http://webarchive.nationalarchives.gov.uk/+/http://www.bis.gov.uk/policies/business-sectors/low-carbon-business-opportunities/cemep>

- For bio-carbon credits, the long-term policy framework is the key source of risk. Certainty through global agreements and creating a source of compliance demand for high-biodiversity credits in EU policy frameworks can both reduce this risk.
- For biodiversity offsets, there is also the need to strengthen compliance requirements as the key driver of demand. Risks associated with investments in creating offsets for future sale can be reduced by soft loans and/or by co-funding advanced purchase commitments in new markets.
- For supporting Green Infrastructure, Pro-Biodiversity Business and Payments for Ecosystem Services in the EU, the future of land use and rural development subsidies is a key source of policy risk. Investment risks can be reduced by bringing together multiple purchasers for outputs from Green Infrastructure, coordinating funding and technical assistance given to SMEs to reduce transactions costs and achieve agglomeration business benefits (e.g. pro-biodiversity produce labelling)

Reducing risk in investments in biodiversity and ecosystem services markets could be an objective of a new EU Biodiversity Financing Facility.

## 2.7 Information

Information is needed to determine and compare the impacts on biodiversity from different financial activities, at project, company, and investment levels. Awareness within companies and the financial sector of biodiversity remains low (PWC, 2010). Fortunately improving awareness could be a necessary complement to several of the policy actions discussed above. In addition, there are many existing initiatives to make biodiversity and ecosystems issues more visible to the financial sector which can be built on (e.g. activity is still being stimulated through the reaction to TEEB, 2010).

Information is relevant at all levels, for individual projects (e.g. to determine project risks or assessment equivalence of biodiversity offsets), right up to country level. The provision of information alone is not sufficient, however, and it needs to be tied to the investment performance. For countries, UNEP FI is looking into integrating biodiversity and ecosystem services (BES) risks into country credit ratings. Their intention is to link these BES ratings to medium/long-term competitiveness, and hence to securities and country economic performance.

Overall, the tools available to provide information on BES to the private sector can be expected to improve. The EU can play a role in promoting these, and moving towards increased disclosure of environmental impacts for large companies, and in turn this could be a major driver of environmental investment.

### ***Potential Action at EU level***

There are already a number of research and development initiatives underway in this area globally. Therefore a further initiative at EU level might duplicate existing efforts, causing confusion but adding little additional progress. However, action could still be taken at EU level to support better provision of BES information that is relevant to private sector finance. For example, as described under GI above, there can be a need to define and promote the concepts being used to formulate policy.

EU institutions could seek to make use of the outcomes of current global initiatives. Policies on biodiversity can seek to adopt (and pilot) appropriate measurement and reporting systems. The EC could monitor the development and use of such systems, with a view to endorsing the use of specific systems once proven and appropriate (e.g. in relation to the biodiversity gain in forest carbon credits or biodiversity offsets reporting).

### **2.8 EU Action across Biodiversity Opportunities - An EU Biodiversity Finance Facility?**

The areas analysed share some common principles for EU encouragement of private sector finance of biodiversity:

- For private finance to engage in biodiversity and ecosystem services markets, potential financial returns in these markets need to develop further (e.g. in markets driven by compliance; or through innovative use of public finances to blend with, and therefore lever, private finance).
- Compliance markets (e.g. for bio-carbon and biodiversity offsets) offer strong short-term prospects for increasing private financing of biodiversity, but they have high policy risk, and so consideration should be given to managing the policy-making process to control this risk.
- Risk can also be reduced and pilot/start-up activity initiated through advanced market commitments (e.g. in bio-carbon and offsets markets).

The role that the EC and/or International Financial Institutions can play in enabling biodiversity related private financing will need to offer a cost-effective choice compared to other policy options. They can coordinate collective actions by private financial interests across multiple Member States and internationally, where unilateral action would be more costly or less effective.

