A4S

CFO LEADERSHIP
NETWORK

ESSENTIAL GUIDE TO
NATURAL AND SOCIAL CAPITAL ACCOUNTING

An introduction to integrating Natural and Social Capital into accounting and decision making

THE PRINCE OF WALES'S
CHARITABLE FUND

THE A4S CFO LEADERSHIP NETWORK

The **Prince's Accounting for Sustainability Project (A4S)** was established by HRH The Prince of Wales in 2004 to convene senior leaders in the finance, accounting and investor communities to catalyse a fundamental shift towards resilient business models and a sustainable economy.

The **A4S Chief Financial Officer Leadership Network** was launched by HRH The Prince of Wales at St James's Palace in December 2013. The Network brings together a group of leading CFOs from large European businesses seeking to embed the management of environmental and social issues into business processes and strategy. We believe it is the first grouping of its kind globally.

The Network has worked on a number of projects during 2014 including looking at natural and social capital accounting, the subject of this guide. The outputs from all of the projects are available on the A4S website www.accountingforsustainability.org.

The project team would value feedback on this guide from other organisations working in this area. Please send any comments to: info@a4s.org

NETWORK MEMBERS

The following CFOs were Network members during 2014:

Scott Longhurst Anglian Water*

Lucinda Bell British Land*

Evelyn Bourke Bupa

Carol Fairweather Burberry Group

Pierre-André Terisse (co-chair) Danone

Alan Stewart / Paul Friston Marks and Spencer*

Andrew Bonfield National Grid*

Susan Davy Pennon Group (South West Water)*

Rolf-Dieter Schwalb Royal DSM

John Rogers (co-chair) Sainsbury's

Gregor Alexander SSE

John Lelliott The Crown Estate*

Jean-Marc Huët Unilever

Russ Houlden United Utilities Group*

Richard Mayfield Walmart EMEA (Ex Asda CFO)

Liz Barber Yorkshire Water*

*These companies are members of the Network's natural and social capital accounting project.

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CONTENTS

INTRODUCTION FROM THE A4S CFO LEADERSHIP NETWORK

Today the world consumes 50% more than the planet's natural resources can renew every year. This overconsumption continues to gather pace and presents a significant challenge to how businesses need to operate. Businesses are constantly responding to change but in order to do this successfully, and protect their long term financial performance, businesses need to adapt to supply changes of natural resources and invest in their supplies of social skills.

As CFOs, we cannot ignore the risks to our businesses from shortages or dislocation of both natural and social capital. We therefore have an important role and responsibility in broadening the scope of decision making so that it results in better long term outcomes for our businesses and for the societies in which we operate.

To date, traditional accounting methodologies have focused on financial metrics. Natural and social stocks have not often been reflected in commercial decisions.

Whilst financial metrics will continue to be an important indicator of business performance, we now also need better visibility of our natural and social resources and to understand the impacts they may have on our future business viability.

This guide serves as an introduction for finance teams on how to align finance thinking with long term environmental and societal trends. It provides a framework to embed this into your decision making.

I hope that you will find this guide helpful and I would like to thank the A4S CFO Leadership Network team for their insights and experience in creating this.

Lucinda Bell, Chief Financial Officer British Land

"Whilst financial metrics will continue to be an important indicator of business performance, we now also need better visibility of our natural and social resources and to understand the impacts they may have on our future business viability"

Lucinda Bell, British Land

FOREWORD

It is with great pleasure that I introduce this guide to natural and social capital accounting and how businesses can increase their understanding of these issues to improve decision making and management reporting within their business, thereby adding commercial and societal value.

SHARING OUR EXPERIENCES OF ACCOUNTING FOR NATURAL AND SOCIAL CAPITAL

In developing this guide, members of the group have shared their experiences of how they have identified material natural and social capital issues to drive decision making, improve reporting or to manage risk and uncertainty. The team includes financial professionals and sustainability experts and whilst this guide is primarily for a finance audience, it provides insight for sustainability professionals on how they may engage effectively with their finance teams on these issues.

Whilst our group is made up predominately of utility, retail and consumer goods businesses, the principles outlined in this guide are applicable to all sectors and geographies.

THE ROLE OF FINANCE TEAMS

Finance teams are involved in many strategic, management and operational decisions where natural and social capital issues may influence the outcome. As a result, finance teams have a crucial role in creating value through supporting the integration of natural and social capital accounting in their organisation.

OVERARCHING PRINCIPLES AND A STEP BY STEP GUIDE

A key element of this guide has been to identify six principles which can be applied when considering how and when to embed natural and social capital issues into decision making. These principles are based on the experiences of member companies.

We have also developed a simple three step process that you may find useful when integrating natural and social capitals into your decision making.

THE JOURNEY

We recognise that companies are at different stages on their natural and social capital journey. The principles, metrics and approaches outlined in this guide can be used wherever you are on this journey and we have included a maturity model to support you in assessing at which stage you are (see p23).

This guide includes case studies from Network members to illustrate how the principles, metrics and approaches can be applied in practice.

I hope this guide will help those who are seeking to develop their activities in this area.

Louise Rowe, Corporate & Central Finance Manager, South West Water

Chair of A4S natural and social capital project

"In stark financial terms, all the evidence demonstrates a simple fact: we are failing to run the global bank that we call our planet in a competent manner. We no longer just take a dividend each year; instead, for some time, we have been digging deep into our capital reserves.

And, after the near collapse of our entire financial system, we all know that such excessive risk-taking can cause immense havoc. The ultimate bank on which we all depend – the bank of natural capital – is in the red; the debt is getting ever bigger and that is reducing Nature's resilience and considerably impeding her ability to re-stock. It leaves us dangerously exposed."

HRH The Prince of Wales,
Speaking at The Prince's Accounting for Sustainability Forum, St. James's Palace, London, December 2013.

SUMMARY

WHAT IS NATURAL AND SOCIAL CAPITAL ACCOUNTING?

Natural and social capital accounting involves considering the environment and society in business decision making and / or reporting. This guide focuses on its use to strengthen decision making.

Companies are making use of an increasingly diverse range of metrics in this area to help inform strategic, management and operational decisions, and ensure effective assessment of business performance.

Assessments are typically undertaken through use of quantitative metrics such as physical units e.g. tonnes of carbon emitted by a project or through estimated monetary values (often referred to as the 'valuation' of natural or social capital) such as the benefit to society of a company apprenticeship, for example.

Monetisation of natural and social capital is being used increasingly by organisations to understand their impacts and dependencies more effectively, and can either be in terms of financial values to companies and shareholders, or societal values to broader stakeholders.

We have found that monetary values often resonate much more with financial decision makers and allow comparison of different issues in a common unit e.g. when making trade-offs between different impacts such as reductions in carbon emissions or water use, it is easier to compare £/€/$ than tonnes of carbon to m^3 water.

However, assigning monetary values to some issues can be very challenging, and there is currently no standard methodology to do this (see p24).

In addition, it may not be appropriate for all issues to be monetised for example, where there is a threshold which the business is not willing to not cross, as might be the case when considering the risk of fatalities or impact on culturally important sites.

HOW WILL ACCOUNTING FOR NATURAL AND SOCIAL CAPITAL BENEFIT MY BUSINESS?

Issues such as the global decline in resource availability and changing population demographics, mean organisations need to improve their understanding of their impacts and dependencies on the environment and society.

Using a natural and social capital accounting approach offers a number of commercial benefits, including:

- Strengthened decision making that can result in long term sustainable value creation e.g. improved foresight into future regulatory or price risks from resource scarcity
- Enhanced risk management leading to increased business resilience and reduced future costs e.g. improved ability to increase security of supply of water, agricultural products or skilled labour
- Identification of new business opportunities e.g. more sustainable products or services
- Improved reputation and strengthened 'license to operate' e.g. easier planning consents

WHAT IS THE ROLE OF FINANCE TEAMS?

As the custodians of key data processes and metrics, finance teams are increasingly recognising the commercial value of broadening the information upon which decisions are made. This broader information set helps ensure all relevant factors and risks are taken into account.

Finance teams have a crucial role in ensuring that:

- All natural and social capital issues that may have a material impact on a financial decision are considered
- Underlying data is robust, comparable and reliable and can be trusted by decision makers
- Collection of data on natural and social capitals is efficient, and where appropriate, automated within financial data collection processes
- Natural and social costs and benefits are included in management information and external reporting where appropriate
- Appropriate targets are set along with key performance indicators that are measureable and comparable, and helping to track these

Information on your organisation's natural and social capital impacts and dependencies can then be used to help inform:

- Risk management processes
- Options appraisal and trade-offs
- Supply chain management
- Asset and product pricing and design
- Cost effective compliance with current and future regulation
- Merger and acquisition due diligence
- An evaluation of your organisation's wider contribution to society
- Corporate repo[illegible] disclosure, for example a[illegible]ted Report

As the custodians of key data processes and metrics, finance teams are increasingly recognising the commercial value of broadening the information upon which decisions are made

WHY IS NATURAL AND SOCIAL CAPITAL RELEVANT TO BUSINESS?

Today, typically only around 20% of a company's market value can be accounted for by its financial and physical assets, with other factors such as relationships, human capital and access to natural resources, making up an increasing proportion of a company's value[1]. Organisations that begin to account for these other forms of capital are likely to improve both their internal decision making, and where reported externally, the markets understanding of their business.

NATURAL CAPITAL

In simple terms, natural capital represents the renewable and non-renewable environmental resources that all individuals and organisations are dependent upon. This can be through the 'goods' that nature provides such as the food, water, timber and minerals that we consume – both directly and in our supply chains – and the 'services' that we receive from our environment such as flood protection, recreational enjoyment and climate regulation.

As natural capital does not tend to have a market value – or where it does, this typically does not reflect the full value of the goods and services provided – in the past it has been largely invisible in corporate decisions, accounts and economic models.

Traditionally, many businesses have assumed that natural capital is inexhaustible. However, the dramatic global decline in natural capital, resulting in increased volatility of commodity supply and prices; increasing government regulation; and new environmental markets, has highlighted that future value creation for businesses will increasingly depend on these non-financial factors.

