vigeo eiris
Rating

Ecosystem Services

OPINION COLUMN

November 2017

vigeo eiris Rating

Key Findings

- *The companies under assessment in this paper display a significant overall level of transparency on the topic of biodiversity, but reporting on the specific issue of ecosystem services remains limited.*
- *The efficient and responsible management of ecosystem services is both a necessity and a business opportunity for companies, particularly those relying heavily on natural resources such as water or food & beverage companies.*
- *The assessment and valuation methods of ecosystem services are being continuously refined, with the input of the scientific community, members of civil society and policy makers. Companies also need to be part of the process to define ecosystem services.*
- *Improving understanding and awareness of ecosystem services will help diverse stakeholders, including representatives of the private sector. By realising the dependence of their business models on ecosystem services, businesses may be encouraged to participate in their protection.*

What are Ecosystem Services and why do they matter?

The protection of biodiversity is enforced worldwide under the Convention on Biological Diversity, an international legally binding treaty adopted in Rio de Janeiro in 1992. In Europe, the 1992 Council Directive 92/43/EEC established a network of nature protection areas (Natura 2000), to conserve natural habitats and wild fauna and flora and ensure the long-term survival of the most vulnerable species and habitats. More recently the European Union established a Biodiversity Strategy from 2011 to 2020 and in France, a law was adopted in August 2016 to support the recovery of biodiversity, nature and landscapes.

In recent years, the phrase ecosystem services (ES) has been used to describe natural contribution of ecosystems to the functioning and wellbeing of society. These benefits can be direct or indirect, and small or large in scale. According to the global initiative The Economics of Ecosystems and Biodiversity (TEEB), ecosystem services can be categorised into four main types[1]:

1. Provisioning services, which are products obtained from ecosystems such as food, fresh water, wood, fibre, genetic resources and medicines.
2. Regulating services, defined as benefits obtained from regulating ecosystem processes, such as climate regulation or the regulation of natural hazards, water purification and waste management, pollination or pest control.
3. Habitat services, which highlight the importance of ecosystems as habitats for

1 'The Economics of Ecosystems and Biodiversity for Business' – TEEB – 2010: A new international classification of ecosystem services is currently under development: the Common International Classification of Ecosystem Services (CICES). In Europe, a conceptual framework known as the Mapping and Assessment of Ecosystems and their Services (MAES) has been developed to harmonise the approach to ecosystem and ecosystem services assessments across EU Member States.

migratory species and in maintaining the viability of gene-pools.

4. Cultural services, that include the non-material benefits that humans obtain from ecosystems such as spiritual enrichment, intellectual development, recreation and aesthetic value.

Companies have both an interest and a responsibility to protect ecosystems and guarantee that related services operate in a way that ensures their long-term viability. Ecosystem services are vital to certain sectors such as the Water Utilities and Food & Beverage industries, which depend on water availability and soil quality to produce goods essential to human life. The production of water for drinking and agricultural purposes is reliant on a properly functioning water cycle, while waste water treatment processes depend on microbial activity and soil quality.

Several studies have tried to capture the value of ES to society. In his article 'The value of the world's ecosystem services and natural capital'[1], professor Robert Costanza valued ecosystem services at 33 trillion USD annually, with aquatic ecosystems providing 27 trillion USD. A number of international organisations including the UN Environment Programme (UNEP) agree that the value of ES totals tens of trillions of dollars annually.

How are ecosystem services integrated into Vigeo Eiris methodology?

Vigeo Eiris considers ecosystem services in its criterion on 'Protection of biodiversity'.

In the Waste and Water Utilities sector, companies' management plans to consider necessary ecosystem services and efforts to protect required habitats are evaluated.

The average score obtained by the 15 European and North American waste and water companies under review in 2017 on the protection of biodiversity is limited (35.6/100).

Whilst the majority of companies (11/15) disclosed their commitments, only **Veolia Environnement, Suez** and **Seche Environnement** (the only three French companies in the panel) explicitly describe the dependence of their activities on ecosystem services.

At **Suez** measures to protect ES are incorporated into site development, management and operations. Notably, all sites have been assessed for biodiversity-related risks and the MESANGE (Method for Ecosystem Services Assessment and Nature General Evaluation) tool is used to specifically assess biodiversity value based on the Ecosystem Services method.

Veolia assesses its dependence on ES and uses wetlands to optimise its wastewater treatment processes and breakdown received sludge. 300 hectares of drainage fields have been installed for this purpose near the company's Braunschweig wastewater treatment plant.

