



Accounting for Natural Capital

Accounting frameworks for financial capital are fundamental tools for managing businesses and national economies (Box 1). While robust accounting processes are available for financial capital, the natural resources which underpin business operations and economic activity are seldom considered in the same way. Natural capital accounting provides a means of managing these essential resources to maintain their inherent natural values and ensure the ongoing provision of benefits to business and society into the future.

Increasingly there has been recognition from both governments and businesses that natural capital underpins economic activity and is inherently linked to business performance and human wellbeing. The environment provides essential economic inputs such as food, raw materials, fresh water and genetic resources. Its natural processes improve productivity in the landscape by supporting crop pollination and controlling pests. Ecosystems mitigate financial risk by reducing temperature extremes and buffering against natural hazards such as floods. Natural landscapes provide amenity value, while also delivering benefits to tourism, and human physical and mental health.¹ As an important determinant of economic prosperity and commercial success, there is a clear need to measure and manage natural capital in a similar way to financial capital – using a structured accounting framework (See *Natural capital for government: why, what and how* [\[hyperlink to workstream 3 narrative\]](#)).

This concept is known as natural capital accounting. Unlike the traditional accounting frameworks – which are well established and mostly mandatory – natural capital accounting is a voluntary and adaptable process designed to provide enhanced information for the benefit of policy makers, business managers and investors. The use of natural capital accounting allows decision makers to manage the risks and opportunities associated with changes in natural capital.

Box 1. Traditional accounting frameworks for businesses and governments

Accounting frameworks help businesses maintain effective records of transactions, understand their revenue flows and profitability, and ascertain their assets, liabilities, and net financial position. The two primary forms of accounting used by business are management accounting and financial accounting. Management accounting provides disaggregated information on specific components of a business's operations and is used internally to inform day-to-day operations and set future strategic directions. Financial accounting provides information on the business as a whole and is used in decision making by external entities, primarily in the investment community. As financial accounts are external facing, they are subject to well established accounting rules and standards.

The System of National Accounts emerged in the 1930s as a means to manage output and the economy more generally after the Great Depression and through the Second World War. It became an international accounting standard in 1953. The System of National Accounts allows complex economic information to be organised in a consistent and coherent framework using globally accepted accounting concepts, definitions, and principles. The structured economic information it provides is highly influential in government policy making and allows for much tighter control over macroeconomic settings than would otherwise be possible in the absence of a consistent accounting framework.

¹ CSIRO, *Biodiversity* (CSIRO Publishing 2014) 9.

Central to the efficacy of accounting practices is the use of a common framework, standard definitions, shared language and repeatable processes. While these have been well established for national and business financial accounting, natural capital accounting is relatively recent and its processes are still evolving both in the public and the private sector.

- In the public sector, standard accounting frameworks, structures and principles for **natural capital accounting** have been developed through the System of Environmental and Economic Accounts (SEEA) and endorsed by the United Nations Statistical Division in 2012. The SEEA framework provides the means to organise data on natural capital in a consistent and comparable way which enables the economic contribution of natural capital and the environmental impacts of economic activity to be captured and analysed.
- In the private sector, the Natural Capital Coalition has led on the development of a standard framework to integrate natural capital into business decision making through **natural capital assessments**, culminating in the release of the Natural Capital Protocol (the Protocol) in 2016. Natural capital assessments are used to obtain trusted, reliable and actionable information on any impacts the business has on natural capital, or any dependencies it may be exposed to.

While there is currently no global standard for **corporate natural capital accounting**, methodologies are beginning to emerge from both within the corporate sector and through governments. In 2015 the United Kingdom's Natural Capital Committee produced a framework through which corporations and landowners can use monetary values to quantify natural capital assets and liabilities and present them in the form of a balance sheet. Accounting approaches such as these compliment natural capital assessments and enable quantified monitoring of business decisions made in relation to natural capital.

This paper aims to describe in more detail progress in both public and private natural capital accounting, and explore potential synergies and gaps between them.

