THE CAMBRIDGE NATURAL CAPITAL LEADERS PLATFORM

NATURAL PERFORMANCE METRICS SELECTION FRAMEWORK

UNIVERSITY OF
CAMBRIDGE
PROGRAMME FOR
SUSTAINABILITY LEADERSHIP

25 YEARS

Contents

Acknowledgements

Collaboratory Members

Executive Summary

Over the last few years, progressive companies have significantly advanced their understanding of natural capital and the critical services provided by nature, including food, fibre and water provision through to clear air and climate regulation. But to go further, and embed this into day-to-day business processes and decision making, it is vital that these companies select the most informative metrics to manage their impacts and dependencies on these resources effectively.

In response, a proliferation of organisations, initiatives and reports have emerged to recommend appropriate indicators. This has left many companies struggling to navigate through the rapidly growing list of natural capital metrics to identify those that will have a material impact on how they measure and manage their business activities going forward.

In addition, there has been growing recognition that companies need to look beyond their own operations to understand the natural capital impacts and dependencies of their whole value chain(s), and to ensure that they understand the natural capital availability and constraints within which they operate. A key outcome of this has been the growing emergence of "context based metrics", which compare a company's impact or dependence with the available natural capital in a particular location.

In 2013, the Cambridge Programme for Sustainability Leadership (CPSL) convened a group of companies to explore the key attributes of the next generation of natural capital metrics

and, in the process, help them to meet the Natural Capital Compact's fourth commitment[1] to "develop rigorous and realistic targets and plans". Companies reinforced the need for indicators that illuminate where businesses could become most exposed to natural capital constraints and thresholds. They also wanted assistance in understanding and selecting from the wide range of indicators available. These requirements were met through the development of a simple framework to aid metrics selection.

This work has led on to the creation of a practical, web based tool to help companies think through their decisions on metrics and, in particular, to highlight the value of context based metrics in their decision making processes. This tool is now operational and available to members of the Natural Capital Leaders Platform[2], but remains a "living tool" that will continue to be improved. Ultimately, it is expected that this tool will become a valuable aid in helping companies to take action on their largest natural capital impacts and dependencies, and instigate change at scale within their organisations.

[1] http://www.cpsl.cam.ac.uk/Business-Platforms/Natural-Capital-Leaders-Platform/Natural-Capital-Leadership-Compact.aspx
[2] http://www.cpsl.cam.ac.uk/Business-Platforms/Natural-Capital-Leaders-Platform.aspx

Why are natural capital metrics important?

Natural capital management is critical

The Earth's stocks of natural capital[3] are dwindling as the demand for food, water and energy rises as global population and consumption grows. Inefficient use of resources, land degradation and large-scale waste compound the problem. Global demand now outstrips the supply of natural renewable resources of the planet by over 50 per cent[4]. The world no longer lives off the dividends of natural capital but off the capital itself.

If the depletion of the Earth's natural capital resources crosses specific thresholds or 'planetary boundaries', this could create "irreversible and abrupt environmental change"[5]. It has been calculated that the planetary boundaries for Biodiversity loss, Nitrogen cycle and Climate change are already being significantly exceeded.

Companies rely on natural capital for all aspects of their operations from raw materials to energy use and water consumption in processing and transportation. Depletion of these resources has a significant long-term impact on costs throughout business value chains. Climate change is also creating increased volatility in the availability and pricing of natural capital services, and years of ecosystem degradation have left many areas vulnerable to natural disasters.

Stakeholders are beginning to respond. Major purchasers are introducing sustainable procurement guidelines. Investors, consumers and civil society are increasingly focused on environmental damage, and are beginning to ask companies for information on their impacts and dependencies. Governments around the world are introducing new regulations and fiscal regimes that are targeted at addressing some of the specific threats to natural capital. Major lenders are also tightening environmental requirements for access to corporate loans, and investors are increasingly sensitive to risks associated with ecosystem degradation.