The principles for action, and the roles of the EC and International/EU Institutional Financial Institutions vary in relation to the different potential public and private investment funds. For the relatively small volumes of funds controlled solely by public sector European institutions (either spent directly or invested unilaterally), tools

include no net loss (offsets) conditionality on projects that they spend on, and technical assistance and pilots in the areas prioritised for action.

A very small fraction of the vast levels of finance controlled by the private sector currently engage with positive biodiversity impacts. In this area, the EC can act to reduce policy risks and EU/International Financial Institutions can play a role to demonstrate the feasibility of pro-biodiversity investments (proof of concept). Financial tools (such as different risk-sharing practices) can be used to blend public and private funds. In this way the public sector can encourage private sector funds into projects that are beneficial to biodiversity that they would not otherwise invest in.

One mechanism to bring together EU-level actions for investments in biodiversity and ecosystem service markets is to establish an EU biodiversity finance facility. It could be core-funded through EU LIFE funds, and/or by taking a small fraction of the funds that flow through it as a fee.

Its role at EU level could include to:

- Promote politically the idea of using of private sector finance in delivery of biodiversity and ecosystem services objectives.
- Support pilot and demonstration actions and business start-ups necessary for the development of BES markets.
- Develop technical assistance programmes for biodiversity and ecosystem service markets that combine funds from different public finance institutions.
- Provide a conduit for investments, grants and soft loans from different EU budgets that can co-fund biodiversity outcomes and other objectives (e.g. rural development, innovation).
- Research and communicate the future demand in compliance markets (e.g. future demand for high-biodiversity carbon credits or biodiversity offsets).
- Promote the use of biodiversity metrics and information in biodiversity and ecosystem service markets and wider financial activity, based on currently developing global research.
- Research different finance models that could support biodiversity and ecosystem service markets, for example to investigate public-private partnerships to manage Green Infrastructure and broker multi-purchaser deals for their services.
- Identify risks that are blocking private sector investments in biodiversity, and coordinate ways for public finance to reduce these (e.g. through soft loans to help start-up new markets).
- Support an EU research and innovation partnership, in the context of the Innovation Union Flagship Initiative, on innovative financial instruments for biodiversity and ecosystem services.

### 3. Recommendations

This project has consulted with a representative range of stakeholders and drawn together conclusions on:

- Private finance opportunities in relation to biodiversity; and
- European interventions that can bring these about.

This Section makes recommendations for further work and potential policy development to increase private sector funding into biodiversity conservation in each of the main areas of analysis in turn, and for the main principles covered and future activity at European level.

#### ***Biodiversity Offsets***

1. A coordinated package of measures at EU level within the context of Action 7 of the EU 2020 Biodiversity Strategy (2015 No Net Loss Initiative), could involve: regulation and/or policy guidance; establishing/expanding demand for offsetting requirements for EU-funded projects; and sharing of best practice among Member States (e.g. institutional arrangements for offsetting, strategic land-use planning for offsets - which can be supported by technical assistance).
2. While a range of activities and issues are necessary to the successful increased use of offsets, the key factor is a strengthened requirement for no net loss in economic development and land use policies.
3. Financial instruments could support offsets through seed market investment, for example in the form of equity to cover the long return periods for initial private investors in credit creation, or as co-funding for national or local government advance purchase commitments to guarantee a minimum price and volume of future demand for offsets.

#### ***Supporting Green Infrastructure***

4. GI is a relatively new concept so the EU should aim to communicate both a clear definition of what green infrastructure constitutes, and how it offers an asset against which to generate profits based on PES, to the private finance sector and other stakeholders.
5. There is a need to support further (pilot) GI projects, in particular those delivering multiple ecosystem services, and to consider the use of risk sharing instruments that could underwrite/lever investment in multilateral deals

(between multiple providers and multiple beneficiaries of ecosystem services in the public and private sector) to manage GI.

