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GEF-5 FOCAL AREA STRATEGIES

(PREPARED BY THE GEF SECRETARIAT)

Table of Contents

Biodiversity Focal Area Strategy for GEF-5

Background

The Status of Biodiversity

1. Biodiversity is defined as "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, between species, and of ecosystems[1]." As such, biodiversity is life itself, but it also supports all life on the planet, and its functions are responsible for maintaining the ecosystem processes that provide food, water, and materials to human societies. Thus the interventions identified in this document are integral components of any effective strategy for human adaptation to climate change.

2. Biodiversity is under heavy threat and its loss is considered one of the most critical challenges to humankind. Current rates of extinction exceed those in the fossil record by a factor of up to 1000 times. The interim report of the global study, "The Economics of Ecosystems & Biodiversity (TEEB)" reinforces the conclusion of the Millennium Ecosystem Assessment that ecosystem services are being degraded or used unsustainably with severe socio-economic consequences for human societies and for the future of all life on the planet[2].

Evolution of the Biodiversity Focal Area at the GEF

3. During GEF-1 and GEF-2, strategic direction for the biodiversity focal area was provided by the GEF operational strategy, the GEF operational programs and guidance provided to the GEF from the Conference of the Parties (COP) of the Convention on Biological Diversity (CBD).

4. The GEF developed its first targeted biodiversity strategy in GEF-3 to complement and further focus its operational programs and to respond to evaluation findings[3]. The GEF-3 strategy incorporated principles to achieve lasting biodiversity conservation and sustainable use and thereby: a) placed greater emphasis on sustainability of results and the potential for replication; b) moved beyond a projects-based emphasis to strategic approaches that strengthened country enabling environments (policy and regulatory frameworks, institutional capacity building, science and information, awareness); c) mainstreamed biodiversity conservation and sustainable use in the wider economic development context; and (d) increased support for sustainable use and benefit sharing. The changes implemented in the GEF-3 strategy formed the foundation upon which subsequent GEF strategies have been built. The strategy for

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1 Convention on Biological Diversity.

2 Millennium Ecosystem Assessment 2005, Ecosystems and Human Well-being: Synthesis, Island Press, Washington DC.

3 Biodiversity Program Study, 2004.

each new phase has maintained continuity with these basic tenets of sustainability while incorporating new findings on good practice in biodiversity conservation and sustainable use.

Biodiversity Strategy Goals and Objectives

5. The Millennium Ecosystem Assessment identified the most important direct drivers of biodiversity loss and degradation of ecosystem goods and services as habitat change, climate change, invasive alien species, overexploitation, and pollution. These drivers are influenced by a series of indirect drivers of change including demographics, global economic trends, governance, institutions and legal frameworks, science and technology, and cultural and religious values. The biodiversity strategy in GEF-4 addressed a subset of the direct and indirect drivers of biodiversity loss and focused on the highest leverage opportunities for the GEF to contribute to sustainable biodiversity conservation.[4]

6. The GEF-5 strategy will maintain coherence with the GEF-4 strategy while proposing refinements to the strategy's objectives based on COP-9 guidance, advances in conservation practice, and advice from the GEF's Scientific and Technical Advisory Panel. The ninth meeting of the Conference of the Parties of the Convention on Biological Diversity (CBD) acknowledged that the GEF-4 strategy served as a useful starting point for the GEF-5 strategy and requested GEF to build on it for the fifth replenishment based on the four year framework of program priorities developed by COP-9.[5] Annex 1 shows the relationship between the COP guidance and the GEF strategy.

7. The goal of the biodiversity focal area is the conservation and sustainable use of biodiversity and the maintenance of ecosystem goods and services. To achieve this goal, the strategy encompasses five objectives:

a. improve the sustainability of protected area systems;
b. mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors;
c. build capacity to implement the Cartagena Protocol on Biosafety;
d. build capacity on access to genetic resources and benefit-sharing; and
e. integrate CBD obligations into national planning processes through enabling activities.

Objective One: Improve Sustainability of Protected Area Systems[6]

Rationale

8. The GEF defines a sustainable protected area system as one that: a) has sufficient and predictable financial resources available, including external funding, to support protected area

[4] http://gefweb.org/uploadedFiles/Focal_Areas/Biodiversity/GEF-4%20strategy%20BD%20Oct%202007.pdf

[5] Decision CBD COP IX/31.

[6] A protected area system could include a national system, a sub-system of a national system, a municipal-level system, or a local level system or a combination of these.

management costs; b) effectively protects ecologically viable representative samples of the country's ecosystems and species at a sufficient scale to ensure their long term persistence; and c) retains adequate individual and institutional capacity to manage protected areas such that they achieve their conservation objectives. GEF support will strengthen these fundamental aspects of protected area systems to accelerate their current trajectory towards long-term sustainability.

9. Capacity building at the national and local levels to support effective management of individual protected areas and protected area systems will remain an ongoing priority and an integral part of project interventions. GEF will continue to promote the participation and capacity building of indigenous and local communities in the design, implementation, and management of protected area projects through established frameworks such as indigenous and community conserved areas (ICCAs).7 GEF will also promote protected area co-management between government and indigenous and local communities where such management models are appropriate.

10. Developing climate-resilient protected area systems remains a challenge for most protected area managers because the scientific understanding and technical basis for informed decision-making on adaptation or resiliency measures is in its nascent stages. To help overcome these technical challenges, GEF will support the development and integration of adaptation and resilience management measures as part of protected area management projects. This support is important to ensure that GEF's investments will continue to contribute to the sustainability of national protected area systems.

Increase Financing of Protected Area Systems

11. Restricted government budgets in many countries have reduced the financial support for protected area management. Thus new financing strategies for protected area systems are critical to reduce existing funding gaps. Furthermore, protected area agencies and administrations are often ill-equipped to respond to the commercial opportunities that protected areas provide through the sustainable use of biodiversity. Hence targeted capacity building is also required. GEF-supported interventions will use tools and revenue mechanisms that are responsive to specific country situations (e.g., conservation trust funds, systems of payments for environmental services, debt-for-nature swaps) and draw on accepted good practices developed by GEF and others.8 GEF will also encourage national policy reform and incentives to engage the private sector and other stakeholders to improve protected area financial sustainability.

Expand Ecosystem and Threatened Species Representation within Protected Area Systems

12. GEF has been recognized for its substantive contribution to the global achievement of the 10-percent target of the world's land area under protection.9 However, the marine area under protection remains low. In GEF-4, the GEF sought to redress this disparity through investments

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7 Indigenous and Community Conserved Areas (ICCAs) are natural sites, resources and species' habitats conserved in voluntary and self-directed ways by indigenous peoples and local communities.

8 GEF Experience with Conservation Trust Funds (GEF Evaluation Report # 1-99).

9 OPS3: Progressing Toward Environmental Results, Third Overall Performance Study of the GEF.

to increase the representation of marine ecosystems in protected area systems. The GEF will continue this focus in GEF-5.

13. While not all countries have marine ecosystems under their national jurisdiction, many countries have identified gaps at the national level in the coverage of terrestrial ecosystems and threatened species, which coincide with existing global level representation gaps. Both of these gaps will be addressed in GEF-5.

Improve Management Effectiveness of Existing Protected Areas[10]

14. The sustainability of a protected area system requires that each protected area site is effectively managed according to its specific demands.11 Some areas will require a low level of management activity while others may require a greater management effort to achieve their conservation objectives. In some instances the most efficient way to improve the system's sustainability will be to focus on improved site level management for each protected area within the system.

Project Support

15. **Improve Sustainable Financing of Protected Area Systems**: GEF will support the development and implementation of comprehensive, system-level financing solutions and help build the capacity required to achieve financial sustainability.

16. **Expand Marine and Terrestrial Ecosystem Representation**: GEF will support efforts to address the marine ecosystem coverage gap within national level systems through the creation and effective management of coastal and near shore protected area networks, including no-take zones, to conserve and sustainably use marine biodiversity. GEF will also support the creation and effective management of new protected areas to expand terrestrial and inland water ecosystem representation within protected area systems. Conserving habitat for landraces and wild crop relatives of species of economic importance may also be included as part of this effort to reduce representation gaps.

17. **Expand Threatened Species Representation**: GEF will support the creation and effective management of new protected areas that extends the coverage of threatened species in protected area systems and improves the coverage of their spatial range.

18. **Improve Management Effectiveness of Existing Protected Areas**: GEF will support projects that aim to improve the management effectiveness of existing protected areas. This could include support to transboundary protected areas.

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[10] The GEF has been tracking protected area management effectiveness since GEF-3 and has applied the Management Effectiveness Tracking Tool (METT) to qualitatively assess how well a protected area is being managed to achieve its conservation objectives.

[11] This would include actions to manage threats to biodiversity including invasive alien species, but given the high cost of eradication and the low success rates, projects will prioritize prevention approaches.

Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors

Rationale

19. The persistence of biodiversity requires the sustainable management of landscape and seascape mosaics that include protected areas and a variety of other land and resource uses outside of these protected areas. Thus, in order to complement its investments to strengthen the sustainability of protected area systems, GEF will promote sustainability measures to help reduce the negative impacts that productive sectors exert on biodiversity, particularly outside of protected areas, and highlight the contribution of biodiversity to economic development and human well being, – a set of actions often referred to as "mainstreaming". Biodiversity-dependent production sectors and those with large ecological footprints will be targeted: agriculture, fisheries, forestry, tourism, and the major extractive industries of oil and gas, and mining.

20. GEF's strategy to support biodiversity mainstreaming focuses on the role and potential contributions of both the public and private sector. The strategy aims to strengthen the capacity of the public sector to manage and regulate the use of biological diversity in the productive landscape and seascape while also exploiting opportunities to support the production of biodiversity-friendly goods and services by resource managers and users including the private sector.

Strengthen the Policy and Regulatory Framework for Mainstreaming Biodiversity

21. The incorporation of biodiversity conservation, sustainable use, and benefit-sharing into broader policy, legal, and regulatory frameworks is not taking place in many GEF-eligible countries because of a number of factors. These factors include poor governance, weak capacity, conflicting policies (e.g., tenure regimes biased against "idle" lands), and the lack of scientific knowledge and incentives.

22. Mainstreaming may yield substantial social and economic benefits to public or private actors. However, these actors may be unaware of these benefits. In these circumstances, providing information on the economic valuation of biodiversity and its contribution to national development and corporate interests is a key task. The Millennium Ecosystem Assessment advanced valuable information on biodiversity and ecosystem services on a global scale, but similar efforts are required at the national and local scales where most policy and production decisions regarding land- and ocean-use are made . This could also involve more effective use of national biodiversity strategies and action plans (NBSAPs) to foster mainstreaming of biodiversity into national development strategies and programs.

23. Even when public and private actors are aware of the benefits from effecting policy and resource management changes, they may not have the capacity to act. In these cases, capacity building becomes paramount.

24. In some cases, public and private actors may not have the incentive to act even if they have the capacity to do so. Incentives can often be created by changing policies and programs that encourage economically inefficient uses of ecosystems and species (e.g., strengthening property rights systems; removing "perverse" subsidies). In other cases, incentives can be created through the evolving mainstreaming tool of Payment for Ecosystem Services (PES).12

25. In recognition of the importance that the COP places on the threat that invasive alien species pose to biodiversity, particularly in islands and island states, and most often in productive lands and oceans, GEF will continue to support the development of regulatory and management frameworks to prevent, control and manage these species.

Strengthen Capacities to Produce Biodiversity-friendly Goods and Services

26. Environmental certification systems exploit the willingness of the market to pay a premium for goods and services whose production, distribution and consumption meets an environmental standard. This willingness creates market incentives for producers to improve their environmental and/or social practices to receive the price premium. GEF will help remove the barriers to enhancing, scaling up, replicating, and extending environmental certification systems in productive landscapes and seascapes.

Project Support

27. **Strengthen Policy and Regulatory Frameworks:** GEF will support the development and implementation of policy and regulatory frameworks that provide incentives for private actors to align their practices and behavior with the principles of sustainable use and management. To this end, GEF interventions will remove critical knowledge barriers and develop requisite institutional capacities. This will include support for sub-national and local-level applications--where implementation can be more effective--of spatial land-use planning that incorporates biodiversity and ecosystem service valuation.

28. GEF will continue to support national, sub-national and local PES schemes. Recent STAP guidance will be applied, as appropriate, in the review of PES projects.13

29. **Implement Invasive Alien Species Management Frameworks:** GEF will support interventions that address the issue of invasive alien species systemically through developing the sectoral policy, regulations, and institutional arrangements for the prevention and management of invasions emphasizing a risk management approach by focusing on the highest risk invasion pathways. Priority will be given to establishing policy measures that reduce the impact of invasive species on the environment, including through prevention of new incursions, early detection and institutional frameworks to respond rapidly to new incursions.

30. **Produce Biodiversity-friendly Goods and Services:** To increase production of biodiversity-friendly goods, GEF will focus its support on: a) improving product certification standards to capture global biodiversity benefits; b) establishing training systems for farmers and

[12] Also called Payments for Environmental Services.

[13] Payment for Environmental Services and the Global Environment Facility: A STAP Guideline Document, 2008.

resource managers on how to improve management practices to meet certification standards; and c) facilitating access to financing for producers, cooperatives, and companies working towards producing certified goods and services.

Objective Three: Build Capacity for the Implementation of the Cartagena Protocol on Biosafety (CPB)[14]

Rationale

31. The Cartagena Protocol on Biosafety seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. GEF's strategy to build capacity to implement the CPB prioritizes the implementation of activities that are identified in country stock-taking analyses and in the COP guidance to the GEF, in particular the key elements in the Updated Action Plan for Building Capacities for the Effective Implementation of the CPB, agreed to at the third COP serving as the Meeting of the Parties to the CPB (COP-MOP-3).

Project Support

32. **Single-country projects:** These projects will be implemented when the characteristics of the eligible country, as assessed in the stock-taking analysis – and the design of existing or planned future regional or sub-regional efforts in the area – recommend a national approach for the implementation of the CPB in that country.[15]

33. **Regional or sub-regional projects:** Providing support to eligible countries through regional or sub-regional projects will be pursued when there are opportunities for cost-effective sharing of limited resources and for coordination between biosafety frameworks. Regional and sub-regional approaches will be pursued where stock-taking assessments support the potential for: coordinating biosafety frameworks, interchange of regional expertise, and capacity building of common priority areas.

34. **Thematic projects:** A thematic approach can be an effective way to develop the capacities of groups of countries lacking competences in relevant fields. This multi-country approach will be pursued where stock-taking assessments support the needs of eligible countries

[14] A *Strategy for Financing Biosafety* (Doc GEF/C.30/8/Rev.1) was approved by the GEF Council at its December 2006 meeting. The full list of activities to be supported under this objective can be found in the full strategy document at: http://gefweb.org/Documents/Council_Documents/GEF_30/documents/C.30.8.Rev.1StrategyforFinancingBiosafety.pdf

[15] By the end of GEF-4, as many as 50 countries will have received support for implementation of their National Biosafety Frameworks. If that target is achieved, 75 eligible countries are remaining to implement their NBFs leaving significant opportunities to provide ongoing support for single country projects to accelerate implementation of the protocol.

and where this approach would foster the pooling of resources, economies of scale and international coordination.

Objective Four: Build Capacity on Access to Genetic Resources and Benefit Sharing (ABS)

Rationale

35. Implementation of the CBD's third objective on access to genetic resources and benefit sharing has been slowed by the lack of capacity of most key stakeholder groups. Of particular note is the difficulty in most countries to establish a common understanding between providers and users of genetic resources and the associated traditional knowledge of indigenous and local communities.

Project Support

36. Prior to completion of negotiations of an international regime on ABS before the COP's tenth meeting in Nagoya, Japan, GEF will support capacity building of governments for meeting their obligations under Article 15 of the CBD, as well as building capacity within key stakeholder groups, including indigenous and local communities, and the scientific community. This would include support for the establishment of measures that promote concrete access and benefit-sharing agreements that recognize the core ABS principles of Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) including the fair and equitable sharing of benefits. Projects submitted prior to completion of the negotiations of the international regime should be consistent with the Bonn Guidelines on ABS and the related action plan on capacity building for ABS adopted under the Convention (Decision VII/19F).

37. After completion of the negotiations of the international regime, the GEF will fully elucidate project support provided under this objective in consultation with the CBD Secretariat and COP Bureau for approval by GEF council.

Objective Five: Integrate CBD Obligations into National Planning Processes through Enabling Activities

Rationale

38. Enabling activities continue to play an important role in assisting national government institutions to meet their immediate obligations under the CBD, notably the development and revision of National Biodiversity Strategy and Action Plans (NBSAPs), national reporting, and clearing house information functions. Enabling activities help national executing agencies to integrate CBD obligations, strategies and work programs into the national planning process and hence can make critical contributions to the successful mainstreaming of biodiversity into national development planning frameworks and sector planning processes. In addition, increased understanding about the role intact habitat and biodiversity play to help humans adapt to climate change and advances in ecosystem service valuation provide an opportunity to incorporate this knowledge into the revision of NBSAPs. This should increase the potential of NBSAPs to serve

as effective vehicles for mainstreaming biodiversity in sustainable development policy and planning.

Project Support

39. Enabling activity support could be provided for revising NBSAPs in line with the CBD's new strategic plan to be adopted at COP-10 and integrating biodiversity into sectoral planning, national reporting, and implementation of guidance related to the Clearing House Mechanism (CHM).

III) Focal Area Set-aside (FAS)

40. Countries will be able to access the focal area set-aside funds (FAS) to implement enabling activities for an amount up to $500,000 on an expedited basis for activities identified under Objective Five above. Amounts greater than that will be provided from a country's national allocation.

41. The remaining funds in FAS will be used to address supra-national strategic priorities or to incentivize countries to make substantive changes in the state of biodiversity at the national level through participation in global, regional or multi-country projects. Projects supported with FAS funds will meet some or all of the following criteria: (i) relevant to the objectives of GEF's biodiversity strategy; (ii) support priorities identified by the COP of the CBD; (iii) high likelihood that the project will have a broad and positive impact on biodiversity; (iv) potential for replication; (v) global demonstration value; and (vi) contribute to global conservation knowledge through formal experimental or quasi-experimental designs that test and evaluate the hypotheses embedded in project interventions. An incentive system would operate for all regional projects whereby participating countries would receive resources from the FAS proportionate with the amount of resources dedicated to a project from their national allocation.

42. Consistent with the criteria identified above for special initiatives to be funded by FAS, under a $5.0 billion replenishment, the biodiversity focal area will partner with the international waters focal and set aside $25 million from the FAS to initiate a global pilot program focused on the protection of marine biodiversity in "Areas Beyond National Jurisdiction" (ABNJ). This investment will complement GEF's continued focus on increasing marine protected area coverage under national jurisdiction given that about 50% of the Earth's surface is considered the high seas, or marine areas beyond national jurisdiction. These offshore areas harbor about 90% of the Earth's biomass and host a diversity of species and ecosystems, many of which are yet to be discovered. As a result, protection of the high seas has become an emerging priority in biodiversity conservation. Although conservation and management of high seas marine protected areas pose a number governance challenges and legal issues, the GEF believes that it is important to begin learning how to implement and manage marine protected areas in the waters beyond national jurisdiction. The proposed pilot is consistent with CBD COP Decision IX/20.

43. The IPCC has been responsible for both the resolution of important scientific questions related to the nature and extent of the global warming problem, as well as making those

contributions effectively permeate the policy debate at the highest levels. However, the science-policy interface for biodiversity and ecosystem services is fragmented inside and outside of the CBD impeding a similar incremental process occurring for the important problem of biodiversity loss and ecosystem degradation like the world has witnessed with the IPCC. Policy making in biodiversity conservation and ecosystem management at all levels can be further strengthened if they are supported by credible, legitimate and salient scientific findings and recommendations which are provided by an intergovernmental science-policy platform, while building on the GEF-funded Millennium Ecosystem Assessment findings. To address this need, CBD COP IX agreed to explore the establishment of an Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). The twenty-fifth session of the UNEP Governing Council/Global Ministerial Environmental Forum adopted Decision 25/10 on the intergovernmental science-policy platform on biodiversity and ecosystem services, which accords UNEP the mandate to continue to facilitate discussions on strengthening the science-policy interface on biodiversity and ecosystem services. Supporting this emerging initiative could be undertaken with a contribution from the FAS.

44. The highest replenishment scenario of $9 billion would increase the available resources under the FAS. These additional resources would be used in the following manner. The first priority would be to increase support to US$ 50 million for the joint program with the international waters focal area on marine areas beyond national jurisdiction (ABNJ). In addition, two initiatives would be established to support regional and multi-country projects that dealt with two transboundary conservation challenges. The first would support projects that focused on the conservation of migratory species and that were consistent with objectives one and two of the biodiversity strategy. The second would support regional or multi-country projects that focused on reducing the illegal wildlife trade and that included contributions and participation from importers and exporters of wildlife. These projects would be primarily aligned with objective two of the biodiversity strategy to incorporate biodiversity conservation and sustainable use into broader, policy and regulatory frameworks.

Annex One.

Coherence between the 2010-1014 Four-Year Framework of Program Priorities Agreed at COP-9, the GEF-4, and the GEF-5 Biodiversity Strategy

COP 2010-2014 Program Priorities	**Strategic Programs for GEF-4**	**GEF-5 Strategy Objectives**
Program priority area 1: Promote conservation of biological diversity, including through catalyzing sustainability of protected area systems **Program priority area 2:** Promote sustainable use of biodiversity	1. Sustainable financing of protected area (PA) systems at the national level 2. Increasing representation of effectively managed marine PA areas in PA systems 3. Strengthening terrestrial PA networks	Objective One: Improve Sustainability of Protected Area Systems: a) Increase financing of PA systems; b) Expand ecosystem and threatened species representation within protected area systems; and c) Improve management effectiveness of existing protected areas.
Program priority area 2: Promote sustainable use of biodiversity **Program priority area 3:** Mainstream biological diversity into various national and sectoral policies and development strategies and programs	4. Strengthening the policy and regulatory framework for mainstreaming biodiversity 5. Fostering markets for biodiversity goods and services	Objective Two: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors: a) Strengthen Policy and Regulatory Frameworks; b) Implement Invasive Alien Species Management Frameworks; and c) Strengthen Capacities to Produce Biodiversity-friendly Goods and Services.
Program priority area 4: Improve national capacity to implement the Convention *and* the Cartagena Protocol on Biosafety	6. Building capacity for the implementation of the Cartagena Protocol on Biosafety	Objectives One and Two as above, Objective Four: Build Capacity on Access to Genetic Resources and Benefit Sharing, and Objective Five: Integrate CBD Obligations into National Planning Processes through Enabling Activities all contribute to the aim of program priority four (4) to improve national capacity to implement the Convention. Objective Three: Build Capacity for the Implementation of the Cartagena Protocol on Biosafety
Program priority area 5: Promote the implementation of the Convention's third objective and support the implementation of the international regime on access to genetic resources and benefit-sharing	8. Building capacity in access and benefit sharing	Objective Four: Build Capacity on Access to Genetic Resources and Benefit Sharing
Program priority area 6: Safeguard biodiversity	7. Prevention, control, and management of invasive alien species (IAS)	Objective Two: Mainstream Biodiversity and Sustainable Use into Production Landscapes and Seascapes and Sectors Objective One: Improve Sustainability of Protected Area Systems: c) Improve management effectiveness of existing protected areas

Annex Two. Biodiversity Strategy Learning Objectives

Three learning objectives are proposed for the biodiversity focal area. All three share in common a dual-fold purpose, in that the results will contribute to strengthening GEF's capacity to deliver on its own mandate *and* the broader global public good of enhanced knowledge to catalyze change in biodiversity conservation practice.

Learning Objective One: Enhancing Impact and Results through Improved Understanding of Protected Area Management Effectiveness

1. Since 2002, all GEF projects supporting management of protected areas are required to apply the Management Effectiveness Tracking Tool (METT) that was developed by the World Bank and the World Wildlife Fund to assess progress made in improving protected area management effectiveness at the site level. The METT was built on the management framework developed by the IUCN World Commission on Protected Areas and is based on the idea that good protected area management follows a process that has six distinct stages, or elements: it begins with understanding the context of existing values and threats, progresses through planning, and allocation of resources (inputs), and as a result of management actions (processes), eventually produces products and services (outputs), that result in impacts or outcomes, the primary outcome being the conservation of biodiversity. The Tracking Tool is comprised of 30 questions that address key aspects of these six elements and that are scored on a subjective basis. The total score from the tracking tool then provides a qualitative proxy of a protected area's ability to meet its basic conservation function, the assumption being that a protected area that scores well on the METT is being effectively managed and is successfully conserving biodiversity.