THE NATURAL CAPITAL PROTOCOL



NATURAL CAPITAL COALITION

A consortium of almost 300 businesses, governments, universities and research institutions, conservation bodies, financial institutions, membership organizations and standard setters from across the globe have joined forces to establish the Natural Capital Coalition. The aim of the Coalition is to promote a world where business conserves and enhances natural capital.² To this end, 38 diverse Coalition organizations came together to develop a

framework – the Natural Capital Protocol – designed to help business managers to identify, measure and value their impacts and dependencies on natural capital, and to incorporate this information into decision making.

The Protocol provides a standard decision making framework through which companies of all sizes, and across all geographies, can undertake natural capital assessments. These assessments involve

² Natural Capital Coalition, *Natural Capital Protocol* (Online, 2016) 1.

determining the links their operations have to natural capital, the impacts of these operations, and the extent of any dependencies. Application of the protocol provides a range of potential business advantages, including improved supply chain management and reduced risk of business interruption; improved management of potential environmental liabilities and reduced likelihood of future regulatory compliance costs; improved access to finance and new revenue streams; and increased social licence to operate.³

Much like management accounts, the focus of natural capital assessment is to provide information pertinent to business managers to inform business operations and forward looking strategies. The Protocol supports the seamless integration of natural capital considerations into business decision making processes. The present focus of the Natural Capital Coalition is the mainstream use of natural capital assessments. Once this has been achieved there will be a need for standardized corporate natural capital accounting structures and principles to support external reporting, similarly to those used in financial accounting. Presently, companies wishing to undertake corporate natural capital accounting do so by either adapting existing methodologies to suit their purposes or through developing their own. For example, in 2013 luxury good company Kering published an experimental Environmental Profit and Loss statement (E P&L) using natural capital accounting principles.⁴ The E P&L used monetary valuation to express the environmental impact of their operations and compared them across multiple locations, brands and business units. The methodology has been made available for use by other enterprises.

To complement the Protocol, the Natural Capital Coalition has developed sector specific guides and supplements for apparel, food and beverage, forest products, and finance. These guides provide additional information on the relevance of natural capital to each sector, including critical dependencies and practical advice on the application of the Protocol to industries within these sectors.

As the uptake and application of the Protocol increases within the international business community, the breadth of experiences and depth of knowledge in natural capital accounting will continue to expand, enabling the Natural Capital Coalition to further extend the Protocol to a growing number of sectors, and demonstrate the value of natural capital assessments to business operations.

THE SYSTEM OF ENVIRONMENTAL-ECONOMIC ACCOUNTING

At the Rio de Janeiro Earth Summit in 1992, the United Nations identified the need for countries to integrate environmental and economic information in order to manage the transition to more sustainable economies. In response to this need, national statistical



System of Environmental Economic Accounting

offices and international organisations collaborated on the development of the System of Environmental-Economic Accounting (SEEA) over a 20 year period.⁵

³ Natural Capital Coalition, *Natural Capital Protocol* (Online, 2016) 18.