SOCIAL CAPITAL

In basic terms, social capital is comprised of the people, institutions and relationships that organisations rely on and contribute to through their activities. This might be through the role an organisation plays in the communities in which it operates, or the training it provides to its employees to build their capabilities. This latter element is sometimes defined separately as human capital.

Even more so than natural capital, social capital does not typically have a market value. As with natural capital, this can lead to organisations undervaluing the benefits that they receive and the cost of their impact and consequently, under-investment in the social capital on which they depend.

BUSINESS BENEFITS

Accounting for natural and social capital can offer a number of commercial benefits, in particular:

Strengthened decision making and business resilience through the use of a broader information set including the ability to:

- Protect capital investments and operations from future environmental and social change, for example water scarcity from a changing climate or skills shortage from local demographic changes
- Improve negotiations with suppliers and discussions with regulators and policy makers on costs, and access to, future resources
- Secure access to skills and improve productivity through understanding the value gained from training programmes and wider engagement
- Enable assessments of the relative performance of products and investments and more effective targeting of initiatives and expenditure

Enhanced risk management and reduced costs including an improved understanding of:

- Costs of potential disruptions from resource scarcities, price rises or extreme weather
- Impact of new environmental and social regulations and penalties which may tilt the cost-benefit balance of different investments
- Risk of fines and compensation claims as global environmental and social regulation increases

Identification of business opportunities, revenues and consumers including:

- Determining ways to realise the value of the natural and social assets you own, control, or have access to
- Quantifying and demonstrating reduced environmental and social impacts of new products or services for marketing purposes
- Access to new markets through more sustainable products or services

Improved corporate reputation and strengthened 'license to operate', including:

- Improved access to resources and faster planning consents through improved relationships with local communities and regulators
- Competitive advantage when bidding for contracts, particularly for the public sector
- Increased consumer trust, demand and greater engagement with employees

WHY IS NATURAL CAPITAL RELEVANT TO BUSINESS?

The global population is expected to increase to 8 billion by 2030, with 3 billion new middle class consumers[2], placing ever increasing pressure on natural resources. For example, global energy demand is expected to rise by 35% by 2040[3]. Similarly, by 2050, global food demand is projected to rise by 70%[4]
and water demand by 55%[5].

This pressure on natural resources is already being felt. In total, we are already currently using 50% more of the earth's natural capital each year than the earth can replenish, and this rate of depletion is accelerating[6]. If businesses and societies are to prosper, innovative management of natural resources will be required, particularly as, on average, 60% of natural capital risks are embedded within supply chains[7] - risks that are therefore less visible to organisations who may be exposed.

The level of dependence of economic activities on natural capital is huge, but seldom reflected in market prices, with the 'services' frequently provided for free and the cost of depletion not priced in financial terms. It has been estimated that the top 100 'environmental externalities' (i.e. the environmental impacts that do not currently have a direct financial cost, such as the cost of carbon for many companies), currently cost the global economy approximately $4.7 trillion per year[8]. These costs are currently absent from corporate profit and loss accounts. The risk of internalisation of these costs to business for example through tax or regulation is likely to increase as resources become scarcer.

Natural capital accounting is a useful technique to highlight these future risks and enable organisations to respond early.

> *"This was a complete turnaround in corporate culture brought about by the finance function input"*
>
> Susan Davy, Director of Finance, Pennon Group
> (former Finance and Regulatory Director, South West Water)

SOUTH WEST WATER

Investing in natural assets in preference to capital assets delivers benefit to cost ratio of 65:1

Water companies have conventionally relied on energy, chemicals, and expensive engineering solutions to improve quality and expand resources. At South West Water, our finance team catalysed a new approach where using natural capital accounting highlighted the benefits of investing more in collaborative work with third parties to improve the upstream catchment areas. This work should avoid or defer capital investment in new plants in the future, and reduce energy use and chemical costs.

Our operating costs were increasing and we were looking to address this by the usual means of improving the technology. We decided to try and prevent some of that work, for example by improving water quality through better upstream management. This would create a much better long term payback than the more conventional methods. The rationale was that it was cheaper for us to help farmers deliver cleaner raw water upstream, than treat polluted water after abstraction. We have therefore been working with farmers and other land users to use natural resources to improve water quality to meet growing demand and manage the effects
of climate change, rather than just relying on traditional intensive water treatment approaches.

This was a complete turnaround in corporate culture brought about by the finance function input. Historically, we are used to working with our asset base, for example water treatment works on our land, where such end-of-pipe solutions are very clear and well defined. Instead, we started working with third parties and outside our asset base. The project's success required collaboration across the business, including a need for strong leadership from the finance team to realise tangible benefits for all stakeholders. We drew upon skills from across the company from financial governance, project management, legal, tax, through to treasury.

The projected benefits of improved water security and increased resilience to climate change, identified a benefit to cost ratio of 65:1. This was calculated using a range of techniques to quantify and then value the benefits, including: customer's willingness to pay for clean water and biodiversity, a market value for the carbon reduction provided by the natural resources, and the avoided costs of capital investment and water treatment.

WHY IS SOCIAL CAPITAL RELEVANT TO BUSINESS?

No organisation can exist without the social capital of its employees and the communities within which it operates. Organisations and communities with higher levels of social capital are healthier and more resilient, and their members are better able to work together to solve problems. Economists have found that social capital also contributes to economic growth and poverty reduction.

How an organisation approaches management of its social capital is becoming increasingly important when levels of trust by the public in both private and public institutions is low. A recent global survey indicated that three times as many people believe that innovation by business is motivated by greed rather than by a desire to make the world a better place. At the same time 81% of respondents thought that business can take actions that increase profits whilst also improving social and economic conditions in the communities in which they operate, with 47% stating that they have a greater trust in businesses that they believe contribute to the greater good[9].

The diagram below shows actions taken in the previous 12 months by respondents based on their level of trust in a company.

Effective management of social capital can assist with recruitment and retention of employees. In an annual survey of over 37,000 employers in 42 countries in 2014, 36% of employers reported having difficulty filling jobs, the highest proportion in seven years. Notably, of these, 54% stated that this has a 'medium' or 'high' impact on their ability to meet client needs[10]. A number of studies have shown that an organisation's reputation as a good employer is a key driver of attracting and retaining talent[11]. This has consequential financial impacts, and one study found a spread of more than 5% in operating margin between those companies with 'low' or 'high' employee engagement[12].

BRITISH LAND

Putting a value on social investment - £3.70 return for every £1 invested

In 2003, British Land set up the Source Skills Academy training centre for retail and customer service training in collaboration with Sheffield City Council, to help bring needed skills to the area to support employment in our retail properties. In 2013, we carried out a review to evaluate the success of the Academy and to identify those initiatives with the greatest direct social impact so they can be replicated elsewhere.

The evaluation focused on the intended outcomes of the Academy – primarily the skills and employability of those who have attended. Monetary values were placed on the outcomes of the training where practicable, to allow the considerations of any future investment alongside the values generated. The issues valued reflected the Academy's key aims, and independent consultants were commissioned to estimate the 'net additional value generated' from these activities. Analysis was based on third party data which included primary research specific to the Academy, as well as estimations based on published government statistics and valuation guidance.

The results of the review revealed that the Academy created an estimated Social Return on Investment (SROI) of £53.4 million in its first 10 years. This equates to approximately £3.70 for every £1 invested. The outcomes have influenced our company strategy on where best to invest to support local jobseekers, grow local businesses and support apprenticeships, as
we better understand what activities provide the most SROI.

The review has proved instructive to improve communication with local authorities on the social value that property developers generate for local economies, particularly in relation to jobs and training.

Below sets out the outcomes and details of how the annual value created was estimated:

Increased economic output from up-skilling: Increase in productivity per person, from qualifications (excluding individual taxes).

Increased tax revenues: Increase in government tax revenue from the improvement in productivity and additional or safeguarded jobs.

Increased economic output through job creation: Average annual Gross Value Added of retail/wholesale workers that would be associated with each additional job, less the share of this which would be paid in individual taxes.

Government savings from lower unemployment: Saving to the Exchequer of an individual not claiming unemployment benefits.

'Beyond earnings' individual value from employment: The annual wellbeing impact of unemployment, calculated as the cost to the individual of becoming unemployed, over and above the loss of income (including the loss of structured time use and lower levels of activity and social contact).

Business savings from job matching: Based on the market value that businesses would need to pay for job-match services.

WHAT IS NATURAL AND SOCIAL CAPITAL ACCOUNTING?

Natural and social capital accounting involves considering the environment and society in business decision making and / or reporting. This guide focuses on its use to strengthen decision making.

Natural and social capital accounting involves the identification, quantification and potential monetisation of both how your business activities have an impact on the environment and society, through pollution or training of employees for example, and also how your business depends upon natural and social assets and the 'services' they provide such as clean air, water or community relationships.

Quantification can be in physical units such as m^3 for water use, or the number of people trained. It can often be helpful to use estimates of monetary values, either in terms of 'financial' value or cost to a company and its shareholders e.g. a carbon tax, or the 'societal' value to broader stakeholders e.g. the value of training to society.

The term 'capital' is used as it reflects the concept of 'stocks' or 'assets' of natural and social resources that can generate a flow of value (goods or services), in a similar way to conventional capital assets.

HOW CAN FINANCE TEAMS ADD VALUE?

Finance teams can add significant value by drawing on their core competencies:

- Assisting with the process to identify issues that may have a material impact (financial, reputational) on a decision
- Ensuring data and information used is robust, comparable between periods and collected in an efficient manner
- Integrating analysis into other information systems and in management reporting
- Developing controls to improve the reliability of the information used
- Developing targets that are measureable, comparable and achievable and testing and tracking these targets

Natural and social capital accounting can be used to inform:

- Risk and opportunity identification and quantification that may affect the bottom line (refer to the A4S guide on 'Managing future uncertainty: an introduction integrating risks resulting from macro sustainability trends into business decision making' for further information)
- Options appraisal and trade-offs analysis e.g. in capital investment appraisal (refer to the A4S guide on 'CAPEX: a practical guide to embedding sustainability into capital investment appraisal' for further information)
- Supply chain management to inform procurement pricing
- Product pricing and design
- Compliance with regulations or corporate labelling
- Mergers and acquisitions due diligence
- An evaluation of the wider contribution of your organisation to society to then inform strategies that deliver value both for your organisation and society
- Corporate reporting and disclosure, for example as part of an Integrated Report

WHAT TERMINOLOGY DO I NEED TO KNOW?

