



# **Ecosystem Services and Payments for Ecosystem Services:** Why should businesses care?





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## What Are Ecosystem Services?

Nature, whether on its own or with the assistance of human stewardship, provides an array of valuable goods and services. Most nature-based goods—food, fibers, water, and minerals—are well known and well provided for. However, nature and its ecosystems deliver a number of services beyond these tangible goods. Ecosystem services, often underappreciated and undersupplied, are of increasing importance for society: climate regulation, water purification and regulation, protection against natural and man-made hazards, biodiversity, and more (see box 1). Small wonder, then, that the 2005 Millennium Ecosystem Assessment initiated by the United Nations found that while provisioning of food and fibers has steadily gone up

over the last hundred years, the flow of almost all other ecosystem services has gone down. Across the range of biodiversity measures, current rates of change and loss exceed those of historical past by several orders of magnitude and show no indication of slowing.

Human demand and persistent economic neglect have resulted in the alarming deterioration of the state and supply of many ecosystem services. A prime example is nature's regulation of the climate, which is now imperiled by man-made greenhouse gas emissions. Thus far, government regulations, public budgets, private charity, and community activism—important as they all are—have not been enough to stem this negative trend.

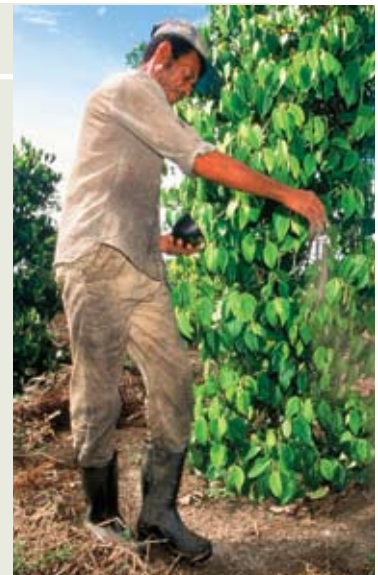
### Box 1. The Fate of Nature-Based Goods and Services

**Society focuses on the production and extraction of nature-based goods ...**

- Food
- Water
- Fibers
- Minerals

**... but most ecosystem services go undervalued and undersupplied.**

- Climate regulation
- Soil formation and protection
- Pest regulation
- Biodiversity
- Landscape beauty and diversity for recreation
- Water regulation and purification
- Provision of genetic resources
- Protection against natural disasters
- Pollination
- Cultural values



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## The Private Sector–WWF Forum to Promote Ecosystem Services and Payments for Ecosystem Services

In recent years, there has been an upsurge of initiatives to increase society's awareness of ecosystem services and a rush to devise mechanisms to pay for sustaining them. The business sector is bound to be a key player here, as a buyer and a seller of ecosystem services as well as a market developer and innovator. With this in mind, in November 2006, WWF invited a dozen representatives of some of the world's largest food, beverage, energy, and mining companies to join staff from government agencies, financial institutions, and nongovernmental organizations (NGOs) in Vienna to exchange ideas and identify collaborative opportunities.

A meeting of thirty people cannot claim to represent all perspectives of interested businesses, governments, and NGOs. Nonetheless, given the newness of the field and the diverse representation of some of the biggest players, the Vienna discussions highlighted many important concerns.

1. For some companies, Ecosystem Services (ES) and Payments for Ecosystem Services (PES) were a completely new field and their staffs were at the meeting just to learn more about the issues.
2. Other companies (e.g., in the water and energy sectors) were well ahead of the curve and

showcased their ongoing PES schemes, including some that were over a decade old.

3. Several companies (e.g., in the food, beverage, and mining sectors) reported significant expenditures in conservation programs, but they did not see them as paying for ecosystem services. Rather, they viewed these costs as corporate public relations or business's social and environmental responsibility. In short, these companies considered their conservation programs as a means to gain "social license to operate."
4. Still other companies (e.g., in the water sector) were reluctant to go where current regulations do not force or allow them to go. They argued that governments should take the lead, either making PES directly, adopting rules that require PES, or fostering public-private partnerships to promote PES.
5. Several companies saw more potential in discussing PES among companies in the same sector (e.g., among water companies) than trying to find common interest across different economic sectors.
6. NGO participants were much more enthusiastic than business representatives about ES and PES approaches, and put forward proposals to foster (a) one-of-a-kind deals (e.g., one PES in one particular location), (b) sector-transforming deals (e.g., product certification schemes), and (c) marketwide transformations (e.g., creating countrywide or marketwide instruments to buy and sell ecosystem services).
7. Government agencies and financial institutions had good news and some concerns. The good news was that substantial grants and loans are already available for businesses that want to undertake PES initiatives, either on their own or in a public-private partnership. The concern for some agencies was the dearth of large and innovative proposals that could become the success stories that would prime the pump for ES and PES.
8. Most forum participants agreed that the business case for PES needs more clarity: What ecosystem services are in question, and what are the most appropriate ways to pay for them?

