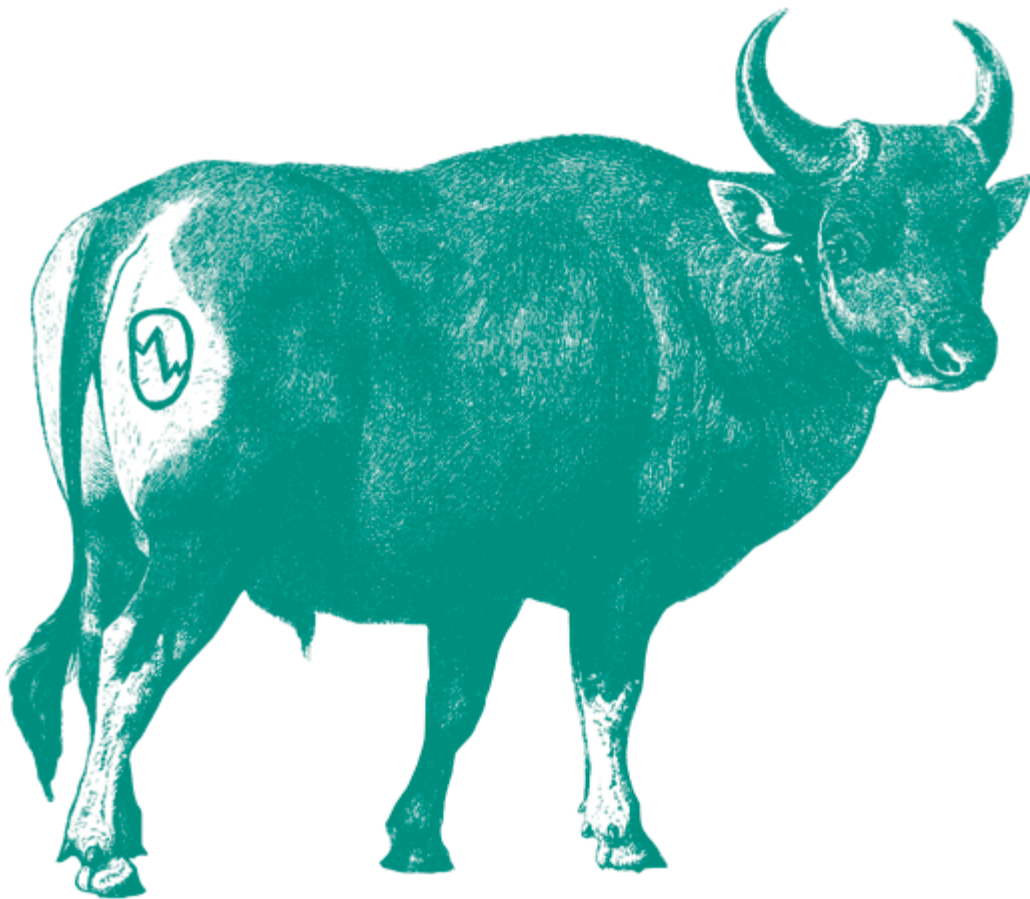


Natural Capital Markets

TOOLKIT FOR THE PRIVATE SECTOR



by the Global Nature Fund and the German Environmental Aid



BACKGROUND

A yearly amount of € 200 to 300 billion^{1,2} is required to avoid a loss of biodiversity. This only corresponds to a fraction of the value of ecosystem services provided by biodiversity, which are estimated to be worth up to € 55 trillion.³ Therefore, in order to raise the required amount to adequately conserve natural capital, further private financial means must be mobilized on top of public funds for the conservation of natural capital.



WHAT IS NATURAL CAPITAL?

Natural capital is an economic metaphor for the limited stock of natural assets that provide society with renewable and non-renewable resources and a flow of ecosystem services, the latter being the benefits that ecosystems provide to people and society.^{4,5} Natural capital is supplying us with various ecosystem services. For example a species-rich forest provides timber, medicinal plants and clean drinking water, and regulates the climate by storing CO₂.