There are many terms used in the area of natural and social capital accounting. We have identified a few key terms we think are important for finance teams to understand (for more technical definitions see p25).

Natural capital

All renewable and non-renewable (i.e. finite) environmental resources that provide goods or services that support the prosperity of an organisation and society. It includes air, water, land, minerals and forests.

In this guide we use the term 'natural capital' quite broadly to refer to an organisation's impacts and dependencies on the environment.

Social capital

The networks, relationships and connections between people, communities and institutions that organisations rely on and contribute to through their activities.

Human capital

People's competencies, capabilities, experience and level of motivation.

In this guide for simplicity, we refer to both social and human capitals as 'social capital'.

Shareholder value

The internal direct and / or indirect financial consequences of environmental or social issues in monetary terms. Sometimes known as company value.

- **Direct** financial costs (or savings) incurred by the company e.g. water and energy bills
- **Indirect** financial costs (or benefits) incurred by the company from its intangible assets e.g. corporate reputation, employee engagement or licence-to-operate

Externality

An impact, **positive** or **negative**, that affects those external to the organisation for which the company does not pay (or get paid) through the markets. For example, the cost to society of pollution for which an organisation does not pay, or the benefits gained by society from the up-skilling of employees through your organisation's training programmes.

Impact

Any environmental or social change, positive or negative, caused by an organisation through their activities. They can be as a result of:

- **Direct** operations e.g. carbon emissions, waste or training of employees
- **Indirect** e.g. the carbon emissions and waste from your supply chain
- **Enabled** e.g. consumer use of products or the operations of others on land owned by your organisation

Dependency

Where your organisation relies upon natural or social capital as an input e.g. a company's operations may depend on **natural capital** such as water, or a nearby natural environment that provides flood control, or **social capital**, such as skilled and motivated employees and networks of collaborative organisations.

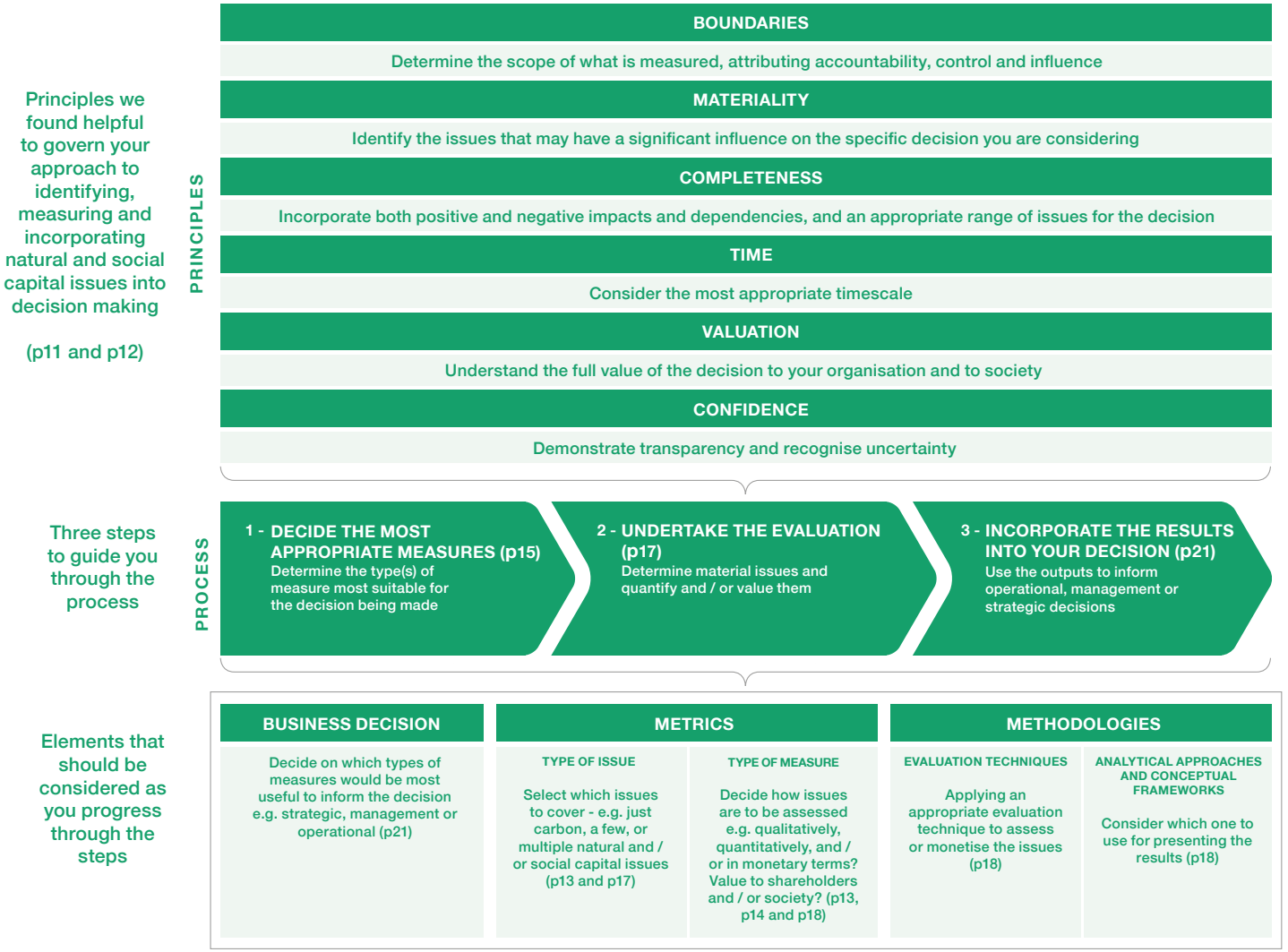
Societal value

External direct / indirect non-market consequences of natural and social capital impacts. Sometimes known as stakeholder value.

- **Societal costs:** negative value incurred by your organisation for the environmental or social impacts it causes
- **Societal benefits:** positive benefits created e.g. employment, investing in skills development or community engagement

KEY AREAS TO CONSIDER – A SUMMARY

In most organisations, the finance team is not typically involved in gathering, analysing or integrating information related to natural and social capital, outside the direct market price of goods or services. However, in our experience, the role of finance as an integrating function and partner to the business with a central role collecting, analysing and reporting information, means they are key to add value to the process. Based on this experience, and as shown in the diagram, this guide suggests a set of overarching 'principles' that finance teams can use to test and define the information used. It also suggests a simple three step process that might be followed to integrate these capitals into business decisions, supported by metrics and methodologies available for different types of decisions.



OVERARCHING PRINCIPLES

Based on our experience, the following six principles are helpful to govern your approach to embedding natural and social capital into your decision making. These draw upon financial accounting principles. From a finance team's perspective, these principles provide a useful checklist to test the information being gathered and used by the business.

The application of these principles to the decision making process is set out in each of the three steps on pages 15 to 22.

1 - BOUNDARIES: Determine the scope of what is measured attributing accountability, control and influence

The scope of what you measure should be determined and clearly defined, and it is also important to set clear boundaries. This will include consideration of:

- What impacts your organisation is accountable for, including where you have control / influence.
- Where and how the majority of the impacts, benefits and dependencies occur. For instance, these could be as a result of your own direct operations; within your supply chain through extraction of raw materials; or could rest with the consumers of your products or services through their use.

As part of our 'Total Contribution' assessment, (see page 20) we consider environmental and social impacts across the full value chain from our direct operations through to the indirect activities of our supply chain. We also consider what we call the 'enabled activities' of others e.g. the activities of lessees of our commercial property.

The Crown Estate

When conducting a review of the Social Return on Investment (SORI) from a skills academy (see page 7) we undertook an economic valuation of the impacts on local people and businesses. The valuation excluded benefits that would have happened anyway without our involvement and activity that had been displaced from, or to, somewhere else.

British Land

2 - MATERIALITY: Identify the issues that may have a significant influence on your organisation or decision

There are numerous environmental and social issues that could be relevant to any decision. It is not usually practical to cover everything, so it is important to focus on what is most material to your business. You should consider not only the issues that may affect your organisation directly, but also the implications of the wider framework you operate in, such as climate change or government policy.

A materiality assessment could include the level of natural or social capital impact now or in the future, the commercial impact or the level of stakeholder interest. If an issue is not considered material then it may be excluded from your assessment (and an explanation given where appropriate). Issues may be material individually or collectively.

When developing a Triple Bottom Line acounting approach (see page 19) we identified, through a prioritisation process, the material performance indicators for our business across the three components – economic, environmental and social. To be material, the indicators had to align to a key business objective and have scope to show a certain level of change – either through being highly valued by our customers or through a large potential change in performance in the future.

United Utilities

3 - COMPLETENESS: Incorporate both positive and negative impacts and dependencies and an appropriate range of issues for the decision

It is easy to have bias in any decision or assessment particularly if there is desire to demonstrate value delivered by specific activities. To help avoid this consider:

- Both the positive and negative implications and consequences of the decision. Aggregation or netting should only be undertaken where not misleading.
- The counterfactual i.e. what would have happened anyway, without action by your organisation, along with the implications of decisions on others outside of your organisation's boundaries.

When we measure our climate change impact we include the emissions that we are responsible for producing, as well as the positive reduction in carbon delivered from low carbon energy or by trees and other vegetation on our land. This provides a net result.

Data is captured as tonnes of carbon dioxide and converted into a monetary value using the UK Government's carbon shadow price, which aims to account for the cost to society from carbon emissions. Measuring the complete impact helps to inform our property management decisions and tells a more comprehensive story of our total contribution.