In the following pages, we address some of the issues raised in the Vienna forum. We discuss why payments for ES are necessary and the business opportunities for PES. We end with a table detailing several specific activities on which businesses and WWF can work together to promote ES and PES around the world.

## Why Do We Need PES?

PES can play an important role in addressing the deteriorating state and supply of ecosystem services. PES refers to the variety of arrangements through which the beneficiaries of ES pay back the providers of those services to ensure their sustainability and timely provision (see box 2). Furthermore,

- By highlighting the values that nature contributes to society, PES can increase societies' recognition of and willingness to pay for conservation.

- With buyers more aware of what they are paying for, suppliers would have to improve their delivery of ES, hence increasing the efficiency of conservation expenditures.
- If scaled up, PES could provide an important source of income for the rural poor and become an important leverage for sustainable rural development.

### Box 2. Three Ways to Pay for Ecosystem Services

**Final users—households or businesses**—directly pay the ES providers (e.g., a tourist pays an entrance fee to visit a national park, a company buys carbon offsets from a farmer).

**Businesses** pay the ES providers and pass the costs to clients (e.g., a water utility pays for upper watershed conservation activities and increases water bills for consumers by that amount).

**Government** pays ES providers and pass the costs to consumers (e.g., product taxes and fees) or to taxpayers (e.g., general budget).

#### And one overriding rule—

Whichever payment method is adopted, the golden rule for a functioning PES arrangement should be that those who pay are aware that they are paying for an ecosystem service that is valuable to them or their constituencies—and those who receive payment engage in meaningful activities to secure the sustainable supply of ecosystem services.



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PES are neither a complete novelty nor a silver bullet. They may be the appropriate approach to conservation in rural areas, but they cannot handle an environmental emergency (too slow) or curb many urban pollution

problems (too expensive). PES are just one of several instruments to achieve conservation and sustainable development (see box 3).

### Box 3. PES Arrangements and Their Place in Sustainable Development

Without using the PES name, many PES-like schemes have been around for a long time: the ticket you pay to enter a national park, farmers receiving government support to adopt conservation measures, food companies paying farmers a premium for “green” products, and so on. What is new is the understanding that society has recently gained regarding the importance of ecosystem services and the need to scale up PES to ensure that these services keep flowing. Then, as PES come of age, they will be one among several strategies for sustainable development.

#### The urban sustainable development agenda

- Increase efficiency, reuse, recycle.
- Move to renewable energy and organic products.

- Change lifestyles and consumption away from overconsumption and pollution.
- Internalize the bad: the polluter-pays principle.

#### The rural sustainable development agenda

- Set aside a sizable sample of world ecosystems (protected areas).
- Protect nature's regeneration capacity (e.g., stop overfishing).
- Ensure ecological flows (e.g., ecological river flows).
- Internalize the good: the payment-for-ES principle.



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## Business and PES

Many companies rely on natural resources, and securing the flow of ecosystem services may be directly related to their business's bottom line. Water companies need functioning ES to maintain water quality. Tourism companies want to preserve the landscapes and wildlife that attract their clients. Other businesses have a considerable environmental impact or produce significant harmful emissions; they may find that paying to increase the flow of ES (e.g., carbon offsets or biodiversity offsets) is an economical way to neutralize their footprint. Insurance companies and coastal area developers may find that increasing the provision of ES is the cheapest way to reduce the risk of natural hazard.