### ***Bio-Carbon Credits***

6. EU institutions can support research and pilot projects to develop monitoring and verification of biodiversity impacts from high-biodiversity carbon (bio-carbon) credits, and test safeguards and standards, while promoting good governance.
7. The EU should send the clearest possible policy signals about future demand for biodiversity-land carbon credits. It could consider options for linking a small percentage of existing EU carbon emissions reductions requirements to bio-carbon or land-carbon credits.
8. EU financial institutions can stimulate supply of bio-carbon credits, for example, through coordinating forward market commitments.
9. Financial risk sharing approaches can be used to support increased demand for bio-carbon credits. For example, by coordinating forward market commitments of soft money, and maximising the leverage of private sector investments from these. The EIB's experience with 'conventional' carbon funds means it is well placed to do this.
10. The EU should explore opportunities to sell carbon credits from biodiversity conservation activities in the EU and neighbouring countries (e.g. from peat-habitat restoration projects).

### ***Supporting Pro-Biodiversity Business***

11. Pro-biodiversity business is an area where public funds can be used effectively to support biodiversity objectives through involvement of the private sector (e.g. SMEs that manage high-biodiversity, high-nature value land).
12. Within Europe, biodiversity businesses should be supported through policy coordination across financing streams that can tackle barriers created by environmentally harmful subsidies, and by establishing biodiversity business technical assistance units.

### ***Risk***

13. As risk is a cross-cutting barrier to private sector investment in pro-biodiversity projects, the response to it must also be cross-cutting.

14. An initiative could be developed to support EU environmental policy-makers in understanding and managing their impacts on environmental compliance markets.
15. Financial instruments need to be flexible enough to adopt different risk-sharing practices in order to lever large-scale private investment and/or allow pilot pro-biodiversity investment projects to be undertaken.

### ***Information***

16. Information failure is another cross-cutting issue and addressing it will facilitate easier adoption of action in all areas. The EU can support better the provision of biodiversity and ecosystem services information that is relevant to private sector finance by using the outcomes of current global research and development initiatives in this area, as well as state of the art reporting based on EU legislation requirements.
17. The EU should consider developing, within the context of the Innovation Union and Resource Efficiency Flagship Initiatives, a research and innovation partnership on innovative financial instruments for biodiversity and ecosystem services (this might also address the issue of policy risk in relation to compliance markets).
18. Policies on biodiversity can seek to adopt (and pilot) appropriate measurement and reporting systems. The EC should monitor the development and use of such systems, with a view to endorsing their use for specific future purposes.

### ***Underlying Principles***

19. The EC should examine the legislation that underpins (e.g. Environmental Liability Directive) or could underpin (e.g. EIA Directive, EU ETS) biodiversity and ecosystem services markets in Europe to assess whether they could better encourage private sector investment, and if so, how and take up the findings in future policy and instrument reviews.
20. The most promising areas are those that offer flexible investment proposals, i.e. they can be proposed for different types of business and they can follow more than one possible business or transaction models. Therefore, policy instruments should be inclusive and allow for different sizes of business and types of sectors. They should also ideally have a mixture of public and private goods characteristics, and therefore justify public support, but also provide potential vehicles for engaging the private sector and provide returns to private investment. Smart and clear regulation is needed to drive many aspects of private sector investment in biodiversity, and to make them viable.

21. Consideration should be given to bring together EU-level actions for investments in biodiversity and ecosystem service markets by establishing an EU biodiversity finance facility. It could be core-funded through EU LIFE funds, and/or by taking a small fraction of the funds that flow through it as a fee.

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## Glossary & Acronyms

### **Additionality**

A property of a biodiversity offset (or any action), where the conservation outcomes it delivers are demonstrably new and additional and would not have resulted without the offset (or the action).

### **Asset-backed security**

Typically, a bond whose repayment depends on the future cash flows from the investments made with the capital raised. For example, tropical forest bonds are being designed, where the cash flows would come from the sale of credits in a future REDD market.

**BES**                    Biodiversity and Ecosystem Services

### **Biodiversity (or biological diversity)**

As defined by the Convention on Biological Diversity (CBD), biodiversity is the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species (genetic diversity), between species and of ecosystems.