The Crown Estate

4 - TIME: Consider the most appropriate timescale

There are two elements to this principle depending upon the nature of the assessment:

- Lifetime – each decision will impact over a different lifetime. The time period over which impacts or dependencies occur should be considered and may require values to be discounted in a similar way to discounted cash flow calculations. This approach allows the impacts or dependencies to be considered across the whole lifetime of the decision.
- Comparison period – where you are undertaking a comparison of performance over time, you need to take a view on the most appropriate timeframe for your organisation and sector i.e. based on typical asset lives.

When undertaking our Triple Bottom Line accounting approach, with typical asset lives of 20 to 100 years and impacts over a similar timeframe, we felt that the accounting year we use in financial accounting was too short. We therefore adopted a five year time period reflecting the regulatory asset management periods in our industry.

United Utilities

5 - VALUATION: Understand the full value of your decision to your organisation and to society

To improve the usefulness of your assessment, you should consider:

- Moving beyond just measuring 'outputs' to accounting for 'outcomes', which represent the value being created or destroyed. For example, for training programmes the 'input' might be time and resources used, the 'output' might be the number of people attending, and the 'outcome' is the value derived by attendees, your organisation and society.
- Whether you want a qualitative, quantitative, or monetary valuation (or a combination). If you are calculating monetary values, consider whether you want shareholder values, or societal values or both.

When conducting a review of the Social Return on Investment (SROI) from a skills academy (see page 7). The valuation considered factors such as the increased economic output through job creation and government savings from lower unemployment. The valuation focused on the net additional value generated by the academy.

British Land

6 - CONFIDENCE: Demonstrate transparency and recognise uncertainty

Natural and social capital accounting is continuously evolving and becoming more robust. It is therefore important that:

- The assumptions, valuation techniques and methods used are clearly stated in any assessment.
- Where there is uncertainty in the process or the results, this is stated and an explanation given for why a judgment has been made.

You may wish to consider external assurance of your results to improve the decision makers' confidence in the reliability and accuracy of the evaluation presented.

To improve the confidence of decision makers and wider stakeholders in our Total Contribution approach, we increased transparency of the assumptions and techniques used and also allowed experts to provide comment to allow further development.

The Crown Estate

When developing our strategy to respond to climate change, we disclosed uncertainty to decision makers to allow them to understand the assumptions made, including the confidence of our risk understanding and the range of future trends projected by scientific models.

Yorkshire Water

TYPES OF METRICS

To account for natural and social capital, appropriate metrics need to be developed. What they are and how they are used will depend upon the type of decision being made and what is considered to be material to your decision.

As illustrated below, it is useful to think of two dimensions for your metrics:

(i) the type of issue i.e. which natural or social capital impact or dependency; and,

(ii) the type of measure for each issue i.e. qualitative, quantitative and / or monetary.

If you are undertaking **monetary valuation**, you will also need to consider value to whom. Whether you are interested in impacts to shareholder value, societal value, or both, will depend on the objective of your evaluation. As societal values become increasingly recognised, valued and factored into
new markets, regulations and company policies, their links to company bottom lines will continue to grow.

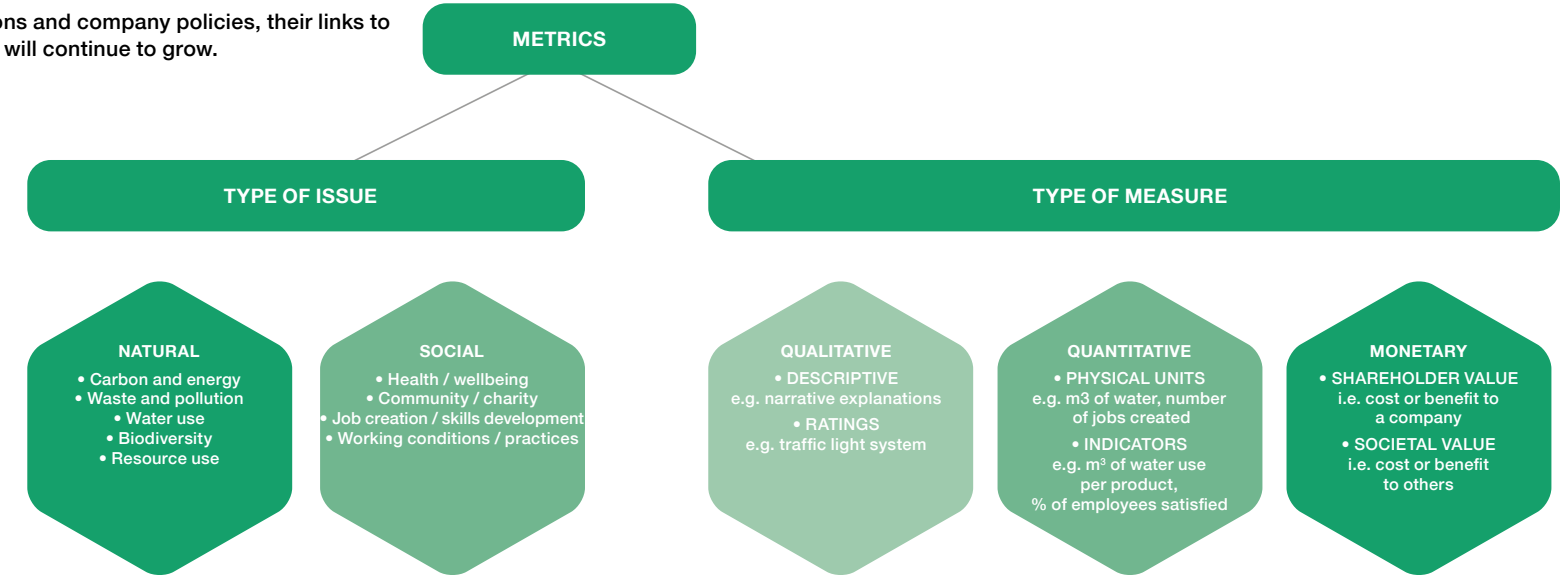
Companies are increasingly making use of natural and social capital metrics to assess performance and inform strategic, management and operational decisions. The most useful metrics are those that can be readily measured, where reliable data is available, and where the measure will be meaningful to decision makers alongside other financial elements.

Translation into monetary terms allows different resources, services and impacts to be more easily compared but can be challenging and sometimes controversial. See p14 for a discussion on monetisation.

HOW CAN FINANCE TEAMS ADD VALUE?

Finance teams can add significant value by drawing on their core competencies:

- Advising on which types of metrics will dovetail with others provided e.g. financial information being provided as part of the information pack to decision makers
- Ensuring the metrics developed are reliable and replicable for other decisions / time periods
- Helping to develop efficient data collection processes for the chosen metrics that are aligned with information flows for other management information



TO MONETISE OR NOT TO MONETISE?

Many companies are using economic valuation of natural and social capital and a number of Network members have trialled these approaches. The utility and credibility of economic valuation is highly dependent upon the assumptions used in the assessment and expert opinion should be sought. We have summarised the benefits and challenges from our experiences below.

BENEFITS

- Impacts and dependences are translated into a language which is more readily understood by business leaders and political decision makers, which helps to facilitate comparison with other financial implications.
- Difficult decisions on trade-offs between different impacts e.g. carbon emissions, water use or job creation; or geographies; can be facilitated through conversion into a common financial unit (instead of tonnes, litres or number of jobs).
- There are reputational benefits associated with demonstrating that you are a responsible organisation and that you understand the full value of your natural and social capital impacts and dependences, and how you can build this capital through your business activities.

CHALLENGES

- There can be scepticism from decision makers regarding the methodology used to translate impacts and dependencies into financial values. It is therefore important to be as transparent as possible about the assumptions made in the assessment and any areas of judgement, and to work with respected economists or other experts.
- It can be costly, particularly where external consultants are used. It can also be time consuming collect the required data particularly where you wish to consider indirect impacts from your supply chain.
- Not all impacts and dependencies are appropriate to monetise e.g. where there is a threshold over which the business does not wish to cross which can be the case with the risk of fatalities or impact on culturally important sites.
- There is currently no agreed common methodology for valuation, with many organisations using different techniques. The Natural Capital Coalition, a global coalition of companies, accounting institutes and firms, academics and NGOs is developing an open source valuation protocol for natural capital by early 2016 (see p24).

MONETARY VALUATION OF CARBON

The most commonly valued environmental impact is currently carbon, which is increasingly being valued by governments and companies globally. Many of the same techniques are being applied to other natural and social capital areas such as Ecosystem Services Valuation
(see the Yorkshire Water case study on p16).

How may a price for carbon impact your organisation?

Shareholder value

A number of countries have introduced carbon taxes or trade schemes for businesses to help meet their own carbon reduction targets. These result in direct financial costs for businesses and include:

- EU Emissions Trading Scheme – emissions permits trading at approximately €5 a tonne[+]
- UK Carbon Reduction Commitment – allowances are approximately £16 a tonne[+]

Societal value

A number of governments and businesses have developed a 'shadow' or 'social' cost of carbon. These reflect their view on either:

(i) the potential future direct costs of carbon for example through a tax or cap and trade scheme; (ii) the value of the damage caused by carbon emissions; or, (iii) the estimated the cost of mitigation (i.e. moving to a low carbon economy)

These costs include:

- Shadow price of carbon – many companies are beginning to use an internal cost of carbon in decision making to reflect potential future direct carbon costs
- Social costs of carbon – many governments are using estimates for policy purposes. Businesses keen to understand their wider impacts are also using these estimates. Currently there is no agreed value and estimates differ greatly between different governments and academics

[+] Prices are approximate and are applicable in 2014.

We have found that monetary values often resonate much more with financial decision makers and allow the comparison of different issues in a common unit i.e. when making trade-offs between different benefits such as reductions in carbon emissions or water use, it is easier to compare £/€/$ than tonnes of carbon or m^3 water

STEP 1 – DECIDE THE MOST APPROPRIATE MEASURES

In order to highlight the approaches that many Network members have followed, we have developed a simple three step process that might be used to integrate natural and social capitals into your business decisions, using the principles discussed earlier. The steps consider the type of decision being made, the types of metrics that may be most useful, and how to approach using the information within your organisation.