In the Food & Beverage sectors, the protection of ecosystem services is part of Vigeo Eiris' assessment on how companies' promote sustainable agriculture.

Among European companies, 45.5% of Beverage companies and 47.% of Food companies report on how they minimise use of insecticides, herbicides and fertilisers.

Measures to protect pollinators are reported by 45.5% (5 out of 11) of European Beverage companies and 11.8% (2/17) of European Food companies.

Unilever helps farmers plant a specific variety of flowers to boost bee and pollinator populations. The company also runs projects to increase and improve habitat and food sources for pollinators.

AB InBev has a pollination programme as part of Florida Nutri-Turf operation. This programme includes feeding plots on company premises providing supplementry nutrients to wildlife, and on-site ponds providing food, shelter, breeding grounds and winter areas. In New Hampshire, a brewery manages open grassy meadow as well as woodland and wetland areas to maintain pollinator-friendly landscapes.

1 'The value of the world's ecosystem services and natural capital' – Robert Costanza, et al. - 1997

Remy Cointreau has fallow land dedicated to bees where it plants selected flowers and has started planting alluvial forests, which provide habitats to many species and play a key role in water cleaning and filtration and groundwater replenishment.

Measures to protect soil from erosion and prevent soil poverty from single-crop farming are reported by 27.3% (3/11) of Beverage companies and 41.1% of Food companies.

Unilever reports ploughing and planting along fieldcontours, designing effective drainage systems, using wind breakers and conservation tillage and planting cover crops whenever the soil is bare.

Danone undertakes agroforestry projects designed to help regenerate soil, pasture lands, forests and the production of crops that have lost their organic matter content and fertility. The company also encourages practices such as crop rotation.

AB InBev provides agriculture conservation training to its technicians in the Altiplano and Bajio regions, which includes an important set of practices to improve soil health and reduce erosion.

Pernod Ricard reports using green cover between planting rows to reduce the risk of soil erosion.

Measures in place to protect peat lands are reported by 27.3% (3/11) of Food companies but no Beverage companies.

Unilever's Sustainable Palm Oil Policy outlines its support to palm oil suppliers to undertake supply chain mapping exercises designed to identify potential risks related to peat soils.

Danone does not accept plantation development on peatlands regardless of depth and seeks external advice to keep its definition of peatlands aligned with expert stakeholder consensus.

How do companies negatively impact ecosystem services and what solutions exist ?

Agricultural activities related to the food and beverage industries can cause land degradation, for example in cases of changing cultivation without adequate fallow periods, absence of soil conservation measures, the cultivation of fragile or marginal land, imbalanced fertiliser use, and a host of other potential problems arising from faulty planning or irrigation management. Peat lands are wetlands with thick water-logged organic soil formed by dead plant material. This type of soil is critical for water regulation. However, drainage, conversion to farmland and fertilisation turns peat soils into wasteland due to soil collapse and fires.

Purifying water and managing its distribution play a fundamental role in preventing water shortages; incidents which are steadily increasing at globally[1] [2]. Water utilities therefore have a responsibility to protect ES, which will also enable the long term viability of their own business models. Water utilities can have a significant impact on ecosystems through infrastructure development (particularly dams), altering downstream flows and sediment balances, and depleting aquifers through excessive use. Low flows concentrate pollutants, increase temperatures, decrease oxygen levels and reduce the overall water quality. Furthermore, the land around dams and reservoirs needs to be properly managed to protect native biodiversity, and maintaining a certain number of quality water resources in natural environments is critical for preserving biological diversity and soil quality.

In recent years we have observed companies becoming more aware of their activities' impact on biodiversity. However, the subject of biodiversity is still not integrated sufficiently into business strategies. Companies' biodiversity initiatives are often externalised instead of being integrated into internal processes

1 Biodiversity Information System for Europe website – accessed June 2017 http://biodiversity. europa.eu/ topics/ ecosystem-services

2 'Water Security and ecosystem Services:The Critical Connection'– United NationsEnvironment Programme(UNEP) – March 2009

(guidelines, training etc.) and R&D projects. Companies also tend to focus on their impact on ecosystems, rather than their dependence on them. Cooperation between companies and researchers could be improved, particularly as the understanding of ES has evolved quite significantly in recent years.

Wetlands have been used to treat wastewater for several decades and are very effective at removing pathogens and even persistent toxic metals from water, even when heavily polluted[1] [2]. A more recent discovery relates to the use of nutrients contained in wetlands[3] [4]. Wastewater can be a very rich source of phosphorus, which many emerging agricultural systems strongly depend upon. These nature-based sludge treatments provide effective sustainability solutions: integrating both water purification and resource recycling processes, and simultaneously keep costs and energy use to a minimum. However, this requires large-scale investment in wetland protection and enhancement and therefore industry support is essential.