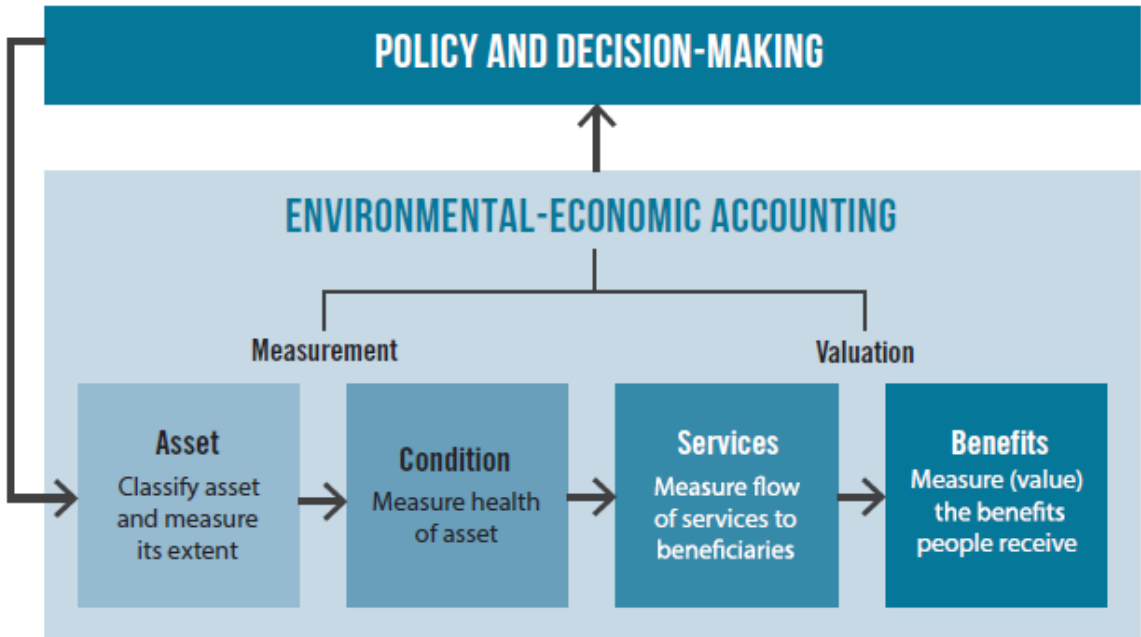
⁴ Kering, *Kering Environmental Profit & Loss (E P&L)* (Online, 2013).

⁵ United Nations, *System of Environmental-Economic Accounting 2012 – Central Framework* (United Nations, 2014).

The SEEA provides a structured accounting framework for measuring stocks and flows of environmental assets using consistent concepts, definitions, rules and principles to those of the System of National Accounts. Using aligned accounting structures, SEEA accounts can be readily integrated with the System of National Accounts, allowing for the interactions between the environment and the economy to be observed and better understood.

The ability to integrate environmental and economic information, in both physical and monetary terms, into a single framework consistent with the System of National Accounts has led to the SEEA being adopted as a global standard for environmental-economic accounting. As a common accounting framework, the SEEA allows for broadly consistent and comparable environmental-economic accounts to be developed within countries and internationally. The original intention of the SEEA framework was for use in developing economy-wide accounts. While this may remain the primary use, the framework is specifically designed to allow for consistent measurement in different geographic regions, regardless of spatial scales.⁶ It is also increasingly being trialled at an organisational level, particularly by non-government organisations managing environmental assets.

The SEEA provides standard terms and definitions for the forms of natural capital of most relevance to environmental and economic analysis. The SEEA Central Framework accounts for the stocks and changes in environmental assets such as minerals, timber, fish stocks, water and land; whereas the SEEA Experimental Ecosystem Accounting Framework extends the accounting system to include measurement of ecosystems and the services and benefits they provide to the economy and society.



Source: Adapted from DELWP 2015, Valuing and accounting for Victoria’s environment: Strategic Plan 2015-2020, p 1.

⁶ IDEEA Group, *Natural Capital Protocol – System of Environmental Economic Accounting Toolkit Discussion paper* (Online, 2017).

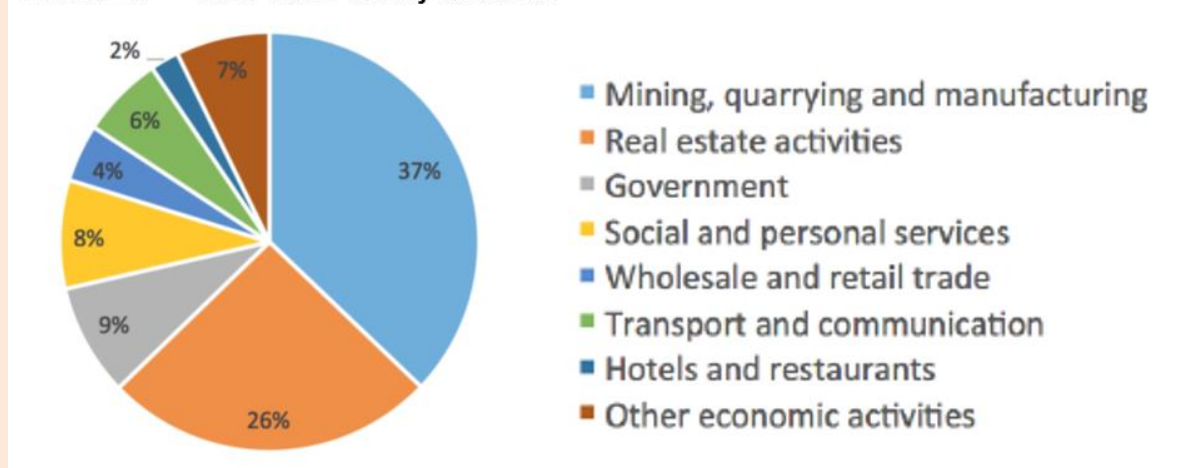
Box 2. Water Accounting for Decision Making – Costa Rica [[hyperlink to workstream 2 Best Practices Costa Rica case study](#)]