2. The Management Effectiveness Tracking Tool (METT) has greatly helped the GEF, project managers in all GEF agencies, and country protected area staff to qualitatively assess progress in improving protected area management over the lifetime of a project. While the METT has positive attributes as a monitoring tool in terms of its ease of application, and the calculation and aggregation of scores, the tool is largely made up of inputs that are supposed to matter for biodiversity conservation in protected areas, but for which there has been little empirical evaluation of the hypothesized links. In addition, the scores are aggregated in a way that may not actually correlate with effectiveness (i.e., we hope that the score is an indicator for a continuous latent underlying variable of effectiveness that we cannot observe). However, the METT can only be considered an effective performance metric, and thus a tool to assist learning and the delivery of project results, if a correlation between the METT scores and successful conservation exists.

3. The learning objective is to establish a solid evidence base that is able to better correlate the METT score of a protected area (including each of its six elements of protected area management) to the successful conservation and sustainable use of biodiversity within a protected area. This learning objective will be accomplished through a series of country case studies and field visits to select countries that have been applying the METT over an extended period of time in their protected area system and that are also collecting quantitative data on the status of biodiversity and protection within the system. The case study results will also help inform a broader quantitative analysis to further elucidate the causal relationships between the

METT scores, the six elements of protected area management, and successful conservation within protected areas.

Learning Objective Two: Enhancing Social Impacts through Improved Understanding of the Causal Relationships between Protected Area Management and Local Community Welfare.

1. Although the GEF focuses its efforts on the generation of global environmental benefits, the impacts of its investments on human welfare are also important. Decision VI/26 of the sixth COP of the CBD (the "2010 target") emphasizes that significant reductions in the rate of biodiversity loss should be accomplished "as a contribution to poverty alleviation and to the benefit of all life on earth." Given that global efforts to reduce the rate of biodiversity loss rely heavily on protected areas, the CBD's Programme of Work on Protected Areas adopted a resolution in 2002 to document the impacts arising from protected areas, particularly for local communities, in order to avoid and mitigate negative impacts. The 2003 World Congress on Protected Areas proclaimed that "that protected area management strives to reduce, and in no way exacerbates, poverty."

2. Despite the widespread interest in understanding the effects of protected areas on human welfare, the effects continue to be the subject of debate because of a dearth of empirical evidence. A forthcoming article (Sutherland et al., 2009, *Cons. Biol.*) identified as two of the most important questions that need to be answered to improve the practice of conservation the following: "What are the human well-being costs and benefits of protected areas, how are these distributed, and how do they vary with governance, resource tenure arrangements, and site characteristics?" and "What are the social impacts of conservation interventions, and how and why do these impacts vary among social groups (e.g., elites, poor, women, men, and indigenous and local communities)?[16]

3. Given that the GEF is a global leader in supporting protected areas, an improved understanding of the impacts of protected areas on human welfare is an important area for increasing understanding. This learning objective will contribute to the evidence base about these impacts by supporting work to answer the following question, "What has been the impact of protected areas in GEF-recipient countries on human welfare in neighboring communities, and under what circumstances has the impact been positive?" This learning objective will be accomplished through a series of country-level, quantitative retrospective studies, as well as complementary case studies when these are designed to focus on elucidating potential causal relationships. In a few cases in which new protected areas are being established, the GEF may support prospective studies that track health and livelihood outcomes on a sample of households

[16] Sutherland, WJ, WM Adams, RB Aronson, R Aveling, TM Blackburn, S. Broad, G. Ceballos, IM Côté, RM Cowling, GAB da Fonseca, E Dinerstein, PJ Ferraro, E Fleishman, C Gascon, M Hunter Jr, J Hutton, P Kareiva, P, A Kuria, DW Macdonald, MacKinnon, K, Madgwick, FJ, Mascia, MB, McNeely, J, Milner-Gulland, EJ, Moon, S, Morley, CG, Nelson, S, Osborn, D, Pai, M, Parsons, ECM, Peck, LS, Possingham, H, Prior, SV, Pullin, AS, Rands, MRW, Ranganathan, J, Redford, KH, Rodriguez, JP, Seymour, F, Sobel, F, Sodhi, NS, Stott, A, Vance-Borland, K & Watkinson, AR. In Press. One Hundred Questions of Importance to the Conservation of Global Biological Diversity. *Conservation Biology*.

close to the protected area and a sample of households that live outside the influence of the same parks (for an example, see Wilkie et al. 2006, *Cons. Biol.*)[17].

Learning Objective Three: Enhancing Impacts through Improved Understanding of the Causal Relationships between Popular Mainstreaming Approaches and Conservation Outcomes.

1. The GEF has supported innovative approaches to mainstreaming biodiversity in the productive landscape in GEF-4 and will continue to do so in GEF-5. Three approaches that are becoming increasingly popular globally and in the GEF pipeline are: (1) certification; (2) payments for environmental services; and (3) information transfer on the spatial distribution of species and ecosystem service and the valuation of these species and services. The first two approaches focus on increasing the incentives among resource users to mainstream biodiversity values into their decision making. The third approach focuses on increasing information among policy decision makers (and sometimes resource users) about the economic value of mainstreaming and allocating resources to conservation. We focus on these three approaches not only because of their increasing popularity in the GEF pipeline and in global conservation efforts, but also because the effectiveness of the three approaches is threatened by the same issues: the public good nature of the outcomes, potential adverse selection and moral hazard in project and program implementation, and the difficulties associated with trying to induce action based on economic arguments in situations where economic agents have heretofore perceived no economic benefit from action.

2. Despite the increasing popularity of these approaches (sometimes in combination), the evidence base for their effectiveness and the understanding of the conditions under which they have the greatest potential to be effective is largely undeveloped. A recent article (Sutherland et al., 2009, *Cons. Biol.*) identified two questions related to incentives and information as two of the most important questions that need to be answered to improve the practice of conservation: "What are the impacts of different conservation incentive programs on biodiversity and human wellbeing?" and ""How do different values (e.g., use vs. preservation) and the framing of these values (e.g., ecosystem services vs. species) motivate policy makers to public resources to assign conservation programs and policies?"

3. As a leader in supporting innovative incentive-based and information-based mainstreaming approaches, the GEF has observed an increase in the number of funded projects using certification, PES and ecosystem service valuation. Thus, the GEF has an opportunity to contribute the evidence base of these approaches by supporting work to answer the following question, "How do certification, PES and transfers of information about the distribution and values of ecosystem services affect conservation and sustainable use outcomes, and in what circumstances are they likely to be most effective?" This learning objective will be accomplished primarily through support of prospective experimental and quasi-experimental project designs. When feasible, quantitative retrospective studies in programs that have received GEF funding

[17] Wilkie D, Morelli G, Demmer J, Starkey M, Telfer P, and Steil M. 2006. Parks and people: assessing the human welfare effects of establishing protected areas for biodiversity conservation. Conservation Biology 20(1): 247-249.

will also be supported. (Case study approaches are not encouraged as a means to achieve this learning objective, particularly for certification and PES programs. Such approaches cannot effectively address the substantial self-selection bias that arises in voluntary conservation programs.)

Annex Three. Biodiversity Strategy Results Based Framework[18]

Goal: Conservation and sustainable use of biodiversity and the maintenance of ecosystem goods and services.

Impacts:

- Biodiversity conserved and habitat maintained in national protected area systems.
- Conservation and sustainable use of biodiversity integrated into production landscapes and seascapes.

Indicators:

- Intact vegetative cover and degree of fragmentation in national protected area systems measured in hectares as recorded by remote sensing.
- Intact vegetative cover and degree of fragmentation in production landscapes measured in hectares as recorded by remote sensing.
- Coastal zone habitat (coral reef, mangroves, etc) intact in marine protected areas and productive seascapes measured in hectares as recorded by remote sensing and, where possible, supported by visual or other verification methods.

Objectives	**Expected Outcomes and Indicators**	**Outcome targets under $5 billion Scenario**	**Outcome targets under $ 6.5 billion Scenario**	**Outcome targets under $9 billion Scenario**	**Core Outputs**
Total Focal Area Allocation		1.25 billion	1.5 billion	2 billion	
Sustainable Forest Management		70	130	190	
Objective 1: Improve Sustainability of Protected Area Systems	Outcome 1.1: Improved management effectiveness of existing and new protected areas. *Indicator 1.1: Protected area management effectiveness score as recorded by Management Effectiveness Tracking Tool.*	710 million Eighty-percent (80%) of projects meet or exceed their protected area management effectiveness targets covering 180 million hectares of existing or new protected areas.	900 Eighty-percent (80%) of projects meet or exceed their protected area management effectiveness targets covering 225 million hectares of existing or new protected areas (of which 50 million will be new marine protected	1.3 billion Eighty-percent (80%) of projects meet or exceed their protected area management effectiveness targets covering 325 million hectares of existing or new protected areas.(of which 150 million will be new marine protected	Output 1. New protected areas (number) and coverage (hectares) of unprotected ecosystems. Output 2. New protected areas (number) and coverage (hectares) of unprotected threatened

[18] Biodiversity tracking tools have been developed and are now in use for GEF projects in protected areas (objective one), biodiversity mainstreaming including invasive alien species management frameworks (objective two), and biosafety (objective three) and can be found at: http://gefweb.org/interior.aspx?id=230. A tracking tool for objective four on Access to Genetic Resources and Benefit Sharing will be developed as the activities of the objective are finalized in response to the outcome of the current negotiations of the international regime on ABS.

Objectives	Expected Outcomes and Indicators	Outcome targets under $5 billion Scenario	Outcome targets under $ 6.5 billion Scenario	Outcome targets under $9 billion Scenario	Core Outputs
			areas.)	areas.)	species (number).
	Outcome 1.2: Increased revenue for protected area systems to meet total expenditures required for management. *Indicator1.2: Funding gap for management of protected area systems as recorded by protected area financing scorecards.*	Eighty-percent (80%) of projects meet or exceed their target for reducing the protected area management funding gap in protected area systems that develop and implement sustainable financing plans.	Eighty-percent (80%) of projects meet or exceed their target for reducing the protected area management funding gap in protected area systems that develop and implement sustainable financing plans.	Eighty-percent (80%) of projects meet or exceed their target for reducing the protected area management funding gap for protected area systems that develop and implement sustainable financing plans.	Output 3. Sustainable financing plans (number).
Objective 2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors	Outcome 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation. *Indicator 2.1: Landscapes and seascapes certified by internationally or nationally recognized environmental standards that incorporate biodiversity considerations (e.g. FSC, MSC) measured in hectares and recorded*	235 million Sustainable use and management of biodiversity in 60 million hectares of production landscapes and seascapes.	235 million Sustainable use and management of biodiversity in 60 million hectares of production landscapes and seascapes.	275 million Sustainable use and management of biodiversity in 70 million hectares of production landscapes and seascapes.	Output 1. Policies and regulatory frameworks (number) for production sectors. Output 2. National and sub-national land-use plans (number) that incorporate biodiversity and ecosystem services valuation. Output 3. Certified production landscapes and seascapes (hectares).

Objectives	Expected Outcomes and Indicators	Outcome targets under $5 billion Scenario	Outcome targets under $ 6.5 billion Scenario	Outcome targets under $9 billion Scenario	Core Outputs
	by GEF tracking tool. Outcome 2.2: Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks. *Indicator 2.2: Polices and regulations governing sectoral activities that integrate biodiversity conservation as recorded by the GEF tracking tool as a score.* Outcome 2.3: Improved management frameworks to prevent, control and manage invasive alien species *Indicator 2.3: IAS management framework operational score as recorded by the GEF tracking tool.*	Fifty-percent (50%) of projects achieve a score of six (6) (i.e., biodiversity conservation and sustainable use is mentioned in sector policy through specific legislation, regulations are in place to implement the legislation, regulations are under implementation, implementation of regulations is enforced, and enforcement of regulations is monitored) Eighty-percent (80%) of projects meet or exceed their target for a fully operational and effective IAS management framework.	Fifty-percent (50%) of projects achieve a score of six (6) (i.e., biodiversity conservation and sustainable use is mentioned in sector policy through specific legislation, regulations are in place to implement the legislation, regulations are under implementation, implementation of regulations is enforced, and enforcement of regulations is monitored) Eighty-percent (80%) of projects meet or exceed their target for a fully operational and effective IAS management framework.	Fifty-percent (50%) of projects achieve a score of six (6). (i.e., biodiversity conservation and sustainable use is mentioned in sector policy through specific legislation, regulations are in place to implement the legislation, regulations are under implementation, implementation of regulations is enforced, and enforcement of regulations is monitored) Eighty-percent (80%) of projects meet or exceed their target for a fully operational and effective IAS management framework.	
Objective 3: Build Capacity for the	Outcome 3.1 Potential risks of living modified organisms to	80 million Eighty-percent (80%) of	80 million Eighty-percent (80%) of	80 million Eighty-percent (80%) of	All remaining eligible countries (about 60-70 depending on

Objectives	Expected Outcomes and Indicators	Outcome targets under $5 billion Scenario	Outcome targets under $ 6.5 billion Scenario	Outcome targets under $9 billion Scenario	Core Outputs
Implementation of the Cartagena Protocol on Biosafety (CPB)	biodiversity are identified and evaluated in a scientifically sound and transparent manner *Indicator 3.1: National biosafety decision-making systems operational score as recorded by the GEF tracking tool*	projects meet or exceed their target for a fully operational and effective biosafety framework.	projects meet or exceed their target for a fully operational and effective biosafety framework.	projects meet or exceed their target for a fully operational and effective biosafety framework.	programming for rest of GEF-4) have national biosafety decision-making systems in place.
Objective 4: Build Capacity on Access to Genetic Resources and Benefit Sharing	Outcome 4.1: Legal and regulatory frameworks, and administrative procedures established that enable access to genetic resources and benefit sharing in accordance with the CBD provisions *Indicator 4.1: National ABS frameworks operational score as recorded by the GEF tracking tool (to be developed)*	75 million Eighty-percent (80%) of projects meet or exceed their target for a fully operational and effective ABS framework.	75 million Eighty-percent (80%) of projects meet or exceed their target for a fully operational and effective ABS framework.	75 million Eighty-percent (80%) of projects meet or exceed their target for a fully operational and effective ABS framework.	Access and benefit-sharing agreements (number) that recognize the core ABS principles of Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) including the fair and equitable sharing of benefits.
Objective Five: Integrate CBD Obligations into National Planning	Outcome 5.1 Development and sectoral planning frameworks at country level integrate measurable biodiversity	80 million *50% of parties that revise NBSAPs successfully integrate measurable biodiversity conservation*	80 million *50% of parties that revise NBSAPs successfully integrate measurable biodiversity*	80 million *50% of parties that revise NBSAPs successfully integrate measurable biodiversity*	Number and type of development and sectoral planning frameworks that include measurable biodiversity

Objectives	**Expected Outcomes and Indicators**	**Outcome targets under $5 billion Scenario**	**Outcome targets under $ 6.5 billion Scenario**	**Outcome targets under $9 billion Scenario**	**Core Outputs**
Processes through Enabling Activities	conservation and sustainable use targets. *Indicator 5.1: Percentage of development and sectoral frameworks that integrate measurable biodiversity conservation and sustainable use targets.*	*and sustainable use targets into development and sectoral planning frameworks.*	*conservation and sustainable use targets into development and sectoral planning frameworks.*	*conservation and sustainable use targets into development and sectoral planning frameworks.*	conservation and sustainable use targets.

Climate Change Focal Area Strategy for GEF-5

Background

Introduction

1. The Fourth Assessment Report of the IPCC concludes that climate change due to human activities is unequivocal and that global greenhouse gas (GHG) emissions will continue to grow over the next few decades with current climate change policies and development practices. It is widely recognized that the overall costs and risks of climate change will far exceed the cost of action to mitigate climate change. Emissions of greenhouse gases covered by the United Nations Framework Convention on Climate Change (UNFCCC) have increased in most countries worldwide over recent decades. Measures to address greenhouse gas emission issues transcend the global issues of energy security, economic prosperity and environmental protection. Economic development needs, resource endowments, and mitigation capacities differ across regions. Consequently, mitigation solutions need to be differentiated to reflect different socio-economic conditions. Parties to the UNFCCC will meet in Copenhagen, Denmark in December 2009 to articulate a new global agreement to address growing greenhouse gas emissions.

2. As an operating entity of the financial mechanism of the UNFCCC, since its inception in 1991, the Global Environment Facility (GEF) has invested $2.5 billion in financing climate change mitigation, adaption, and enabling activities, and has leveraged more than $15 billion additional investment. The GEF has become the largest public-sector funding source to support the transfer of environmentally sound technologies to developing countries.

Historical development and lessons learned

3. The climate change focal area strategy has evolved considerably since the inception of the GEF in 1991. During the Pilot Phase, climate change projects involved demonstration of many relevant climate-friendly technologies and applications. However, considering the recommendation of the First Evaluation Study of the Pilot Phase,[19] which stated that such an approach was spreading resources too thin, the GEF climate change focal area has become strategically more focused in subsequent GEF replenishment periods.

4. GEF-1 and GEF-2 programming was based on the GEF Operational Strategy (1995) and the Operational Programs developed from 1996 to 2000. During this period, GEF climate change projects emphasized removing barriers to the widespread adaptation of energy efficiency and renewable energy technologies. The 2004 Program Study on Climate Change (CCPS) highlighted positive indirect impacts of the GEF on poverty alleviation, replication of project results, project risk management, transfer of technological know-how, long-term programmatic approaches, and the potential for GEF projects to influence policy.

[19] Ian Bowles and Glenn T. Pricket. 1994. *Reframing the Green Window: An Analysis of the GEF Pilot Phase Approach to Biodiversity and Global Warming and Recommendations for the Operational Phase*. Washington, DC: Conservation International and Natural Resources Defense Council.

5. The GEF Second Overall Performance Study (OPS2) (2002) stressed, among other things, the importance of replication, private sector involvement, coordination of GEF projects with national strategies and needs, and fully utilizing the potential for influencing policy. Looking across the GEF climate change portfolio, OPS2 also concluded that the GEF has been most effective in promoting energy efficiency, and has had more modest success in promoting grid-connected renewable energy. More specifically, the study concluded that the GEF has had the least success with off-grid, rural, renewable energy projects.

6. Taking findings of the 2004 CCPS into account, the GEF climate change strategy has largely moved away from rural off-grid electrification projects during GEF-4 in the renewable energy area, and has concentrated its efforts on market approaches to on-grid renewable energy and sustainable energy production from biomass in order to achieve high global environmental impact. An important element of a more focused climate change program has been the creation of enabling environments for market transformation. In the meantime, since the GEF Council approved the Operational Program on sustainable urban transport in 1999, this portfolio has grown rapidly during GEF-3 and GEF-4.

7. As identified in the Third Overall Performance Study (OPS3) of the GEF (2005), the GEF was able to further accelerate the shift from technology-based toward market-based approaches by focusing on the seven Strategic Priorities guiding GEF programming.

8. With respect to the relations with the Convention, OPS3 found that the GEF climate change program has been responsive to guidance from the United Nations Framework Convention on Climate Change, has effectively performed its role as financial mechanism of the UNFCCC, and has been responsive to its mandate as defined by the Convention and guidance and priorities as given by the COP. GEF funding of projects has been in direct response to the priorities outlined by the COP.

Guiding principles

9. Development of GEF-5 strategy in the climate change focal area will draw on past experience and will be guided by three principles: (i) responsiveness to Convention guidance; (ii) consideration of national circumstances of recipient countries; and (iii) cost-effectiveness in achieving global environmental benefits. GEF-5 will endeavor to make a transformative impact in helping GEF-recipient countries move to a low-carbon development path through market transformation of and investment in environmentally sound, climate-friendly technologies.

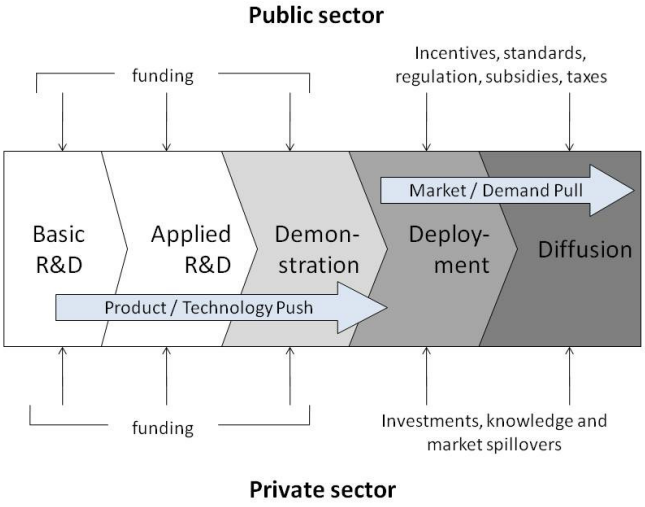
10. Recent decisions reached by the Conference of the Parties (COP) to the UNFCCC have given the GEF guidance, particularly in the areas of development and transfer of environmentally sound technologies and of land use and land-use change. At COP13, the GEF was requested to elaborate a strategic program to scale up the level of investment in technology transfer to help developing countries address their needs for environmentally sound technologies. COP14 welcomed the technology transfer program presented by the GEF as a step toward scaling up the level of investment in technology transfer to developing countries and requested the GEF to consider the long-term implementation of the strategic program on technology transfer. On land use and land-use change, COP12 requested the GEF to explore options for undertaking land use

and land-use change projects within the climate change focal area in light of past experience. Furthermore, the Bali Action Plan highlighted new issues, such as measurable, reportable, and verifiable (MRV) nationally appropriate mitigation actions (NAMAs) by developing countries in the context of sustainable development, supported and enabled by technology, financing, and capacity building.

11. GEF-recipient countries vary significantly in terms of their stage of development, technical and institutional capacity, and market potential to reduce greenhouse gas (GHG) emissions. The GEF-5 climate change strategy will endeavor to provide options for countries with different national circumstances to tackle climate change mitigation while supporting sustainable development.

12. The GEF-5 climate change strategy will promote a broad portfolio of environmentally sound, climate-friendly technologies to achieve large GHG reductions in the GEF-recipient countries in accordance with each country's national circumstances. The portfolio will include technologies at various stages of development in the innovation chain, with a focus on the stages of market demonstration, deployment, and diffusion (see Figure 1). GEF support will involve a combination of technology push and market pull interventions.

Figure 1: Technology Development Cycle and Innovation Chain[20]



13. In GEF-5, a national planning process will be introduced to support countries in identifying priority areas for GEF support in line with the countries' development objectives and climate change policy and strategies. Programming of GEF resources at the country level will be based on the priority sectors, technologies, and activities identified by the countries themselves. The GEF will endeavor to make transformative impacts in all GEF-recipient countries, taking national circumstances into consideration. The use of non-grant instruments will be promoted in

[20] Source: Adapted from IPCC, 2007: Technical Summary, in Climate Change 2007: Mitigation, Contribution of Working Group III to the Fourth Assessment Report of the IPCC.

countries where conditions are suitable and demand exists in order to catalyze commercial financing and leverage investment from the private sector.

14. In large, medium-income developing countries and rapidly growing economies, the GEF will continue to support programs and projects that will bring significant GHG reductions, such as market transformation in the building, industry, and transport sectors. In relatively small, low-income countries, the GEF will boost its support in investment and in technical and institutional capacity building and will expand its efforts in helping these countries access modern energy from renewable sources. Technology innovation and transfer will be promoted in all GEF-eligible countries: in large, medium-income countries with strong technical capacity and market potential, emphasis will be placed on market demonstration and commercialization of new, emerging technologies; in relatively small, low-income countries, GEF support will focus on adapting commercially available technologies to local market conditions for deployment and diffusion through investment, capacity building, and technology cooperation.

15. Furthermore, the GEF can play a useful and growing role in the emerging carbon markets, which is expected to increase rapidly in the future. The GEF is uniquely positioned to expand its engagement in the carbon markets given its extensive network of partner institutions, its rich experience in financing clean energy and sustainable urban transport activities and in promoting the transfer of a broad range of environmentally sound technologies to developing countries, and finally its strong track record in reducing GHG emissions cost-effectively from its investments. In fact, GEF's early intervention in many cases – be it demonstrating technologies for landfill gas and coalbed methane utilization or putting policy and regulatory frameworks in place to stimulate investment in renewable energy – has laid the foundation for the carbon market to function and replicate subsequently.

16. Options to be explored by the GEF to support the carbon markets may include: (i) capacity building to help create enabling legal and regulatory environment; (ii) support of programmatic carbon finance and other activities under the post-2012 climate regime; (iii) demonstration of technical and financial viabilities of technologies; (iv) partial risk guarantees and contingent financing for carbon finance projects; and (v) co-financing of innovative projects, with credits to be retained in the recipient country for further project replication. GEF engagement in carbon finance activities will complement other programs and reforms in GEF-5.