The first step is to determine the type(s) of measure most suitable for the decision being made. As further outlined on page 21, these decisions may be operational, management or strategic. In many cases, the measure is likely to be a combination of different types depending on the data available and the scope of the decision.

Finance teams can help identify the most appropriate measures that will resonate most with decision makers.

KEY PRINCIPLES TO CONSIDER IN STEP 1

The following principle is particularly relevant to this step:

Boundaries: The principle of 'Boundaries' helps to inform the scope of the decision and what should be included in the evaluation.

You should consider if the scope should cover:

- a product, project, site, business unit, company, or value chain;
- business impacts and / or dependencies; and,
- (i) your own operations (direct), (ii) your supply chain (indirect), and / or (iii) your wider impacts (enabled).

Valuation: Deciding whether information presented for the decision should be qualitative, quantitative and / or monetary is important at this stage. Refer to p21 for details on specific decisions where different measures can be useful. Also see p14 for a discussion on monetisation.

EXAMPLES OF WHEN EACH TYPE OF MEASURE IS USEFUL

The table below highlights examples of where we have found particular types of measures to be useful.

Type of measure	When useful?
Qualitative	• Initial consideration of issues or where you wish to cover a large number of issues • Detailed data is unavailable
Quantitative	• Data is already being collected e.g. water usage through bills • Comparison against targets e.g. corporate carbon reduction target • Investigating net impacts • Impacts or risks have a strong ethical or political dimension • Areas where severe, long term or irreversible impacts are likely and an absolute level therefore needs to be set
Monetary – Shareholder value	• Developing a business case for an investment decision • Making trade offs between different issues e.g. carbon / water / jobs or across different geographies from a purely financial or value at risk perspective • Assessing the financial impact of risks and opportunities • Communicating the potential market value of an opportunity or risk to your investors
Monetary – Societal value	• Making trade offs between different issues or across different geographies taking into account the full value chain risks and impacts • Understanding potential future risks • Focusing on 'license to operate' or reputational benefits • Projects have significant community benefits • Communicating with stakeholders • Maximising positive impact for all stakeholders including the environment

ANGLIAN WATER

Strategic analysis of the social return on investment of river improvement projects

Anglian Water developed a project, RiverCare, enabling local people to help improve a stretch of their local river to improve the river quality and visual appearance for our customers and the community.

We determined that a Social Return on Investment (SROI) analysis would be most appropriate to allow us to quantify in monetary terms the value to society of our investment in the project, and inform future investment strategy in this work. The boundaries were clearly defined by analysing the key services and beneficiaries of the project and to ensure completeness, the study took account of positive and negative impacts of the work (such as displacement of activities that harm the river downstream) to produce a net figure.

The monetary valuation was undertaken by an accounting firm based upon UK government data and expert judgement. Valuations were based on data provided by the National Ecosystem Assessment. Additional data used were the number of people living in proximity to a RiverCare project site, and the number of projects across the region. In the absence of empirical data, assumptions had to be made about the premium created by maintaining a site in higher condition.

The SROI of the award-winning RiverCare project was estimated to be £4.8 million. The cost of the RiverCare project since its start in 2001 is approximately £2 million.

The study was a first attempt to quantify the benefits of Anglian Water's investment and could be further enhanced by valuing a wider range of project benefits, some of which would also be material considerations for Anglian Water. For example, the project mitigates the risk of water pollution that will reduce water treatment costs, and this benefit is currently not valued. The SROI process also provides a means to engage with customers on key issues such as water efficiency.

From a strategic perspective, the analysis has helped us understand the range of benefits arising from investing in the projects that we deliver with our stakeholders. Between 2015 and 2020, a second SROI valuation will be undertaken which will use a more robust methodology and take account of all of the project's benefits. For example, to be complete, the valuation should attempt to include the health benefits to volunteers, reputational benefits of positive media coverage and water quality benefits from litter-picking and removing non-native invasive species.

YORKSHIRE WATER

Valuing the benefits of managing the water quality catchment area

Yorkshire Water undertook a natural capital valuation to inform the choice of investment solutions that would most effectively ensure drinking water quality for our customers – the choices were either capital investment in a water treatment works or, operational investment to help address the problem at source, in the catchment. It was determined that monetary valuation would most effectively facilitate options analysis and integration into cost benefit analysis.

The quality of some of Yorkshire Water's important water sources has deteriorated over recent years due to land management practices, wildfires and air pollution. This has required the introduction of capital and energy intensive processes to provide extra treatment to the raw water, with associated financial and environmental costs.

We worked in partnership with Natural England on a pilot project to assess the potential financial benefits and costs both to the company and society of different investment solutions to help identify the most sustainable, long term approach.

The project sought to estimate the economic value of the benefits provided under a range of land management scenarios. The study used government guidelines on valuation (Value Transfer Guidelines) to assess quantitatively the different scenarios.

Research literature was used to identify financial values for the benefits and how these would change under the different scenarios. Three 'benefits' were considered based on their likely materiality and because they were more readily quantifiable – these were the ability of the land to: store carbon; protect water quality; and, maintain levels of biodiversity.

The findings helped shape our planned capital investment programme by providing evidence to show that catchment management is a cost beneficial method for protecting drinking water quality. The results revealed that for every £1 spent by Yorkshire Water to improve the land, society would benefit by an estimated £3 through lower water costs and improved carbon storage, and for every £1 not spent (or 'saved'), society was likely to lose an estimated £6.61. The pilot study also informed the UK government's approach to assessing ecosystem services.

Building on the knowledge and data developed through the catchment management valuation, we went on to produce the first Environmental Profit and Loss (EP&L) account developed in the UK water industry. The EP&L provides a monetised view of our positive and negative environmental impacts.

STEP 2 – UNDERTAKE THE EVALUATION

The second step is to undertake the evaluation, the type of which will vary depending on the nature of your decision. For example, this could be for an options appraisal, calculating the impact of a particular product or looking at the value derived from a project. The objective will also dictate whether you consider natural or social capital impacts, or both (i.e. the type of issue).

We have found the following stages helpful when undertaking an evaluation:

1. **Selecting which natural and social capital issues are material to the decision.** This process is usually undertaken by an organisation's sustainability team.

   Finance teams can assist with the review of key dependencies for the business based on possible impacts on the bottom line, and ensure that any issues which may have a material financial impact on the decision are considered.

KEY PRINCIPLES TO CONSIDER IN STEP 2

The following principles are particularly relevant to this step.

Materiality: A structured process is advocated for deciding which issues are relevant and material to a decision. This may be obvious, if you are just considering a carbon compliance matter, or it may require a more comprehensive evaluation technique if you are considering multiple issues to inform a capital investment decision.

Sometimes it is not until you begin to evaluate the issues that you establish their relative materiality. In the first instance, some form of qualitative assessment (e.g. traffic light rating) can be used to evaluate the relative potential materiality of a range of issues in order to then determine the key areas of focus.

Completeness: It is not practical, or even possible in some cases, to capture first hand (primary) data for every chosen metric. It is therefore necessary to use recognised methodologies, models and research to estimate results in some cases and a number of government and other databases can help to facilitate this.

Considering direct and indirect as well as positive and negative impacts and dependencies is considered good practice.

Time: An appropriate time frame should be considered for the issues being assessed. For example, for major developments, decommissioning impacts should also be included, for example.

Valuation: A critical aspect is deciding whether information presented for the issues should be qualitative, quantitative and / or monetary. Whilst all issues can be assessed qualitatively, the ability to quantify and monetise differs for each issue. It is not always practicable or possible (or desirable) to calculate monetary values for everything and it typically requires the expertise of external consultants. Where you do not have access to specific data, estimates can sometimes be obtained from other sources including national government databases.

2. **Collecting relevant information and data in a suitable format, drawing upon internal and external sources.** It can often be challenging where your assessment requires data from your supply chain and estimates may be required.

   Finance teams can work to ensure underlying data is robust, comparable and reliable and that data collection on natural and social capitals is efficient and, where appropriate, automated within existing financial data collection processes. Members of the A4S CFO Leadership Network, measure and value a number of natural and social capital impacts and dependencies considered a priority for their organisation. Although there are variations by sector, some areas currently considered include:

	Issue	Examples of units / values used to evaluate the issue
Natural	**Carbon**	• Absolute CO2e emissions sequestered • Social cost of carbon in £/$/€
	Waste and pollution	• Tonnes of waste produced • No. of pollution incidents
	Water use	• Customer willingness to pay for drinking water services in £ • Total water use in m^3 • Abstraction in m^3
	Biodiversity	• Area of natural environment created / restored / protected in m^2 • Value of ecosystem services in £ • Peatland maintained or restored in hectares
	Resource use	• Certified products purchased from sustainable sources in % • Recycled content of materials in %
Social	**Human health / wellbeing**	• No. of health and safety incidents • Cost of health and safety incidents in £
	Community / charity	• Impact of community investment in £m
	Job creation / skills development	• Contribution to the economy through job creation in £ • SROI per £ invested in £
	Working conditions / practices	• No. days lost to sickness • Staff retention in % of employee engagement
	Tax contribution	• Tax contribution in £

3. **Applying an appropriate evaluation technique to assess or monetise the issues.**

   Finance teams can help ensure appropriate techniques are used (see overleaf for some examples) and can help to test any assumptions.

EVALUATION TECHNIQUES

Examples of the types of evaluation techniques typically used for the type of measure.