### **Biodiversity conservation**

The deliberate management of biological resources to sustain key biodiversity components or maintain the integrity of sites so that they support characteristic types and levels of biodiversity. One of the motivations for biodiversity conservation is to maintain the potential of biodiversity to meet the needs of future generations. Conservation includes preservation, maintenance, sustainable utilization, restoration and enhancement of the natural environment.

### **Bonds**

A bond is a fixed-income security that provides a way to raise up-front finance through the capital markets. Investors who buy the bonds receive a fixed rate of return in the form of an annual 'coupon' plus repayment of their initial investment (the 'principal').

**BBOP**                    Business and Biodiversity Offsets Programme

**CAP**                    Common Agricultural Policy

### **Co-financing**

Two or more institutions/agents provide finance for the same project, e.g. grants from EU regional and structural policy that match Member States funds.

### **Concessional debt**

A form of debt, typically issued by multilateral agencies or governments, which charges a lower interest rate than the prevailing market rate, in order to incentivise a particular goal.

### **Credit line**

An arrangement in which a bank extends a limited amount of unsecured credit to a particular borrower for a specified period. The borrower can usually draw down the funds whenever they choose, provided they do not exceed the agreed limit.

### **Debt**

Debt is formed when money is borrowed by one party from another. Bonds, loans and commercial paper are all examples of debt.

**EBRD**            European Bank of Reconstruction and Development

**EC**                European Commission

### **Ecosystem**

A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

### **Ecosystem approach**

A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way based on the application of appropriate scientific methodologies focused on levels of biological organization which encompass the essential processes, functions and interactions among organisms and their environment. The ecosystem approach was designed to help reach a balance of the three objectives of the Convention on Biological Diversity (conservation of biodiversity, sustainable use of biodiversity, and the fair and equitable sharing of the benefits arising from the use of genetic resources). It recognises that humans, with their cultural diversity, are an integral component of ecosystems.

### **Ecosystem services**

The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling.

**EIB**                European Investment Bank

### **Equity**

Where an investor takes an ownership stake by buying shares in a company. Debt investors, on the other hand, provide credit to a company but this does not give them an ownership stake.

**EU**                European Union

### **Externality**

A cost or benefit which is incurred externally to existing markets and so is not provided efficiently. For example carbon dioxide emissions were until recently free for a producer but the globe incurred a cost. By charging for those emissions either

through cap and trade or taxation those costs can be internalised back into the market.

**FSC**                      Forest Stewardship Council

### **Guarantees**

Guarantees can be provided to banks and other financial institutions that provide loans to SMEs and other beneficiaries in order to minimise the risk faced by the intermediaries. Such guarantees can have a significant effect in leveraging private sector investments.

### **Green Infrastructure (GI)**

The interconnectedness of habitats and ecosystems that underpins ecosystem service provision.

### **Habitat banking**

A market where credits from actions with beneficial biodiversity outcomes can be purchased to offset the debit from environmental damage. Credits can be produced in advance of, and without ex-ante links to, the debits they compensate for, and stored over time. The term ‘habitat banking’ can refer to both species and habitats - therefore in context of this study is analogous to ‘conservation banking’ and ‘biodiversity banking’

### **Impact Investing**

Impact investments are investments intended to create positive impact beyond financial return. Investors measure their returns in a combination of financial and non-financial terms.

**IUCN**                      International Union for Conservation of Nature

### **Market-based instruments (MBIs)**

Incentive systems and tools that operate through establishing prices for environmental services, via a market. The markets in question are either established ones, for example existing markets in goods and services or in labour and capital equipment. Or the market may be ‘created’, usually with some form of encouragement from government - as in the case of habitat banking.

### **Mezzanine finance**

This is a form of subordinated debt which the lender can convert into equity if the borrower defaults on the loan. Typically, interest rates for mezzanine debt are very high but it can be an attractive way for companies to raise money for expansion as little or no collateral is required and it is often quick to arrange.

