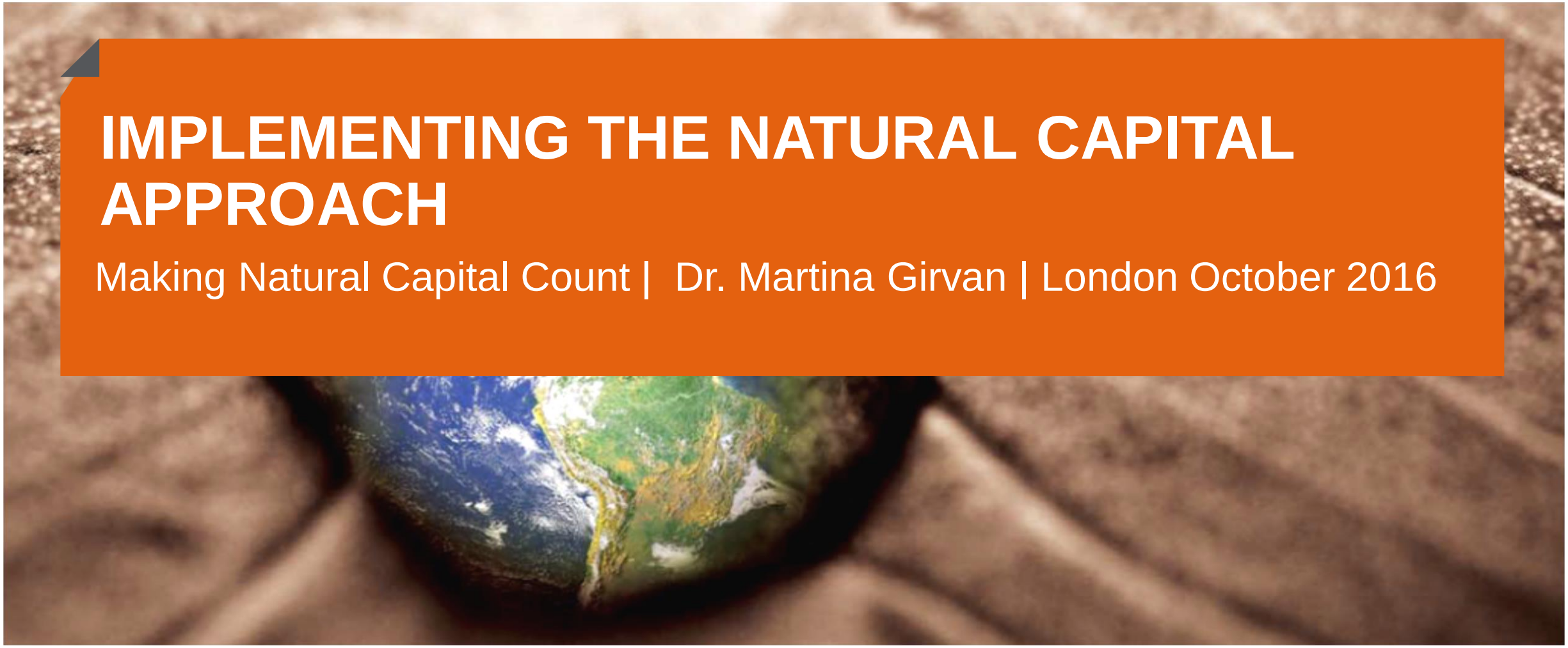
ARCADIS Design & Consultancy for natural and built assets

IMPLEMENTING THE NATURAL CAPITAL APPROACH

Making Natural Capital Count | Dr. Martina Girvan | London October 2016



Presentation Outline

- What is the natural capital approach?
- How can it generate added value?
- Case study examples and tools to assist
- Next steps to wider implementation

What is the natural capital approach?

- Although the term 'natural capital' was first used in 1973 by E.F. Schumacher in his book ***Small Is Beautiful*** the "***Tragedy of the Commons***" is an economic theory originated in1833 by the Victorian economist William Forster Lloyd, coining a phrase for the situation within a shared-resource system where individual users acting independently according to their own self-interest behave contrary to the common good of all users by depleting that resource through their collective action.