Focal area goal, objectives, and outcomes

17. As an operating entity of the financial mechanism of the UNFCCC, the GEF finances eligible enabling, mitigation, and adaptation activities in the climate change focal area. Since the GEF strategy on adaptation to climate change is undertaken on a separate track, the present climate change focal strategy covers only mitigation and enabling activities.

18. The overall goal of the GEF in climate change mitigation is to support developing countries and economies in transition toward a low-carbon development path. The long-term impact of the GEF work will be slower growth in GHG emissions to the atmosphere from the GEF-recipient countries and contribution to the ultimate objective of the UNFCCC, which is to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."

19. The climate change mitigation strategy for GEF-5 will consist of six objectives. The first objective will focus on technologies at the stage of market demonstration or commercialization where technology push is still critical. The second through fifth objectives focus on technologies that are commercially available but face barriers and require market pull to achieve widespread adoption and diffusion. The last objective is devoted to supporting enabling activities and capacity building under the Convention.

Objective 1: Promote the demonstration, deployment, and transfer of advanced low-carbon technologies

20. In accordance with COP guidance, the GEF has been at the forefront of financing the transfer of environmentally sound technologies to developing countries. The entire GEF climate change portfolio can be characterized as supporting technology transfer as defined by the IPCC and the technology transfer framework outlined by the COP,[21] in the areas of energy efficiency, renewable energy, sustainable urban transport, and short-term response measures.[22] In response to the COP 14 decision on the development and transfer of technology, the GEF launched a strategic program on technology transfer for the remainder of the GEF-4 that involves support of a new round of TNAs and financing priority pilot projects related to the transfer of environmentally sound technologies.

21. During GEF-5, following COP 14 decision that requested the GEF to consider the long-term implementation of the strategic program on technology transfer, the GEF will step up its efforts in promoting the demonstration, deployment, and transfer in advanced low-carbon technologies.[23] Drawing on the past achievements, experiences, and lessons learned, the GEF will revitalize and employ its catalytic role in supporting the transfer of new, cutting-edge technologies and know-how to developing countries. Although it requires additional time and risks to work with new, emerging technologies, GEF experience with concentrating solar power (CSP) and fuel-cell bus (FCB) projects, for example, has shown that GEF support in the early stages of these technologies has played a pivotal role in spurring interest and subsequent investments in these technologies, thereby accelerating the pace of their commercialization albeit in a limited number of countries.

22. Projects supported under this objective will target the demonstration and deployment of leap-frog technologies that could have significant impact in the long-run in reducing carbon emissions. GEF support may also involve the demonstration, deployment, and transfer of priority technologies identified by the recipient countries that are commercially available but

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[21] The IPCC defines technology transfer as a "broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, NGOs and research/education institutions" (IPCC Working Group II, *Methodological and Technical Issues on Technology Transfer*). The UNFCCC technology transfer framework (Annex to COP decision 4/CP.7) defines five elements for meaning and effective actions to enhance the implementation of technology transfer: (1) technology needs and needs assessments, (2) technology information, (3) enabling environment, (4) capacity building, and (5) mechanisms for technology transfer.

[22] The so-called short-term response measures are projects that are extremely cost-effective, with a unit abatement cost of less than $10/ton of carbon avoided or roughly $2.7/ton of CO_2 equivalent avoided.

[23] Other objectives under GEF-5 also support technology transfer as broadly defined by IPCC and UNFCCC.

have not been adopted in their particular markets. Technologies at the diffusion stage or projects that aim to support wide-scale dissemination of proven and available technologies are not to be supported under this objective; instead, they should be considered under other objectives (see below). The technologies aimed for support by the GEF should be consistent with the priorities identified in the TNAs, National Communications to the UNFCCC, or other national policy documents.

23. GEF intervention under this objective will include technical assistance for creating an enabling policy environment for technology transfer, institutional and technical capacity building, establishment of mechanisms for technology transfer, North-South and South-South technology cooperation, purchase of technology licenses, and investment in pilot projects. Project supported under this objective should clearly identify the source of the technology and the target for the transfer, the scope and the mechanism of technology co-operation and transfer, and the market potential and strategy for replication. Project activities may include developing local capacity to adapt exogenous technologies to local conditions and to integrate them with endogenous technologies.

24. Successful outcomes of this objective will include:

(1) Technologies successfully demonstrated, deployed, and transferred
(2) Enabling policy environment and mechanisms created for technology transfer
(3) GHG emissions avoided

25. Outcome indicators will include:

(1) Percentage of technology demonstrations reaching its planned goals
(2) Extent to which policies and mechanisms are adopted for technology transfer (score of 0 to 4)
(3) Tonnes of CO_2 equivalent avoided

Objective 2: Promote market transformation for energy efficiency in industry and the building sector

26. The GEF has a strong track record and considerable experience in promoting energy efficiency in developing countries and economies in transition. Since 1991, the GEF has invested almost $1 billion in energy efficiency, covering a wide spectrum of sectors and approaches: from standards and labels for appliances and lighting technologies to building codes and integrated building designs, from innovative risk-sharing instruments to market-based approaches, from sector-specific industrial technologies to energy audit and energy management standards, from district heating to cogeneration, from energy-efficient equipment to system optimization, from demand-side energy efficiency measures to supply-side efficiency improvement in power generation, transmission, and distribution.

27. The GEF will build on this performance record to enhance and expand investments in energy efficiency in industry and the building sector.[24] GEF support will be directed toward developing and enforcing strong policies, norms, and regulations in order to achieve large-scale impact in terms of energy savings and GHG emissions reduction. During GEF-5, project under this objective will aim at stepping up policy interventions as well as scaling up energy efficiency investments across the wide spectrum of developing countries and economies in transition at different stages of development.

28. In the industrial sector, emphasis will be placed on promoting energy efficient technologies and practices in industrial production and manufacturing processes (including agro-processing) especially in the small and medium-sized enterprises (SMEs) while supporting industrialization and sustainable development in developing countries. In the building sector, GEF support will cover residential, commercial, and public buildings, and include both new buildings and retrofitting of existing buildings. It covers the entire spectrum of the building sector, including the building envelope, the energy-consuming systems, appliances, and equipment used for heating, cooling, lighting, and building operations. Project activities may incorporate the use of solar energy and thermal capacity of shallow ground for heating and cooling in the building system. Emphasis will be placed on integrated and systemic approaches and high performance buildings, appliances, and equipment. Promotion of energy efficient cook stoves will be covered under this objective.

29. Consistent with "chemical proofing" and in order to build synergy across Conventions, projects aligned with this objective may extend to supporting the phase-out of hydrochlorofluorocarbons (HCFCs) used in industry and buildings such as chillers, air-conditioners, and refrigerators, even before the required phase-out dates under the Montreal Protocol. The replacement of older equipment should be done with new one that both operates more efficiently and uses chemicals with lower global warming potential, while minimizing the use of chemicals damaging to the ozone layer. Government commitments to adopting and enforcing standards and regulations are essential for these initiatives in order to have an impact through replication.

30. GEF support under this objective will involve a synergistic combination of technical assistance on policy, regulation, and institutional capacity building; incentives and financing mechanisms to support the adoption of energy efficiency technologies and measures; piloting innovative technologies, practices, and delivery mechanisms; and support for large-scale dissemination activities. Where appropriate, GEF projects may be linked to supporting nationally appropriate mitigation activities under the Bali Action Plan and in accordance to future COP guidance, with a view to achieving policy gain.

31. Successful outcomes of this objective will include:

(1) Appropriate policy, legal and regulatory frameworks adopted and enforced
(2) Sustainable financing and delivery mechanisms established and operational
(3) GHG emissions avoided

[24] As in GEF-4, GEF support under this objective during GEF-5 will continue to focus on end-use energy efficiency measures and co-generation. Supply-side measures related to electric power generation, transmission, and distribution will not be supported under this objective.

32. Outcome indicators will include:

(1) Extent to which EE policies and regulations are adopted and enforced (score of 0 to 4)
(2) Volume of investment mobilized
(3) Tonnes of CO_2 equivalent avoided

Objective 3: Promote investment in renewable energy technologies

33. Financing renewable energy technologies and supporting removal of barriers to the adoption of renewable energy has been a key component of the GEF climate change strategy since the beginning of the GEF. The GEF renewable energy portfolio stands at about $1 billion, and GEF support has covered a wide range of renewable energy technologies, including off-grid and on-grid photovoltaics, solar water heating, wind turbines, geothermal, small hydro, methane from waste, and biomass applications for power and heat production. During GEF-4, GEF support has focused on promoting market approaches to renewable energy technologies and energy production from biomass, with an emphasis on the development of policies and regulatory frameworks for renewable energy along with limited support to pilot and demonstration investments.

34. In GEF-5, the GEF will build upon its robust experience in the past and will boost investment in renewable energy technologies, recognizing that renewable energy plays an indispensable role not only in combating global climate change but also in addressing energy access, energy security, environmental pollution, and sustainable development. Today, 1.6 billion people in the developing world, mostly in sub-Saharan Africa and South Asia, do not have access to electricity, and more than 2.6 billion rely on traditional biomass to meet their basic energy needs for cooking and heating. On the other hand, fossil fuels dominate the energy structure of the large developing countries and emerging economies such as China, India, and South Africa. Even with favorable policies on renewable energy, many countries still face higher cost of initial investment and other risks associated with renewable energy, while the private sector and financial institutions sometimes are reluctant to invest in small projects or decentralized technologies.

35. In GEF-5, GEF support under this objective will expand beyond the creation of enabling policy and regulatory environment to promoting investment in renewable energy technologies, including in the relatively small, poor developing countries and the least developed countries (LDCs), where both private and public capital is scarce and access to energy services is low. The GEF will endeavor to invest in renewable energy projects that will lead to a step-change in the deployment and diffusion of reliable, least-cost renewable energy technologies that address the natural resource endowments of participating countries.

36. Given the acute demand for energy access and services in rural areas in developing countries, GEF support will cover not only on-grid renewable energy programs but also decentralized production of electric power as well as heat using indigenous renewable sources such as biomass, solar, wind, hydro, and geothermal. GEF projects can promote local SMEs to enhance their technical capacities to provide installation, operating and maintenance services for

renewable energy technologies. Furthermore, GEF support will extend to recovering methane from biomass wastes for power generation or heat production. Finally, GEF support may also extend to supporting sustainable production of biomass for solid and liquid biofuels as a substitute to fossil fuels where appropriate conditions, including safeguard policies, exist.

37. In promoting biomass applications, sustainability criteria will have to be observed to ensure that GEF support to modernization of biomass use does not undermine food security, contribute to deforestation, reduce soil fertility, increase GHG emissions beyond project boundaries, or violate sustainability principles relating to biodiversity conservation or sustainable land and water management.

38. GEF intervention under this objective can be a combination of technical assistance for policy and regulatory support, building the technical and institutional capacity, and establishing financing mechanisms for investment in the deployment and diffusion of renewable energy technologies. GEF support in the form of direct investment is particularly applicable in small, poor developing countries and LDCs. Financial sustainability should be taken into consideration where the GEF is directly involved in investment activities.

39. Successful outcomes of this objective will include:

(1) Favorable policy and regulatory environment created for renewable energy investments
(2) Investment in renewable energy technologies increased
(3) GHG emissions avoided

40. Outcome indicators will include:

(1) Extent to which RE policies and regulations are adopted and enforced (score of 0 to 4)
(2) Volume of investment mobilized
(3) Tonnes of CO_2 equivalent avoided

Objective 4: Promote energy efficient, low-carbon transport and urban systems

41. GEF support for sustainable urban transport started in 1999. In the ensuing year, the GEF Council approved an operational program on sustainable urban transport. By early 2009, the GEF has funded more than 40 projects in sustainable urban transport covering more than 70 cities throughout Asia, Latin Africa, Africa, Middle East, and Eastern Europe. The total GEF allocation to this sector stands at about $200 million, which has leveraged additional $2.5 billion investment. GEF-funded activities have included technological solutions, such as fuel-cell buses and electric three-wheelers; investment in public and non-motorized transport infrastructure; development and implementation of comprehensive transport strategies, such as urban and transport planning, traffic demand management, and modal shift to less-GHG intensive transport modes.

42. Rapid urbanization and expansion of transport systems will likely comprise the largest source of future growth of GHG emissions in developing countries. In GEF-5, promoting energy efficient, low-carbon transport and urban systems will be a key objective in the climate change

focal area. This objective will build upon the existing GEF sustainable urban transport program and will expand its scope to include integrated approaches to promoting energy efficient, low-carbon cities. Although the focus of this objective in GEF-5 will remain on transport, given the critical importance of integrated approaches to attain maximum global environmental benefits, the expanded scope will attempt to address urban systems as a whole where appropriate.

43. Options for intervention during GEF-5 will include land use and transport planning, public transit systems, energy efficiency improvement of the fleet, efficient traffic control and management, transport demand management, and non-motorized transport. Technological options in the transport sector, such as promoting clean, low-carbon vehicles, may be considered in countries where significant GHG emissions reduction as well as local development and environmental benefits can be achieved. Public awareness and participation will be an integral part of a successful program. Through comprehensive, integrated intervention, GEF projects will address not only climate change mitigation but also local air pollution, traffic congestion, and access to affordable and efficient transport and public utilities.

44. Strong commitments from the local as well as the national governments are particularly important. At the city-level, emphasis will be placed on integrated low-carbon urban planning for transport, energy efficiency, and renewable energy, covering housing, transport, public utilities and commercial development. Comprehensive interventions through integration of transport, energy, water, and housing sector activities will be encouraged. GEF support under this objective will involve technical assistance in transport and urban planning, development of innovative financing mechanisms, awareness campaigns, and investments in demonstration and deployment of high-performance technologies. During GEF-5, greater attention will be given to measuring and quantifying global environmental benefits, which will provide a basis for choosing the best sets of interventions to deliver maximum global and local benefits.

45. Successful outcomes of this objective will include:

(1) Sustainable transport and urban policy and regulatory frameworks adopted and implemented
(2) Increased investment in less-GHG intensive transport and urban systems
(3) GHG emissions avoided

46. Outcome indicators will include:

(1) Number of cities adopting sustainable transport and urban policies and regulations
(2) Volume of investment mobilized
(3) Tonnes of CO_2 equivalent avoided

Objective 5: Conserve and enhance carbon stocks through sustainable management of land use, land-use change, and forestry

47. In response to COP decision 2/CP.12, the GEF launched a strategic program during GEF-4 to promote the reduction of GHG emissions from LULUCF within the climate change focal area. This program has also been linked to the GEF cross-cutting program of Strategic Forest Management (SFM). Activities supported during GEF-4 have included a global initiative to

define and refine a methodology for estimating avoided carbon emissions from LULUCF. At the national level, GEF projects have supported afforestation and reforestation, developing and implementing policies and regulations to avoid deforestation, defining conservation areas to secure carbon sinks, securing and establishing positive incentives for sustainable management of forests, strengthening networks of stake-holders, and capacity building of national and local institutions.

48. In GEF-5, the GEF will continue, and will enhance, the LULUCF program within the climate change focal area and through cross-cutting project activities linking to SFM as well as biodiversity and land degradation focal areas. The objective on LULUCF during GEF-5 will be two-fold: one is to conserve, restore, enhance, and manage the carbon stocks in forest and non-forest lands, and the other is to prevent emissions of the carbon stocks to the atmosphere through the reduction of the pressure on these lands in the wider landscape.[25]

49. GEF intervention will cover the spectrum of land-use categories as defined by IPCC, including reducing deforestation and forest degradation and enhancing carbon stocks in non-forest lands, as well as management of peat land. During GEF-5, the GEF will support activities that will develop national systems to measure and monitor carbon stocks and fluxes from forest and non-forest lands, strengthen related policies and institutions, undertake good management practices with local communities, and establish financing mechanisms and investment programs.

50. GEF support will involve a combination of technical assistance for policy formulation, building institutional and technical capacity to implement strategies and policies, monitoring and measurement of the carbon stocks and emissions, developing and testing policy frameworks to slow the drivers of undesirable land-use changes, and working with local communities to develop alternative livelihood methods to reduce emissions and sequester carbon. Where appropriate, pilot investment projects designed to reduce net emissions from LULUCF and to enhance carbon stocks will be supported. Synergy with SFM, biodiversity, land degradation, and reduction of the vulnerability of the forest and non-forest lands due to climate change should be explored so as to generate multiple global environmental benefits as well as social economic benefits.

51. Successful outcomes of this objective will include:

(1) Good management practices in LULUCF adopted both within the forest land and in the wider landscape
(2) Restoration and enhancement of carbon stocks in forests and non-forest lands, including peat land
(3) GHG emissions avoided and carbon sequestered

52. Outcome indicators will include:

(1) Number of countries adopting good management practices in LULUCF
(2) Hectares of forests and non-forest lands restored and enhanced

[25] The IPCC good practice guidance for LULUCF describes six broad land-use categories for reporting national inventories under the Convention: forest land, cropland, grassland, wetlands, settlements, and other land.

(3) Tonnes of CO_2 equivalent avoided

Objective 6: Continue to support enabling activities and capacity building

53. As the financial mechanism of the UNFCCC, the GEF has provided financial and technical support to more than 130 non-Annex I Parties to prepare their initial, second, and, in some cases, third national communications to the Convention. In the period of GEF-3, the GEF funded a global program to support the second national communications of most eligible countries. A few countries have also received GEF funding outside of the global program during GEF-4 to prepare their second and third national communications. In addition, in GEF-3, the GEF funded an initial round of technology needs assessments (TNAs) as "top-ups" to national communications in more than 90 countries. In GEF-4, the GEF has allocated resources for a global project that will aim to support eligible countries to prepare or update their TNAs.[26]

54. During GEF-5, the GEF will continue to support as a first priority non-Annex I Parties to prepare their national communications to the UNFCCC. In the GEF-5 period, most non-Annex I Parties will likely require financial support to prepare their third or fourth national communications to the UNFCCC. The GEF will ensure adequate resources to support non-Annex I Parties to meet their obligation under the Convention. In addition, the GEF will continue to fund the preparation and updating of TNAs especially for countries that have not support for TNAs from GEF-4.

55. Subject to future COP guidance, the GEF may finance activities to support capacity building activities, implementation of Articles 6 of the Convention on education, training, and public awareness (in addition to those funded under regular climate change projects), as well as other relevant enabling and capacity building activities as requested by the COP.

56. Furthermore, the GEF will play a useful and growing role in carbon finance, particularly in capacity building directed toward helping the least developed countries (LDCs) undertake activities for exploring the benefits of the carbon market for their sustainable, low-carbon development. The GEF is uniquely positioned to stimulate the development of carbon finance activities and markets in developing countries.

57. Successful outcomes of this objective will include:

(1) Adequate resources allocated to support enabling activities and capacity building related to the Convention
(2) Human and institutional capacity of recipient countries strengthened

58. Outcome indicators will include:

(1) Percentage of eligible countries receiving GEF funding for National Communications (NCs) and Technology Needs Assessments (TNAs), etc. in accordance with COP guidance

[26] Aside from national communications and TNAs, the GEF has provided support to several corporate programs on capacity building, such as National Capacity Self-Assessment and the Country Support Program.

(2) NCs, TNAs, etc. completed and submitted to the UNFCCC, as appropriate
(3) Number of countries supported by the GEF for capacity building

IV. Learning objectives

59. Knowledge management and portfolio monitoring of GEF-funded projects, including those in the climate change focal area, have been sporadic. Some activities have taken place in the past within the GEF Secretariat and the implementing agencies, but more systematic efforts are needed to learn from the past experience of implementing GEF projects.

60. The 2002 Second Overall Performance Study (OPS2) found that "the existing GEF system is slow to recognize success, and thus slow to replicate and integrate positive lessons in planning for future projects." The 2004 Climate Change Program Study (CCPS) also concluded that "learning within the GEF family has been neither systematic nor system-wide, nor has it had strong outreach to outside expertise." Although the 2004 CCPS found examples of good knowledge-sharing initiatives within the GEF implementing agencies and at the headquarters level within the Climate Change Task Force, it suggested that better learning was needed among projects within the same clusters and within and between countries.

61. During GEF-5, the GEF Secretariat in the climate change focal area will step up its efforts to work together with the GEF agencies and other stakeholders on portfolio monitoring, knowledge management, and dissemination of good practices. Over the course of GEF-5, at least five clusters of projects in energy efficiency, renewable energy, and sustainable urban transport will be monitored closely at the portfolio level by the GEF Secretariat. Desk studies and field visits of sample projects in these portfolios will be undertaken in coordination with terminal evaluation, mid-term evaluation, or annual project implementation review by the GEF agencies. Good practices and lessons will be identified, synthesized, and disseminated through publications and outreach programs to GEF agencies, stakeholders in the recipient countries, and the international community.

62. The GEF Climate Change Task Force will be one avenue through which to continuously and systematically share information between the GEF Secretariat and the GEF agencies. The GEF Country Support Program, including National Dialogue Initiatives and sub-regional workshops, is another pathway to gather information and to disseminate knowledge. Furthermore, the GEF website, including the GEF newsletter, *Talking Points*, will continue to be used to distribute quick, topical, time-sensitive information. Finally, it is proposed that the GEF Secretariat publish a knowledge management series on good practices in project design, management, and implementation; review of clusters of projects, implementation experiences, and lessons learned; and news and views related to climate change from the Convention, the GEF Secretariat, the GEF agencies, the STAP, and the recipient countries.

Annex 1: Climate Change Mitigation: Results Framework under Two Replenishment Scenarios

Goal: To support developing countries and economies in transition toward a low-carbon development path
Impacts: Slower growth in GHG emissions and contribution to the stabilization of GHG concentrations in the atmosphere
Key Indicator: Tonnes of CO_2 equivalent avoided (both direct and indirect) over the investment or impact period of the projects
Key Target: 500, 700, 1,000 million tones under the $5b, $6.5b, and $9b scenarios, respectively

Objectives	Key Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
Total Focal Area Allocation		$1.78 billion	$2.4 billion	$3.6 billion	
Objective 1: Promote the demonstration, deployment, and transfer of advanced low-carbon technologies	• Technologies successfully demonstrated, deployed, and transferred Indicator: Percentage of technology demonstrations reaching its planned goals • Enabling policy environment and mechanisms created for technology transfer Indicator: Extent to which policies and mechanisms are adopted for technology transfer (score of 0 to 4) • GHG emissions avoided Indicator: Tonnes of CO_2 equivalent	$350 million • Small-scale demonstration of 2-4 advanced technologies in 10-15 countries • 80% of the projects reaching the planned goals on the ground • 20 million tonnes of CO_2 equivalent avoided	$600 million • Small- to large-scale demonstration of 4-5 advanced technologies in 15-20 countries • 80% of the projects reaching the planned goals on the ground • 30 million tonnes of CO_2 equivalent avoided	$1 billion • Small- to large-scale demonstration of 5-7 advanced technologies in 20-30 countries • 80% of the projects reaching the planned goals on the ground • 50 million tonnes of CO_2 equivalent avoided	• Advanced low-carbon technologies demonstrated and deployed on the ground • National strategies for the deployment and commercialization of advanced technologies adopted
Objective 2: Promote market transformation for energy efficiency in industry and the building	• Appropriate policy, legal and regulatory frameworks adopted and enforced Indicator: Extent to which EE policies and regulations are adopted and enforced (score of 0 to 4)	$350 million • 20-30 countries adopting EE policies and initiatives • $2 billion investment	$450 million • 25-35 countries adopting EE policies and initiatives • $2.5 billion investment	$610 million • 30-40 countries adopting policies and initiatives • $3.3 billion investment mobilized for EE	• Energy efficiency policy and regulation in place • Investment mobilized • Energy savings achieved

Objectives	Key Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
sector	• Sustainable financing and delivery mechanisms established and operational Indicator: Volume of investment mobilized • GHG emissions avoided Indicator: Tonnes of CO_2 equivalent	mobilized for EE • 170 million tonnes of CO_2 equivalent avoided	mobilized for EE • 260 million tonnes of CO_2 equivalent avoided	• 10-15 projects linking to ODS and POPs implemented • 330 million tonnes of CO_2 equivalent avoided	
Objective 3: Promote investment in renewable energy technologies	• Favorable policy and regulatory environment created for renewable energy investments Indicator: Extent to which RE policies and regulations are adopted and enforced (score of 0 to 4) • Investment in renewable energy technologies increased Indicator: Volume of investment mobilized • GHG emissions avoided Indicator: Tonnes of CO_2 equivalent	$400 million • 20-30 countries adopting or strengthening RE policies and initiatives • $1.5 billion investment mobilized • 1 gigawatt new RE capacity installed • 80 million tonnes of CO_2 equivalent avoided	$500 million • 30-40 countries adopting or strengthening RE policies and initiatives • $2 billion investment mobilized • 1.3 gigawatt new RE capacity installed • 100 million tonnes of CO_2 equivalent avoided	$800 million • 40-50 countries adopting or strengthening RE policies and initiatives • $3 billion investment mobilized • 2 gigawatt new RE capacity installed • 160 million tonnes of CO_2 equivalent avoided	• Renewable energy policy and regulation in place • Renewable energy capacity installed • Electricity and heat produced from renewable sources
Objective 4: Promote energy efficient, low-carbon transport and urban systems	• Sustainable transport and urban policy and regulatory frameworks adopted and implemented Indicator: Number of cities adopting sustainable transport and urban policies and regulations	$350 million • 40-50 cities adopting low-carbon programs • $1.5 billion investment	$400 million • 40-50 cities adopting low-carbon programs • $1.8 billion investment mobilized	$600 million • 70-90 cities adopting low-carbon programs • $3 billion investment	• Cities adopting in low-carbon programs • Investment mobilized • Energy savings achieved

Objectives	Key Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
	• Increased investment in less-GHG intensive transport and urban systems Indicator: Volume of investment mobilized • GHG emissions avoided Indicator: Tonnes of CO_2 equivalent	mobilized • 130 million tonnes of CO_2 equivalent avoided	• 150 million tonnes of CO_2 equivalent avoided	mobilized • 240 million tonnes of CO_2 equivalent avoided	
Objective 5: Conserve and enhance carbon stocks through sustainable management of land use, land-use change, and forestry	• Good management practices in LULUCF adopted both within the forest land and in the wider landscape Indicator: Number of countries adopting good management practices in LULUCF • Restoration and enhancement of carbon stocks in forests and non-forest lands, including peatland Indicator: Hectares restored • GHG emissions avoided and carbon sequestered Indicator: Tonnes of CO_2 equivalent	$200 million (of which $100 million for SFM) 20-30 countries adopting good management practices and implementing projects 100 million tonnes of CO_2 equivalent avoided	$320 million (of which $210 million for SFM) 30-40 countries adopting good management practices and implementing projects 160 million tonnes of CO_2 equivalent avoided	$460 million (of which $340 million for SFM) 40-50 countries adopting good management practices and implementing projects 230 million tonnes of CO_2 equivalent avoided	• Carbon stock monitoring systems established • Forests and non-forest lands under good management practices
Objective 6: Continue to support enabling activities and	• Adequate resources allocated to support enabling activities and capacity building related to the Convention Indicator: Percentage of eligible	$130 million • 100% of eligible countries receiving GEF funding in	$130 million 100% of eligible countries receiving GEF funding in	$130 million • 100% of eligible countries receiving GEF funding in	• Countries receiving GEF support for NCs, TNAs, NAMAs, etc.