1 Vazquez et al. (2013) used a vertical flow constructed wetland to treat the highly concentrated liquor that drains from swine farm slurry. This proved highly effective, reducing suspended solids and nitrogen concentrations by at least 93%.

2 Kivaisi, A. K. (2001) The potential for constructed wetlands for wastewater treatment and reuse in developing countries : a review.16, pp. 545–560.

3 Mo, W. & Zhang, Q. (2013) Energy-nutrientswater nexus: integrated resource recovery in municipal wastewater treatment plants. Journal of Environmental Management 127, pp. 255–267.

4 European Commission – Science for Environment Policy: Future Brief Innovation in the European water sector (February 2015 / Issue 10)

Conclusion

International organisations, scientists and increaslingly members of the private sector are coming to consensus on the need to know more about ecosystem services in order to quantify their value to society and through this, to support their preservation. Though their existence is undeniable, ES are not recognised in traditional accounting and valuation methods. As a result, processes such as intensive agricultural production and industrial development are unaccountably compromising ecosystems. Investing in research is key in supporting sustainable economic development and decision-making processes, including the preservation of ecosystem services and the value of natural capital.

Including ES valuation within existing traditional financial models may prove risky, as these models rely on the assumption of perfect market efficiency which has been challenged by financial, economic and social crises as well as by existing inequalities. In order to ensure ES valuation creates a positive impact on well-being in society, consensus needs to be reached regarding the role of countries, international organisations and communities in valuation and decision-making processes. ES valuation processes and their subsequent marketisation must also be anchored in common principles, e.g the regulation of speculative behaviours on species/ecosystems, the fair and consensual valuation of all ES (notably cultural purposes) etc. As valuation methods of ecosystem services are being refined with the input of the scientific community, members of civil society and policy makers, it is essential that companies also take part in the process.

Companies therefore need to first acknowledge their own dependence on ecosystem services and then implement measures to preserve these services into their business strategies, financial results and KPIs. Ecosystem services' definition and value can vary according to the stakeholders involved. Companies must consult and include as many stakeholders as possible while considering the topic – just as with the creation of any viable and sustainable strategy. This obviously includes scientists but can also involve local communities, who may have significantly different opinions on the value of a particular ecosystem, including for example its cultural interest or recreational value.

Finally, the value of ecosystems services needs to be recognised by companies from across all sectors, not only the ones mentioned in this report which rely on the use of basic natural resources. This applies most significantly to companies whose activities depend on services provided by ecosystems in terms of cultural or aesthetic interest, such as the tourist industry.

Author:

Julie Quiedeville

ESG Analyst

This study was witten under the direction of:

Fouad Benseddik

Director of Methods and Institutional Relations

Valérie Demeure

Head of Thematic Research

For more information:
Press contact: Anita Legrand - anita.legrand@vigeo.com / +33 1 55 82 32 44
General information: Amélie Nun - amelie.nun@vigeo.com / + 33 1 55 82 32 77

vigeo eiris

vigeo eiris *Rating*

vigeo eiris *Enterprise*

Vigeo Eiris is a global provider of environmental, social and governance (ESG) research to investors and public and private corporates. The agency evaluates the level of integration of sustainability factors in the strategy and the operations of organizations and undertakes a risk assessment to assist investors and companies in decision-making.

Vigeo Eiris offers two types of services through separate business units:

- **Vigeo Eiris rating** offers databases, sector-based analyses, ratings, benchmarks and portfolio screening, to serve all ethical and responsible investment strategies.
- **Vigeo Eiris enterprise** assesses organizations of all sizes, listed and not listed companies in order to support them in the integration of ESG criteria into their business functions and strategic operations.

Vigeo Eiris methodologies and rating services adhere to the strictest quality standards and have been certified to the independent ARISTA® standard. Vigeo Eiris is CBI (Climate Bond Initiative) Verifier.

Vigeo Eiris is represented in Paris, London, Boston, Brussels, Casablanca, Hong Kong, Milan, Montreal, Rabat, Santiago, Stockholm and Tokyo. The team is composed of more than 200 experts of 28 nationalities with diversified and complementary skills. Vigeo Eiris has developed the "Vigeo Eiris Global Network" made of 6 research providers (Australia, Brazil, Germany, Japan, Spain and Mexico).

For more information: www.vigeo-eiris.com