However, caring for the environment and paying for ES is not the sole responsibility of the private sector. Governments, communities, and NGOs share the burden of protecting the environment. Governments must work out the rules of the game, prime the pump, and in many cases be the direct procurers of some ecosystem services (public goods). Community and conservation NGOs must ensure that ES and PES are pursued with equity—balancing the interests of people and nature—to increase job and income opportunities for the rural poor and deliver real, on-the-ground conservation. Finding creative and equitable business arrangements is not a new concept, and companies that have already embraced corporate social and environmental responsibility are well positioned to take advantage of the business opportunities inherent in the five PES Business Models described below.

### PES Business Model 1

#### Value-Added Goods and Services

Model 1 is for businesses that buy and sell goods and services that have ecosystem services embedded in them, such as ecotourism, shade-grown or organic foods, or certified wood products. In this model, consumers pay for what they consume, plus they voluntarily pay a premium (the PES) for the assurance that the goods or services they are buying have been produced in a way that maintains or enhances the environment and the flow of ES. The wood and fibers, food, and tourism sectors should be the first businesses interested in these markets.

#### Some facts and figures:

With world sales of organic food at \$30 billion in 2005 and 100 million hectares of certified forest, green, organic, and sustainably produced food and fibers could be the largest source of PES. So far, however, only a small fraction of the final price goes back to the farmers to pay for their conservation efforts. But with organic and certified markets growing at 10 percent a year, the future looks promising to increase both conservation and farmers' incomes.



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### PES Business Model 2

#### Cost Saving

Model 2 is for businesses that buy or sell ecosystem services that actually reduce consumers' costs. Examples are water companies paying for upstream ES that reduce the need (and expense) for water treatment, farmers adopting organic agricultural practices that save inputs, and hydropower companies paying for upstream conservation practices that reduce erosion and increase a dam's lifespan. Businesses, particularly in the primary, extractive, and energy sectors, should be interested in these market opportunities.

#### Some facts and figures:

In France, two of the world's largest mineral water companies, Nestle-Vittel and Danone-Evian, have developed sophisticated PES schemes in their water source areas to pay farmers who adopt sustainable agricultural practices that avoid water pollution. In the United States, the New York City water utility pays farmers to reduce pollution in the Catskill basin. In Venezuela, the operators of Guri hydro dam (the world's third largest) pay for conservation and surveillance in the adjacent Canaima National Park to reduce risks of deforestation, which could trigger soil erosion resulting in siltation of the dam's reservoir.

### PES Business Model 3

#### Regulation Compliance

Model 3 is for businesses that buy and sell ecosystem services to comply with cap-and-trade environmental regulations, such as offsets to comply with mandated reductions of carbon and other greenhouse gas emissions,

or wetlands restorations to compensate for wetlands lost to development. All types of businesses, but particularly large businesses in the production sector (and to a lesser degree in the services sector), should be interested in these activities because of the potential for significantly reducing environmental compliance costs. Moreover, this model may present a new line of business and profits for would-be providers.

#### Some facts and figures:

This is the realm of carbon sequestration markets. Following the Kyoto Protocol, world carbon trading is already big, amounting to some \$22 billion in 2006. The share of ecosystem-based greenhouse gas sequestration (reforestation, agro-forestry, avoided deforestation) is currently relatively low, at some \$100 million a year. But things are changing fast, and ecosystem-based carbon markets are expected to grow to some \$1.5 billion in the next decade—and keep growing. The wetland compensation market in the United States recently amounted to \$1 billion a year.

### PES Business Model 4

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#### Voluntary PES

Why would businesses spend money to buy ecosystem services that neither increase their profits nor reduce their costs, if they are not required to do so by law? The fact is that an increasing number of businesses do. It could be that companies are positioning themselves for anticipated regulations—as in the case of the voluntary carbon market in the United States. It could be that companies consider their investment in social and environmental activities to be an important component of their market image and social acceptability. Or it could simply be that some businesses are self-motivated to embrace high environmental standards. Whatever the reason, buying (and selling) ES in the voluntary market is growing. This approach should be of particular interest to leading businesses that see themselves as setting the standard in their industry.

#### Some facts and figures:

In the United States alone, the voluntary carbon forestry market is estimated at \$15 million annually, and voluntary biodiversity offset projects amount to some \$20 million a year. But this is just the tip of the iceberg, because charitable contributions to environmental conservation by businesses and business-based foundations in the United States alone amount to some \$1 billion a year.