Objectives	Key Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
capacity building	countries receiving GEF funding • Human and institutional capacity of recipient countries strengthened Indicator: Countries, institutions, etc. supported by the GEF	accordance with COP guidance	accordance with COP guidance	accordance with COP guidance	• NCs/TNAs/NAMAs completed and submitted to the UNFCCC as appropriate

International Waters Draft Focal Area Strategy for GEF-5

Background

1. Water is the lifeblood of our planet. Human life depends on freshwater, and the Earth's climate and its habitability depend not only on freshwater but also climate services from the ocean. Slowly, the world community is recognizing the severity of the global water crisis. Not only are Millennium Development Goals (MDGs) and Johannesburg World Summit (WSSD) targets being missed, but economic opportunities and community security are now diminished because of little priority on water. Once thought to be simply related to mismanagement and policy failure, degradation and depletion of our planet's surface, ground water, and oceans are also caused by complex global pressures of population growth and forced migration, changing climate, global financial and trade distortions, food shortages, and changing diets.

2. Freshwater, saltwater, and their living resources know no borders. With 70 percent of the Earth being ocean and 60 percent of the land lying in cross-border surface and groundwater basins, most water systems on Earth are transboundary – and thus are at the heart of the GEF International Waters (IW) mandate. These water systems, that know no boundaries, produce food for global trade and domestic use, power industry and economies, quench thirst, and nourish the ecosystems that support life. Globally, these systems are overused, over-polluted, and suffer from serious transboundary and national governance failures.

3. Demands for freshwater continue to rise, resulting in competition among key sectors and ultimately between countries that share transboundary freshwater systems. In parallel, the human demand for protein from marine waters and pollution releases place stress on both coastal and ocean systems. The results are all too apparent—depleted and degraded surface waters, aquifers, and marine ecosystems that we see today with adverse impacts on human and ecosystem health, food security, and social stability. In addition, changes in global hydrologic cycles driven by changes in climate and climatic variability deepen poverty, reduce food supplies, damage health and further threaten political and social stability. Collective action among states and negotiation of legal/institutional framework are now critical to address these multiple stresses, including climatic variability and change, before tension between states gets even worse.

Evolution of the IW Strategy at the GEF

4. The GEF International Waters (IW) focal area addresses these very complex sustainable development challenges faced by States sharing transboundary surface, groundwater, and marine systems. Challenges range from pollution, loss of habitat, and ship waste, to intensive and conflicting uses of surface and groundwater, over-harvesting of fisheries, and adaptation to climatic fluctuations. The GEF serves a unique role in building trust and confidence among states for catalyzing collective management of these large water systems while providing benefits for environment, food production, economic development, community health, and regional stability. The GEF IW focal area has shown that cooperation among states on water,

fisheries, catchments, and environment serves as a new path to secure these benefits for multiple water users and that the demonstration of appropriate technologies can catalyze investments for on-the-ground results. The challenges of climate variability and change add an additional impetus to the GEF work, particularly since transboundary cooperation can suffer when economic recession pulls resources out of international development programmes and assistance. States must act together to restore and protect the functioning of these systems before depletion and degradation lead to destabilization of communities, sub-national regions, and States.

5. Both the third and fourth Overall Performance Studies (OPS3 and OPS4) document GEF success in catalyzing impacts related to multi-country cooperation for shared waters. Outcomes have been robust, targets exceeded, and IW has proven to be an effective agent for policy, legal and institutional reforms and for enabling on-the-ground demonstrations. OPS 3 in 2005 concluded that the IW Focal Area was ready to move from a demonstration mode to scaling-up of full operations in support of reforms, investments, and collective management. This scaling up of on-the-ground actions was not possible during GEF 4 because funding was reduced.

6. While coping with small funding, GEF IW programming has focused on: (a) creating an enabling foundation in trust, confidence and capacity among states desiring to collaborate on sustainable use of their transboundary waters, (b) demonstrating simple GEF strategic approaches for scaling up impacts when larger funding levels become available, and (c) developing measures for groundwater protection and management to cope with increased use and more frequent droughts. To avoid irreversible economic and social impacts and while cost-effective measures are still feasible, the time for scaling up is now. A backlog of requests for action exists with GEF having built the capacity of 149 recipient countries to work together with 23 non-recipient countries on regional collective management for the particular transboundary water systems they share—22 river basins, 8 lake basins, 5 groundwater systems, and 19 Large Marine Ecosystems.

7. As recommended by OPS3 in 2005, the time is at hand to scale-up funding in the GEF IW focal area to achieve results before conditions become irreversible. GEF5 presents a crucial opportunity to scale up collective action for freshwater basins, aquifers, and marine systems. Beyond GEF4 priorities, new imperatives in International Waters relating to climatic variability and change and incorporation of groundwater concerns to produce community benefits. The capacity that has been built through previous GEF interventions means that many states are ready to move forward in scaling up impacts contributing to MDGs and WSSD targets while also incorporating climatic variability and change as a new transboundary concern for action.

International Waters Strategy, Goal and Objectives

8. The long-term goal for the GEF International Waters focal area was included by the GEF Council in its 1995 Operational Strategy and remains relevant today for GEF5. With only slight updating for GEF-5, the goal serves as politically pragmatic and cost-effective guidance for GEF to tackle the highly complex concerns of transboundary freshwater and marine ecosystems.

The goal of the International Waters focal area is the promotion of collective management for transboundary water systems and subsequent implementation of the full range of policy, legal,

and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services.

9. Since 1995, GEF has placed human needs at the center of transboundary water systems and based interventions on modifying human activities and institutions toward sustaining multiple uses of and human well-being for these sensitive waters. The GEF approach has provided opportunities for States wishing to address transboundary water-related disputes and resolve national development priorities across transboundary systems in a collective manner.

10. The GEF Council-approved Operational Strategy in 1995 recognized the sensitive international political dimensions of assisting states in collective management of transboundary water systems. The Council noted that global environmental benefits would accrue if countries worked together on priority concerns of these transboundary systems, which are the dominant waters on Earth, and that global environmental benefits relate to the interconnectedness of the global hydrologic cycle that dynamically links watersheds, aquifers, and coastal and marine ecosystems and their transboundary movement of water, pollutants, ships, and living resources.

11. Consistent with this approach, the goal for the IW area and GEF-5 objectives contribute to the GEF institutional goal of delivering agreed global environmental benefits. In particular, IW programming for 2010-2014 supports GEF-5 corporate goal #1 on global natural resources and #4 on building national and regional capacities and enabling conditions for addressing transboundary systems. Through its previously stated support of Agenda 21 Chapters 17 and 18 as well as the MDGs and WSDD targets, the IW focal area also contributes to human well being and poverty eradication by sustaining water-related and dependent livelihoods, securing food sources, promoting equitable access to water, and reducing water-related health risks in addition to resolving and preventing water-related use conflicts in these large bodies of water.

SUMMARY OF GEF5 DRAFT IW STRATEGY

12. The GEF5 strategy for IW follows the successful approach described in the OPS4 review with progressive programming of GEF resources accompanying progressive multi-state commitments to collective action. This strategy builds on the foundational capacity built and pilot scale work accomplished in GEF 3 and 4 and proposes to scale-up national and local action given sufficient resources. GEF operations would help catalyze initial implementation of multi-State agreed Strategic Action Programmes with shared visions for specific transboundary surface and groundwater systems or Large Marine Ecosystems. They would incorporate capacity building and knowledge generation to address climatic variability and change. With greater funding levels, more on-the-ground results would be achieved with a greater likelihood of national and local governance reforms being enacted as part of programmatic approaches. With less funding, fewer results would be catalyzed and scaling-up for measureable impacts would be limited.

13. Adding climatic variability and change as a key transboundary concern in GEF-5 is needed so that multiple priority stresses for individual waterbodies can be addressed together and collectively by States rather than by single themes or single States. Achieving benefits attributable to water that explicitly contribute to MDGs and WSSD targets dictates that multiple

stresses must be addressed and multiple uses must be balanced or at least reconciled. Pollution reduction or improved fisheries management will still fail to provide impact if the needed flow regime to protect the river ecosystem is diminished by intensive water use and drought.

14. Concerns of droughts and floods as extreme events would now be incorporated into transboundary surface and groundwater basin IW projects through Integrated Water Resources Management (IWRM) approaches that link aquifers and surface water basins. Likewise, for Large Marine Ecosystems (LMEs) and their coasts, concerns related to coastal climatic variability, sea-level rise, ocean warming, protection of coastal carbon sinks ("blue forests") as well as ecosystem resilience would be addressed through governance reforms at the LME level as well as in Integrated Coastal Management (ICM) at local levels. Environmental flows will be included where needed to link freshwater systems. Previous GEF IW projects show that climatic variability and change must now be included as a priority transboundary concern along with the other multiple drivers that cause depletion and degradation. Additionally, for transboundary surface water basins, groundwater (accounting for perhaps 90% of our planet's unfrozen fresh water) will play an even larger role in times of change and must be properly managed.

15. Beyond this focus on implementation of agreed action programmes, the strategy continues to provide for support to states for foundational capacity building activities for new transboundary water systems not yet addressed by GEF. Limited funding would be provided for processes pioneered by GEF to build trust and confidence among States through third party facilitation of GEF agencies so that they may work together collectively on their transboundary water systems toward increased stability and water security. This includes dialogue, capacity building for legal reforms, and potential agreement for improved legal and governance matters at multiple levels from the transboundary to sub-basin, national, and local. Additionally, a number of long-standing priority needs for targeted research as applied to management of cross-border waters will be addressed, and experience sharing and learning within the GEF IW portfolio will be enhanced based on successful pilots in this focal area (GEF IW:LEARN) as noted by OPS4. The cross-project learning and knowledge management already piloted in the IW focal area will be even more critical in GEF 5 as new knowledge on climate and forecasting will need to be absorbed by States collaborating on transboundary water systems. Assistance with new policies based on new and timely information on fluctuating climate represents a new imperative for States and a new challenge for GEF that cannot be undertaken with a small Replenishment.

16. The proposed GEF5 IW strategy would vary depending on level of Replenishment. The strategy would be implemented through three objectives if Replenishment is at a low $5 billion, four objectives if it is at an intermediate level, and five objectives if Replenishment fully funds GEF. The first three objectives are core objectives that will be included in all three scenarios but would be enhanced with more emphasis on coastal and marine waters with an intermediate Replenishment and with on-the-ground investments and national sector reforms in the $9 Billion scenario. The following sections introduce GEF 5 objectives and possible outcomes along with narratives on the three Replenishment scenarios. A detailed results framework describing specifics of all 3 scenarios is presented in Table 1.

17. The proposed GEF 5 IW Objectives are:

A) Catalyze multi-state cooperation to balance conflicting water uses in transboundary surface and groundwater basins while considering climatic variability and change;
B) Catalyze multi-state cooperation to rebuild marine fisheries and reduce pollution of coasts and Large Marine Ecosystems while considering climatic variability and change;
C) Support foundational capacity building, portfolio learning, and targeted research needs for ecosystem-based, joint management of transboundary water systems;
D) Promote effective management of Marine Areas Beyond National Jurisdiction (ABNJ) directed at preventing fisheries depletion --joint with Biodiversity;
E) Undertake pilot-scale demonstrations of pollution reduction from Persistent Toxic Substances, particularly endocrine disruptors--joint with Chemicals

DESCRIPTION OF PROPOSED GEF 5 IW OBJECTIVES

Objective One: Catalyze multi-state cooperation to balance conflicting water uses in trans-boundary surface/groundwater basins while considering climatic variability and change

Rationale

18. This objective relates to GEF assistance to States for implementing agreed Strategic Action Programmes (SAP) for interventions in cross-border surface and groundwater basins. GEF has previously supported such foundational capacity building in almost 30 transboundary freshwater systems. Patterns of intensive and conflicting uses of water resources in transboundary surface and groundwater basins are resulting in significant ecological and economic damage, reduced livelihoods for the poor, and increased political tensions among downstream States. These impacts become exacerbated with increasing climatic variability. Shallow groundwater over-extraction, saline intrusion, and pollution of groundwater supplies must now be factored into GEF projects, especially for many SIDS where water supply threats are major threats to their viability. Use of IWRM plans/policies at the basin level consistent with WSSD targets has been identified as an answer to balancing conflicting uses of water resources and to inform tradeoffs.

19. With the low Replenishment scenario, the focus would be on initiating basic implementation of agreed action programmes with work on legal and institutional issues for the transboundary cooperative frameworks, retrofitting understanding of climatic variability and change and groundwater considerations into water management frameworks, national reforms, and modest local demonstrations. With the intermediate replenishment scenario, only incrementally more countries and basins would be able to show results with reforms and small demonstrations despite some investments being funded. The Earth Fund water efficiency and foot-printing platform would have modest focal area support for achieving on-the-ground results.

20. With the high scenario, the focal area would be able to help states avoid more disputes over water use, prevent more water pollution, protect additional aquifers for use in droughts, and introduce more widespread national water sub-sector reforms through enhanced assistance for

SAP implementation and cross-focal area GEF projects. This $800 million IW scenario would allow support for programmatic approaches to scale-up investments and reforms (per OPS3) while retrofitting understanding of climatic variability and demo-scale action on adaptive management. This scaling-up would include programmatic approaches for investments where all States that are important contributors to the transboundary concerns agree to cooperative management. The co-financing target in this case at 1:4 would be twice the level of the low scenario because different types of projects would be supported. The need to build capacity and provide technical assistance on adaptive management for drought and floods represents an important new line of work and new cost as would the capacity building and technical assistance for integrating groundwater into water resources management.

21. Considerations of floods and droughts would be incorporated through IWRM as would management of surface and groundwater, filling a gap with States that have missed the WSSD target for IWRM. Africa would receive priority attention through programmatic approaches for transboundary river and aquifer systems of West Africa and for the Great Lakes Region. Innovative partnerships with the business community would be supported both by the focal area and the GEF Earth Fund for broader scale and maximum impact. Benefits of collaboration on transboundary basins and adoption by cooperating states of reforms in IWRM policies contribute to improved community livelihoods, increased crop yields, sustainable irrigation, improved environmental flows, and reduced health risks where pollutants create risks. These interventions contribute to regional integration, reduction of tensions among states, and increased stability.

Project Support

22. GEF will support further development and implementation of regional policies and measures identified in agreed SAPs, which through collaborative action would promote sustainable functioning of already established joint legal and institutional frameworks or help establish new ones. GEF assistance to states includes development and enforcement of national policy, legislative and institutional reforms as well as demonstrating innovative measures/ approaches to water quantity and quality concerns. The projected impact will enable States to negotiate treaties and better balance conflicting uses of surface and ground water for hydropower, irrigation-food security, drinking water, and support of fisheries for protein and environmental flows in the face of multiple stresses, including climatic variability and change. Investments in water-use efficiency and pollution reduction would characterize action under the high scenario.

Outcomes

23. SAP implementation will lead to application of IWRM policies and principles that include environment and groundwater as well as innovative investments for measureable on-the-ground results. Outcomes include: better balancing of conflicting water uses; enhanced functioning of joint management institutions; ground-water aquifers systematically incorporated into surface water management; improved environmental flows from infrastructure; protected water supplies; enhanced recharge; improved freshwater fisheries management; and increased understanding leading to better resilience to fluctuating climate. **Indicators** would vary, including: adoption/implementation of policy and legal reforms at national and local levels that

show progress toward WSSD IWRM targets; evidence that national inter-ministry committees function properly; measureable pollution reduction, water use efficiency improvements, community benefits disaggregated by gender, restored/ protected wetlands, sustainable freshwater fisheries, protection of quality and level of ground-water, capacity enhancement for incorporating aquifers and climatic variability and change reflected in updated SAPs and legal frameworks.

Objective Two: Catalyze multi-state cooperation to rebuild marine fisheries and reduce pollution of coasts and Large Marine Ecosystems (LMEs) while considering climatic variability and change.

Rationale

24. This objective relates to GEF assistance to States for implementing agreed Strategic Action Programs for LMEs and coasts. Coasts and oceans are experiencing increasing threats to their functioning. Especially serious are reductions in ability to provide protein for food security, livelihoods, and foreign exchange as well as diminished capacity to absorb carbon as part of the ocean's role in sequestering carbon dioxide. Depletion of marine waters through over-fishing and use of destructive gear and degradation by coastal pollution is accelerating with almost two-thirds of global fish stocks in trouble and in need of management measures. Surveys show at least $50 billion dollars lost annually (much of it to developing country economies) when illegal, unreported and unregulated fishing depletes stocks or when factory fleets endorsed by governments, are allowed to deplete fisheries in competition with poor fishing communities. There is a strong economic, poverty reduction, and food security argument for needed reforms.

25. Loss of coastal habitat has multiple impacts on marine ecosystems, community livelihoods, food security and reduced capacity to sequester carbon. Recent studies suggest that these marine-related carbon sinks are at least as important as terrestrial forests in the global carbon cycle, but they are reportedly being lost 4 times more rapidly than rainforests. Further, these highly threatened "blue forests" of our coasts (kelp, sea-grass beds, mangroves, salt marshes, etc) are hotspots for carbon assimilation, representing 1% of coastal/marine areas. When coupled with the expansion of "Dead Zones" from increasing nutrient pollution from agriculture and sewage, habitat loss poses a grave threat to living resources that cross borders. And now, new multiple risks related to climatic variability and change are becoming clear such as flooding with sea-level rise, storm vulnerability, warming oceans, ocean acidification, and salt water intrusion into groundwater supplies. Before our planet's ocean ecosystems lose more of their capacity to provide protein, livelihoods, and services such as sinks for excessive emissions of carbon, further degradation must be prevented now before irreversible conditions develop.

26. GEF has made globally significant progress the last decade in foundational capacity building for States choosing to address the multiple stresses on their shared Large Marine Ecosystems (LMEs) and coasts. GEF has responded to requests from some 130 States that have chosen to work with neighbors on building trust and confidence in working together through GEF foundational capacity building projects for 18 shared LMEs, more than one-half of the planet's total that developing countries share. Additionally, the GEF IW focal area has been at the forefront globally in demonstrating the practical application of spatial planning and

management of coastal areas and sometimes adjacent freshwater basins through Integrated Coastal Management (ICM) principles and in mangrove restoration and coastal habitat conservation. The GEF foundational capacity building projects are being completed as noted by OPS4, and a demand has been created for GEF to assist in implementation of agreed, multi-state action programs. The popularity illustrates recognition by many States of the economic, social, and political importance of keeping LMEs and coasts functioning to provide the many trillions of dollars in estimated goods and services provided free to human communities.

27. GEF's focus on results-based management means that the multiple stresses on coastal and marine systems must be addressed collectively with States acting together if communities are to benefit from on-the ground results. Thematic initiatives addressing one issue, such as sustainable fisheries, will fail to produce community results if excessive pollution from agriculture or human sewage results in a "Dead Zone" that impairs sustainable fisheries or if the increase in sea surface temperatures causes the fish stocks to move elsewhere. In order to minimize the vulnerability from sea-level rise, displaced fisheries, and other concerns from climatic variability and change, GEF support for ICM and LMEs will begin to consider risks related to these issues as future Action Programmes are implemented and new ones formulated.

28. With the low Replenishment scenario, implementation of agreed Action Programmes will begin in earnest but will not be able to include many investment-scale demonstrations. With the intermediate and high scenarios, the focal area would be able to assist States avoid additional depletion of fish stocks and begin reversing the trend in loss of "blue forests" through habitat restoration/conservation associated with ICM. This two-fold effort will encourage OECD members, through their participation in partnerships with GEF eligible States, to reduce their fleets' influence on depletion of living resources and conversion of "blue forests" to unsustainable aquaculture. Community-based approaches associated with ICM reforms have been shown in GEF IW projects to achieve these outcomes along with limited use designations for important habitat such as sea-grass beds and coral reefs that GEF terms "fish refugia". Reduction of land-based sources of marine pollution will continue to demand GEF attention, particularly nutrients from sewage and agriculture that contribute to the alarming spread of coastal "Dead Zones" and adverse effects on coral reefs. Support to the GPA (Global Programme of Action for the Protection of the Marine Environment from Land-based Activities) will be mainstreamed in LME projects to improve coastal water quality.

29. Scaling up the reduction of land-based pollution would be included in both the intermediate and high scenarios for Replenishment. Both scenarios include the same components as the scaling up would cover incorporation of ICM into LME SAP implementation, would help secure the planet's "blue forests" for multiple benefits (protecting an important carbon sink, securing habitat for biodiversity, protecting community livelihoods and food security, and reducing storm/coastal flooding vulnerability. GEF IW projects have vast experiences in community-based replanting of mangroves for multiple purposes and this would be included in programmatic approaches to scale-up investments and reforms (per OPS3) in land-based pollution reduction, coastal habitat conservation, and sustainable fisheries while retrofitting understanding of climatic variability and demo-scale action on adaptive management. This scaling-up would include programmatic approaches for investments where all States that are important contributors to the concerns agree to cooperative management mechanisms. Where

transboundary priorities warrant, MARPOL/port considerations may be included in ICM as more port authorities incorporate environmental management systems.

Project Support

30. Where capacity is built and collective action programmes agreed by all States significantly contributing to a transboundary concern, GEF will support implementation of SAPs with reforms and investments that produce measureable results. Policy, legal, institutional reforms and multi-agency partnerships that contribute to WSSD targets for recovering and sustaining fish stocks would be a priority, including regional and national-level reforms in legal frameworks and governance, access rights, and enforcement in LMEs. GEF would also support: investments in sustainable alternative livelihoods (such as sustainable aquaculture), habitat restoration and limited use designations (including MPAs in joint projects with the BD focal area and fish refugia), technical assistance, promotion of less destructive gear to reduce stress on wild fish stocks and biological diversity, and support to implementation of the 1995 International Code of Conduct for Responsible Fisheries in ICM and in LMEs.