But this also provides a real opportunity for progressive companies. Those businesses that can demonstrate that they are managing their impacts and dependencies will prevent damage to their markets, reputation and brand, and avoid restrictions on their "license to operate". They will clearly be able to demonstrate their value to society, and open up opportunities to differentiate themselves from their competition. They will also play a vital role in protecting the critical resources that society and our planet rely on.

---

[3]'Natural capital' is an economic metaphor for the limited stocks of physical and biological resources found on Earth, and the limited capacity of ecosystems to provide ecosystem services (i.e. the direct and indirect contributions of ecosystems to human well-being).
[4]Global Footprint Network: www.footprintnetwork.org
[5]Stockholm Resilience Centre: www.stockholmresilience.org/

The role of natural capital metrics

Given the maxim that "you only manage what you measure", companies are now searching for the most informative set of indicators to help them to manage these impacts and dependencies more effectively.

With businesses already utilising a wide range of performance management indicators (e.g. financial, health & safety, social measures), it is vitally important that companies select natural capital metrics that will also have a real and material impact on business decisions.

There are two key elements to choosing an informative set of natural capital metrics:

1. Companies must identify **the environmental impacts and dependencies throughout their whole value chain(s)**, and not just their own operations. For example, a company's largest impacts may occur further up its supply chain through the crops grown or the raw materials extracted. The selected indicators should then measure and monitor these largest impacts and dependencies.

2. Companies must understand the **availability of, and constraints on, local natural capital resources** and, critically, the competing demands on these resources. This understanding enables a company to become much more focused in the prioritisation of its natural capital management activities. For example, a metric which measures how much water a company is accessing from water-stressed regions is much more helpful than a company's global water consumption measurement which does not indicate whether a company is extracting from water scarce regions or not.

By reviewing both of these, companies are armed with the information necessary to select metrics that will deliver material change to their business activities.

However, companies are then confronted by a long list of recommended metrics and indicators form which to choose. The most commonly applied are the Global Reporting Initiative[6] (GRI) guidelines, which are increasingly forming the backbone of company sustainability reports. These metrics, though, are primarily focused on the impacts and dependencies of a company's own operations, and do not pay enough attention to the context within which a company and its value chain operates. Other frameworks include Puma's Environmental Profit & Loss[7] which provides a more complete financial valuation of a company's impact on natural capital but is very resource intensive to undertake and relies on many value transfer assumptions.

Given this proliferation in approaches and recommended indicators, it can be very difficult for companies to decide which metrics to use and where to locate the relevant sources of information.

---

[6] www.globalreporting.org/
[7] about.puma.com/puma-completes-first-environmental-profit-and-loss-account-which-values-impacts-at-e-145-million/

The need for a simple metrics framework and the value of context based metrics

In 2013, CPSL brought together a group of companies to discuss and explore the key attributes of the next generation of natural capital metrics.

These companies identified two distinct needs:

1. The requirement for a simple matrix that brought together all of the existing metrics in one place and organised these into appropriate categories to aid decision making.

2. An improved understanding of natural capital resource limits and the incorporation of this thinking in a more informative set of metrics to review their value chain impacts and dependencies.

This result of this was the creation of a practical framework to help companies think through which metrics to use and, in particular, to prompt companies to consider the value of "context based metrics". These compare a company's impact or dependence with the available natural capital in a particular location.