**MSC**                      Marine Stewardship Council

### **Natura 2000**

The Network of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) designated under the Birds and Habitat Directives respectively throughout the EU.

**No net loss**

A target in which the impacts on biodiversity caused are balanced or outweighed by mitigation measures and, if necessary, offsets or compensation measures for residual impacts, so that no loss remains.

**Offset**

Following the definition of the Business and Biodiversity Offset Programme (BBOP, 2009), offsets are “measures taken to compensate for any residual significant, adverse impacts that cannot be avoided, minimised and/or rehabilitated or restored, in order to achieve no net loss or a net gain of biodiversity. Offsets can take the form of positive management interventions such as restoration of degraded habitat, arrested degradation or averted risk, protecting areas where there is imminent or projected loss of biodiversity.

**On-lending**

When one organisation lends money that they have borrowed from another organisation. For example, the EIB might make a loan to a local bank to enable it to lend to a local company.

**PBB** Pro-Biodiversity Business

**PES** Payments for Ecosystem Services

**Protected area**

An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

**REDD** Reduced Emissions from Deforestation and Forest Degradation

**Revolving credit line**

A credit line which can be borrowed again once it has been repaid.

**Securitisation**

The creation of asset-backed securities. The borrower issues debt securities that are repaid using only cashflows from a certain set of assets. (e.g. from a pool of mortgages). The assets to be securitised are first sold to an intermediary known as a ‘special purpose vehicle (SPV)’ which issues the bonds or other securities. This isolates the borrower from any claims for repayment should the cashflows fall short of what is required to pay the investors. The SPV pays the borrower for the assets using the revenues from the sale of the bonds.

**SRI** Social Responsible (or Sustainable and Responsible) Investment

**Subordinated debt**

A loan that ranks below other loans, in the case of a borrower defaulting. Holders of subordinated debt would therefore not be repaid until after other debt holders.

**UNEP-FI** United Nations Environment Programme, Finance Initiative

## Types of Private Finance

The analysis in the technical report discusses the role of 'private finance' in relation to biodiversity. In practice the private finance sector has some distinct components, which can behave very differently:

### **Institutional Investors**

This term covers a range of organisations that, collectively, are responsible for investing most private sector capital. They include pension funds, mutual funds, insurance companies, hedge funds and investment banks. Most shares in publicly-listed companies are owned by these investors. They are also major buyers of corporate and government bonds and invest heavily in property.

The money managed by many of these institutions comes from the public (in the form of pension payments, insurance premiums and purchases of shares in mutual funds).

### **Investment Banks**

Unlike retail banks, investment banks do not take deposits. Their main role is to help companies raise long term capital by issuing shares or bonds. They also advise their corporate clients on mergers and acquisitions as well as making investments in the financial markets on behalf of companies or institutional investors, as mentioned above.

### **Brokers**

A broker helps facilitate financial market transactions by bringing together a buyer and a seller of a particular asset and takes a commission when the deal takes place. Brokers were very influential in the early days of the carbon market by matching up sellers of carbon credits (e.g. owners of small renewable energy projects in developing countries) with potential buyers of credits (e.g. major emitting companies in the EU such as power generators, steel producers etc).

### **Private equity**

Equity capital for companies that are not listed on a public exchange. Such capital can be provided by either retail or institutional investors.

### **Venture capital**

A subset of private equity investments which is generally restricted to investments in early stage companies which are too small to raise money in the public markets or to secure bank loans. As these companies have limited trading histories, they are relatively high-risk investments, so venture capitalists generally take a substantial equity stake and have a significant say in company decisions.

There are also different approaches to investment returns exist within current pro-biodiversity financing:

- i. **PHILANTHROPIC** - investors that are willing to make financial losses in return for other gains (e.g. environmental objectives).