Type of measure	Evaluation technique
Qualitative	• Description of issues e.g. how significant it is and how it relates to corporate policies and strategy • Ratings e.g. high, medium or low / traffic light (red, amber green) assessment of value, risk or opportunity
Quantitative	• Physical units e.g. m^3 of water, tonnes of waste or number of people affected • Indicators e.g. m^3 water per product, % of satisfied employees
Monetary – Shareholder value	• Change in revenue e.g. how reduced water availability affects production • Replacement costs e.g. cost of replacing natural flood control with a man made scheme • Future potential regulatory costs e.g. taxes, compliance costs or fines
Monetary – Societal value	• Revealed preference approaches i.e. prices actually paid by consumers for more sustainable products and services • Stated preferences i.e. prices consumers say they will pay e.g. willingness to pay surveys (which are used extensively in the water industry) • Value (benefit) transfers i.e. applying values calculated in similar situations elsewhere

APPROACHES AND CONCEPTUAL FRAMEWORKS

Below is a summary of some of the main approaches that Network members and other leaders in natural and social capital accounting have used to help account for their impacts and dependencies. These approaches provide a framework to bring the data and values together to help inform the decision.

Quantitative

Concepts such as Net Impact / Net Positive are used in different forms by organisations such as Kingfisher, Coca-Cola and Ikea to demonstrate the net effect of a project or their organisation as a whole.

Net Impact is used when seeking to match restorative actions against known or measured impacts to result in 'neutrality'. It is typically applied against a single issue or ecosystem service such as carbon, waste or water.

Net Positive is a concept developed to communicate the principle of businesses adding greater value to the environment and society than they take away.

Monetary

A range of shareholder and societal valuation approaches are being used by organisations and a number of techniques consider both elements.

Shareholder value

Traditional Cost Benefit Analysis (CBA) can be used to calculate the relative value generated by a project where details of direct financial impacts can be estimated. Used by companies including South West Water (see p6).

Societal value

Social Return on Investment (SROI) is a principles based method for measuring social value relative to resources invested. It can be used to evaluate impact on stakeholders of a particular project or organisation, and to identify ways to improve performance, and to identify those activities that are most effective. Used by companies including British Land (see p7) and Anglian Water (see p16).

London Benchmarking Group (LBG) Model is a standard for measuring and benchmarking community investment that allows organisations to measure their overall contribution to the community, taking account of cash, time and in-kind donations, as well as management costs. Used by companies including M&S (see p19).

Shareholder and societal value

Ecosystem Service Valuation builds an understanding of the value of ecosystem services (i.e. the services provided by natural capital such as climate regulation) to an organisation and its stakeholders.
It can be undertaken from a shareholder or societal valuation perspective and commonly considers both. Used by companies including Yorkshire Water (see p16), National Grid (see p22) and Dow Chemical.

The Environmental Profit and Loss Account (EP&L) approach identifies and quantifies an organisation's environmental impacts and dependencies and applies a monetary valuation so they can be presented in the format of a financial profit and loss account. An EP&L can be used at an organisational level or to assess full value chain impacts and dependencies. Used by companies including Yorkshire Water (see p16), PUMA / Kering, Novo Nordisk and the Otto Group.

Total Impact Measurement is an extension of the EP&L approach that provides an assessment of how economic value is impacted or generated for different stakeholder groups. Uses a range of methodologies to place a financial value on social, environmental and economic impacts. Used by companies including SSE.

Triple Bottom Line (TBL) accounting is also an extension of the EP&L, which accounts for social impacts of business as well as environmental and economic. Used by companies including United Utilities (see p19).

Total Contribution is an approach that assesses direct, indirect and enabled contributions across economic, environmental and social areas. Used and originally developed by The Crown Estate (see p20).

MARKS & SPENCER

Calculating the total value of community investments

As part of our sustainability commitments, we make charitable donations to support local communities. We have used social accounting techniques to quantify and put monetary values on all of the community investments we make across the business to inform a range of strategic, management and operational decisions.

Such investments include establishing our employability programmes 'Make your Mark' and 'Marks & Start', and donations of staff time, products and money for charities and community projects. The team can then use this information to see:

i) the relative activity and value created by different parts of the business;

ii) which activities are growing or declining; and,

iii) how M&S compare against peer group companies on community investments.

The evaluation techniques used to convert the data into monetary values are based on guidelines set out in the London Benchmarking Group (LBG) model (originally developed over 20 years ago). The LBG model enables measurement of a company's overall contribution to the community, taking account of cash, time and in-kind donations, as well as management costs. The model also records the outputs and longer-term community and business impacts of community projects. The M&S finance team lends their expertise in preparing figures and in providing the analysis.

Using the LBG approach, in 2014, the total value to society created from our community investments was £23m, £14.2m in direct investments from M&S and a further £8.8m resulting from leveraged activities such as customer donations or enabling charity partners to attract additional support. The approach allows us to understand the total value created from our social activities, assess the effectiveness of our campaigns, influence decisions and prioritise future actions.

However, whilst M&S derives some brand and reputational value from these community activities, we have not yet found a reliable method of calculating the shareholder value of this, so do not currently calculate a financial return on investment.

UNITED UTILITIES

Triple Bottom Line (TBL) accounting

United Utilities has for many years been integrating sustainability thinking into our decision making. Like management accounting, the tools and techniques used for individual decisions are tailored to the nature of the decision. However, for reporting to external stakeholders, we recognise the need for global standards of accounting for environmental, social and economic impacts to enable comparability between firms, just as we have global standards for financial accounting.

The IASB has not yet extended its remit into this area and the thinking of other bodies in this area is at a very early stage. Indeed, we feel that sustainability accounting today has similarities to financial accounting before the Merchants of Venice.

When we considered this issue in 2012, we saw that the Triple Bottom Line concept had been around for many years but we could not find any firm that had developed the accounting to operationalise the concept. We therefore developed a methodology for Triple Bottom Line accounting which we use internally and which we hope will contribute to the evolution of global standards. Our approach to Triple Bottom Line accounting involves using a principled approach to account for the environmental, social and economic impacts of the firm. Some of the key principles we have adopted are:

Boundaries: We have accounted for the impact of all entities we control. This mirrors financial accounting.

Materiality: We have only accounted for impacts which are material in the context of our total impact. Unlike all retailers and most manufacturers, the impacts of our business upstream and downstream in the water cycle are much larger than the impacts of our supply chain.

Completeness: We consider all impacts (positive and negative), of our business on the environment, society and the economy.

Time: In view of the very long term nature of the decisions we take, with typical asset lives of 20 to 100 years and impacts over a similar timeframe, we felt that the accounting year in financial accounting was too short for us and we therefore adopted a five year time period reflecting the regulatory asset management periods in our industry.

Valuation: We measure impacts based on outcomes, not outputs; and we measure the value of these outcomes in monetary terms based entirely on fair value, using a preference hierarchy of valuation techniques, which is analogous to the valuation hierarchies used in financial accounting.

Confidence: We use leading academic, economic and environmental experts to validate and assure our approach.

With Triple Bottom Line accounting we have been able to estimate the impact of the sum of all of the decisions we have taken and will take in the 2010 to 2020 period in terms of total value added (environmental, societal and economic). This has been a helpful test that the sum of thousands of individual decisions is resulting in real benefits for the environment, for society and for the economy.

THE CROWN ESTATE

Total Contribution

We have developed an approach to account for the significant value we create beyond our financial return. This helps us in our strategic decision making and to demonstrate the value we create to stakeholders.

Our "Total Contribution" considers environmental and social impacts and dependencies alongside economic considerations. It covers the full value chain; from our direct operations through to the indirect activities of our supply chain and the 'enabled activities' of others on our land.

Total Contribution is based upon the framework of principles covered in this guide. Indicators are chosen for their materiality to the business and boundaries set around our control and influence. Both positive and negative elements are taken into account to make sure it is complete and the confidence held in the data and methodology is provided. Where practical, the indicators are transformed into a quantitative or financial value, for example the 730 people we helped to find work in and around Regent Street equates to a £6.8m contribution to the UK economy.

This is calculated by identifying the financial benefit to the individual and to the nation (amount of benefits avoided plus, tax and National Insurance). In order to reduce the data collection and resource requirements, average impacts from the Office for National Statistics are used rather than specific data for individuals and therefore these are indicative values and not precise estimates. A full breakdown of the methodology is available on our website.

Total Contribution is a cross business initiative originally developed by the sustainability team. The CFO and his team played a key part in the development and were uniquely placed to embed the processes into the business and they helped to develop the robust systems and methodologies to collect and collate the data.

This new approach has provided many benefits including allowing broader implications to be taken into account in business planning, thereby improving business resilience and building stronger relationships with our partners. For example, having a greater understanding of the social impact of schemes, has meant that we have improved our engagement with communities through initiatives such as ‘Big Green Leaf’. This delivers a wide range of interactive sustainability activities to retail parks, strengthening the destination offer of
the park and increasing footfall, which ultimately can be linked to rental value.

The measurement of our significant natural resources also prompted a review of risks and opportunities and the development of innovative leases that reward tenants for improvements in natural capital, that in turn preserve the long term financial value of our assets.

Although we have developed an approach for accounting for natural and social capital, there is still a lot to achieve. We plan to improve the data scope and confidence and have started to measure year on year improvements so that we can develop a single KPI for the Total Contribution of the company.

STEP 3 - INCORPORATE THE RESULTS INTO YOUR DECISION

The final step is to incorporate the results to the relevant operational, management or strategic decisions. We have found that the most effective way is to incorporate information into current decision making frameworks and associated management information where possible.

Where a new approach is being used, it is important to consider how to present the information in a way that will resonate with decision makers. Once the evaluation has been undertaken, you can consider how the approach can be applied within the wider organisation.

EXAMPLES OF THE TYPES OF DECISIONS WHERE CONSIDERING NATURAL AND SOCIAL CAPITAL CAN ADD VALUE

We have set out some examples of the types of decisions where it is helpful to include natural or social capital accounting below.