Within this framework, companies expressed the need for natural resource constraints to be broken down further into biophysical, legal and informal restrictions on the use of local natural capital.
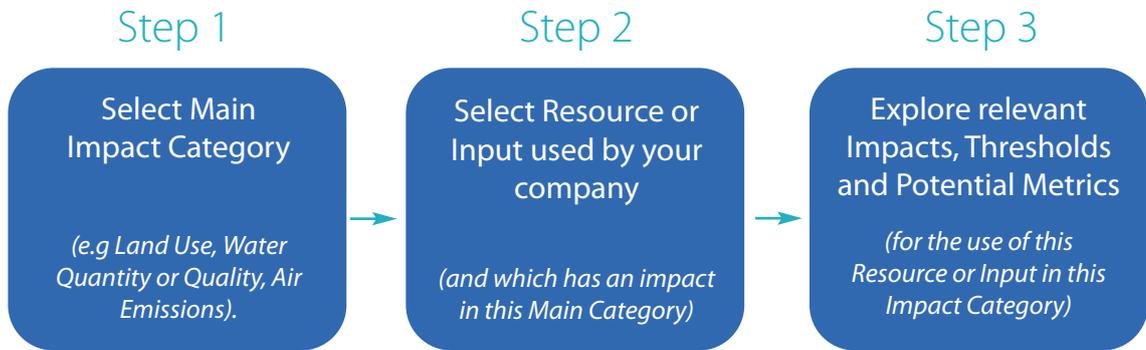
They also wanted to see a framework that distinguished between the inputs or resources that a company or its value chain uses, and the resulting natural capital impacts from the utilisation of these resources.

Lastly, having understood their impacts and dependencies on natural capital, companies wanted to have a list of metrics that could be selected from to demonstrate progress on natural capital management. This list needed to include both existing GRI indicators as well as some of the indicators already in use by other sectors.

Metrics Selection Framework tool

This framework has now been converted into a practical webtool to facilitate use by Platform members. It has been designed as a simple decision tree with the following steps:

Step 1

Select Main Impact Category

(e.g Land Use, Water Quantity or Quality, Air Emissions).

Step 2

Select Resource or Input used by your company

(and which has an impact in this Main Category)

Step 3

Explore relevant Impacts, Thresholds and Potential Metrics

(for the use of this Resource or Input in this Impact Category)

Step 1 of the process starts by allowing users to select one of the main natural capital impact categories as shown in **Figure 2** below.
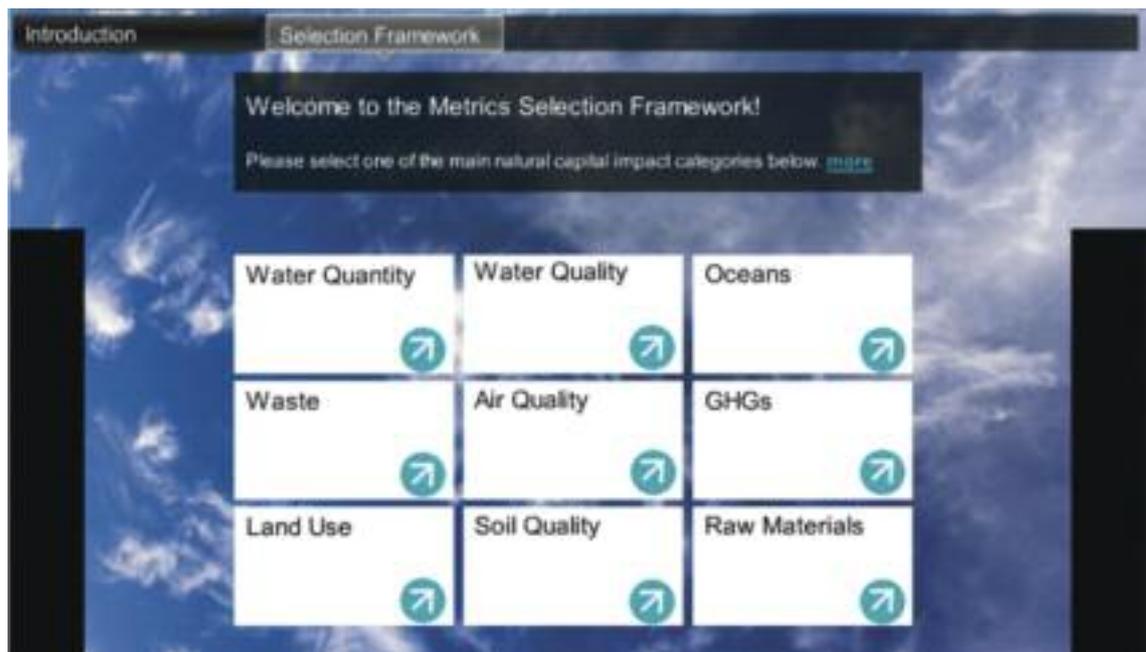

Figure 2 Natural capital resource selection screen-shot

Within each of these categories, Step 2 enables the user to select a particular resource or input that is used in their company's production process or value chain and which has a potential impact on the selected natural capital impact category.