This toolkit for the private sector is part of the project “naturalcapitalmarkets.org” providing recommendations for the private sector how to get active in and profit from natural capital markets to protect biodiversity. The two natural capital markets covered in this toolkit are biodiversity offsets and payments for ecosystem services (PES) which are explained in the second part of this toolkit. A detailed overview of the design and (dis)advantages of natural capital markets is given in a complementary study. In addition, toolkits for financial institutions and NGOs as well as a policy paper have been developed and are available on the website.⁶

THE BUSINESS CASE FOR BIODIVERSITY OFFSETS

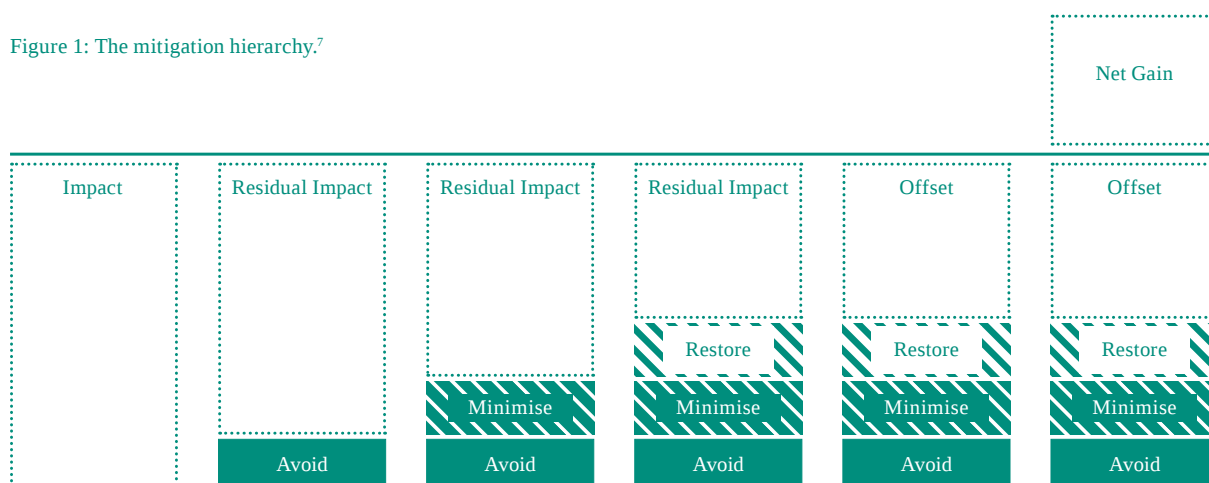
Compensation measures or biodiversity offsets are required by law in some countries like Germany and comprise measures taken to compensate for impacts on habitats and species. They are implemented after measures to avoid, reduce and restore (the mitigation hierarchy, see figure 1) have been applied. Only additional offsets that are implemented after compensating all impacts lead to a net gain in biodiversity. Although voluntary offsets have so far been virtually non-existent, some companies now have started to voluntarily offset their impact on natural capital.

Compensation measures or offsets can be expressed in credits representing a compensation measure of a certain size and quality. Several credits

can be bundled in so-called habitat banks, allowing building up a surplus of credits, which means that more is offset than destroyed. These credits can then be sold to other companies that need or want to offset or they can be saved for future impacts. Habitat banks also allow for larger compensation areas to be created instead of many small areas, contributing to more resilient natural capital.

In countries like the USA, Germany and Australia where habitat banks and habitat bank-like systems currently exist, companies and other infrastructure project developers that must comply with compensation rules can use habitat banks to increase planning security and help to reduce their costs for search, planning and realization of compensation measures. The marginal costs of creating habitat banks are decreasing when the quantity increases and there-

Figure 1: The mitigation hierarchy.⁷



for the private sector can earn money when creating offsets and selling the surplus that is not needed to offset own impacts. However, pooled compensation measures in habitat banks only contribute to biodiversity conservation as long as they are used to

achieve a net gain of biodiversity (see the mitigation hierarchy in figure 1). There are already companies such as Chevron⁸, offsetting their impacts on their own land and stockpiling offsets for future impacts or for sale, effectively creating a habitat bank.