31. GEF pilot successes in support for the GPA and nitrogen pollution reduction will be scaled up in the high scenario to reduce land-based nutrient pollution of oceans. This is aimed at catalyzing global attention to disruption of the nitrogen cycle and to limit expansion of "Dead Zones" that interfere with food security and community livelihoods. National and local policy, legal, institutional reforms to reduce land-based inputs of nitrogen and other pollutants will be monitored consistent with agreed SAPs and the GPA. Incorporation of nutrient reduction and considerations of coastal climate variability into ICM policies and plans would be systematic in the high scenario. Innovative partnerships, investments and financing will be pursued addressing agriculture, municipal, and industry sector pollution and for wetland restoration/enhancement (including use of ecological sanitation and simple constructed wetlands treatment). The IW focal area would complement the IW platforms in the Earth Fund on "Rebuilding Ocean Fish Stocks and Biodiversity" and "Revitalizing Dead Zones" in the high scenario to achieve broader scale and global impact of the platforms with the business community.

Outcomes

32. In both the intermediate and high Replenishment scenarios, GEF intends to work toward a global impact on the rebuilding of fish stocks as well as catalyzing global action on reduction of nutrient pollution creating "Dead Zones" and new interest in restoring and protecting the little known but significant carbon sinks of coastal and marine "blue forests". SAP implementation will catalyze the application of policies and principles related to sustainable fisheries and ICM as well as investments with measureable results in alternative livelihoods and land-based pollution reduction. Sustainable joint management institutions and mechanisms for ecosystem-based approaches to managing LMEs as well as functioning national inter-ministry committees would represent political commitments to ecosystem-based joint action and national mainstreaming. National and local policy, legal and institutional reforms and increased enforcement would reduce land-based pollution, over-fishing, and secure coastal/marine habitat, especially the "blue forests" that need protection as carbon sinks. Greater on-the ground impact would result from programmatic approaches like the original GEF IW Danube/Black Sea Basin Strategic

Partnership, with significant demonstration projects for coastal and marine systems, stakeholder and Parliamentarian involvement to promote legal reforms, more widespread adoption of reforms, and a focus on enforcement of legal regimes.

33. Another expected outcome would be multi-agency partnerships in programmatic approaches that foster replication after GEF assistance is ended by incorporating them into UN frameworks and country assistance strategies of agencies and partners. The partnerships created under the Earth Fund with IW focal area regional complementary projects engage the business community in a way that would be expected to have an influence on global dialogues. Increased coverage of Marine Protected Areas (MPAs) would also be expected from cross-foal area projects with the Biodiversity area, and a focus on Arctic LMEs with their fragile changing environment will catalyze management institutions to prevent decline. **Indicators** would vary in different projects, including: measureable land-based pollution reduction, rights-based and sustainable fisheries policies reducing over-fishing and gear changes, community income benefits disaggregated by gender, improved enforcement, conserved/restored coastal wetlands and MPAs, improved environmental flows, reduction in overcapacity of boats, and policy/legal/institutional reforms at national and local levels helping states move toward the WSSD 2010/2015 marine targets. Climatic variability and change and ICM would be reflected in updated SAPs for LMEs. Partnership indicators would include mainstreaming as captured by incorporation into country assistance frameworks and agency priorities.

Objective 3: Support foundational capacity building, portfolio learning, and targeted research needs for ecosystem-based, joint management of transboundary water systems

Rationale

34. A decade of GEF experience shows that interventions in multiple countries with regional projects are more cost-effective than individual country IW projects in catalyzing commitments to collective action. OPS4 clearly highlights the impact on collaboration among states by using these GEF processes that build trust and confidence for states working together on shared water-related concerns. An additional benefit involves avoiding political conflicts among neighboring states and pursuing joint development benefits and regional integration. This strategy of using foundational processes to leverage political commitment to collective action and then scaling up with innovative policy, legal and institutional reforms and pilot demonstrations may take 10 years and successive projects to achieve. During GEF-5, climatic variability and change and consideration of aquifers will be integrated into these foundational, capacity building processes.

35. Where capacity and agreement among states is not yet built for collectively addressing transboundary concerns or where climatic variability and change are not yet incorporated into adaptive management frameworks, an enabling environment for action will be created through GEF supported foundational processes. These processes include: establishment of national inter-ministry committees for project participation, development of Transboundary Diagnostic Analyses, third-party facilitation, stakeholder participation, and formulation of Strategic Action Programs (SAPs) with shared visions and agreed reforms and investments. These enabling activities also focus on capacity building and technical assistance for legal and institutional

aspects of multi-level governance reforms for transboundary water systems so desperately needed not only at the transboundary level but also at the sub-basin, national, and local levels.

36. Under the low Replenishment scenario, which would only include marginal funding over the GEF 3 allocation to the IW focal area, this objective would necessarily be limited to initiating support for only a limited number of new starts requested by States desiring to work together on their transboundary water systems. There would also be limited targeted research while keeping an emphasis on active learning and experience sharing for the GEF IW portfolio. The intermediate scenario contains only marginally more funding for a few more new starts in response to State requests for assistance with initial foundational capacity building.

37. Under the high scenario, more attention can be paid to fragile States and those undergoing post-conflict reconstruction, and more requests can be funded for foundational capacity building and capacity enhancement for climatic variability and change and incorporating groundwater considerations. For LMEs and coasts, adaptive management institutions would become better enabled to build resilience to fluctuating fisheries, coral reef bleaching, sea-level rise, coastal storm vulnerability, and coastal hypoxia ('Dead Zones') into strategies for LME governance improvements and ICM. More States would be in position to meet the 2010/2015 WSSD marine-related targets. The high Replenishment scenario will allow two other priority needs to be met: a pent up demand for targeted research on pressing IW concerns and the need to operationalize experience sharing/learning/KM to improve IW portfolio performance and reduce time for impacts to be produced. Significant global impact on global discussions would be sought for targeted research related to coral reefs, nutrient reduction and "Hypoxic or Dead Zones" and perhaps environmental flows. Other research needs on ocean biogeochemistry and development of tools related climatic variability for GEF project use may be funded among the topics.

Project Support

38. For transboundary surface and groundwater systems, groundwater concerns and opportunities would be systematically integrated into management of surface water systems and surface water concerns into transboundary groundwater systems so that entire basins or aquifers serve as management units. National inter-ministry committees would contribute to development of Strategic Action Programmes, which would include commitments to establish or strengthen institutions for multi-state, collective management and subsequent action. An enabling environment for adopting Integrated Water Resources Management (IWRM) plans and policies per WSSD targets will be pursued in States sharing transboundary surface and groundwater systems; and climatic variability and change will be integrated into the GEF supported processes. For coastal and marine ecosystems, GEF will utilize similar foundational capacity building as States adopt ecosystem-based approaches at the LME and local ICM scales. Shifting currents and changes in distribution, abundance, and life cycles of marine resources as well as coastal storm vulnerability and sea-level rise may be included in the GEF-supported foundational processes. In both cases, a focus would be placed on specific legal reforms needed by specific States.

Outcomes

39. Outcomes relate to agreement on key transboundary concerns for waterbodies and political agreements on commitments for joint, ecosystem-based actions and cooperation mechanisms, including legal/institutional frameworks at different levels from the transbopundary to the local. Commitments to incorporate transboundary water management priorities into national and local institutions would be accompanied by local pilot demonstrations associated with priority transboundary concerns and groundwater management with community benefits also resulting. GEF IW experiences show these local demonstrations help provide pilot scale benefits toward MDGs and WSSD targets while also engaging stakeholders in needed actions and helping States better understand potential benefits of collective action. Better understanding of climatic variability and change and groundwater considerations will result in enabling states and regional water/ocean institutions to build resilience into programs.

40. With regard to targeted research, addressing the priority needs that have built up for a decade is expected to catalyze global attention on those issues and incorporation of features of the results into new GEF projects. The expected outcomes for learning/experience sharing would not only be capacity enhancement or best practices identification and sharing among agencies and States, but projected improvement in IW portfolio performance. The GEF IW Tracking Tool will be used to compare GEF 4 project performance with that from GEF 5 projects. **Indicators** include: evidence of functioning national inter-ministry committees; agreed SAPs adopted with shared visions of future action and commitments to reforms/investments and reflecting climatic variability and change; and community benefits demonstrated from water quality, quantity, habitat, and fisheries pilots. Global attention would be a measure of success for three priority targeted research programs and improvement in portfolio performance will be tracked.

Objective Four: Promote effective management of Marine Areas Beyond National Jurisdiction (ABNJ) directed at preventing fisheries depletion --joint with Biodiversity

Rationale

41. Since 1982 when the UN Convention on the Law of the Sea defined (among other things) areas under national maritime jurisdictions, Areas Beyond National Jurisdiction (ABNJ) have remained an important management challenge. Despite covering 40% of the planet, they lack comprehensive legal instruments and normal management options and are threatened by: increasing pelagic fishing for highly migratory species and bottom trawling for deep-sea species on seamounts, ridges, and other features, maritime navigation, extraction of hydrocarbons and mineral exploration, and other emerging activities such as ocean fertilization, which affects the marine environment. Solutions to the legal and management challenges are emerging under a number of conventions and international legal instruments. Recent developments at the international level (UN, CBD, FAO) demonstrate growing interest in high seas issues, which have been eligible for GEF IW funding since the 1995 GEF Strategy. For the purposes of this objective, ABNJ, deep seas, and open oceans would all be eligible for GEF assistance.

Project Support

42. This objective can only be included in the $800 million and $660 million IW Replenishment scenarios. It is not included in the low scenario. Fisheries, especially those pursuing highly migratory species such as tuna and bottom trawling for deep-sea species are likely to remain the primary and most widespread threat to ecosystems in ABNJ/open oceans. Tuna fishing by purse seiners and long-liners can impact non-target species such as sea birds, marine mammals and sea turtles. Solutions have been found to prevent and reduce by-catch and projects dealing with these are sought. For example: in the eastern Pacific marine mammal by-catch has been reduced by changes in fishing practices; in the Southern Ocean bird mortality from long liners has been reduced by gear alterations; and turtle by-catch can be reduced by use of circle hooks on long lines. Regional fisheries organizations (RFMOs) responsible for managing migratory species are increasingly collaborating in these initiatives, and the fisheries industry and conservation groups are collaborating more closely with RFMOs, offering platforms to leverage private-public partnerships and international legal innovations.

43. Protection of deep-sea species, marine biodiversity, and seamount habitat can be greatly improved through enhanced capacity of RFMOs to manage according to ecosystem-based approaches and application of conservation tools such as MPAs and spatial management tools. Pilot initiatives with resources and expertise from both the Biodiversity and IW areas have the potential to holistically address sustainable fisheries and conservation with Marine Protected Areas (MPAs), Benthic Protected Areas (BPAs), spatial management, cooperative frameworks, and improved flag-state fisheries compliance.

44. Projects that develop and test technology and management arrangements for both pelagic and deep-sea environments and seamounts or help reduce tuna/other by-catch would be supported. These projects may apply the criteria issued in CBD/COP9 Decision IX/20 or under the FAO International Guidelines on the Management of Deep-sea Fisheries in the High Seas. Use of existing legal instruments such as Regional Seas Agreements, RFMOs, and other arrangements such as IMO Special Areas or PSSAs and International Seabed Authority protected area measures may be tested along with market and industry approaches. NGOs and other stakeholders with capacity to contribute to the testing of measures and management options would be supported to contribute to urgent need to reverse depletion and habitat degradation occurring in these sensitive environments that represent the “global commons” and the older usage of the term “international waters” of our planet.

Outcomes

45. GEF intends to have a global institutional impact under the $800 million IW high scenario by testing management approaches in a joint programmatic approach with the Biodiversity focal area. .In the intermediate scenario, only a modest set of demonstration activities could be pursued---with less catalytic impact than in the high scenario. Outcomes include: sustainable fisheries mechanisms, promotion and capacity building on the use of improved gears, improved flag-state and port-state monitoring and control of fishing practices; protection of vulnerable marine ecosystems, including seamounts. Partnerships with NGOs/foundations/States/agencies/industries are expected. Through a globally significant GEF

programmatic approach between Biodiversity and IW focal areas, not only would MPAs and BPAs be established but global attention would be focused on needed regimes for ABNJ. **Indicators** include: port state and flag state compliance improvements; reduced overfishing and reduced use of damaging gear; establishment of MPAs and BPAs, incorporation of these concerns into work of RFMOs, and establishment of pilot management systems for certain ABNJ, deep-sea fisheries, and open oceans.

Objective Five: Undertake pilot-scale demonstrations of pollution reduction from Persistent Toxic Substances, particularly endocrine disruptors--joint with Chemicals and only included in $800 million IW Replenishment Scenario

Rationale

46. While Persistent Toxic Substances have been eligible for financing in IW since 1995 through the GEF Operational Strategy, other priority requests from States have taken precedence. New information shows alarming danger to ecosystem and human health from persistent toxic substances that are not classified as POPS but are released as air and water pollution or leak from waste sites. Site cleanup and use of best management practices in agriculture are critical to reduce risks. Without a separate initiative being developed with dedicated IW resources and help from the Chemicals focal area, the persistent toxic substances termed "endocrine disruptors" will continue to bio-accumulate in fish and pose serious human and ecosystem health problems. Best practices are urgently needed to minimize the neurological and reproductive problems associated with water-related human exposure to these hormone-mimicking pollutants.

Project Support

47. This objective can only be established for the $800 million IW high Replenishment scenario. A pilot initiative joint with the Chemicals focal area would be pursued to demonstrate that clean technology provides alternatives to releasing PTS, particularly endocrine disruptors that accumulate in fish and impair human health, neurological development of children, and populations of fisheries, wildlife, and birds. With thousands of pollutants this characteristic, future programs may be costly and a pilot initiative shared among two focal areas provides a pragmatic approach to pursue in addressing this glaring gap in global action.

Outcomes

48. A demonstration program of joint projects(Chemicals and IW) tests the effectiveness of policies, instruments, and technologies for reducing releases of PTS, particularly those that exhibit endocrine disruption in order to reduce risks to ecosystem and community health. The business community is engaged in developing solutions to demonstrate cost-effectiveness and pollution prevention pays strategies. **Indicators** include: partnerships developed with industry on clean technologies and pollution prevention; measureable pollution reduction at demo sites.

Annex 1: Results Framework for International Waters (IW) Focal Area for GEF5

Long-term IW Goal: Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services.
Impact: Multi-state cooperation catalyzed to address concerns of transboundary water systems for most every continent and ocean with special impact on rebuilding marine fish stocks and protecting "blue forest" coastal habitat globally

Objectives	Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
Objective 1: Catalyze multi-state cooperation to balance conflicting water uses in trans-boundary surface and groundwater basins while considering climatic variability and change	**Outcome 1.1:** Implementation of agreed Strategic Action Programmes (SAPs) incorporates transboundary IWRM principles (including environment and groundwater) and policy/ legal/institutional reforms into national/local plans • **Indicator 1.1:** Adoption or implementation of national/local reforms; functioning of national inter-ministry committees **Outcome 1.2:** Transboundary institutions for joint ecosystem-based and adaptive management demonstrate sustainability • **Indicator 1.2:** Cooperation frameworks adopted and states contribute to financial sustainability **Outcome 1.3:** Innovative solutions implemented for reduced pollution, improved water use efficiency, sustainable fisheries with rights-based management, IWRM, water supply protection in SIDS, and aquifer and catchment protection (greater scaling up in $9 Billion scenario) • **Indicator 1.3:** Measurable water-related results from local demonstrations, including community benefits (disaggregated by gender) **Outcome 1.4:** Climatic variability and change as well as groundwater capacity incorporated into updated SAP to reflect adaptive management. • **Indicator 1.4:** Updated SAP and capacity	$170 million Co-financing ratio of 1:2 Multi-state-cooperation results in adoption or implementation of national/local reforms in 60% of States and successful demonstrations in at least 50 % of States in 8-9 transboundary water systems.	$210 million Co-financing ratio of 1:3 Multi-state-cooperation results in adoption or implementation of national/local reforms in 65% of States and successful demonstrations in at least 60 % of States in 9-10 trans-boundary water systems. Earth Fund water use efficiency platform pilots with enhanced results through complementary IW partnership funding	$260 million Co-financing ratio of 1:4 Multi-state-cooperation results in adoption or implementation of national/local reforms and measurable demonstration investment results for at least 70 % of States participating in up to 10 transboundary water systems. Earth Fund water use efficiency platform pilots enhanced results through complementary IW partnership funding	• National and local policy and legal reforms adopted/ implemented • Cooperation frameworks agreed with sustainable financing identified • Types of technologies and measures implemented in local demonstrations and investments • Enhanced capacity for issues of climatic variability and change and groundwater management

Objectives	Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
	development surveys				
Objective 2: Catalyze multi-state cooperation to rebuild marine fisheries and reduce pollution of coasts and Large Marine Ecosystems (LMEs) while considering climatic variability and change	**Outcome 2.1:** Implementation of agreed Strategic Action Programmes (SAPs) incorporates ecosystem-based approaches to management of LMEs, ICM principles, and policy/legal/ institutional reforms into national/local plans • **Indicator 2.1:** Adoption or implementation of national/local reforms; functioning of national inter-ministry committees; **Outcome 2.2:** Institutions for joint ecosystem-based and adaptive management for LMEs and local ICM frameworks demonstrate sustainability • **Indicator 2.2**: Cooperation frameworks agreed and include sustainable financing **Outcome 2.3:** Innovative solutions implemented for reduced pollution, rebuilding or protecting fish stocks with rights-based management, ICM, habitat (blue forest) restoration/conservation, and port management and produce measureable results (greater scaling up in $6.5 and $9 Billion scenarios for on-the-ground impact) • **Indicator 2.3:** Measurable results for reducing land-based pollution, habitat, and sustainable fisheries from local demonstrations, including community benefits (disaggregated by gender) **Outcome 2.4:** Climatic variability and change at coasts and in LMEs incorporated into updated SAP to reflect adaptive management and ICM principles (including protection of "blue forests") • **Indicator 2.4**: Updated SAPs and capacity development surveys **Outcome 2.5:** In $9 billion scenario, major industry partnerships with GEF undertake global action to reduce nutrient pollution and to sustain	$220 million 1:2 co-financing ratio Adoption/ implementation of national/local reforms in 70% of States and demonstrations for at least 50 % of States in 8-10 LMEs	$285 million 1:3 co-financing ratio Adoption/ implementation of national/local reforms in 75% of States and measureable demonstration investment results for at least 60 % of States in 10-11 LMEs. Earth Fund platforms "Rebuilding Ocean Fish Stocks and Biodiversity" and "Revitalizing Dead Zones" fully funded	$285 million 1:3 co-financing ratio Adoption/ implementation of national/local reforms in 75% of States and measureable demonstration investment results for at least 60 % of States in 10-11 LMEs. Earth Fund platforms "Rebuilding Ocean Fish Stocks and Biodiversity" and "Revitalizing Dead Zones" fully funded	• Agreed commitments to sustainable ICM and LME cooperation frameworks • National and local policy/legal/institutional reforms adopted/ implemented • Types of technologies and measures implemented in local demonstrations and investments • Enhanced capacity for issues of climatic variability and change • Industry partnerships with Earth Fund

Objectives	Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
	fisheries. • **Indicator 2.5**: industry codes of conduct/action				
Objective 3: Support foundational capacity building, portfolio learning, and targeted research needs for joint, ecosystem-based management of trans-boundary water systems	**Outcome 3.1:** Political commitment, shared vision, and institutional capacity demonstrated for joint, ecosystem-based management of waterbodies and local ICM principles • **Indicators 3.1:** Agreed SAPs at ministerial level with considerations for climatic variability and change; functioning national inter-ministry committees; agreed ICM plans **Outcome 3.2:** On-the-ground modest actions implemented in water quality, quantity (including basins draining areas of melting ice), fisheries, and coastal habitat demonstrations for "blue forests" to protect carbon • **Indicator 3.2:**Measurable results contributed at demo scale or investment scale(for $9 Billion scenario, community benefits recorded) **Outcome 3.3:** IW portfolio performance enhanced from active learning/KM/experience sharing • **Indicator 3.3:** GEF 5 performance improved over GEF 4 per data from IW Tracking Tool **Outcome 3.4:** Targeted research networks impact global thinking on at least coral reefs (For $9 Billion scenario, nutrient reduction/dead zones and perhaps environmental flows also have global significance). • **Indicator 3.4:** Coral reef and nutrient reduction research results incorporated into new GEF IW projects **Outcome 3.5:** Political agreements on Arctic LMEs accompany programmatic approach and help	$110 million Multi-state agreement on commitments to joint, ecosystem-based action for 9-10 new water bodies with modest demonstrations	*$125 million Multi-state agreement on commitments to joint, ecosystem-based action for 10-11 new water bodies with modest demonstrations 85% IW projects demonstrate active GEF portfolio experience sharing/learning	$145 million Multi-state agreement on commitments to joint, ecosystem-based action for up to 12 new water bodies with some investment demonstrations 85% IW projects demonstrate active GEF portfolio experience sharing/learning	• National inter-ministry committees established; agreed Transboundary Diagnostic Analyses & Strategic Action Programmes; local ICM plans • Demo-scale local action implemented, including in basins with melting ice and to restore/protect coastal "blue forests" • Active experience/sharing/ learning practiced in the IW portfolio • Arctic LMEs programmatic approach with partners.

Objectives	Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
	contribute to prevention of further depletion/degradation. • **Indicator 3.5:** agreements signed; AMAP monitoring shows no further depletion/ degradation.				
Objective 4: Promote effective management of Marine Areas Beyond National Jurisdiction (ABNJ) directed at preventing fisheries depletion -- joint with GEF Biodi Focal Area	**Outcome 4.1:** ABNJ (including deep-sea fisheries, ocean areas, and seamounts) under sustainable management and protection (including biodiversity) • **Indicator 4.1:** Marine Protected Areas (MPAs) sustainably managed; ABNJ demo plans implemented; improved flag and port state enforcement of practices **Outcome 4.2:** Plans and institutional frameworks for pilot case ABNJ have catalytic effect on global frameworks • **Indicator 4.2:** GEF-piloted ABNJ approaches replicated through global mechanisms	$ 0	$40 million 50% of ABNJ demonstrations sustainable within institutions; MPA target in Biodiversity Strategy	$70 million 60% of ABNJ demonstrations sustainable within institutions; MPA target in Biodiversity Strategy	• Demonstrations for management measures in ABNJ, (including deep-sea fisheries, ocean areas) with institutions; MPAs established

Objectives	Expected Outcomes	Key Targets under $5 billion Scenario	Key Targets under $6.5 billion Scenario	Key Targets under $9 billion Scenario	Core Outputs
Objective 5: Undertake pilot-scale demonstra-tions of pollution reduction from Persistent Toxic Substances (PTS) , especially endocrine disruptors--joint with Chemicals Focal Area	**Outcome 5.1:** PTS pollution reduction through successful demonstration technology • **Indicator 5.**1: PTS releases avoided or reduced in pilot projects - Kg PTS **Outcome 5.2:** Partnerships with industry replicate clean technology to avoid PTS releases • **Indicator 5.2**: Replication strategies implemented	$0	$0	$40 million 70% of pilots show reduced PTS pollution;	• Partnerships with industry created • Types of measures implemented by industry

Land Degradation (Desertification and Deforestation) Strategy for GEF-5

Background

1. The Land Degradation Focal Area (LD FA) directly supports the implementation of the UNCCD, as an operating entity of the Financial Mechanism of the Convention, as well as indirectly the Non-Legally Binding Instrument (NLBI) on all types of forests of UNFF. At the same time, the LD FA fosters synergetic benefits with the UNFCCC, UNCBD and relevant international agreements on the sustainable use of waters.

2. The GEF-4 LD FA strategy was founded on the basis of the Millennium Ecosystem Assessment's recommendation for investments in the prevention and control of land degradation in areas with medium to high production potential that are essential for peoples' livelihoods[27], and in affected areas where the social a consequences of continuing land degradation can trigger serious environmental and developmental problems. Desertification and deforestation remain the priority for the GEF LD FA with a focus on agro-ecosystems[28] and forest landscapes, where deterioration of ecosystem services[29] (see Table 1) will increasingly undermine the livelihoods of more than 2 billion people globally, a great majority of who are very poor. The challenge of poverty and land degradation is particularly severe in the world's drylands[30], where effects of climate change on production systems are further exacerbated.

Table 1 - Ecosystem services in agro-ecosystems and forest landscapes [*modified from Millennium Ecosystem services (2005) and Global Environment Outlook (2007)*]

Provisioning	Regulating	Supporting	Cultural
▪ Food and nutrients ▪ Fuel ▪ Animal feed ▪ Genetic resources	▪ Erosion control ▪ Climate regulation ▪ Natural hazard regulation (droughts, floods, fire) ▪ Water flows and quality	▪ Soil formation ▪ Soil protection ▪ Nutrient cycling ▪ Water cycling ▪ Habitat for biodiversity	▪ Traditional land management practices ▪ Sacred groves as sources of water

3. For GEF-5, more focus and incentives are needed to enhance the LD FA portfolio with solutions to the emerging challenges, and with the opportunities to act in rural production

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[27] See 'Ecosystems and Human Well-being: Synthesis', Millennium Ecosystem Assessment, 2005 - http://www.millenniumassessment.org/documents/document.356.aspx.pdf

[28] Agro-ecosystems encompass intensive and extensive crop-based, livestock-based, and mixed systems.

