

# Integrated Solutions:

Water, Biodiversity, and the Clean Development Mechanism





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# Introduction

It is widely acknowledged that well-functioning ecosystems provide reliable and clean flows of water, productive soils, healthy and balanced biota and many other services for human well-being. It is also widely documented that today many ecosystems and the services they provide are under threat. The Millennium Ecosystem Assessment, the most comprehensive study of ecosystem services to date, concluded that more than 60% of the world's ecosystems are being used in ways that are not sustainable. Many conservation experts argue that for ecosystem services to be maintained at a healthy level, stewardship needs to become more profitable than alternative land uses.

The use of markets and market-based mechanisms to conserve and pay for ecosystem services is a growing global trend that is gaining a solid foothold not just in the carbon markets, but also biodiversity and water markets. Furthermore, these payments for ecosystem services (PES) are a practice that is no longer solely important to environmentalists but has become of essential interest to small local communities, government regulators, businesses, and financiers all over the world.

PES schemes encompass innovative private deals, financing schemes, and government programs that have been structured around the premise that natural ecosystems provide valuable services, and that if marketed correctly, these services might help watershed and biodiversity conservation pay for itself and generate income for those willing to participate.

West Africa has come late to the PES table, but it's hard to think of a more appropriate guest: the resource-rich Continent stands before a development boom that threatens to destroy the very resources that will fuel its growth for the next century, and PES schemes can help to preserve this natural legacy by recognizing the economic value of nature's services.

Schemes that promote sustainable water use are just now beginning to take hold, and scores of pilot projects designed to preserve biodiversity are also in the works.

Massive hydroelectric development projects along the Congo and other rivers promise to deliver clean energy to growing cities — but at the cost of habitat important to thousands of species. In the future, we can expect to see the implementation of biodiversity offsets that enable the development of clean energy projects that also have a net positive impact on habitat for endemic species.

Over the past five years, several such projects have been proposed, and a growing number of people have begun to call for mitigation of damage to marine habitat that results from large-scale hydroelectric projects. A few of these projects even made it to the pilot phase — but a lack of will and financing has left them languishing before conclusions should be drawn. We can expect this to change as the region's prosperity grows and its priorities shift to the long-term preservation of habitat — for food species as well as for endangered animals in general.

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An active debate is also emerging on the role of PES in ensuring that oil exploration leaves behind a sustainable energy mix and healthy environment.

Here, the debate is about whether PES schemes are, in fact, the best way to avoid the “Dutch Disease” — a term coined by the Economist in 1977 to describe the devastation that the Netherlands’ manufacturing sector suffered after the discovery of oil in the North Sea.

Several PES proponents have argued that oil companies should build wind farms and make other direct payments to environmentally-friendly projects to offset damage to the environment, but others believe a better solution is the “Norwegian Cure” — namely, negotiating high exploration rates and then channeling the revenues into a long-term development fund.

This, again, is a story that you can expect to see covered in more detail in the pages of Ecosystem Marketplace and elsewhere.

This booklet is meant to provide context and background information on current developments in the PES arena relevant to the Ghana Katoomba conference, held in Accra, Ghana, on October 6-7, 2009. The conference is the fifteenth in a series of Katoomba conferences designed to stimulate and strengthen environmental markets around the world.

The bulk of the content in this booklet originally appeared in Ecosystem Marketplace, a project of Forest Trends and the leading source of news and information on payments for ecosystem services.

Launched in Katoomba, Australia in 1999, the Katoomba Group is an international working group composed of leading thinkers and practitioners from academia, industry and government, all committed to enhancing the integrity of ecosystems through market solutions that are efficient, effective, and equitable. The group is a sister project of Ecosystem marketplace and is also sponsored by Forest Trends

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# The Big Picture

## The Matrix: Mapping Ecosystem Service Markets

by Nathaniel Carrol and Michael Jenkins

The once-radical concept of saving the environment by documenting the economic value of environmental services and then getting industry to pay is finally catching on — but how is one to keep track of all the new methodologies and concepts? The Ecosystem Marketplace offers one solution: The Matrix, a new tool for surveying the ecosystem services landscape.

To download the Matrix, visit <http://www.ecosystemmarketplace.com>

**17 June 2008** | Over the past decade, more and more businesses have come to recognize that man's economy depends on the earth's ecology, and that ecosystem services — from waste treatment and pollination to genetic resources — generate tangible benefits to industry.

Furthermore, because these benefits have gone unquantified, they have also gone unpaid for — and the ecosystems that provide them are in decline.

This has sparked a diverse array of efforts around the globe to value and pay for ecosystem services.

Many of these Payments for Ecosystem Services (PES) efforts — like the booming carbon markets — already channel billions of dollars into projects designed to keep the planet's ecosystem infrastructure alive.

Others, however, are less developed.

Even in carbon — by far the most successful ecosystem market to date — the concepts are emerging, changing rapidly, and dispersed across geography and institutions.

All of which makes it difficult to get a clear sense of the big picture of these markets: What are the major markets for ecosystem services? How big are they? Who's involved? Where are they heading?

### Mapping the Markets

To map this PES landscape, the Ecosystem Marketplace researched the main PES schemes and each of their sub-categories (mandatory or “compliance” offsets for carbon forestry, voluntary offsets for carbon

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forestry, government-mediated watershed protection, and mandatory or “compliance” offsets for biodiversity, among others) and their key characteristics (size, environmental impact, community impact, market participants and shapers, and emerging trends).

To collect the information on such a broad spectrum of topics, we pulled together a team of authorities on PES, each of whom performed interviews, literature searches, and web searches to collect information for a specific category of market.

The result of this effort is a large spreadsheet showing all of the markets and their defining characteristics side by side. This poster-sized chart is a powerful tool for viewing and thinking about PES markets. We’ve dubbed it “the Matrix”.

To create a more reader-friendly format for accessing this information online, we’ve split the Matrix into ‘market profiles’ that are essentially executive summaries or narratives for each market.

## Commodity Types

There are different ways of categorizing markets for ecosystem services. If you’re viewing them as ecological commodities, they follow the popular grouping of: carbon, water, biodiversity, and bundled services.

**Carbon markets** generally reward the stewardship of an ecosystem’s atmospheric regulation services — specifically, the absorption of carbon dioxide from the atmosphere.

**Water markets** provide payments for nature’s hydrological services — primarily the filtering of water through wetlands.

**Biodiversity markets** create an incentive to pay for the management and preservation biological processes as well as habitat and species.

**Bundled payments** secure all or a combination of carbon, water, and biodiversity services. Bundled payments also include those in which the ecosystem service payment is built into the price of the product, such as certified timber or certified produce.

## Payment Types

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/云报告?reportId=5\\_13158](https://www.yunbaogao.cn/report/index/云报告?reportId=5_13158)