For example, within Land Use, a company could select Cropland, Forestry Land, Grazing Land or Wetlands as a key resource it uses. Alternatively, within Air Quality, a company might select from the following resources or inputs that it uses: Raw Materials, Chemicals, Fuel or Fertiliser, all of which could have an impact on Air Quality.

After selecting a company resource or input, Step 3 then contains four sets of information which will help companies to explore natural capital impacts, relevant thresholds, and potential metrics. The four sets of information cover:

1. Prompts on some key natural capital lifecycle impacts from the use of this input or resource;

2. Information on local resource constraints, which is further sub-divided into biophysical, regulatory and informal constraints all of which may impose limits on the availability of natural capital to a business;

3. A proposed set of potential context-based metrics for each category, which are derived from comparing the use of resources or the associated lifecycle impacts in 1. above with the local resource constraints in 2. above.

These metrics are sub-divided into 'Resource Use' context based metrics which target a reduction in consumption of inputs, and

'Impact' based context metrics which aims to limit the degradation of natural capital from the business activity. These metrics enable a company to start to understand its share of, and hence impact or reliance on, the limited amount of natural capital available; and

4. A range of potential progress metrics which could be measured to demonstrate a company's improvement in its natural capital management. GRI indicators have been included in this list, as well as a number of other indicators already in use by companies.

As an example of the information provided, **Figure 3** below shows some key biophysical resource considerations related to Cropland (within the Land Use category).

In this instance, the Biophysical Limits include the amount of local cropland available or cropland ecological surplus (as calculated by Global Footprint Network[8]), the status of threatened wildlife such as farmland birds, and a range of soil quality thresholds.
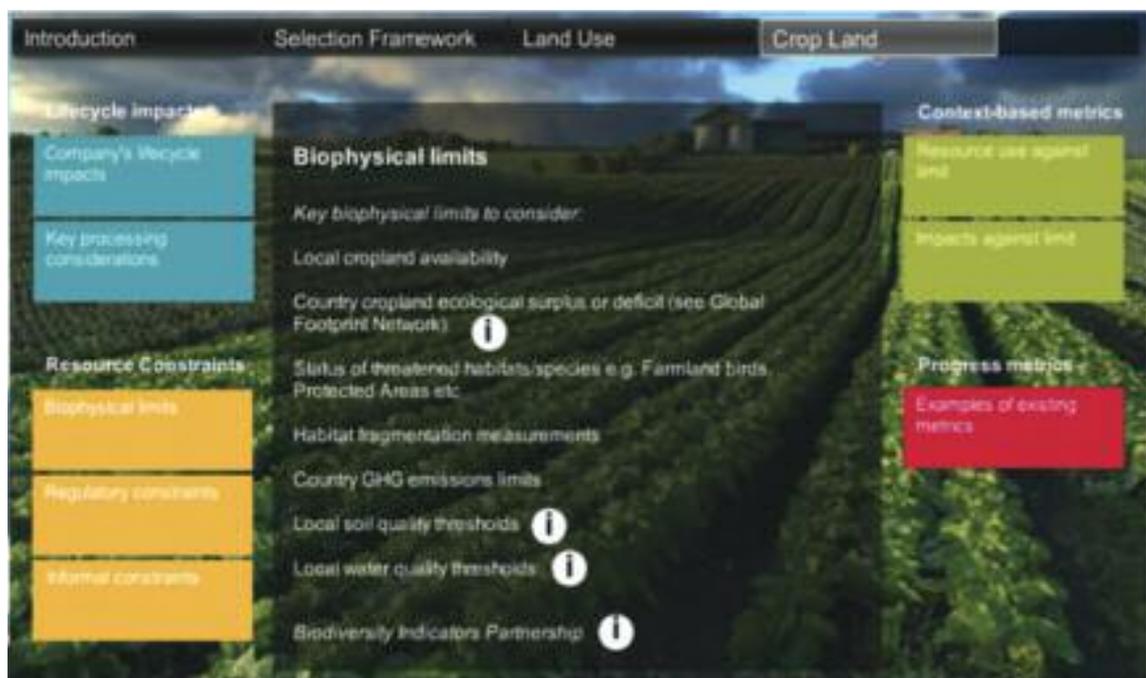