		Amount of land under management by a company	
		low	high
Impact of a company	low	Purchase single offsets	Creation of a habitat bank and supply offsets
	high	Buy offsets from a habitat bank	Create habitat bank and stockpile offsets for own impacts

Table 1: Business opportunities for biodiversity offsets, based on impact on natural capital and the amount of land under management (source: naturalcapitalmarkets.org).

HOW TO START USING OFFSETS?

The question how to start using offsets and habitat banks can be easily answered by looking at table 1. Companies with a high impact on natural capital need a large number of offsets. If they do not own land on which they can offset their impact, they have to buy offsets, for example from a habitat bank. However, if they do have a lot of land that is not used otherwise, they can implement compensation measures on their own premises and use these offsets to compensate their impacts in the future or resell them to other companies. This can be an opportunity for companies such as forestry and agricultural enterprises but also for mining, oil and gas companies. If the impact is low and the company has a large tract of land under management, they can create habitat banks and resell biodiversity offsets. However, if the company does not have much land

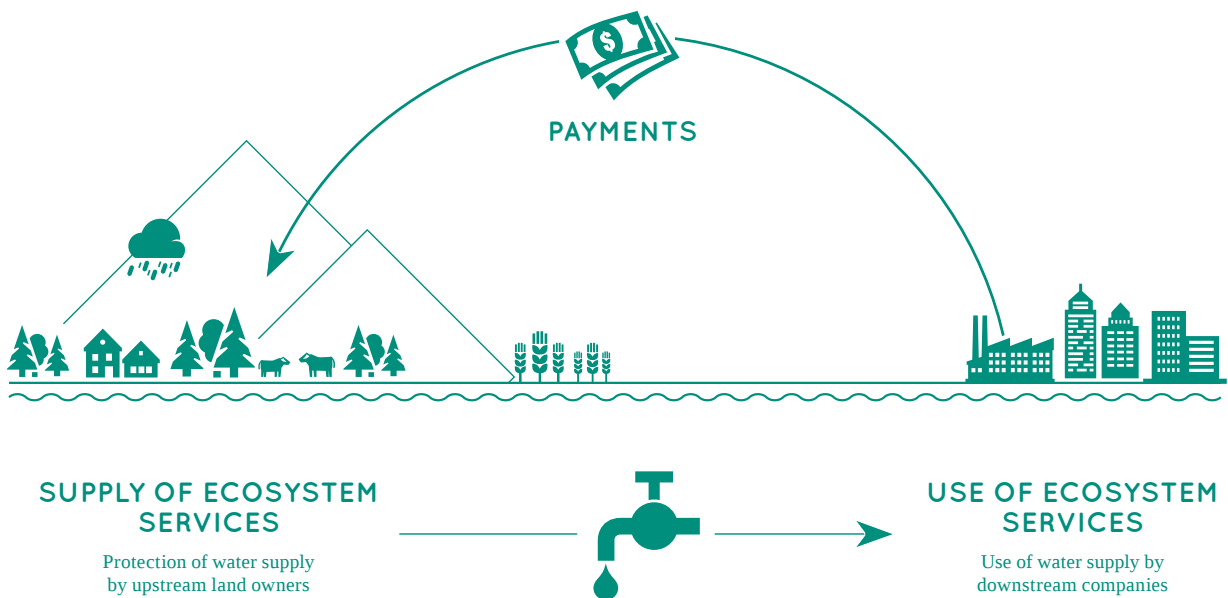


Figure 2: Example of a payment for ecosystem services (PES) scheme.⁹

available and the impact is small, buying single offsets is a better option.

In addition, opportunities exist for specialized companies to provide services such as matching demanders and suppliers of offsets or managing habitat banks. Examples are real estate companies that can provide the plots for a habitat bank, landscape architects and ecologists to implement the offset measures, financial institutions to provide credit to cover the upfront costs (capital expenditure), and specialized companies to do the matchmaking.