### PES Business Model 5

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#### Selling ES to Government Agencies

As is the case for many public goods (health, education, and security, for example), governments will probably take the lead in procuring many ecosystem services to meet society's demands. Governments already play a major role in initiatives such as biodiversity conservation, ocean conservation, and caring for the global commons. Additionally, the "greening" of even a fraction of Governments' procurement of goods and services, could have an enormous impact in the demand for environmental services. Businesses in general and particularly current or potential government contractors should be interested in the market opportunities of selling ES to government agencies.

#### Some facts and figures:

World-wide, governments spend some \$2 billion annually in payments for watershed-related ES and another \$3–4 billion in payments for biodiversity-related services (mostly in protected areas). Again, this is just the tip of the iceberg. Right now the European Union, the United States, and other wealthy countries are trying to change rural production subsidies (more than \$600 billion a year) into income support and environmental payments (a.k.a. PES). Additionally, with public expenditures representing approximately 40 percent of the world gross domestic product, a very small shift toward greening public procurement (the UK government recently announced its intention to move that way) would represent billions and affect all types of producers and markets.

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## Looking Ahead

### A WWF Invitation to Business

Society's demand and willingness to pay for ecosystem services is bound to soar, driven by mounting concerns about global warming, fast-growing markets for organic and environmentally friendly products, and increasing regulatory and voluntary moves to offset the environmental impact of businesses and households. The whole process is still in its infancy. All stakeholders face a steep learning curve, and, as usual, rewards will accrue to the innovators and leaders. WWF is interested in partnering with businesses, communities, and governments to develop successful on-the-ground PES schemes, to derive sectorwide standards and

best practices, and, more broadly, to ensure that natural environments are actually protected and rural communities benefit from these new markets.

What WWF brings to the table are the brand and know-how of the world's largest conservation organization, with programs and local partners in more than 70 countries, a staff of more than 5,000, and a constituency of more than 5 million. Moreover, WWF has a reputation for being transparent and open to dialogue. In that spirit, WWF submits the following proposals to businesses to go forward and promote ES and PES.



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## WWF Proposals to the Business Community to Promote ES-PES

- 1. Partner in “on-the-ground” initiatives:** WWF is a hands-on organization, always interested in action on the ground. We have a growing portfolio of PES projects, most in their initial stages and most related to water and forests. We are interested in partnering with businesses active in or considering activities near WWF priorities areas and our PES projects (for some examples, see map below). We look forward to discussing the possibility of working with you in adopting PES approaches in these places that could benefit the local environment and communities, as well as your business.
- 2. Become a WWF learning partner:** Your company may not be prepared to jump onto the ES-PES wagon right now but may still be interested in learning more. By accompanying one of WWF’s ES-PES initiatives, your staff and company will learn about the value of maintaining an ecosystem in a hands-on way. Our PES project may be in a region that is of direct interest to your business, or it may involve an activity from which you can learn valuable lessons to bring to other regions and countries where your company is active.
- 3. Partner with WWF to bring the ES-PES discussion to your next sector or association meeting:** At the November 2006 forum, several companies mentioned that the ES-PES discussion would be particularly fruitful at the sectoral level, as companies in the same business

face similar issues and concerns. WWF would like to enlist your help to bring the ES-PES discussion to a forthcoming meeting of your trade association. The goal could be as modest as sharing information on ES-PES or as ambitious as developing sectoral approaches, standards, best practices, pilot cases, and other initiatives.

- 4. Public-NGO-private partnerships:** In the last few years, development agencies have been keen to foster public-NGO-private partnerships in the belief that combined efforts will achieve more than each entity could on its own. Several such suggestions were made at the November 2006 Vienna meeting. WWF is anxious to facilitate such undertakings and would be pleased to add the public dimension to any of the three WWF-business proposals listed above.

If you are interested in any of these proposals, please contact Sarah Davidson or Pablo Gutman at the addresses given below.

### For further information, contact

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[www.panda.org/mpo](http://www.panda.org/mpo)

### WWF has programs promoting ES and PES approaches in

	Brazil		Mexico
	Bulgaria		Morocco
	China		Peru
	Columbia		Romania
	Congo		South Africa
	Guatemala		Tanzania
	Hungary		United States
	Madagascar		Vietnam