- ii. **MEASURABLE IMPACT** - investors who are willing to “take a hair cut” (i.e. receive back only a proportion of the financial stake they put in), but receive other non-financial returns in the form of a measurable impact upon the environmental objective (Impact Investors).
  
- iii. **INSTITUTIONAL INVESTMENT MANAGER STRATEGIES** - Investors who see a biodiversity or environmental investment strategy which can produce commercial financial returns.

## Annex 1: Case Studies of Unrealised Potential Pro-Biodiversity Private Finance Deals

The following case studies all illustrate recent potential deals for private finance to support biodiversity conservation outcomes that have NOT happened. There are a number of positive case studies of private finance available<sup>17</sup>. The negative examples used here were chosen to offer a different perspective, and focus on how to increase private finance, which is the key issue for this study.

They are not intended to criticise any of the parties involved for not bringing them about: the commercial and other decisions involved are fully respected. They are used because they show the sort of transactions that are possible to bring private finance into biodiversity conservation. They also highlight some of the barriers that prevent this happening on a larger scale, and ways in which these barriers can be overcome.

### A. Private Finance for Green Infrastructure

Across Europe there are many examples of landscape scale projects aimed at managing land to maintain or even improve agricultural incomes whilst also restoring ecosystem services. An example of a project in the UK is described in detail in Section 4.6.1 of the Technical Report, and is summarised here. The project is led by a local wildlife NGO and is working to restore biodiversity and ecosystem services (likely to include flood risk mitigation, recreation and carbon sequestration) from an upland area at the top of a large river catchment with settlements prone to flooding.

Following a chance encounter between a senior manager within an Insurance company and a member of the Project's NGO management team, interest in the insurer funding the Project was sparked. The Project managers entered into discussions over a period of 6 months. The total costs for the Project are in the region of £5 million.

The insurer's decision not to invest in the project provides an insight into the potential private funding for 'Green Infrastructure' projects:

- The £5million cost of the project may be well in excess of normal CSR motivated donations to environmental projects by the insurer. As such the insurer would be moving all of its CSR funding into a single project, which increases risks and reduces impact.
- The Project is a long term investment in land use change and habitat re-building with no guarantees that it will meet all of its environmental targets.
- The insurer was interested in the project's potential to reduce flood risks for downstream areas (where it has some insurance customers). Flood mitigation work provides clear potential savings against flood damage payments for an insurer, but these are impossible to quantify at present, and their benefit to

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<sup>17</sup> See technical report Sections 2.1.2, 3.5, 3.8 for descriptions of the Marine Stewardship Council and Forest Stewardship Council; biodiversity investment funds; and the Business and Biodiversity Offsets Partnership, respectively.

- the insurer is reduced by potential free-riding from competitors and by provision of flood defences in urban areas as a public good in the UK.
- Discussions about the insurer's funding only happened by chance, and a more formal process to allow managers of GI and purchasers of ES to communicate might help formulate more deals.
  - The NGO and insurer may have not have perceived the investment case for the project in the same way: the NGO was focussed on the CSR aspects of the project, whereas the insurer was focussed on the financial return offered and the research value into this benefit. Better understanding and communication about potential pro-biodiversity private sector investments could help overcome this.
  - The deal had weaknesses because it was bilateral: despite significant water ecosystem service benefits, the relevant water authority was not involved. A way (perhaps by the public sector) of coordinating purchasers of the ecosystem services from the Green Infrastructure could have helped deliver a multi-purchaser deal.

## **B. Biodiversity Credits: Unmet German Demand**

Forest Carbon Group, a German forestry investment company, was approached by two of the largest companies in Germany (both members of the DAX-30 index and with international operations) wanting to buy biodiversity offsets as part of their CSR initiatives.

One was a major emitter of greenhouse gases and therefore subject to the EU ETS. Its preference was not to purchase additional carbon credits beyond its compliance target as it believed this would be regarded by its critics as 'greenwashing'. The second - not subject to a mandatory emissions cap - felt that biodiversity credits would be better suited to its marketing and publicity plans than carbon credits.