Type of decision	Examples
Strategic	**Strategic analysis:** How might environmental and social issues affect future expansion of the organisation, a particular division or geography? What could the impact be on future revenue streams from future resource scarcity in the region? **M&A activity:** Are there any environmental and social risks / opportunities in the target? Will this be a significant risk to the future success or reputation of your organisation? Are there alterations we need to make to the purchase price to reflect current or future risks? **Target setting:** What target should we set for corporate or project water or carbon reductions? How does this relate to our growth strategy? What would be the cost of our emissions if the government were to put a 'price on carbon'?
Management	**Internal and external reporting:** Which environmental and social issues are the most significant to our current and future success and will most help to improve the outcomes from our decisions? How can these be integrated into our management reporting and should these be disclosed as part of an Integrated Report? **Raising finance:** Can accounting for environmental and social issues help us demonstrate good risk practice to the capital markets?
Operational	**Capital investment decisions:** Are there material environmental and social issues that would impact the operation of the project e.g. water scarcity risks that could impact operational capabilities? **Procurement:** Do we source products from areas with declining natural or social capital? Which inputs and suppliers represent the greatest risk in relation to environmental and social issues? How significant is the financial risk? **Pricing:** Where in our supply chain are we most at risk from price rises due to shortages in natural or social capital? What would the implications be if we were charged more for resources to reflect more closely the cost to society perhaps through the introduction of local taxes or regulations?

HOW CAN FINANCE TEAMS ADD VALUE?

Finance teams can help to consider:

- How to incorporate the outputs of the assessment into your existing processes, e.g. capital investment appraisals
- How material, natural and social capital issues can be integrated into management information
- How the results can be used to develop scenarios for options appraisal
- How the values can be used to influence budgeting and business planning and to demonstrate trends
- Whether a more innovative style of presentation may resonate with decision makers and how to make this credible
- Whether to communicate parts of the assessment externally and if so, what style would best suit your audience

KEY PRINCIPLES TO CONSIDER IN STEP 3

The following principles are particularly relevant to this step.

Completeness: In the context of what is material, completeness involves providing a full set of information covering the positive and negative impacts, benefits and dependencies.

Valuation: An appropriate analytical approach or framework should be used to bring the results of the evaluation together and presented in a format that will appeal to decision makers and align with the other information being provided (see p18 for some examples).

Confidence: It is important to reflect the relative level of uncertainty over the results, for example through some form of sensitivity analysis. This is particularly important for monetary valuations where data gaps may exist and various assumptions are required.

NATIONAL GRID

Incorporating natural capital in decision making using an accounting tool

National Grid has developed an analytical tool to support decision making on future estate management and investment strategies, and to identify opportunities for new value creation. The natural capital on our sites delivers important services to our business including visual screening, noise attenuation and flood control. When well managed, it also has positive impacts on our neighbours such as increased air quality, water management and wildlife conservation. To date, the value of these assets and the benefits provided have been largely invisible and not included in our decision making.

The tool translates natural capital values into monetary terms by estimating the value of twelve benefits provided by natural capital including flood control, air quality and recreation using over 50 published valuation techniques and values widely used within the environmental economics community, including those from the UK Natural Ecosystem Assessment (UKNEA), Defra and
The Office of National Statistics.

Through workshops and consultation, cross business teams from asset owners and managers to sustainability and financial leads, helped to develop and deliver a tool that can be widely deployed. The tool translates environmental impacts and dependencies from an intangible, to the language of capital and benefits which supports and informs decision making.

The tool brings together the information on each benefit type in a clear and simple way that can be used in scenario planning for different investment options. The tool provides monetary values both for a current 'as is' baseline, and a number of site management and development scenarios, comparing current value and future value under a range of scenarios and costs to realise the investment options.

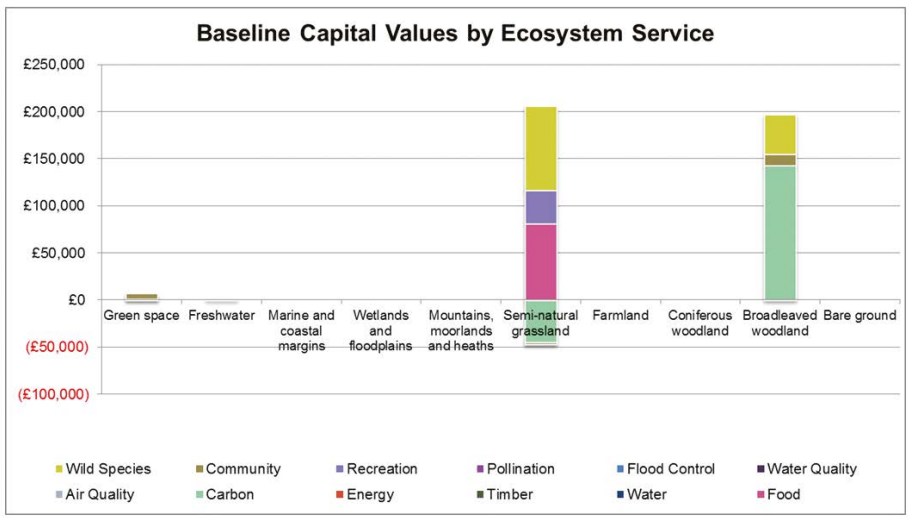
The tool has been applied on a site-by-site basis to quantify natural capital stocks, assess the value of the services provided and identify risks and opportunities for new value creation. Our valuations and future scenarios have provided new opportunities to engage with stakeholders to understand the contribution the management of our sites can also make to local and regional priorities.

Natural capital valuation has been successfully piloted in investment decision making. Two projects comprising over 100 hectares of land surrounding our operational assets are now being managed to drive growth in natural capital delivered with the full engagement of new local partners. Valuation of natural capital, and ecosystem services on our sites enables decisions to be made that optimise change in value to National Grid and local stakeholders, reduces our costs and builds long term growth in natural capital values that can leverage more than eight times the initial financial investment.

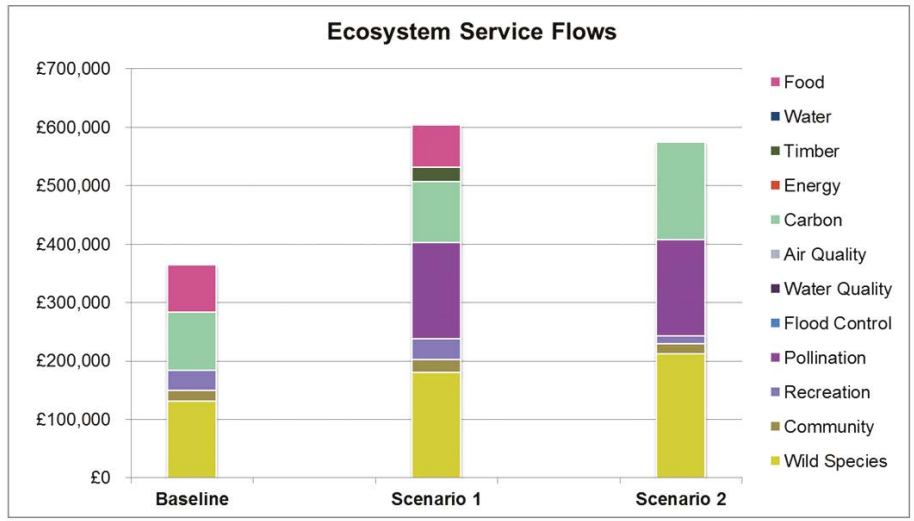
Understanding the value of the environment to us and our stakeholders highlights tangible opportunities for creation of shared value that focus on local priorities to generate real social, environmental, and economic returns.

Reduces our costs and builds long term growth in natural capital that can leverage more than eight times the initial investment

Baseline valuation according to the environment (ecosystem service) type i.e. green space, freshwater etc.



Two of the developed site management scenarios compared to baseline value. Local stakeholder input resulted in a site management programme refined from Scenario 2 which delivers greatest contribution to local environmental priorities and still delivers an average of 8:1 return on investment.



WHERE ARE YOU ON THE JOURNEY?

Incorporating natural and social capital issues within business decision making is a rapidly evolving topic. Companies and sectors are at different stages of their journey in terms of the comprehensiveness and sophistication of their approaches. The maturity model indicates for a range of different areas of action, how approaches vary depending how advanced you are.

Many Network members have been on this journey for a number of years. It takes time (years rather than months) to progress from Beginner to Leader. The materiality of natural and social capital to organisations is only going to increase, so the sooner you can make a start, the better.

To get started, focus on what is most material to you and after conducting a simple analysis on a well defined and limited scope of natural and social impacts, benefits and dependencies, develop your boundaries. Use simple measures such as qualitative that do not require significant resource effort or lots of data.

As your approach matures, the scope of issues considered, the sophistication of techniques used to appraise the impacts, and dependencies, and the confidence in the process and data can increase moving towards more quantitative and eventually monetised valuation where appropriate.

Leaders are companies that seek out and trial new methodologies for measuring and evaluating their natural and social capital impacts and dependencies, and who develop tools, processes and management systems that fully embed natural and social capital into decision making processes.

Rising stakeholder expectations and increasing investor and shareholder understanding of the critical importance of natural and social capital to good business performance will continue to drive organisations to progress on their journey from Beginner to Leader. Collaboration and knowledge sharing are essential to undertaking this evolution in an efficient and cost effective manner. There are a number of forums, including Accounting for Sustainability, that offer a non-competitive space for such discussions.

Use the maturity model to discuss with your colleagues where you are and where you want to be

There is no definitive approach that can be equated to 'best' practice or maturity – the approach that is best varies by company. Rather, maturing in this space is about finding an approach that works for your organisation – one that fits with your organisation's individual process and culture

THE MATURITY MODEL FOR NATURAL AND SOCIAL CAPITAL ACCOUNTING

	BEGINNER	INTERMEDIATE	ADVANCED	LEADER
VALUE CHAIN	Focus on own operations			Whole value chain
SCOPE OF ISSUES	Limited scope of impacts and dependences			Wide range of impacts and dependencies
MEASURE TYPE	Quantitative			Monetary (where appropriate)
STAKEHOLDER FOCUS	Shareholders only			All stakeholders
EVALUATION FOCUS	Outputs			Outcomes
CAPITAL EVALUATED	Natural capital			Natural and social capital
DATA COLLECTION METHODS	Manual e.g. spreadsheets			Automated within existing financial data collection processes
DATA SOURCES	Generic e.g. government databases or estimated			Specific and bespoke e.g. GIS (Geographic Information System)

THE ROLE OF FINANCE TEAMS

To successfully embed natural and social capital accounting into decision making, it is important for finance and sustainability teams to work together.