[29] Ecosystem services are the benefits people derive from ecosystems, which are categorized by the Millennium Ecosystem Assessment as *provisioning, regulating, supporting,* and *cultural*.

[30] Based on the UNCCD definition, drylands is used here to include all arid, semi-arid, and sub-humid regions.

landscapes. This includes efforts directed at addressing management of competing land uses and resulting changes in land cover and ecosystem dynamics, the potential of sustainable land management supporting both climate change adaptation and mitigation, and at options to mitigate the exploitation of natural resources for short-term economic gain at the cost of ecological and social sustainability.

4. These emerging issues coincide also with the three major direct drivers for terrestrial ecosystem degradation identified by the Millennium Ecosystem Assessment: land use change, natural resources consumption and climate change. These direct drivers are also emphasized in the 10-year (2008-2018) strategy of the UNCCD[31], which aims "to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability".

5. The LD FA embraces the landscape approach by adopting agreed ecosystem functioning principles, such as maintaining and enhancing connectivity, resilience and stability of ecosystems. By adopting an integrated approach to natural resources management[32] (NRM), the LD FA drives an agenda for multiple global environmental benefits, including those related to the protection and sustainable use of biodiversity, climate change mitigation and adaptation, and the protection and sustainable use of international waters. In this regard, joint programming with other GEF focal areas will be actively pursued, especially in the context of integrated watershed in priority transboundary catchments and groundwater recharge areas (links with IW Focal Area), increasing forest and tree cover in production landscapes (links with CCM Focal Area), and implementation of landscape approaches for protected area management (links with Biodiversity Focal Area). This effort will also take into account opportunities to develop country-level or regional programmatic approaches for NRM where they are likely to trigger transformational changes in the agriculture and forest sectors.

I. Land Degradation (Desertification and Deforestation) Strategy Goals and Objectives

6. The goal of the land degradation focal area is to contribute to arresting and reversing current global trends in land degradation, specifically desertification and deforestation. This will be accomplished by promoting and supporting effective policies, legal and regulatory frameworks, capable institutions, knowledge sharing and monitoring mechanisms, together with good practices conducive to sustainable land management (SLM)[33] and that are able to generate global environmental benefits while supporting local and national, social and economic development. Therefore, the LD strategy will promote system-wide change necessary to control

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[31] Document available at http://www.unccd.int/cop/officialdocs/cop8/pdf/16add1eng.pdf#page=8

[32] As defined in: *Sayer J.A and Campbell, B. 2004. The Science of Sustainable Development: Local Livelihoods and the Global Environment. Cambridge University Press*. "Integrated Natural Resource Management is a conscious process of incorporating the multiple aspects of resource use into a system of sustainable management to meet the goals of resource users, managers and other stakeholders (e.g. production, food security, profitability, risk aversion and sustainability goals)."

[33] As defined in: World Bank. 2006. Sustainable Land Management: Challenges, Opportunities and Tradeoffs. International Bank for Reconstruction and Development/The World Bank, Washington, DC. Sustainable land management (SLM) is a knowledge-based procedure that helps integrate land, water, biodiversity, and environmental management (including input and output externalities) to meet rising food and fiber demands while sustaining ecosystem services and livelihoods.

the increasing severity and extent of land degradation. Investing in sustainable land management (SLM) to control and prevent land degradation in the wider landscape is an essential and cost-effective way to deliver multiple global environmental benefits related to ecosystem functions.

7. The portfolio of projects and programs implemented under the LD FA strategy is expected to contribute to the following agreed global environmental benefits and expected national socio-economic benefits: (with indicators and measures in presented in Annex 1)**:**

a) Agreed global environmental benefits:

- Improved provision of agro-ecosystem and forest ecosystem goods and services.
- Reduced GHG emissions from agriculture, deforestation and forest degradation and increased carbon sequestration.
- Reduced vulnerability of agro-ecosystem and forest ecosystems to climate change and other human-induced impacts.

b) Expected national socio-economic benefits:

- Sustained livelihoods for people dependent on the use and management of natural resources (land, water, and biodiversity).
- Reduced vulnerability to impacts of CC of people dependent on the use and management of natural resources in agricultural and forest ecosystems.

8. These benefits are consistent with the GEF Instrument and contribute to the achievement of Millennium Development Goals 1 *Eradicate extreme poverty and hunger,* and 7 *Ensure environmental sustainability,* specifically target 7a: *Integrate the principles of sustainable development into country policies and programs; reverse loss of environmental resources* and target 7b: *Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss.*

9. Four objectives will contribute to the focal area goal and drive the development of the GEF-5 portfolio:

a) Maintain or improve flows of agro-ecosystem services to sustain the livelihoods of local communities;
b) Generate sustainable flows of forest ecosystem services in arid, semi-arid and sub-humid zones, including sustaining livelihoods of forest-dependent people;
c) Reduce pressures on natural resources from competing land uses in the wider landscape; and
d) Increase capacity to apply adaptive management tools in SLM.

Objective One: Maintain or improve flows of agro-ecosystem services to sustain livelihoods of local communities.

Rationale

10. Credible estimates of land affected by human-induced soil degradation, such as by unsustainable agriculture practices range from 196 million km^2 to 200 million km^2. Unsustainable agricultural activities cause many types of land degradation with a wide variety of underlying causes. This objective addresses the main barriers to sustainable agriculture which can be linked to the policy, legal and regulatory environment, human and institutional capacities and access and transfer of knowledge and technology relevant to the management of agricultural lands. Outputs of projects supported under this objective will include reduced rates of soil erosion, reduced GHG emissions from agricultural (crop and livestock) activities and maintained habitats in the agricultural landscape. Consistent with the development priority, GEF will focus on areas where agricultural and rangeland management practices underpin the livelihoods of poor rural farmers and pastoralists.

11. The following key outcomes will be achieved under this objective:

a) The enabling environment within the agricultural sector will be enhanced through targeting three core areas: policy, legal and regulatory framework, capable institutions, and knowledge transfer,
b) Improved management of agricultural systems will be achieved through the availability of technologies and good practices for crop and livestock production. There is need for the sustainable provision of diverse sources for investments to farmers for maintaining or up-scaling the application of these technologies and practices on their lands; and
c) The functionality and cover of agro-ecosystems are maintained.

Project Support

12. Projects addressing this strategic objective may for example focus on the following actions.

- **Capacity development** to improve decision-making in management of production landscapes to ensure maintenance of ecosystem services important for the global environment and for peoples' livelihoods, and establish mechanism to scale up good agricultural practices**.**
- **Improving community-based agricultural management** including participatory decision-making and gender-related issues**.**
- **Building of technical and institutional capacities** to monitor and reduce GHG emissions from agricultural activities (including estimating and monitoring associated emissions and changes in carbon stocks**.**
- **Implementing integrated approaches to** soil fertility and water management; agro-forestry as an option for integrated natural resource management in crop-livestock systems, especially for smallholder farmers with limited options for improving farm inputs (e.g. fertilizers, seeds, tools); conservation agriculture**.**

- **Improving management of impacts of climate change** on agricultural lands (including water availability), diversification of crops and animal species in order to enhance agro-ecosystem resilience and manage risks**;** drought mitigation strategies, and other ecosystem-based climate adaptation strategies**.**
- **Securing innovative financing mechanism based on valuation of environmental services (e.g. PES and other market-based mechanisms)** to create sustainable finance flow for reinvestment in sustainable agriculture; this does not include direct support for PES or other mechanisms**.**
- **Improving rangeland management and sustainable pastoralism,** including regulating livestock grazing pressure to carrying capacity (adaptation to climate change), sustainable intensification, rotational grazing systems, diversity in animal and grass species; managing fire disturbance.

Objective Two: Generate sustainable flows of forest ecosystem services in arid, semi-arid and sub-humid zones, including sustaining livelihoods of forest-dependent people

Rationale

13. Forest ecosystems in arid, semi-arid and sub-humid zones are still degrading or disappearing at an alarming rate, with consequences for the quantity and quality of linked ecosystem services that underpin land productivity and human well-being. In addition, forest-dependent people struggle sustaining their livelihoods with an increased trend to migrate towards larger cities once the forest-based livelihood opportunities have been exhausted. This objective focuses on removal of barriers to sustainable forest management (SFM) by promoting the enabling environment, access to technology, and best practices combined with large-scale applications on the ground. Results will ultimately lead to a net gain in forest area and the improvement of selected forest ecosystem services such as provisioning (e.g. food and fuel for livelihoods), regulating (e.g. reducing greenhouse gas emissions, erosion control) and supporting (e.g. soil protection and habitat for biodiversity).

14. The following key outcomes will be achieved under this objective:
a) An enhanced enabling environment within countries by targeting three core components: policy, legal and regulatory framework in the forest sector, capable forest-relevant institutions, and knowledge transfer;
b) Improved management of forests through availability of technologies and good practices and the sustainable provision of diverse investment resources to forest-dependant people for maintaining or up-scaling the application of these technologies and practices on their lands.
c) Functionality and cover of forest ecosystems in arid, semi-arid and sub-humid zones maintained and improved.

Project Support

15. Projects addressing this strategic objective may for example focus on the following actions.

- **Capacity development:** Forest policy and related legal and regulatory frameworks reformulation and improved decision-making.
- **Sustainable management** of forests and trees outside forests for timber and non-timber products.
- **Reforestation** and use of local species, including agro-forestry, successions to move from deforested areas to closed forest (if feasible).
- **Valuation of environmental services** from forest ecosystems and introduction of PES and other market-based/innovative financing mechanisms in demonstration projects for creating a sustainable finance flow to be reinvested in SFM; this does not include direct support for PES or other mechanisms.
- **Management of impacts of climate change** on forest lands, practices and choice of species used for reforestation.
- **Mechanisms to scale up and out good practices** through e.g. private sector, community-based organizations, extension services, and media.

Objective Three: Reduce pressures on natural resources from competing land uses in the wider landscape

Rationale

16. Over the past decades, the pace, magnitude and spatial reach of human-induced changes in the wider landscape are unprecedented. Land degradation severely affects the stability of the habitats of plant and animal species and contributes to local and regional as well as global climate change. This objective will address the pressures on natural resources from competing land uses in the wider landscape (e.g. extending the agricultural frontier into forest lands, extractive industry destroying forests, urbanization of rural areas). It reinforces objective 1 and 2 by emphasizing cross-sector harmonization and multi-integration of SLM. Outcomes focus on harmonized sector policies and coordinated institutions constituting an enabling environment between relevant sectors and the large-scale application of good management practices based on integrated land use planning. At the same time, financing instruments and mechanisms that provide incentives for reducing the pressures and competition between land use systems will be explored and experimented with improving the livelihood basis of people dependant on the use of natural resources.

17. The following key outcomes will be achieved under this objective:

a.) Enhanced enabling environments toward harmonization and coordination between sectors in support of SLM will be achieved by coordinating policy, legal and regulatory frameworks between sectors competing for land area and natural resources; capable institutions that will collaborate and coordinate actions related to land use to avoid negative trade-offs; and knowledge transfer for decision-support.

b.) Good SLM practices in the wider landscape demonstrated and adopted by relevant economic sectors. The provision of financial resources to rural land users will enable them to sustain and upscale good practices.

Project Support

18. Projects addressing this strategic objective may for example focus on the following actions.

- **Capacity development** to improve decision-making in management of production landscapes to ensure maintenance of ecosystem services important for the global environment and for peoples' livelihoods.
- **Avoiding deforestation and forest degradation**, including land use changes affecting forest lands driven by expanding sectors (e.g. large-scale agriculture and mining).
- **Building of technical and institutional capacities** to monitor and reduce GHG emissions from agricultural activities and deforestation (incl. estimating and monitoring associated emissions and changes in carbon stocks).
- **Developing innovative financing mechanisms** such as PES for sustainable investment in SLM through sector-wide approaches and harmonized strategies; this does not include direct support for PES or other mechanisms
- Improving management of agricultural activities within the vicinity of protected areas
- **Integrated watershed management**, including transboundary areas where SLM interventions can improve hydrological functions and services for agro-ecosystem productivity (crop and livestock).

Objective Four: Increase capacity to apply adaptive management tools in SLM.

Rationale

19. The GEF as an operating entity of the financial mechanism of the UNCCD supports enabling activities related to the obligations of the Parties to the Convention in the context of wider capacity development for SLM. This objective will support adaptive management by aiding countries in national monitoring and reporting to UNCCD in the context of supporting the national and regional SLM agenda and the development of new tools and methods for better addressing the root causes and impacts of land degradation. In addition, GEF will also strengthen the scientific basis for effective monitoring and assessment in the LD FA, including tools and indicators for multi-scale application.

20. The following key outcomes will be achieved under this objective:

a) Increased capacities of Countries to fulfill their obligations in accordance with the provisions under the UNCCD. As countries develop and update their national action plans (NAPs) to combat desertification and report back to the COP in form of National Reports (NR), one of the major barriers to the successful implementation of the NAPs remains institutional and human capacity at the country and regional levels.

b) Improved project performance using new and adapting existing tools and methodologies. The development of new and adaptation of existing tools for and methodologies important to combating land degradation is of high importance for knowledge transfer and large-scale uptake in countries and across regions. This outcome will be mainly informed through Targeted Research projects or applied research components in regular projects addressing SO 1- SO-3.

Project Support

21. Projects addressing this strategic objective may for example focus on the following actions.

- **Results-monitoring of** UNCCD action programs;
- **Alignment of national reporting with revised UNCCD action programs in the context of the UNCCD** 10-year strategy;
- **Mainstreaming synergies and best practices** for NRM through regional networks of excellence;
- **Development of improved methods** for multi-scale assessment and monitoring of land degradation trends, and for **impact monitoring** of GEF investment in SLM;
- Management of **organic residues** to optimize GEB in SLM (crop, livestock, wood residues);
- **Lifecycle analysis for organic agriculture**, including potential GEB
- **Development of guidelines and tools** for assessing ecosystem stability, resilience and maintenance of regulating services

Learning Objectives

The LD FA will draw on project investments under the different strategic objectives to generate knowledge on good practices and synthesizes lessons in the form of global public goods. In addition, the following learning objectives will be pursued to further strengthen and inform future strategies:

1. *To develop a framework and tools for linking the measurement of GEBs at project level to impacts across multiple scales*. This will build on existing GEF-financed initiatives including LADA, KM:Land, and Carbon Benefits to fully integrate methods for establishment of project baselines, identifying measureable indicators, and subsequent monitoring.

2. *To increase understanding of multiple benefits from integrated management of landscape mosaics, and mixed agricultural and forest ecosystems.* This will enable and benefit from a stronger alignment of LD FA with the GEF biodiversity and international waters focal areas, and in the context of generating GEBs and ecosystem services to society.

Annex 1 – LD FA Results-Based Management Framework

Goal: To contribute to arresting and reversing current global trends in land degradation, specifically desertification and deforestation.

Impacts:

- Sustained productivity of agro-ecosystems and forest landscapes in support of livelihoods

Indicators:

- Change in land productivity (*greenness measure as proxy – Net Primary Productivity, Rain-Use Efficiency adjusted NDVI*)
- Improved livelihoods in rural areas (*Prevalence of underweight children under five years of age as proxy*)
- Value of investment in SLM (*$ generated from diverse sources, co-financing in projects*)

Objectives	Expected Outcomes	Outcome Targets - $5 Billion Scenario	Outcome Targets - $6.5 Billion Scenario	Outcome Targets - $9 Billion Scenario	Core Outputs
		$250 million Allocation	$250 million Allocation	$330 million Allocation	
Objective 1. Maintain or improve flow of agro-ecosystem services to sustaining the livelihoods of local communities	Outcome 1.1: An enhanced enabling environment within the agricultural sector. ***Indicator 1.1*** *Agricultural policy, legal and regulatory frameworks functioning to support SLM (Score)*			**50% of projects target improved agricultural policy, legal, regulatory, institutional, and national investment frameworks for SLM**	• Country level policy, legal and regulatory frameworks that integrate SLM principles developed • Diverse sources of investment for SLM interventions at multiple scales (e.g. PES)
	Outcome 1.2: Improved agricultural management. ***Indicator 1.2*** *Land area under effective agricultural, land and water management practices (Hectares by management practice)*	Sustainable management of 200 million hectares of crop, livestock and silvo-pastoral landscapes, including in drylands and transboundary areas	Sustainable management of 200 million hectares of crop, livestock and silvo-pastoral landscapes, including in drylands and transboundary areas	Sustainable management of **500 million hectares** of production landscapes, including in drylands and transboundary areas	• Hectares of tree cover in agro-ecosystems
	Outcome 1.3: Functionality and cover of agro-ecosystems maintained ***Indicator 1.3*** *Land area under effective management*				

Objectives	Expected Outcomes	Outcome Targets - $5 Billion Scenario	Outcome Targets - $6.5 Billion Scenario	Outcome Targets - $9 Billion Scenario	Core Outputs
	in production systems with improved vegetative cover				
Objective 2. Generate sustainable flows of forest ecosystem services in drylands, including sustaining livelihoods of forest dependant people	2.1: An enhanced enabling environment within the forest sector in drylands. ***Indicator 2.1*** *Forestry policy, legal and regulatory frameworks functioning to support SFM* 2.2: Improved forest management in drylands. ***Indicator 2.2*** *Land area under effective forest management practices* 2.3: Functionality and cover of forest ecosystems in drylands maintained. ***Indicator 2.3*** *Land area with increased tree cover, increased biomass, and reduced GHG emissions*	$25 million Allocation Sustainable management of 500,000 hectares of forest production landscapes, including in drylands and transboundary areas	$75 million Allocation Sustainable management of 500,000 hectares of forest production landscapes, including in drylands and transboundary areas **Sustainable management of 3-5 major production systems in the drylands targeted specifically for multiple global environmental and livelihood benefits**	$75 million Allocation **50% of SFM projects have effective forest policy, legal and regulatory, and investment frameworks** Sustainable management of **1 million hectares** of forest production landscapes, including in drylands and transboundary areas	• Country level policy, legal and regulatory frameworks that integrate SFM principles developed • Diverse sources of investment for SFM interventions (e.g. PES, small credit schemes, voluntary carbon market) • Hectares of forest cover in production landscapes
Objective 3. Reduce pressures on natural resources from competing land uses in the wider	Outcome 3.1: Enhanced enabling environments between sectors in support of SLM. ***Indicator 3.1*** *Demonstration results strengthening enabling*	$170 million Allocation	$250 million Allocation	$250 million Allocation **50% of SLM projects achieve effective coordination and harmonization among relevant sectors and institutions nationally**	• Government agencies collaborating on SLM initiatives across sectors and at multiple scales

Objectives	Expected Outcomes	Outcome Targets - $5 Billion Scenario	Outcome Targets - $6.5 Billion Scenario	Outcome Targets - $9 Billion Scenario	Core Outputs
landscape	*environment between sectors (incl. agriculture, forestry)* Outcome 3.2: Good management practices in the wider landscape demonstrated and adopted by relevant economic sectors. ***Indicator 3.2*** *Area under effective land use management with vegetative cover maintained or increased*	Demonstration results support integrated management of 300 million hectares of production systems and natural habitats, including in drylands and transboundary areas	Demonstration results support integrated management of 300 million hectares of production systems and natural habitats, including in drylands and transboundary areas **Demonstration results support integrated management of 3-5 major land-based transboundary production systems**	Demonstration results support integrated management of **500 million hectares** of production systems and natural habitats, including in drylands and transboundary areas	• Number and types of investment sources in SLM from successfully tested sustainable finance reflow schemes • Information on SLM (wider landscape) technology and good practices disseminated
Objective 4. Increase capacity to apply adaptive management tools in SLM	Outcome 4.1Increased capacities of countries to fulfill their obligations in accordance with the provisions provided in the UNCCD. ***Indicator 4.1****Improved quality and timeliness of reporting compliance by countries* Outcome 4.2 Improved	$25 million Allocation 50% of GEF projects financed under Objective 1, Objective 2, and Objective 3 address priorities identified in UNCCD 10-year Strategy and national reporting process 50% of GEF projects	$25 million Allocation 50% of GEF projects financed under Objective 1, Objective 2, and Objective 3 address priorities identified in UNCCD 10-year Strategy and national reporting process 50% of GEF projects	$75 million Allocation **80% of funded countries produce quality reports on time** **80%** of GEF projects financed under Objective 1, Objective 2, and Objective 3 address priorities identified in UNCCD 10-year Strategy and national reporting process **80%** of GEF projects	• Number of countries reporting on UNCCD activities and with improved monitoring of impacts at national level • Number of GEF projects financed under LD Objectives 1-3 addressing priorities identified in UNCCD action programs and national reporting

Objectives	Expected Outcomes	Outcome Targets - $5 Billion Scenario	Outcome Targets - $6.5 Billion Scenario	Outcome Targets - $9 Billion Scenario	Core Outputs
	project performance using new and adapting existing tools and methodologies ***Indicator 4.2*** *GEF-6 LD focal area strategy reflects lessons learned, and results of targeted research portfolio and implementation results from earlier replenishment periods (Qualitative score)*	financed through the LD FA that take up emerging knowledge from targeted research projects or projects with targeted research component	financed through the LD FA that take up emerging knowledge from targeted research projects or projects with targeted research component	financed through the LD FA that take up emerging knowledge from targeted research projects or projects with targeted research component	process • Number of GEF-financed projects reflecting knowledge from targeted research projects or Number of projects with targeted research component • Number of GEF-financed projects that contribute lessons learned and results of targeted research

Chemicals Strategy

1. The draft GEF-5 strategy for chemicals sets to consolidate the persistent organic pollutants and ozone layer depletion focal areas, as well as to broaden the scope of GEF's engagement with the sound management of chemicals, and to initiate work on mercury, should the level of the replenishment permit to do so without deleveraging the existing focal areas and the support required for the implementation of the Stockholm Convention and the Montreal Protocol.

Background

2. The chemicals industry is experiencing a shift in production of chemicals from OECD to non-OECD countries. This increases the stakes and the challenges of managing chemicals safely in the developing world. For example, WHO estimates that about 3% of exposed agricultural workers suffer from an episode of acute pesticide poisoning every year. The overwhelming majority of fatalities take place in developing countries.

3. Chronic effects of exposure to toxic chemicals most often go unreported, particularly in the developing world. Industrial compounds such as methyl-mercury, lead, PCBs, and other neurotoxicants cause neurodevelopment disorders with very serious societal implications: studies in the past decade have shown that low-level prenatal exposure to methyl-mercury is correlated with decreased IQ, leading to downward shift in IQ at the population level. The costs associated with lost productivity due to the loss of IQ of children exposed to mercury through seafood consumption of their pregnant mothers were estimated at $8.7 billion annually in the US. Healthcare costs due to lead poisoning are estimated at $43 billion per year in the same country.

4. The effects of toxic exposure on wildlife and ecosystems are also well documented, although cause and effect relationships can be difficult to ascertain. For instance, pesticides have been implicated in the decline of amphibians worldwide; DDT metabolites have been known for decades to induce egg-shell thinning and were responsible for the decline of populations of fish-eating birds; coral reefs were recently shown to be under threat from pesticides run-off, compounding the effects of climate change.

5. Amongst the number of persistent toxic substances (PTS) and chemicals of concern, one category of chemicals, persistent organic pollutants (POPs), poses great risks to the global environment because of their persistence and potential for bio-accumulation and long range transport. As a consequence, they are at the core of the GEF strategy for chemicals.

6. The realization of the risks to human health and the environment posed by the unsafe production and use of chemicals has led nations to indicate their support for sound chemicals management globally, as expressed via various regional and international agreements on chemicals. These include the Stockholm Convention and the Montreal Protocol (for both of which the GEF is a financial mechanism), as well as the Basel Convention, the Rotterdam Convention, the Strategic Approach to International Chemicals Management (SAICM), the Kyoto Protocol, a variety of marine conventions focused on protection of the environment from

toxic and hazardous wastes, and the International Labour Organization (ILO) chemicals conventions pertaining to worker safety. Sound chemicals management at the national level, as underpinned by these regional and international agreements, brings many global economic, social and environmental benefits.

Emerging issues and changing conditions for the focal area

7. Leading to and under GEF-4, the bulk of chemicals-related activities in the GEF were comprised of:

- Activities under the POPs focal area in support of the implementation of the Stockholm Convention;
- Activities in the ozone layer depletion focal area to support implementation of the Montreal Protocol in eligible Countries with Economies In Transition; and
- Limited interventions targeting persistent toxic substances under the International Waters focal area.