However, both companies eventually decided that their requirements would best be met by investing in forestry-based carbon projects which have clear biodiversity benefits. They concluded that, in the absence of an internationally recognised market in biodiversity offset credits, forestry carbon projects are currently the easiest way to fund significant biodiversity conservation and enhancement. Biodiversity is a significant co-benefit of most forest-carbon projects and is reflected in the price of their credits.

This example demonstrates potential international demand for biodiversity offsets. The eventual purchase of forest-carbon credits as a proxy for biodiversity credits suggest the purpose was to offset international biodiversity impacts. Although this is beyond the scope of current biodiversity offset systems (which relate to a geographically constrained land use planning area), it highlights a potential alternative type of purchaser that could enter biodiversity offset markets overseas.

### C. Biodiversity and Forest Carbon - Opportunities and Obstacles

Forests contain over two-thirds of terrestrial biodiversity while deforestation accounts for more than 17% of greenhouse gas emissions. Many therefore believe that the forest carbon market - i.e. rewarding forestry projects that reduce or prevent greenhouse gas emissions with tradable carbon credits - should have an important role to play in financing the conservation of biodiversity.

Furthermore, forestry is an established and increasingly popular asset class for investors that hold most of the world's private sector capital - e.g. pension funds, insurance companies, family offices and university endowments. The key attractions of forestry to these investors are that returns from timber-producing land are: long-term; have low correlation with conventional assets such as equities, bonds and property; and provide a good hedge against inflation.

In January, New Forests, a leading asset manager with more than \$1 billion under management, noted that institutional investments in timber-producing land have grown steadily in recent years and totalled \$50-60 billion in 2010. In June, investment consultancy Mercer, told its clients that forestry "is an asset class worthy of consideration by institutional investors" with a 10+ year time horizon. "It is a beneficial time to enter the asset class," added Simon Fox, a Mercer specialist in 'alternative investments'.

Numerous funds have been set up to channel institutional capital into the forestry sector and many of them acknowledge the possibility of generating additional revenues from carbon offsets or other ecosystem services. Examples include the \$600 million Phaunos Timber Fund<sup>18</sup> and the £100 million Cambium Global Timberland Fund<sup>19</sup>.

While most timber funds have a capacity to add value in this way, the returns expected from traditional timber operations are an order of magnitude greater. Nonetheless, a handful of specialist funds have been launched that aim to generate a substantial percentage of their returns from forest carbon projects with explicit biodiversity goals (e.g. the \$150 million Terra Bella Carbon Fund and World Bank's \$90 million BioCarbon Fund<sup>20</sup>).

Several similar funds are in preparation (e.g. a €200 million REDD+ fund from BNP Paribas and a €100 million fund from French carbon trading company Orbeo) along with a proposed 'rainforest bond' being developed by Bank of America Merrill Lynch which would repay investors using revenues from REDD+ credits and other ecosystem services. Many fund managers, bankers and investors believe the REDD+ mechanism (Reduced Emissions from Deforestation and forest Degradation) is the most promising option, in the short term, for attracting large volumes of capital to projects that conserve biodiversity.

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<sup>18</sup> <http://www.phaunostimber.com/>

<sup>19</sup> <http://www.cambiumfunds.com/fund.html>

<sup>20</sup> <http://terraglobalcapital.com/Funds.htm> & <http://go.worldbank.org/IF94YM1QG0>

At present, however, many private sector investors are deterred by the absence of a formal international agreement on REDD+ and the lack of an international post- 2012 climate change treaty. Early investment of EU (and MS governments') money into REDD+ funds would help create clarity on prices and encourage private sector capital to flow into such projects before any agreement is reached on a mandatory REDD+ market. International financial institutions could also help lever private capital by reducing the risk to private sector investors - for example by taking on higher risk parts of a 'layered' fund in which different layers each have a different risk / reward profile.