In countries without a legislative offsetting framework, the Standard on Biodiversity Offsets published by the Business and Biodiversity Offsets Programme (BBOP)¹⁰ can be used additionally if no-go areas are defined. In that way, the most important aspects of offsets are covered:

- No-go-areas in which no impacts can take place because they cannot be adequately offset
- Shifting of biodiversity harming impacts to other places (leakage) where no offsetting is required
- Use of the complete mitigation hierarchy to prevent offsets being used as a license to trash
- Offsets achieving a net-gain of biodiversity
- Offsets duration

THE BUSINESS CASE FOR PAYMENTS FOR ECOSYSTEM SERVICES (PES)

Many enterprises use ecosystem services such as clean water or a stable climate without investing in the permanent conservation of natural capital producing these important ecosystem services. With payments for ecosystem services (PES) the beneficiary pays for the provision and thus the conservation of biodiversity and ecosystem services. More precisely, it can be defined as a direct, voluntary, conditional payment by the user of ecosystem services to the supplier of ecosystem services.

The classical example is a brewery requiring clean water for production. The quality of water decreases for users downstream due to the agriculture or forestry, situated upstream. In this case, one option for the brewery downstream would be to voluntarily pay land owners upstream under the condition that the use of fertilizers and pesticides is reduced or deforestation is halted. The land owners

are thus compensated for any harvest losses, while the brewery benefits from the water purification services of intact ecosystems and can thus secure its business foundation not having to invest in costly water purification systems. As is the case with PES programmes, the brewery is neither paying to compensate its impact on natural capital nor are any credits created or traded. The beneficiary (in this example the brewery) solely pays for the usage of ecosystem services.

HOW TO START A PAYMENTS FOR ECOSYSTEM SERVICES (PES) PROGRAMME?

A PES programme involving companies is only possible under certain conditions:

1. There is a demand for a particular ecosystem service.
2. A company cannot use the natural capital in the same quality or quantity as before without investing financial means in the conservation of the natural capital.
3. The value of the natural capital is significantly higher than the costs of a PES programme.

Three main factors determine the value of natural capital for a company:

- a. The rarity of the ecosystem service
 - b. The importance of the ecosystem service for the company
 - c. The price of alternative options (i.e. alternative management options, artificial substitutes)
4. The company can easily get the natural capital from another site or can move to where the ecosystem service is available
 5. The beneficiary of the natural capital has an assurance that other actors do not negatively influence the natural capital it is paying for.

Some of these conditions can be altered by external factors, for example if the government provides funding to cover parts of the costs that are needed to set up the PES programme or if an ecosystem service scarcity is introduced artificially, by for example capping its use. In addition, governments can introduce PES-like systems. Companies that

participate as beneficiaries in these government-run programmes are often forced to join by legislation and are merely subjected to a tax for certain ecosystem services that benefit the general public. Alternatively, if they participate as suppliers, they get paid by the government to conserve ecosystem services that benefit the general public.

Nevertheless, “true” PES programmes can only be created under the circumstances described above. Contrary to offsets, possibilities for companies to engage in a PES program for reasons other than philanthropic reasons are few.

SUCCESSFUL PARTICIPATION IN BIODIVERSITY OFFSET SCHEMES AND PES PROGRAMMES

Below the pros and cons as well as recommendations for a private sector involvement are offered.

New market opportunities

+ Companies with large landholdings and low impacts can create a habitat bank to generate offsets and sell credits.

- Setting up habitat banks can lead to conflicts with other land uses.
- Large uncertainties exist with regard to the functioning of ecosystems, the impact of compensation measures and the regulatory framework.

Recommendation: If there is a demand for offsets, creating a habitat bank and generating offsets is recommended. In order to avoid land use conflicts the early involvement of all relevant stakeholders is recommended. Uncertainties can be reduced by incorporating experts and a steady monitoring of measures in order to check the long term effect on biodiversity and ecosystem services.

Safeguarding resources

+ Setting up a habitat bank and generating offsets either for own impacts in the future or for sale conserves biodiversity and ecosystem services.

+ With PES the private sector invests in the safeguard of its own production inputs.

- If the compensation measures lead to a mere shift of the actual impact, then there is no net biodiversity, and the company risks to destroy the resources somewhere else, so-called leakage.