8. GEF-4 also saw for the first time the implementation of a cross-cutting strategy on sound chemicals management with mixed success due to, *inter alia*, limited incentives.

9. Since the time of the replenishment for GEF-4, the international chemicals agenda has expanded considerably in quantity and scope, requiring enhanced response from the GEF. New agreements have been established, new substances have come into focus and countries have begun to realize that more comprehensive efforts are needed to deal with the large number of chemicals used in modern society. Recent incidents, e.g. lead paint on imported toys, have shown the need for a better management of all chemicals including those in articles in all countries.

10. The Strategic Approach to International Chemicals Management was adopted in 2006. The International Conference on Chemicals Management at its second session in May 2009 urged the GEF "*to consider expanding its activities related to the sound management of chemicals to facilitate SAICM implementation, whilst respecting its responsibilities as the financial mechanism for the Stockholm Convention*[34]." Negotiations for a legally-binding agreement on mercury were launched in 2009 and the linkages between the ozone depleting substances (ODS) and climate forcing greenhouse gases (GHGs) have been emphasised.

11. The synergy process currently taking place within the chemicals and waste cluster of multilateral environmental agreements creates demand and opportunity for a more

[34] This call from the ICCM (Resolution II/3) is echoed in Decision (VIII/34) of the Basel Convention that "*Invites Parties, for the longer term, to consider the need for the Global Environment Facility to broaden its programming activities, with a view to targeted and sustainable funding of priority needs within developing countries for the implementation of those objectives of the Convention that may relate to the incremental costs of achieving global environmental benefits"*, and Decision (RC-4/8) of the Rotterdam Convention that "*Invites Parties, for the longer term, to consider the need for the Global Environment Facility to broaden its programming activities, including the possibility of a chemicals-related focal area, with a view to targeted and sustainable funding of priority needs within recipient countries for the implementation of those objectives of the Convention that relate to the incremental costs of achieving global environmental benefits"*.

comprehensive approach. The recommendations by the Ad-Hoc Joint Working Group on enhancing cooperation and coordination among the Basel, Rotterdam and Stockholm conventions that have been adopted by the Basel, Rotterdam, and Stockholm Conference of the Parties[35] (COP), recognise that "*actions taken to enhance coordination and cooperation should be aimed at strengthening implementation of the three conventions at the national, regional and global levels, promoting coherent policy guidance, enhancing efficiency in the provision of support to Parties […]*" and invite the GEF, "*within its mandate, […] to carry out projects aimed at cooperation and coordination in support of implementation of the three conventions[...]*".

12. Taking these developments into account, the GEF-5 strategy for chemicals builds upon the GEF-4 strategies for POPs, ozone layer depletion, and sound chemicals management, and seeks to maximise global environmental benefits and strengthen the value added at the country level of GEF interventions in the chemicals sphere. Whilst the role and mandate of the GEF as financial mechanism to the Stockholm Convention and the continued support provided to Countries with Economies in Transition (CEITs) to meet their obligations under the Montreal Protocol are central to this effort, the GEF will promote interventions that are based on chemicals life-cycle and seek alignment with recipient countries' development priorities and institutional structures in order to deliver programs on the ground that are more country-driven and sustainable.

Convention Guidance

13. The GEF strategy for chemicals is informed and grounded in the priorities developed by the international community through the agreements mentioned above, in particular in guidance from the Stockholm Convention on Persistent Organic Pollutants for which the GEF serves as the financial mechanism. The Stockholm Convention on Persistent Organic Pollutants that was adopted in May 2001 and entered into force in May 2004 designates[36] the GEF as the principal entity entrusted with the operations of the financial mechanism of the Convention, ad interim.

14. The first meeting of the Conference of the Parties (COP) adopted guidance[37] for the financial mechanism that emphasises capacity building and establishes the NIP as the main driver for implementation activities. Specifically, the COP recommended that resources should be allocated to activities "*that are in conformity with, and supportive of, the priorities identified in [parties'] respective national implementation plans.*"

15. The COP at its second meeting in May 2006 adopted additional guidance[38] for the GEF, inviting in particular the GEF and its agencies to facilitate the leveraging of other sources of financing for the implementation of the Convention.

16. The COP at its third meeting in May 2007 reaffirmed its previous guidance and adopted further guidance[39] for the GEF, in particular related to alternative products, methods and

[35] Decision SC-4/34

[36] Article 14 of the Stockholm Convention

[37] Decision SC-1/9

[38] Decision SC-2/11

strategies to DDT for disease vector control, best available techniques and best environmental practices, and capacity building for the implementation of the global monitoring plan for effectiveness evaluation. The COP also requested the GEF to give special consideration to those activities relevant to the sound management of chemicals identified as priorities in the NIPs.

17. The latest guidance[40] adopted by the COP at its fourth meeting in May 2009 reaffirms the central guiding principle that the GEF should "*take into account the priorities identified by Parties in their implementation plans transmitted to the Conference of the Parties*", and further highlights the preparation and update of NIPs, alternatives to DDT for disease vector control, and information exchange.

18. The strategy responds to this guidance adopted by the COP to the Stockholm Convention at its first four meetings.

Programming for Replenishment Scenarios

19. As this strategy document is being prepared in parallel with the GEF-5 replenishment process, the level of resources allocated to chemicals is not known yet at time of writing. The following section which will be deleted from the final version of the strategy is extracted from the GEF-5 programming document and outlines how the scope and depth of activities is affected by the three funding scenarios.

20. The GEF-5 programming document for consideration of the replenishment participants envisages three scenarios, with envelops for chemicals suggested at the levels of $500 million, $660 million, and $800 million for the $5 billion, $6.5 billion, and $9 billion scenarios, respectively. The resources allocated to a more comprehensive chemicals program should be significantly increased over GEF-4 resources to justify an expansion in scope and not deleverage resources from existing areas. Therefore, activities and outputs are proposed in a modular way until the size of the replenishment for GEF-5 and resources allocated to the Chemicals program are known.

$5 Billion Replenishment Scenario ($500m allocated to chemicals)

21. Under this scenario, as a guide, it is proposed that the distribution of resources would be as follows:

- POPs: $450m; and
- Ozone: $50m.

22. This represents an increase of 57% compared to the GEF-4 allocation of $319 million available for programming under the POPs and ozone layer depletion focal areas. The support required for countries to meet their obligations under the Montreal Protocol, in particular as relates to HCFCs, is expected to remain relatively modest. An allocation of $50 million would

[39] Decision SC-3/16

[40] Decision SC-4/28

also allow funding for pilot ODS destruction projects, in synergy with POPs and International Waters programs.

23. The expectation is that demand for POPs resources will be high, as evidenced by the "Needs Assessment[41]" recently conducted under the Stockholm Convention and through the unmet demand for GEF support under GEF-4 apparent in POPs task force discussions. The addition of nine new POPs by the Conference of the Parties at its last meeting only compels the argument. Therefore, with a resource envelop of $500 million, it is expected that resources would be available for support to the Stockholm Convention and Montreal Protocol only, and would not be available for support to the SAICM or the development of the mercury treaty.

24. Regarding POPs, the GEF would continue its work in support of Convention objectives, in particular PCB phase out and disposal, and removal and disposal of obsolete pesticides. Assuming a comparable level of effort, and based on a crude extrapolation from preliminary figures of anticipated GEF-4 achievements, these efforts would target around 15,000 tons of obsolete pesticides, including POPs pesticides, and 30,000 tons of PCB-related waste and contaminated equipment. As was planned in the GEF-4 strategy, it is expected that the increase of resources would allow to progress on the reduction of releases of unintentionally produced dioxins and furans from industrial and non-industrial sources. Capacity would be build at various levels in the context of these efforts, in specific sectors as well as more generally.

25. Indirect support to SAICM and other agreements would continue through the GEF strategy, made explicit in the GEF-4 strategic framework, to provide support to Stockholm Convention and Montreal Protocol implementation while building upon and contributing to strengthening a country's foundational capacities for sound management of chemicals more generally.

$ 6.5 Billion Replenishment Scenario ($660m allocated to chemicals)

26. Under this scenario, as a guide, it is proposed that the distribution of resources would be as follows:

- POPs: $510m;
- Ozone: $50m; and
- Support to mercury and sound chemicals management including SAICM: $100m.

27. The level of activities envisaged in support of the Montreal Protocol would be similar to that of the previous scenario. The additional resources available for POPs would also allow to start addressing the challenges posed by the "new POPs" recently added under the control of the Convention.

28. Regarding mercury, it is anticipated that, just as was done for POPs, the GEF would support assessment-type activities and demonstrations of good practices for alternatives or

[41] UNEP/POPS/COP.4/27 *Report on the assessment of funding needs of Parties that are developing countries or countries with economies in transition to implement the provisions of the Convention over the period 2010–2014*.

mercury release reduction whilst the treaty is negotiated, so that there is experience built in recipient countries and that the GEF partnership and the international community are ready for implementing the treaty when it is adopted. This is similar to the range of activities that the GEF supported in the years leading to, and during, the negotiations for the Stockholm Convention.

29. Regarding SAICM, the GEF, in keeping with its mandate, would support the SAICM priority objectives outlined in the SAICM Global Plan of Action that generate global environmental benefits. Activities and work areas that could receive GEF incremental support because of their transboundary aspects include those related to technology transfer and pollution prevention; pesticides management; capacity building with regards legislative and regulatory framework and enforcement; adaptation with regards chemicals; protected areas; contaminated sites; heavy metals; waste minimisation and disposal; information exchange and illegal traffic.

$9 Billion Replenishment Scenario ($800m allocated to chemicals)

Under this scenario, as a guide, it is proposed that the distribution of resources would be as follows:

- POPs: $650m;
- Ozone: $50m; and
- Support to mercury and sound chemicals management including SAICM: $100m.

30. The level of activities envisaged in support of the Montreal Protocol would be similar to that of the previous scenarios. Similarly, taking into account that the mercury and sound chemicals management objective is of a pilot in mature, it is not proposed to increase it under that scenario. The additional resources available would therefore target POPs, and would allow enhanced support to POPs reduction activities, and in particular increased efforts to address the challenges posed by the nine additional POPs recently added under the control of the Convention.

Goals, Objectives and Outcomes

31. The goal of the GEF through its chemicals program is ***to promote the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the global environment***.

32. The long term impact of GEF interventions is a reduction in the exposure to POPs and other PTS of humans and wildlife. The main indicator for this reduction of exposure is a decrease in the observed concentrations of specific POPs chemicals in the environment. This global level indicator is to be assessed within the framework of the efforts of the Conference of the Parties to evaluate the effectiveness of the Stockholm Convention, as required by Article 16 of the Convention.

33. The three following objectives are identified for Chemicals under GEF-5, and are further defined below:

(1) Phase out POPs and reduce POPs releases;
(2) Phase out ODS and reduce ODS releases; and

(3) Pilot sound chemicals management and mercury reduction.

34. This framework will facilitate joint implementation of international instruments and policies and allow the GEF to respond to the request[42] of the Stockholm Convention "*to give special consideration to support for those activities identified as priorities in national implementation plans which promote capacity building in sound chemicals management, so as to enhance synergies in the implementation of different multilateral environment agreements and further strengthen the links between environment and development objectives"*, as well as to the obligations that arise to eligible countries from the Montreal Protocol, as appropriate. This set of objectives also allows the GEF to be well positioned to respond to other international agreements, such as the SAICM or the mercury agreement that is being developed, should sufficient resources be available.

35. Capacity strengthening imperatives cut across and underpin all three objectives. Therefore, activities[43] aimed at building institutional and legislative frameworks for chemicals management, including POPs, will be supported within each of the three objectives, most often in the context of a broader project or program of activities. Following earlier strategies, GEF interventions will be nested within the framework of a country's capacity for sound chemicals management and will include and build upon foundational capacities aimed at completing the basic governance framework (policy, law, and institutional capabilities) for chemicals within the country. This will be especially important for countries that lag the farthest behind at putting in place the constituent elements of a governance framework for chemicals, notably least developed countries (LDCs) and small island developing states (SIDS).

Objective 1: Phase out POPs and reduce POPs releases

36. This objective responds to the GEF's mandate as the financial mechanism of the Stockholm Convention. Building on GEF-4 programs, the GEF will further its efforts to assist eligible countries in implementing POPs reduction projects in accordance with their NIP priorities, and will build upon and strengthen sustainable capacities for chemicals management to do so.

37. GEF interventions addressing POPs are articulated following chemicals life cycle management, in order to facilitate alignment of GEF supported programs with a country's own priorities and framework for sound chemicals management. It is anticipated that a number of projects will in fact combine resources from objectives # 1 (or #2) and #3.

38. Five outcomes are expected for this objective, and are further detailed below:

(1) Production and use of controlled POPs chemicals phased out;
(2) Exempted POPs chemicals used in an environmentally sound manner;
(3) POPs releases to the environment reduced;

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[42] Decision SC-3/16

[43] Including incremental capacity building for POPs monitoring and support to country-driven and sustainable activities consistent with the GEF's mandate in support of the Global Monitoring Plan that underpins the effectiveness evaluation of the Convention.

(4) POPs waste prevented, managed, and disposed of, and POPs contaminated sites managed in an environmentally sound manner; and
(5) Country capacity built to effectively phase out and reduce releases of POPs.

Production and use of controlled POPs chemicals phased out

39. Following Stockholm Convention guidance, investment and capacity building activities supported will be in conformity with, and supportive of, the priorities identified in countries' respective National Implementation Plans (NIP). Depending on NIP priorities, interventions can include the phase out of production and/or use of certain POPs. Pesticides phase out will include promoting alternatives such as integrated pest management, and promoting alternatives to DDT for vector control.

Exempted POPs chemicals used in an environmentally sound manner

40. Following NIP priorities, project can address management of DDT and vector control chemicals; management of PCBs; management of "new POPs"44 (i.e., those entering the Stockholm Convention); awareness raising, education, and access to information for government and local authorities, civil society, and the private sector.

POPs releases to the environment reduced
41.
42. Following NIP priorities, investments supported by the GEF will address implementation of best available techniques and best environmental practices (BAT/BEP) for release reduction of unintentionally produced POPs, including from industrial sources and open-burning. Projects that seek to maximize linkages with Climate Change Objective # 1 (transfer of advanced low-carbon technologies) or #2 (energy efficiency in industry and the building sector) will be promoted.

POPs waste prevented, managed, and disposed of, and POPs contaminated sites managed in an environmentally sound manner

43. Investments supported by the GEF will be in conformity with, and supportive of, the priorities identified in countries' respective NIPs, and, for example, can address: the development of waste treatment facilities such as for PCB transformer dismantling and dechlorination; low-tech, locally appropriate technologies for treatment of medical waste; the development of temporary storage facilities; the removal and disposal of POPs and POPs-containing waste and related materials such as obsolete pesticides; inventories and development of management plans for contaminated sites, including risk assessment and prioritization; and, where warranted by pressing health or environmental concerns, supporting partnerships for remediation and piloting remediation technologies.

Country capacity built to effectively phase out and reduce releases of POPs

[44] "POPs" is used throughout the text as defined in the Stockholm Convention.

44. The GEF will continue to support eligible countries in meeting their obligations to develop, submit, and update a National Implementation Plan under the Stockholm Convention. Inventories and assessments of implications for developing countries of "new45 POPs" control measures would also be supported. Beyond support to the NIPs, it is anticipated that most capacity development will take place within the context of broader projects in support of POPs-reduction related outcomes as described above.

45. The level of effort for this objective is estimated for GEF-5 at $450-650 million, depending on the level of replenishment.

46. Outcome indicators will include:

(1) Amount of unintentionally produced POPs releases avoided or reduced from industrial and non-industrial sectors; measured in grams toxic equivalents (TEQ) against baseline as recorded through the POPs tracking tool;
(2) Amount of PCBs and PCB-related wastes disposed of, or decontaminated measured in tons as recorded in the POPs tracking tool;
(3) Amount of obsolete pesticides, including POPs, disposed of in an environmentally sound manner; measured in tons; and
(4) Progress in development or update of NIPs as recorded through the POPs tracking tool.

Implication for programming of possible extension of the STAR

47. At the time of writing, the Council is discussing options for a resource allocation framework (STAR) which include extending the STAR to POPs, but not to ozone layer depletion or sound chemicals management and mercury. Should the GEF resource allocation system be indeed extended to POPs under GEF-5, countries would be able to access a Focal Area Set-aside (FAS), in addition to their individual allocations, to implement enabling activities for an amount up to $500,000 on an expedited basis, including for support to developing or updating NIPs and national reports.

48. The remaining set aside46 resources will be used to address supra-national priorities or to incentivize countries to participate in regional or multi-country projects. Such global and regional projects supported with set aside resources must be consistent with GEF Strategic Goals for POPs and chemicals and should deliver additional global environmental benefits (GEB) that would not be achieved via national commitments only. Regional projects are expected to be endorsed by each participating country.

49. The following types of projects and programs are envisaged:

- Regional/multi-country projects/programs delivering additional GEB over single country activities. For these types of interventions, the set-aside will act as an incentive in addition to the

[45] the Stockholm Convention COP has added nine new chemicals to its lists of controlled substances at its fourth meeting in May 2009.

[46] The set-aside would amount to 15% to 20% of POPs resources depending on the replenishment scenario.

national contributions from the country allocations that are expected from the participating countries (especially when national benefits are relatively small compared to global ones);

- Global/Regional assessments and methodologies advancing delivery of GEB for the entire GEF partnership, or advancing learning objectives.

50. Another feature of the STAR is a floor so that all countries are guaranteed a minimum allocation. Should a floor at $0.5m be adopted as currently proposed, countries receiving the floor would be allowed flexibility to program floor resources not only against Objective #1 on POPs but also against Objective #3 on sound chemicals management and mercury as well.

51. Of particular interest for the use of the set aside resources would be support to the establishment of regional facilities for POPs decontamination and environmentally sound disposal, with linkages with Objective # 2 of this strategy on ODS reduction. At present the paucity of facilities for the environmentally sound management of POPs in GEF client countries is a barrier to cost-effective and sustainable POPs phase out.

Objective 2: Phase out ODS and reduce ODS releases

52. The GEF Evaluation Office has recently completed an impact study of the GEF's Ozone program which demonstrates that, although the program has been very successful, there remains "unfinished" business in the countries with economies in transition to achieve the full positive impact of ODS phase out. Moreover, the Parties to the Montreal Protocol have recently agreed to an accelerated phase-out of HCFCs.

53. The GEF will continue efforts initiated during GEF-4 to assist eligible CEITs to phase out of production and use of HCFCs, with a particular emphasis on operational linkages, and multi-focal area financing as appropriate, with Energy Efficiency interventions in industry and the building sector (objective #2 of the climate mitigation strategy). Activities that are not strictly an obligation under the Montreal Protocol could also be supported where they can cost-effectively generate global environmental benefits: For example projects to facilitate ODS destruction will be supported on a pilot basis, particularly where linkages can be established with investments to dispose of POPs and other hazardous wastes.

54. The level of effort related to the Montreal Protocol is estimated for GEF-5 at $50m.

55. Expected outcomes for this objective include:

(1) Country capacity built to meet Montreal protocol obligations and effectively phase out and reduce releases of ODS; and
(2) ODS phased out and their releases reduced in a sustainable manner.

56. Outcome indicators will include:

(1) Percent of GEF-supported countries meeting their reporting obligations under the Montreal Protocol, as recorded by the Ozone secretariat; and

(2) Amount of HCFCs phased out from consumption or production, measured as ODP tons against baseline.

Objective 3: Pilot sound chemicals management and mercury reduction

57. This objective is in response to the challenges posed by the SAICM, as well as the need to extend GEF support to other chemicals of global concern beyond POPs in order to capture additional global environmental benefits. SAICM priority activities and work areas that generate global environmental benefits and could be supported include those related to the management of pest control and agricultural production chemicals; the management of other persistent toxic substances of concern; capacity strengthening for joint implementation of international instruments; the management of toxics in articles[47]; capacity building for management of trade, illegal traffic of waste; support to the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in partnerships with the private sector; and development and implementation of pollutant release and transfer registers (PRTR). The GEF could also support the demonstration of "paradigm shifts" such as "chemicals leasing" and "zero waste" concepts.

58. Specific PTS of priority concern are targeted and pilot interventions could address the phase-out of certain uses of PTS such as mercury in articles, lead in paint and gasoline, and the demonstration of BAT/BEP for PTS and mercury release reduction, including from artisanal gold mining. Pilot interventions to demonstrate mercury waste management or the development of waste prevention and management strategies more broadly could be supported. Activities complementary to objectives #1 and #2 for POPs and ODS will be promoted.

59. Building on the implementation of the GEF-4 cross-cutting strategy for chemicals management, this objective will also be used to incentivize sound chemicals management practices in all the GEF focal areas. Targeting resources in such a way will lead to increased efficiency and impact of GEF efforts.

60. The level of effort for this objective is estimated for GEF-5 at $100m.

61. Expected outcomes for this objective include:

(1) Country capacity built to effectively manage chemicals of global concern and reduce risks related to their production, use, and releases;
(2) Contribute to the overall objective of the SAICM of achieving the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the environment.

[47] Trade in chemicals grows quicker than manufacture and contributes to their global distribution, often as constituents in articles. Several of the new POPs adopted by the Stockholm Convention COP-4 in May 2009 appear mainly as constituents or components in articles e.g. furniture, upholstery, textiles, electronics, medical apparatus etc. Information about the content of such substances in articles is frequently lost along the product chain from manufacture of the ingredient to the end user and to its sound environmental disposal. There is a growing need to address chemicals in articles and to improve the passage of information along the product chain, so that informed choices may be made by all involved. The dumping of electronic waste in developing countries is one extreme example where such knowledge would be crucial.

62. Outcome indicators will include:

(1) Number of countries implementing pilot mercury management and reduction activities; and
(2) Number of countries implementing SAICM relevant activities and report to the International Conference on Chemicals Management.

Learning Objectives

63. In pursuing these focal area objectives, the GEF will support the generation and dissemination of good practices and the development of practical guidelines, so that good practices and lessons learned from GEF and other projects are incorporated into the design of new activities. Under GEF-5, building on work of the STAP under GEF-4, operational linkages between unintentional production of POPs and greenhouse gas emission control measures will be emphasised. Additionally, the application of Best Available Techniques / Best Environmental Practices that are appropriate to local conditions and capacity will be explored.

Linkages With Other Focal Areas

64. The Chemicals program has linkages with all other focal areas of the GEF, either because chemicals are a driver for ecosystem degradation and removal of chemicals reduces the stress on those ecosystems (e.g., with biological diversity, land degradation, or international waters), because interventions in one focal area can have co-benefits in the other (e.g., with climate change mitigation), or because interventions can be complementary (e.g., with international waters). GEF-5 programs and objectives with the greatest potential for such linkages are identified below.

65. *Climate Change Mitigation.* The relationship of the climate change focal area to the chemicals program is multi-faceted, and includes co-benefits. Opportunities exist to maximize these co-benefits, for example between releases of POPs and PTS and energy efficiency programs. Linkages can also take the form of opportunities, for example to reduce lead in gasoline in the framework of transport programs. In particular, as emphasized in Objective # 2 under Climate Change, projects that promote energy efficiency in buildings and industries will support the phase out of HCFCs where this is justified by consideration of greenhouse gas benefits. Trade-offs can also exist: the remaining use of mercury in efficient lighting, for example, requires support for management interventions to minimize risks of environmental releases at end-of-life.

66. *Adaptation to Climate Change*. With respect to adaptation to climate change, chemicals management considerations come into play at various levels. For instance, the extension of the habitats of pests under global climate change has to be taken into account when devising an integrated vector control strategy. Another example is flood control management to protect a particular coastal zone and affected community, where the risk of chemical spills would have to be addressed in developing contingency plans for natural disasters.

67. *Land Degradation.* With sustainable land management, the linkages are varied and concern all objectives. Linkages could include interventions that reduce the reliance of local communities on POPs and other pesticides, or address the legacy of land degraded through historical pesticides abuse or obsolete pesticides spread over large areas, for example. Programs that minimize slash and burn practices will have a beneficial impact on emissions of unintentionally produced POPs. It is anticipated that some of the resources under Objective 3 of this strategy will be targeted to incentivize chemicals management linked to GEF supported land degradation interventions.

68. *Biological Diversity.* PTS including POPs are a threat to wildlife and biodiversity, and ultimately all projects under the chemicals program benefit the biodiversity focal area. The aquatic environment is both a sink for many chemicals and a major pathway for exposure. This translates to resources being allocated to reducing releases to particular water bodies or terrestrial ecosystems as a matter of priority48, thereby potentially contributing to biodiversity objectives. Opportunities for promoting sound chemicals management also abound with programs to mainstream biodiversity in production landscapes and seascapes, for example with agro-forestry, shade-grown coffee or cocoa, and forest certification schemes. Linkages can also be supported with marine protected areas, in cases for example where pesticides runoff is a significant stress for the resources under protection. It is anticipated that some of the resources under Objective 3 of this strategy will be targeted to incentivize chemicals management linked to GEF supported biodiversity interventions.