Most investors agree that a mandatory market would be far bigger than the existing voluntary market for REDD+ credits, and could have a dramatic impact on biodiversity conservation. "For private investors to fully mobilise around REDD+ activities... credits derived from so-called avoided deforestation projects need to be part of compliance schemes," said Armin Sandhoevel, CEO of Allianz Climate Solutions. We are unlikely to invest in REDD projects "unless our clients have a compliance requirement", added a senior manager at a \$1.5 billion investment management company.

#### **D. German Offsets Market**

In Germany, there is an established system of biodiversity offsets, operated through the environment and planning authorities of regional Governments (Lander). Each Lander has its own system for determining offsets and there is almost no trading between adjacent regions. Research was been carried out in 2008/9 by KfW to examine if the market for biodiversity offsets in Germany justified further investment. This investment would have been in creating biodiversity offsets to sell as credits into the market, and could have brought in other private finance as co-investors.

Having considered entering the market, KfW decided not to invest for several reasons. Firstly the number of offset-agencies potentially interested in state promoted financing (via KfW) was small, and secondly there was great institutional heterogeneity among those agencies (e.g. private owned, community owned, foundations). Thirdly, the rules operated within some Lander lack transparency and there are differences between each Landers' system. Overall these factors meant that the future market was considered too fragmented, making the types of offsets required in different regions unpredictable. This barrier to investment demonstrates the importance of regulatory risk in markets driven by regulation. This risk can be reduced through stronger, more transparent and coordinated policy frameworks (e.g. with common transparent systems for determining when offsets are required and how equivalency is assessed).

#### **E. Use of Biodiversity Offsets in England**

Following a Natural Environment White Paper in 2011<sup>21</sup>, new attempts to initiate the voluntary use of biodiversity offsets are now underway in England (involving private

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<sup>21</sup> <http://www.defra.gov.uk/environment/natural/whitepaper/>

intermediaries<sup>22</sup>). However, the issue has been looked into before by developers of transport infrastructure and the reasons it has not previously progressed illustrated the importance of policy and regulatory risks.

For example, one infrastructure developer in the early 2000's looked into developing offsets in anticipation of damage likely to be caused if its planned developments went ahead. They identified a site for enhancing habitat and assessed its equivalence to the possible damage from their developments. This damage included impacts on Natura 2000 sites. Therefore the developer approached the Government's nature conservation agency about the acceptability of the proposed offset in terms of both its distance from the damage site (which was around 80km check), and its equivalence to the damage and meeting the compensation requirements of the Habitats Directive.

Understandably, the nature conservation agency gave an uncertain response. European guidance on each of these issues at the time did not provide clear answers about the ex-ante assessment of these factors. Equivalence was normally assessed ex post of planning applications damage, when minimal distance to compensation areas was normally expected. Given this uncertainty the developer did not progress the creation of the offset.

This example may or may not illustrate an investment that 'should' have happened - the appropriateness of the offset cannot be determined unequivocally. However, barriers to the investment meant the stage for detailed assessment of its propriety was never reached. This example illustrates how regulatory uncertainty increases the risk associated with investments to comply with biodiversity conservation legislation.

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<sup>22</sup> <http://www.environmentbank.com/>

## **Annex 2: List of Experts Consulted**

Josh Bishop (IUCN)

Rupert Edwards (Climate Change Capital)

Pavan Sukdhev (UNEP's Green Economy Initiative)

Ivo Mulder (UNEP FI)

Simon Petley (Director, Enviromarket)

Frans Vorhies (Green Development Initiative)

Marie de Longcamp (Conservation Finance Director, WWF)

Dr Steve Waygood (Aviva)

Nick Robbins (HSBC Climate Change Centre)

Abyd Karmali (BoA Merrill Lynch)

Christian del Valle (BNP Paribas)

Will Ashley-Cantelo (Defra)

Zbig Karpowicz (RSPB)

Kerry ten Kate (Forest Trends)

Mark Hughes (EBRD)

Chris Bray (Barclays Bank)

Oliver Schelske (Swiss-Re)