Figure 3 Land Use - Crop Land: Biophysical limits screen-shot

---

[8]www.footprintnetwork.org

Where appropriate, the tool also provides definitions and examples of some of the data sources available. It also offers more detailed information on some key impacts, particularly biodiversity impacts such as the checklist provided by UNEP-WCMC's Biodiversity Indicators Partnership[9].

Lastly, the tool provides some suggested context-based metrics for a few specific sectors (see example of some context-based metrics in **Figure 4** below) as well as a diagram that illustrates the flows of natural capital into and out of a company and its value chain.

Figure 4 Example context-based metrics for a Mining Company

[9]www.bipindicators.net

Future Development

This tool is a "living tool" which will continue to evolve and accumulate information, but which already is a valuable aid in helping companies to take action on their largest natural capital impacts and dependencies, and instigate change at scale within their organisations. It is currently only available to Platform members, but is expected to be made more widely available once it has been road-tested further in 2014.

One particular area which this tool has already highlighted is the lack of information on natural capital thresholds. These are points at which unanticipated and dramatic changes in the state of ecological systems can occur, and can result in significant changes to the future availability of natural capital to business. An example is deforestation where ongoing habitat fragmentation can suddenly change the ability of a forest to withstand adverse weather events. Improving the understanding of these thresholds and potential "tipping points" is expected to be a key focus of Platform research over the next couple of years.

This tool will also have an important part to play in the next phase of CPSL's Natural Capital Leaders Platform work. Over the next three years, Platform members will be undertaking a journey which builds on their existing sustainability activities by deepening understanding and engagement within their companies, and then enabling action to be taken to scale by their businesses. Each member will identify where they can have the greatest impact on natural capital, with the Platform coalescing members around common themes, undertaking case studies informed by leading edge research, and delivering practical responses that each member company can act on.

This tool will be an important aid in this work, helping companies to measure progress on the delivery of their natural capital management responses, strategies and external commitments. This work will, in turn, help to refine the tool and ensure that it remains a relevant and practical aid for business.

[10]www.leadershipcompact.com

Cambridge insight, policy influence, business impact

In 2013, the University of Cambridge Programme for Sustainability Leadership (CPSL) celebrates its 25th anniversary of working with leaders on the critical global challenges faced by business and society.

CPSL contributes to the University of Cambridge's mission and leadership position in the field of sustainability via a mix of executive programmes and business platforms, informed by world-class thinking and research from the University and other partners. CPSL is an institution within the University's School of Technology. HRH The Prince of Wales is the patron of CPSL and we are a member of The Prince's Charities, a group of not-for-profit organisations of which His Royal Highness is President.

In the UK
1 Trumpington Street,
Cambridge CB2 1QA, UK
T: +44 (0)1223 768850
F: +44 (0)1223 768831
E: info@cpsl.cam.ac.uk

In Brussels
The Periclès Building
Rue de la Scinece 23
B-1040 Brussels, Belgium
T: + 32 (0)2 894 93 20
E: info.eu@cpsl.cam.ac.uk

In South Africa
PO Box 313
Cape Town 8000, South Africa
T: +27 (0)21 469 4765
F: +27 (0)86 545 5639
E: info.sa@cpsl.cam.ac.uk

www.cpsl.cam.ac.uk