- If the safeguard of resources within a PES programme limits access to the same resource for other actors, the PES does not contribute to fairness and poverty reduction.

Recommendation: Implement offsets that at a minimum adhere to the BBOP standard to secure the long term availability of resources. In addition, no-go areas must be defined (ideally by the government) and respected, in order to conserve certain irreplaceable areas such as old growth forest. Invest in a PES programme when resources necessary for production that are not owned by the company are at risk.

An early involvement of all stakeholders in the PES programme is recommended.

Influencing the regulatory process

+ The early engagement and trial of additional and voluntary biodiversity offsets enables the private sector to influence and improve rules and regulations of the mandatory and the voluntary offset schemes.

+ The same applies for PES programmes.

- When the companies’ involvement is too aggressive, there is a risk that the engagement is not welcomed by other actors, leading to an ineffective policy.

Recommendation: Practical engagement in voluntary offsets and PES programmes enable the private sector actors to improve state regulations and to get recognition from other actors. Highest priority must be the conservation of biodiversity.

Reputation

+ When the private sector offsets more than required by law and in fact creates a net-gain (see mitigation hierarchy) it can use this activity showcasing environmental engagement.

+ Taking part in a PES programme showcases regional environmental engagement and can enhance a company’s reputation.

+ A PES engagement can be used for marketing purposes and to improve stakeholder relations since regional stakeholders such as landowners upstream are involved in the programme.

- If offsetting leads to the approval of otherwise rejected development projects, the company uses offsets as a license to trash, which can entail problems with other actors such as NGOs.
- There is a risk that a company’s investment in biodiversity offsets can be considered a pay-and-forget method and part of a green washing strategy.
- The same applies for buying and selling aspects of ecosystem services within a PES scheme as there might be resistance and scepticism as to how these measures contribute to biodiversity conservation.

Recommendation: Investments in compliance offsets cannot be used to showcase environmental liability. The private sector must therefore invest in additional and voluntary offsets in order to achieve a net gain in biodiversity (refer to mitigation hierarchy). Only additional measures can be used for corporate social responsibility purposes and for showcasing environmental engagement. Participation in a PES programme creates regional acceptance since in most cases regional ecosystem service suppliers benefit from the programme.

WHAT ARE NATURAL CAPITAL MARKETS?

Natural capital is mostly considered as a freely available public good resulting in two principal problems: the user normally does not pay for the costs arising from the usage of ecosystems. These costs are externalised to society. Secondly, actors contributing to the conservation of natural capital are in most cases not reimbursed – except when there are state-funded programs in place. This means that the entire society bears the costs.

Natural capital markets can be defined as market based instruments internalizing external costs caused by damages to natural capital. Ideally

- the polluter pays for damages incurred to ecosystems (polluter pays principle) and
- the beneficiary pays for the usage of ecosystem services (beneficiary pays principle).

Two natural capital markets are biodiversity offsets and payments for ecosystem services (PES). Depending on the amount of governmental involvement, these systems can be Over The Counter (OTC) deals, markets or highly regulated payment platforms in which everything from the price to the definition of the traded goods is controlled by the government.

CASE STUDIES

Fraport¹¹

About 280 ha of forest have been cleared for the extension of the airport in Frankfurt am Main, Germany. This intervention was valued with a minus of 100 million credits, so called eco-points. Forests at a different location were reforested in order to generate eco-points, and European spruce forests were converted to biological diverse deciduous forests. This project cost the airport operator € 160 million, resulting in a plus of 11 million eco-points for Fraport which could now be sold.

The Vittel PES programme (France)¹²

During the 1980s, intensified agriculture threatened the stable composition of minerals in the basin of the mineral water producer Vittel. Due to the French law, which states that the composition of minerals must not be changed, Vittel was faced with the loss of its brand. A PES programme was introduced providing that farmers received monetary compensation for the change of their agricultural practices. The amount of compensation was based on the incurred costs of the conversion of farming practices. The compliance with the agreement was controlled by monitoring of the water quality and the management measures. The PES programme covers an area of ca. 3.500 ha. The programme cost Vittel around € 16 million, but secured the continuation of the brand name “Vittel”.

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