69. *International Waters.* Under the higher replenishment scenario, joint programs are envisaged with objective # 5 of the IW focal area that addresses the demonstration of reduced pollution from persistent toxic substances, particularly endocrine disruptors. It is anticipated that this program will focus on particular hot spots of chemical pollution when they are a dominant source of degradation of inland or coastal waters. In any event, priority setting exercises under the Global Plan of Action for the Protection of the Marine Environment for example can inform and guide GEF interventions at the national and regional levels.

70. Exploring and exploiting these linkages will lead to designing potentially synergistic interventions that generate multi-focal area benefits.

[48] Typically, even when this is not explicitly acknowledged at the program level, wherever a priority setting exercise takes place – for example, to decide which stockpile of obsolete POPs to remove as a priority – considerations take into account proximity of human settlement as well as proximity to aquatic systems and areas of biodiversity of significance.

Annex 1: Chemicals: Results Framework and Key Outputs under three Replenishment Scenarios

Goal: To promote the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the global environment
Impacts: Expected Impact: Reduction in the exposure to Persistent Organic Pollutants and other Persistent Toxic Substances of humans and wildlife
Indicator: Levels of POPs in the environment as determined by the Global Monitoring Program under the Stockholm Convention

Objectives	Expected Outcomes	Outcome Targets* $5 billion Scenario	Outcome Targets* $6.5 billion Scenario	Outcome Targets* $9 billion Scenario	Core Outputs
Total Allocation		$500 million	$660 million	$800 million	
Objective 1: Phase out POPs and reduce POPs releases	**Outcome 1.1** Production and use of controlled POPs chemicals phased out. *Indicator 1.1 Amount of POPs not produced or used following demonstration of alternative; measured in tons per year against baseline as recorded through the POPs tracking tool.* **Outcome 1.2** Exempted POPs chemicals used in an environmentally sound manner. *Indicator 1.2 Number of countries managing the use of exempted POPs in an environmentally sound manner.* **Outcome 1.3** POPs releases to the environment reduced. *Indicator 1.3 Amount of unintentionally produced POPs releases avoided or reduced from industrial and non-industrial sectors; measured in grams TEQ against baseline as recorded through the POPs tracking tool.* **Outcome 1.4** POPs waste prevented, managed, and disposed of, and POPs contaminated sites managed in an environmentally sound manner. *Indicator 1.4.1 Amount of PCBs and PCB-related wastes disposed of, or decontaminated; measured in tons as recorded in the POPs tracking tool.* *Indicator 1.4.2 Amount of obsolete pesticides, including POPs, disposed of in an environmentally sound manner; measured in tons.* **Outcome 1.5** Country capacity built to effectively phase out and reduce releases of POPs. *Indicator 1.5.1 Progress in development or update of NIPs as recorded through the POPs tracking tool.* *Indicator 1.5.2 Progress in developing and implementing a legislative and regulatory framework for environmentally sound management of POPs, and for the sound management of chemicals in general, as recorded in the*	$450 million Dioxin reduction plans under implementation in at least 30 country sectors. 30,000 tons of PCBs and PCB-related wastes disposed of, or decontaminated. 15,000 tons of obsolete pesticides, including POPs, disposed of in an environmentally sound manner. At least 50 countries receive support for NIP update.	$510 million At least 12 countries implement pilot "new POPs" reduction activities. Dioxin reduction plans under implementation in at least 30 country sectors. 30,000 tons of PCBs and PCB-related wastes disposed of, or decontaminated. 15,000 tons of obsolete pesticides, including POPs, disposed of in an environmentally sound manner. At least 50 countries receive support for NIP update.	$650 million At least 20 countries implement pilot "new POPs" reduction activities. Dioxin reduction plans under implementation in at least 30 country sectors. 45,000 tons of PCBs and PCB-related wastes disposed of, or decontaminated. 22,000 tons of obsolete pesticides, including POPs, disposed of in an environmentally sound manner. At least 50 countries receive support for NIP update.	Dioxin action plans under implementation. PCB management plans under implementation. NIPs prepared or updated, or national implications of new POPs assessed.

	POPs tracking tool.				
Objective 2: Phase out ODS and reduce ODS releases	**Outcome 2.1** Country capacity built to meet Montreal protocol obligations and effectively phase out and reduce releases of ODS. *Indicator 2.1 Percent GEF-supported countries meeting their reporting obligations under the Montreal Protocol, as recorded by the Ozone secretariat.* **Outcome 2.2** ODS phased out and their releases reduced in a sustainable manner. *Indicator 2.2 Amount of HCFCs phased out from consumption or production, measured as ODP tons against baseline.*	$50 million 80 % of GEF supported countries meet their reporting obligations under the Montreal Protocol.	$50 million 80 % of GEF supported countries meet their reporting obligations under the Montreal Protocol.	$50 million 80 % of GEF supported countries meet their reporting obligations under the Montreal Protocol.	Country annual reports to the Ozone secretariat. HCFCs phase out plans under implementation.
Objective 3: Pilot sound chemicals management and mercury reduction	[under $660 and $800 million scenarios] **Outcome 3.1** Country capacity built to effectively manage chemicals of global concern and reduce risks related to their production, use, and releases. *Indicator 3.1 Number of countries implementing pilot mercury management and reduction activities.* **Outcome 3.2** Contribute to the overall objective of the SAICM of achieving the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the environment. *Indicator 3.2 Number of countries implementing SAICM relevant activities and report to the International Conference on Chemicals Management.*	NA	100 million At least 10 countries address mercury on a pilot basis. At least 20 countries implement SAICM activities for global benefits.	$100 million At least 10 countries address mercury on a pilot basis. At least 20 countries implement SAICM activities for global benefits.	Development and implementation of management plans for persistent toxic substances and other chemicals of global concern, in particular with respect to mercury, on a pilot basis. BAT/BEP demonstrated in priority sectors for release reduction of PTS and other chemicals of global concern, in particular mercury.

* The GEF's POPs program is relatively new and evolving. It is therefore difficult to predict outcome targets based on past achievements and past country priorities. The quantitative targets in the above logframe must therefore be seen as tentative and indicative only, and are based on the assumption that country priorities and resource utilization patterns will not be very dissimilar under GEF-5 compared to GEF-4.

Annex 2: Outline of possible GEF support to the implementation of the Strategic Approach to International Chemicals Management (SAICM)

The GEF, in keeping with its mandate, will support the SAICM priority objectives as outlined in the SAICM Global Plan of Action that generate global environmental benefits. Such support will also benefit related conventions and agreements such as the Basel and Rotterdam conventions to the extent that some of their goals and objectives are reflected in the SAICM and bring global environmental benefits.

The SAICM requires that risks to human health and the environment from unintended releases of chemicals be reduced. It highlights persistent, bioaccumulative, and toxic substances, as well as POPs and mercury as chemicals of particular concern. The SAICM includes five main objectives, related to risk reduction; knowledge and information; governance; capacity building; and illegal international traffic. All these objectives, and particularly the first risk reduction objective, have elements that allow for the generation of global environmental benefits, and have strong linkages and synergies with already existing GEF programs related to POPs and ODS, but also international waters and biodiversity. The 5 objectives cover 36 "work areas" and 273 associated activities.

Activities and work areas that could receive GEF incremental support because of their transboundary aspects include those related to technology transfer and pollution prevention; pesticides management; capacity building with regards legislative and regulatory framework and enforcement; adaptation with regards chemicals; protected areas; contaminated sites; heavy metals; waste minimisation and disposal; information exchange and illegal traffic.

More specifically, and without seeking to be exhaustive, the following activities and work areas could receive GEF incremental support, based on country priorities, and in collaboration with the work of GEF and other international Agencies, the private sector, and non-governmental organisations, as appropriate. In highlighting those, we also highlight the linkages with existing GEF programs with a view to maximising the impact of GEF interventions.

Develop and implement action plans for sound management of chemicals (1), and other related activities including use of multi-sectoral and multi-stakeholder committees (165) – this is an extension of the NIP work, and particularly for those countries too large to have benefitted from support from the SAICM quick start program.

Strengthen policy, law and regulatory frameworks and compliance promotion and enforcement (194), and other related activities – this is an extension of NIP implementation and Montreal Protocol work, and would ensure that GEF supported activities in this domain are comprehensive.

Undertake awareness raising and preventive measures campaigns in order to promote safe use of chemicals (163), and other activities related to awareness raising and stakeholder participation – in extension of NIP implementation work.

Review national legislation and align it with GHS requirements (168), and related activities to promote the implementation of the GHS – in collaboration with the private sector.

Improve understanding of the impact of natural disasters on releases of harmful chemicals and resulting human and wildlife exposures, as well as possible measures to mitigate them (137) – with linkages to adaptation.

Promote development and use of reduced-risk pesticides and substitution for highly toxic pesticides as well as effective and non-chemical alternative means of pest control (27), *Promote integrated pest and integrated vector management* (29), and related activities to reduce releases of pesticides, particularly high risk ones – in relation with measures to prevent (re)occurrence of obsolete stockpiles of POPs and other pesticides.

Encourage sustainable production and use and promote the transfer, implementation and adoption of pollution prevention policies and cleaner production technologies, in particular best available techniques and best environmental practices (43) – in relation with release reduction of unintentionally produced POPs and climate mitigation.

Promote reduction of the risks posed to human health and the environment, especially by lead, mercury and cadmium, by sound environmental management (57), and other activities related to heavy metals, including lead in gasoline.

Identify contaminated sites and hotspots and develop and implement contaminated site remediation plans to reduce risks to the public and to the environment (47), and related activities – with linkages to Stockholm convention work, including obsolete pesticides.

Develop frameworks for promoting private-public partnerships in the sound management of chemicals and wastes (186), and related activities – with linkages with the GEF private sector strategy and the Earth Fund.

Ensure that pesticides and chemicals issues are considered within environmental impact assessments covering protected areas (202) and related activities – with linkages to GEF biodiversity and international waters focal areas.

Develop national strategies for prevention, detection and control of illegal traffic, including the strengthening of laws, judicial mechanisms and the capacity of customs administrations and other national authorities to control and prevent illegal shipments of toxic and hazardous chemicals (204), and related activities - in extension and support of POPs and Montreal Protocol work.

Develop a national PRTR/emission inventory (124), and related activities – in extension and support of Stockholm Convention implementation.

Establish and implement national action plans with respect to waste minimization and waste disposal, taking into consideration relevant international agreements and by using the cradle-to-cradle and cradle-to-grave approaches (69), *Prevent and minimize hazardous waste generation through the application of best practices, including the use of alternatives that pose less risk* (70), and related activities – in extension and support of the waste-related provisions of the Stockholm Convention.

Eliminate barriers to information exchange for the sound management of chemicals in order to enhance communication among national, subregional, regional and international stakeholders (105), and related activities in support of information exchange and in extension and support of Stockholm Convention work.

Strategy for GEF Investments in Sustainable Forest Management (SFM) and LULUCF

Background

1. Forest ecosystems provide a multitude of benefits which are realized at several scales, ranging from the global, sub-regional, national to the local. The benefits are environmental, economic and socio-cultural and they are valued at various degrees depending on their location, size, state and other variables. At national and local scales, the international community and individual states have increasingly taken cognizance of the needs and aspirations of forest dependant people. Threats to forest ecosystems are multiple – ranging from the impacts of climate change to all aspects of competing land which often lead to forest degradation and deforestation. These threats pose complex challenges to not only manage remaining forest ecosystems in a sustainable way but also protect them from being substituted by other land uses such as agriculture which ultimately result in complete land cover changes.

2. Today, forests have again become the center of the international debate related to their contribution to reducing greenhouse gas (GHG) emissions from deforestation and forest degradation. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) states that deforestation contributes about 20 % of global GHG emissions, which is more than the entire transport sector. Of particular concern is the conversion and degradation of tropical forests, which accounts for approximately 90 % of the total GHG emissions from deforestation. According to the FAO, the main threat to tropical forests is rapid population growth and the associated need for farming and grazing land. Other potential reasons for the destruction and degradation of forests include the overexploitation of timber, mining, cattle ranching, road construction and the production of biomass for biofuels. Degraded forest ecosystems have also been identified as being at risk to effectively cope with the impacts of climate change. Healthy and un-fragmented forest ecosystems in turn are much more resilient to the impacts of climate change and are able to absorb better shocks induced by human activities or natural disasters.

3. With its SFM strategy, the GEF advocates the landscape approach, which embraces ecosystem principles as well as the connectivity between ecosystems. Hence, GEF investments would build on the widely accepted forest landscape restoration approach, which is fully compatible with the advocated wider landscape approach. This includes the integration of people's livelihood objectives in the management of forest ecosystems. Supporting an integrated approach to managing forest ecosystems, the GEF strives for achieving multiple global environmental benefits, including those related to the protection and sustainable use of biodiversity, climate change mitigation and adaptation and combating land degradation.

Convention Guidance

4. The proposed strategy for SFM is fully responsive to the guidance provided by the UNFCCC and UNCBD to the GEF. It is also in line with the UNCCD 10-year strategy, which focuses on efforts to prevent, control and reverse desertification/land degradation while contributing to the reduction of poverty in the context of sustainable development. The strategy also addresses the focus of the NLBI for all types of forests of the UNFF which supports international cooperation and national action to reduce deforestation, prevent forest degradation, promote sustainable livelihoods and reduce poverty for all forest-dependent peoples.

Lessons Learned from GEF-4 and Emerging Issues for GEF-5

5. Since its inception, the GEF has provided $1.5 billion in incremental finance to initiatives dealing with forest protection, the sustainable management of production forests and the management of forests and trees in the wider landscape emphasizing the multiple benefit character of forest ecosystems to the global environment in the context of sustainable development. While in the earlier years, GEFs approach to SFM was rather fragmented, GEF-4 introduced a more strategic and focused approach to SFM. The GEF-4 SFM strategy has encompassed a mix of traditional forest management approaches such as protected areas and integrated watershed management but also piloted new and emerging aspects to forests such as biomass production for biofuels and last but not least the role of forests in climate change mitigation (LULUCF).

6. LULUCF has been one of the Strategic Programs in the GEF-4 Climate Change focal area strategy that specifically aims at protecting carbon stocks and reducing GHG emissions through management of land use, land-use change, and forestry. Since 2008, a variety of GEF proposals have come forward seeking direct collaboration with existing funding mechanism addressing LULUCF such as the World Bank Forest Carbon Partnership Facility and the UN-REDD Programme. GEF resources have been used on a pilot basis not only for contributing proactively in the debate but also by engaging in shaping the institutional dynamics when it comes to the role of forests in climate change mitigation.

7. The GEF-4 strategy was operationalized through a SFM program which now reflects a diverse portfolio of projects that either address individual GEF focal area aspects of forests or emphasize the multiple benefit character of forest ecosystems. All types of forests have been addressed ranging from tropical and sub-tropical forests to woodlands and trees in the wider landscape. The portfolio also presents a wide spectrum of SFM management tools that are promoted through GEF projects such as protected area management, integrated watershed management, certification of timber and non-timber forest products or payments for ecosystem services (PES). Apart from the LULUCF program, the CC focal area also promoted tools and technologies indirectly addressing some main drivers of deforestation and forest degradation through interventions such as energy efficient stoves, energy efficiency in small and medium industries, off-grid small hydro energy installations and installation of solar panels for small scale energy production.

8. The investment strategy for GEF-5 in sustainable forest management will build on the experience in portfolio development gained in GEF-4, include new information on forest ecosystems and management (CBD "Status and Trend of Forest Biodiversity"), fully reflect and include the latest developments in new and innovative financing opportunities for reducing deforestation and forest degradation and emphasize even more the wider and integrated concept of sustainable forest management. Because of the increased attention given to LULUCF in the context of mitigation of climate change, the GEF-5 strategy will pay particular attention to this aspect of SFM.

9. It is of central importance to the GEF that the GEF-5 strategy for SFM will support investments to control and prevent deforestation and forest degradation as an essential and cost-effective way to deliver multiple global environmental benefits, such as the protection of habitats and other forest ecosystem services including the mitigation of climate change and the protection of water bodies.

GEF-5 SFM Strategy

10. The **goal** for GEF-5 investment in SFM is to achieve multiple environmental benefits from improved management of all types of forests.

11. The portfolio of projects and programs implemented under the SFM strategy is expected to have the following impacts:

- Effective provisioning of forest ecosystem services.
- Strengthened livelihoods of people dependent on the use of forest resources.

12. Two **objectives** will drive the SFM portfolio and contribute to that goal:

1. Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services.
2. Strengthen the enabling environment to reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities.

Objective One: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services.

Rationale

13. Forest ecosystems are still degrading or disappearing at an alarming rate. The loss of quantity and quality of linked ecosystem services reaches from disappearing plant and animal species to the diminished ability to sequester carbon above and below ground, and reduced production capacity because of lost top soil and water retention capacity. In addition, forest-dependant people struggle sustaining their livelihoods with an increased trend to migrate towards larger cities once the forest-based livelihood opportunities have been exhausted. Barriers to the sustainable management of forest ecosystems have been linked to the enabling environment (policy, forest law enforcement and government (FLEG), human and institutional capacity and

the access to technology and good practices for SFM). Often, decision-makers at the national and local level chose short-term economic gains (e.g. from large scale logging for timber extraction or the conversion of forests, including peat swamp forests into oil palm plantations or farm land or other more profitable land uses like mining) over long-term sustainability of multiple benefits which forests provide. This happens due to the lack of a long-term and more integrated vision for a country's natural assets including knowledge of the impacts of these decisions on socio-economic and ecological stability.

14. This objective will remove barriers to SFM by promoting the enabling environment for SFM, access to technology and good SFM practices combined with large-scale applications on the ground to reduce and avoid forest degradation. Results will include a net gain in forest area managed in a sustainable way and the improvement of selected forest ecosystem services such as habitat services (biodiversity), regulating services (carbon) and productive services (soil and livelihoods).

15. The following key outcomes will be achieved under this objective:

a) Enhanced enabling environment within the forest sector and across sectors
b) Good management practices developed and applied in existing forests
c) Good management practices in the wider forest landscape developed and adopted by relevant economic sectors

Projects addressing this objective may for example focus on:

- **Forest policy and related legal and regulatory frameworks** reformulation;
- Improved **forest law enforcement and government (FLEG)**;
- **Decision-making** (e.g. reforestation potential/suitability analysis and related planning and implementation activities; trade-off analysis incl. mid-and long term analysis);
- Sustainable **harvesting technologies** for timber and non-timber products, forest function and management planning;
- Forest **certification and verification** of timber supply chains;
- Integrated forest **fire management**;
- **Conflict resolution** approaches (in case of disputed forest tenure and use);
- Building of capacity in sustainable finance mechanisms for SFM such as through demonstration/model projects that test Upfront Payment for Ecosystem Services and other market-based mechanisms using economic valuation tools and methodologies;
- Industrial, agricultural and domestic **technologies** reducing the pressure on forest (energy efficiency, fuel substitution);
- **Increasing ecological connectivity and improving forest biodiversity values at landscape level**, including for agricultural activities (e.g. through buffer zone management, corridors between PAs, and inclusion of forest biodiversity aspects into production forest);
- Promotion of good management practices in **community and small-holder forestry**;

Objective Two: Strengthen the enabling environment to reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities.

Rationale

16. Forests, through growth of trees and an increase in soil carbon, contain a large part of the carbon stored on land. Forests present a significant global carbon stock. Global forest vegetation stores 283 Gt of carbon in its biomass, 38 Gt in dead wood and 317 Gt in soils (top 30 cm) and litter. The total carbon content of forest ecosystems has been estimated at 638 Gt for 2005, which is more than the amount of carbon in the entire atmosphere. This standing carbon is combined with a gross terrestrial uptake of carbon, which was estimated at 2.4 Gt a year, a good deal of which is sequestration by forests. Approximately half of the total carbon in forest ecosystems is found in forest biomass and dead wood (UNFCCC).

17. Global deforestation has accelerated dramatically in recent decades with competing land uses identified as one of the biggest threats to forest ecosystems. There is data which indicates that half of the forests existing in the 1950's have since been destroyed. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) states that deforestation contributes about 20 % of GHG emissions. Of particular concern is the conversion and degradation of tropical forests, which accounts for approximately 90 % of the total GHG emissions from deforestation. The new focus on the role of forests in climate change mitigation has raised sustainable forest management in the political agenda, especially in the context of the ongoing negotiations for a post 2012 arrangement under the UNFCCC which will fully include LULUCF.

18. This objective will enable countries to take stock of their forest resources and understand as well as address the current dynamics and drivers for deforestation and forest degradation. Countries will be enabled to integrate LULUCF activities in the wider agenda of sustainable forest management which strives for conserving multiple environmental and livelihood benefits forest ecosystems provide.

19. The following key outcomes will be achieved under this objective:

a) Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks.
b) New revenue for SFM created through engaging in the carbon market.

Projects addressing this strategic objective may for example focus on:

- **Competition for land use and land-use changes** driven by e.g. food and bio-energy crop production (e.g. land use potential/suitability analysis and related planning activities; trade-off analysis incl. mid-and long term analysis);
- **Building of technical and institutional capacities** to monitor and reduce GHG emissions from deforestation and forest degradation (incl. estimating and monitoring associated emissions and changes in forest carbon stocks, national forest inventories; improved access to country-based data for monitoring and modeling of forest production potential and carbon stock trends);

- Testing and adopting approaches that allow for the generation of **revenues from the carbon market**;

Annex 1: Sustainable Forest Management Results Framework

Goal: Achieve multiple environmental benefits from improved management of all types of forests.

Impacts:

- Effective provisioning of forest ecosystem services.
- Strengthened livelihoods of people dependent on the use of forest resources.

Indicators:

- Land (hectares) covered by intact forest.
- Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation.
- Income generated from forest services for forest dependent people and communities.

Proposed Resource Envelope: $200 - $600 million

Objectives	Expected Outcomes and Indicators	Outcome targets under $5 billion Scenario	Outcome targets under $6.5 billion Scenario	Outcome targets under $9 billion Scenario	Core Outputs
Objective 1: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services	Outcome 1.1: Enhanced enabling environment within the forest sector and across sectors. *Indicator: Effectiveness of policy, legal and regulatory frameworks that integrate SFM principles (score as recorded by tracking tool).* Outcome 1.2: Good management practices developed and applied in existing forests. *Indicator 1: Forest area under FSC certification measured in hectares.* *Indicator 2: Enhanced carbon sinks from reduced forest degradation.*	80% of projects have effective forest policy, legal and regulatory frameworks which support SFM. 90 % of projects lead to an increase in forest area under sustainable forest management (including forest conservation).	80% of projects have effective forest policy, legal and regulatory frameworks which support SFM. 90 % of projects lead to an increase in forest area under sustainable forest management (including forest conservation).	80% of projects have effective forest policy, legal and regulatory frameworks which support SFM. 90 % of projects lead to an increase in forest area under sustainable forest management (including forest conservation).	Payment for ecosystem services (PES) systems established (number). Types of services generated from forests Forest area (hectares) under sustainable management, separated by forest type

Objectives	Expected Outcomes and Indicators	Outcome targets under $5 billion Scenario	Outcome targets under $6.5 billion Scenario	Outcome targets under $9 billion Scenario	Core Outputs
	Outcome 1.3: Good management practices in the wider forest landscape developed and adopted by relevant economic sectors. *Indicator: Maintained frontiers between agricultural and forest land (GIS map).*				
Objective 2: Strengthen the enabling environment to reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities.	Outcome 2.1: Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks. *Indicator: National institutions certifying carbon credits.* Outcome 2.2: New revenue for SFM created through engaging in the carbon market. *Indicator: Total revenue from carbon market ($ at country level).*	75 % of projects achieve their targets for enhancing country capacity to certify forest-derived carbon credits. 80 % of projects achieve their targets for carbon revenue generated. 2,100 projects implemented by civil society organizations (CSOs) and community based organizations (CBOs).	75 % of projects achieve their targets for enhancing country capacity to certify forest-derived carbon credits. 80 % of projects achieve their targets for carbon revenue generated. 2,400 projects implemented by civil society organizations (CSOs) and community based organizations (CBOs).	75 % of projects achieve their targets for enhancing country capacity to certify forest-derived carbon credits. 80 % of projects achieve their targets for carbon revenue generated. 2,400 projects implemented by civil society organizations (CSOs) and community based organizations (CBOs).	National forest carbon monitoring systems in place (number). Innovative financing mechanisms established (number). Carbon credits generated (number).