Since 2016, the Central Bank of Costa Rica has developed national environmental accounts for water, forests and energy using the SEEA Central Framework. The Central Bank also developed a water account specifically for the Public Utilities Company of Heredia (ESPH) to test its application in informing decision making within the company. The focus of the ESPH account was urban water use for human consumption and use by industry. The study will be complemented by a soon to be released study of the rural sector which will measure water use in agricultural production.

Focusing on water use solely within the province of Heredia allowed the Central Bank of Costa Rica to include a greater depth of detail than had been possible in their national scale accounts, including abstraction and use by International Standard Industrial Classification of All Economic Activities (ISIC) code.

The Heredia water account has enabled ESPH to better measure the efficacy of their water fee initiative, account for water losses within the system, track use by households and corporate sectors (Figure 1), and compare performance of key indicators against national benchmarks.

FIGURE 1. 2012 Water use by customer



The main results of the study are available at the following link:

https://activos.bccr.fi.cr/sitios/bccr/cuentasambientales/DocCuentaAgua/Brief_ESPH.pdf

HOW THESE APPROACHES COMPARE

While both SEEA and the Protocol provide frameworks to better understand the interactions between natural capital, and social and economic considerations, there are several key differences between these approaches.

The focus of the Protocol is the incorporation of natural capital in business decision making. As a result, it allows corporations and other business entities to develop a means of factoring natural capital into their decision making as appropriate to their individual circumstance and operational context. The framework encourages the use of existing assessment methods but does not mandate any particular approach.

In contrast, the SEEA provides a standardised approach to developing macro level natural capital accounts which can then be linked to national economic accounts, to aid government policy-making.

Important distinctions between the Protocol and the SEEA are summarised in the table below. These attributes are subject to change over time as the SEEA framework and the Protocol are reviewed and refined.



AIM	Primarily designed for internal application and management decision making	Primarily designed to provide a global standardized accounting framework
OUTPUTS	Resulting information designed to be relevant to a broad range of business applications, and can be voluntarily reported externally	Resulting information designed mainly to be reported externally, ensuring global comparability
LEVEL OF PRESCRIPTION	Allows approach to be tailored using different measurement and valuation techniques	Promotes the use of standardised statistical approaches and valuations techniques
COMPARABILITY OF OUTPUTS	Used to develop a standard, repeatable approach for use within a specific entity	Produces results which are comparable within and between different entities
CONNECTIVITY WITH OTHER ACCOUNTS	Not assured	Assured: Designed to link with other forms of accounting
MONETARY VALUATION APPROACHES	Allows for monetary valuation of non-market good and services, as well as social welfare	Promotes use of exchange values for natural capital where it is to be included in National Accounts. Includes a range of valuation techniques for social and environmental welfare.
AGGREGATION	Allows for aggregation of fine-scale information on natural capital for application at corporate level	Allows for aggregation of fine-scale information on natural capital for application in macro decision making

The NCP and the SEEA emerged separately to meet the needs of different sets of users but there are several ways in which these two related bodies of work can complement one another, providing benefits to both business and government.