Both finance and sustainability professionals have unique skill sets. Sustainability professionals bring technical expertise and a long term and broad stakeholder perspective as well as innovative thinking. Finance brings expertise in defining appropriate metrics and implementing robust data collection and integration into management information systems. The finance function is also in a key position to embed approaches throughout an organisation. They can help translate impacts and issues into what it really means for the business and society.

By recognising each other's strengths and working closely together, finance and sustainability teams can provide the organisation with the right type and quality of information to enable improved decision making based around natural and social capital issues.

Language can be an issue as both professions have their own community, acronyms and jargon. Understanding each other is essential and training and education for both on what the other delivers, helps to improve the outcomes.

Natural and social capital accounting is a good example of where this relationship is delivering value to organisations. Whilst sustainability teams have for a long time been measuring and talking about the importance of environmental and social activity within a company, through working with finance teams, there is the opportunity to strengthen understanding of the value of sustainability to the business and wider society, and for natural and social capital accounting to become central to organisational decision making.

However, to account properly for natural and social capital, sustainability and finance teams may also need to engage with a broad range of internal and external experts. This may include scientists, engineers, consultants, marketing, commercial and IT experts, all of whom may be able to provide valuable input. In addition, experienced environmental economists can play a vital role when it comes to determining societal values.

WHAT INITIATIVES SHOULD FINANCE TEAMS BE AWARE OF?

This is a rapidly evolving area; however, one of the biggest challenges remains the lack of an agreed standardised way of quantifying and valuing natural and social capital. Whilst there is good progress in relation to natural capital issues, progress on social capital issues is less well developed.

The Natural Capital Coalition: the leading business led initiative focused on natural capital is the Natural Capital Coalition, a global multi-stakeholder platform for supporting the development of methods for natural capital valuation in business. It brings together stakeholders from business, policy, accounting, academia, accounting bodies and NGOs. The Coalition is developing a 'Natural Capital Protocol' to help business embed natural capital accounting into decision making. The Protocol will be a guide rather than a standard, offering a harmonised open source approach and will cover qualitative, quantitative and monetary valuation techniques.

Many of the global accounting institutes are represented in the Coalition along with the major accounting firms.

The Protocol will be piloted by over 100 companies and is due for completion by early 2016 - www.naturalcapitalcoalition.org. If you would like to be involved in the development of the Protocol, please contact the Natural Capital Coalition.

In addition, there are a number of initiatives focused on corporate reporting on natural and social capital:

International Integrated Reporting Council (IIRC): a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs with the objective of evolving corporate reporting to reflect the issues faced in the 21st century. In 2013, the IIRC developed an International Integrated Reporting Framework which encourages companies to consider their impacts and dependencies on six forms of capital, including natural, social and human capitals alongside financial, manufactured, and intellectual capital - www.theiirc.org.

Global Reporting Initiative (GRI): the most commonly used international corporate sustainability (social, environmental and economic) reporting framework. Now in its fourth generation (G4), it provides a methodology and a list of impacts and metrics that have been determined by multi-stakeholder working groups - www.globalreporting.org.

Sustainability Accounting Standards Board: a developing set of standards that help US listed public corporations disclose material and decision useful information to investors - www.sasb.org.

> *"When we started on this work there were many barriers to overcome, one of the most significant of which was that the sustainability and finance teams were speaking different languages.*
>
> *Through working closely together (we now talk virtually every day) we have a common understanding and can make sure that our individual strengths are utilised to their best ability".*
>
> Anne Thomas, Financial Controller, The Crown Estate

USEFUL TERMINOLOGY FOR FINANCE TEAMS

Biodiversity: The variety of life on Earth (plants, animals and micro-organisms) and the environment it depends upon.

Dependency: Where your organisation relies upon natural or social capital as an input e.g. a company's operations may depend on natural capital such as water or a nearby natural environment that provides flood control, or social capital, such as skilled and motivated employees and networks of collaborative organisations.

Direct impact: An environmental or social change directly resulting from an organisation's operations. These are the most commonly measured and reported impacts.

Ecosystem service valuation: Builds an understanding of the value of ecosystem services (i.e. the services provided by natural capital such as climate regulation) to an organisation and its stakeholders and can be used to inform environmental restoration works that deliver optimum value to both companies and stakeholders. Used by companies including Yorkshire Water (see p16), National Grid (see p22) and Dow Chemical.

Enabled impact: e.g. consumer use of products or the operations of others on land owned by your organisation.

Environmental impact measurement: Measuring impacts at all stages of a product's life across the value chain using approaches such as Life Cycle Assessment and Footprinting which looks at the total amount of resource used / emitted to produce a particular good / service e.g. carbon and water. Biodiversity and ecosystem services are typically not directly covered in these tools.

Environmental Management Accounting: Involves combining financial costs and savings as well as quantitative information relating to the environment to help inform internal management decisions. Related to this are Environmental Cost Accounting, and Life Cycle Costing, which traditionally incorporate direct costs already established in the market, as distinct from the wider economic costs of environmental 'externalities'.

Environmental Profit and Loss (EP&L): Identifies and quantifies an organisation's environmental impacts and dependencies and seeks to apply a monetary valuation so that these can be presented in the format of a financial profit and loss account. Can be used to assess full value chain impacts and dependencies. Used by companies including Yorkshire Water (see p16), PUMA / Kering, Novo Nordisk and the Otto Group.

Externality: An impact, positive or negative, that affects those external to the organisation for which the company does not pay (or get paid) through the markets. For example, the cost to society of pollution for which an organisation does not pay, or the benefits gained by society from the up-skilling of employees through your organisation's training programmes.

Footprint: The sum total of a business's direct and indirect impacts e.g. its carbon or water footprint.

Human capital: People's competencies, capabilities and experience, and their motivations to innovate.

Indirect impact: An environmental or social change either 'upstream' in supply chains or 'downstream' by customers as an indirect result of company activities.

Issue: In the context of this guide, a natural or social capital impact or dependency.

Life Cycle Assessment (LCA): A technique to assess environmental impacts associated with all stages of a product's life from cradle to grave i.e. from raw material extraction through to manufacture, distribution, use and end of life disposal or recycling. LCA typically looks at quantitative measures.

Natural capital: All renewable and non-renewable (i.e. finite) environmental resources that provide goods or services that support the prosperity of an organisation and society. It includes air, water, land, minerals and forests.

In this guide we use the term 'natural capital' quite broadly to refer to an organisation's impacts and dependencies on the environment.

Natural Capital Coalition: A global coalition of companies and other stakeholders formed to promote and develop tools and approaches to support the valuation and measurement of natural capital.

Net Impact: Used when seeking to match restorative actions against known or measured impacts to result in 'neutrality'. It is typically used against a single issue or ecosystem service such as carbon, waste or water. Used by companies such as Coca Cola.

Net Positive: Communicates the principle of businesses adding greater value to the environment and society than they take away. This is a shift towards 'sustainability to restore', from 'sustainability to reduce'. Used by companies such as Kingfisher, Rio Tinto and BASF.

Shadow price: A type of valuation, calculated from a theoretical value or notional price relating to an activity or impact not currently reflected in market prices.

Social capital: The institutions and relationships, and ability to share information within and between groups of stakeholders, communities and other networks to improve their wellbeing.

Social impact measurement: An evolving area with a number of businesses using techniques such as Social Return on Investment (SROI) to quantify the impact of investing in education and apprenticeship programmes or the number of people benefiting from community outreach initiatives.

Social Return on Investment (SROI): A principles based method for measuring social value relative to resources invested. It can be used by any entity to evaluate impact on stakeholders, identify ways to improve performance, and enhance the performance of investments. Used by companies such as British Land (see p7).

Societal value: External direct / indirect non-market consequences of natural and social capital impacts. Sometimes known as stakeholder value.

Total Contribution: Assesses direct, indirect and enabled contributions across economic, environmental and social areas. Used and originally developed by The Crown Estate (see p20).

Total Impact Measurement and Management (TIMM): An extension of the EP&L that provides an assessment of how economic value is impacted or generated for different stakeholder groups. Uses a range of methodologies to place a financial value on social, environmental and economic impacts. Used by companies including SSE (see the A4S guide on CAPEX: a practical guide to embedding sustainability into capital investment appraisal).

Triple Bottom Line (TBL) accounting: An extension of the EP&L, which also accounts for social impacts of business as well as environmental and economic. Used by companies such as United Utilities (see p19).

ACKNOWLEDGEMENTS AND REFERENCES

Note from the natural and social capital project chair:

I would like to thank everybody who has contributed to the work of this project, including the A4S team and I hope that this guide will be of use to those who are seeking to develop their activities in this area.

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TOP TIPS

START SOMEWHERE

- The subject is vast and it is not possible to cover everything, so start with something you can do well
- Carbon has readily available financial cost data, perhaps a good place to start
- Be prepared for the 'so what?' question – the business benefits section (see p5) should help you get the answers

GET YOUR PROCESS RIGHT

- All the principles in this guide are important, but most important is to focus on what is material to your organisation
- Transparency in natural and social capital accounting is key to instilling confidence
- Use test cases, look back at previous decisions and see where value was not identified or where opportunities were missed
- Involve your stakeholders to identify shared value and help you focus on what is important

CHANGE THE WAY YOU DO BUSINESS

- Being able to account for natural and social capital is a good step, using this information to make better decisions is where the true value is
- Just by starting to consider the environment and society as best you can in decision making, you'll be making more informed decisions to the benefit of your organisation and wider society
- The ultimate goal is to make more informed decisions for your business and for society, for today and the long term

COLLABORATE

- We will go further together. This is an evolving issue and working collaboratively with others will help unlock the difficult bits
- If you don't know much about natural and social capital, ask a sustainability colleague and I dare say they'll be delighted you asked and very happy to help

WHAT SHOULD YOU DO NEXT?

- Consider where you are on the maturity model (see p23)
- Think about what is material to your company and when you should be incorporating natural and social capital issues into decision making
- Seek out and engage with others in your company that could support you in incorporating these issues within your organisation