Common language between natural capital assessment and accounts through standards

Common language

The SEEA framework can support the use of natural capital assessments in the private sector by providing a standard means of categorising, measuring and valuing natural capital.⁸

- While natural capital assessments can be reported externally, their flexible nature limits the potential for comparison across business entities. The SEEA framework provides a foundation for the development of a standard corporate natural capital accounting framework.
- A standard corporate natural capital accounting framework would provide investors, financial institutions, insurance agencies and other external entities with the information they need to make informed decisions, identify risks, and predict future financial performance.

Standards

Striving towards the use of common language and comparable metrics between economy-wide SEEA accounts and enterprise level natural capital assessments can increase consistency between the two. Achieving this would enhance the value to each sector by allowing for more comprehensive analysis and better informed decision making.⁹

Providing a common resource for natural capital accounting through information sharing

Information sharing

The development of national or subnational SEEA accounts would support businesses in undertaking natural capital assessments by providing them with pertinent information on the stocks and flows of environmental assets relevant to their operations. This would not only reduce the resources required to undertake these assessments, but would also ensure use of the same information base across business entities.

Similarly, natural capital assessments by businesses can provide government with insights on the relationships between economic activity and the environment at a fine scale to inform sectoral policy making.

⁷ A more detailed analysis of natural capital and environmental-economic accounting frameworks, and the ways in which they can be combined, can be found on the [Combining Forces on Natural Capital](#) webpage.

⁸ IDEEA Group, *Natural Capital Protocol – System of Environmental Economic Accounting Toolkit Discussion paper* (Online, 2017).

⁹ Natural Capital Coalition, *Combining forces on Natural Capital* (Online, 2017).

Minimising costs through shared learning



Shared learning

Increased efficiency

Cross-learning of accounting approaches can reduce costs of implementation for all, foster innovation and improve the information base for decision-making across both sectors, particularly on experimental areas such as ecosystems and biodiversity accounting and valuation.

Where there are identified benefits from alignment of methodologies or frameworks between private and public accounting approaches, focusing efforts on case studies or pilots can usefully flush out issues and challenges before getting too far down the track. Good candidates for such pilots might include situations where there is:

- **Big value:** Opportunities to collaborate may arise when there is a particular sector, geographical area or environmental asset that is of great value for both sectors.
- **Big problems:** There are also stronger incentives to collaborate when the consequences of inaction negatively affect both sectors such as climate change.

Box 3. One Planet Prosperity Regulatory Strategy – Scotland, UK [[hyperlink to workstream 2 Best Practices UK case study](#)]

The Scottish Environment Protection Agency (SEPA) is working with business sectors to implement improved practices that reduce natural resource consumption and better reflect dependencies on natural capital through its One Planet Prosperity Regulatory Strategy. This is achieved through the use of novel mechanisms including:

- **Sustainable Growth Agreements**, which are agreements between SEPA, businesses and local authorities which outline practical actions to improve environmental performance in a way which also delivers business success.
- **Sector Plans**, which focus on practical ways to deliver environmental, social and economic outcomes. These plans are collaboratively developed with key sectoral stakeholders, and give consideration to the operational context of the sector, including existing regulatory measures and market conditions.
- **The provision of natural capital support**, through which SEPA supports businesses to integrate consideration of natural capital into decision making using tools such as the Natural Capital Protocol.

Recently, SEPA supported a range of land based businesses in applying the Natural Capital Protocol to improve their understanding of their dependence and impact on natural capital. Areas of assessment focused on improving soil, woodland and wetland rehabilitation, and peatland restoration.

The work was well received by farmers and land managers, and is expected to enable them to make better informed decisions about their operations, and support the development of long-term plans.

As the use of natural capital accounting frameworks and concepts continue to gain traction both within governments and private enterprise, their methodologies will continue to develop and mature. As this occurs, there is an opportunity to converge classifications, and measurement and valuation techniques to ensure that private and public approaches to integrating natural capital into decision making are mutually reinforcing, while still ensuring enough flexibility to support different accounting purposes.

By demonstrating value to governments and businesses alike, natural capital accounting practices have the potential to transform the way natural resources are factored into decision making. Given time, they could become as integral to the operations of business and government as financial and national accounts are now.