What is the natural capital approach?

- **Natural capital** is the world's stock of natural resources, which includes geology, soils, air, water and all living organisms. Natural capital assets provide people with a wide range of free goods and services, often called **ecosystem services**, which underpin our economy and society and some of which even make human life possible.
- The natural capital approach uses the **value** of these benefits to society to ensure that the decisions we make are based on holistic, real world scenarios. This requires the **qualification**, **quantification** and sometimes the **monetisation** of these benefits.

What is the natural capital approach?

- Valuing these assets appropriately, realising the risks and opportunities associated with them enable use to maximise the benefits and minimise the impacts
- The natural capital approach can be used throughout the life cycle of a scheme

Corporate Strategy → Design → **Planning** → Procurement → Implementation → Operation

What is the natural capital approach?

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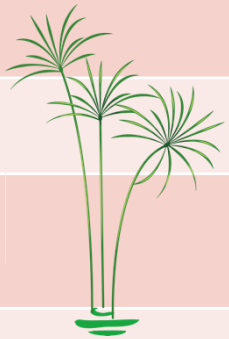
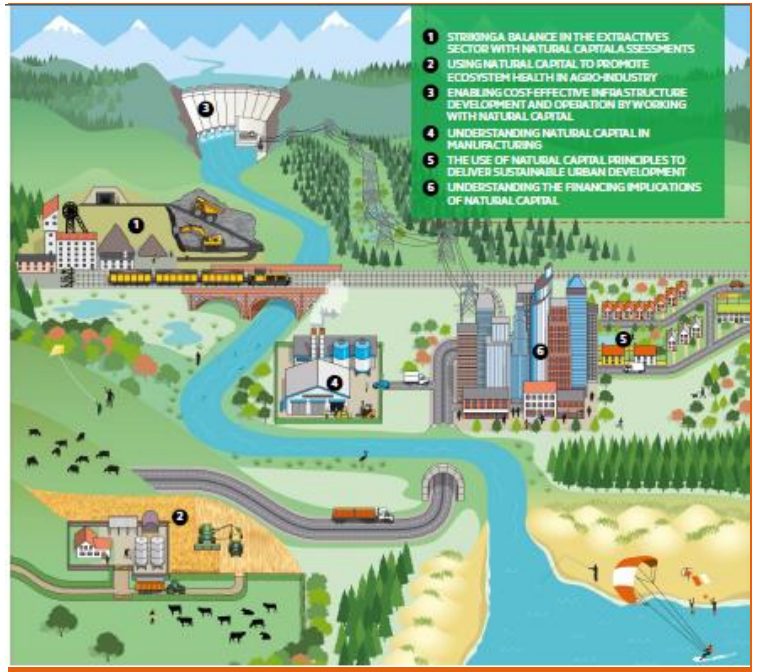
	Corporate + Finance	Finance + Site + Corporate	Site + Finance + Corporate	Corporate + Supply (+Site)	Supply Chain	Corporate + Site + Supply Chain
Guiding Corporate Strategy						
Maximizing Site Value						
Securing Sustainable Finance						
Securing Sustainable Supply						
	Attract environmentally savvy investors and lenders, by creating revenue opportunities with innovative product and service solutions, maximizing profit	Comply with, and stay ahead of, impending regulatory changes - IFC Performance Standards (e.g., IFC PS6) and manage Equator Principles	Maximize efficiencies and avoid liabilities by maximizing the GI design and ecosystem services - thus boosting productivity and brand value	Differentiate your brand through superior purchasing, operating, or investment practices	Demonstrate leadership value by creating new markets through education around high-performing sustainable products - winning trust and loyalty	Involve stakeholders, to identify and value natural capital risks and opportunities, enabling fair redevelopment evaluations, optimization of business strategy and maintenance of license to produce



Arcadis White Paper Making Natural Capital Count https://www.arcadis.com/en/global/our-perspectives/2016/07/making-natural-capital-count/.

The benefits of complexity ☺

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Eukaryotic diversity on Earth was estimated to be approx. 8.7 million (8.7×10^6) species in total

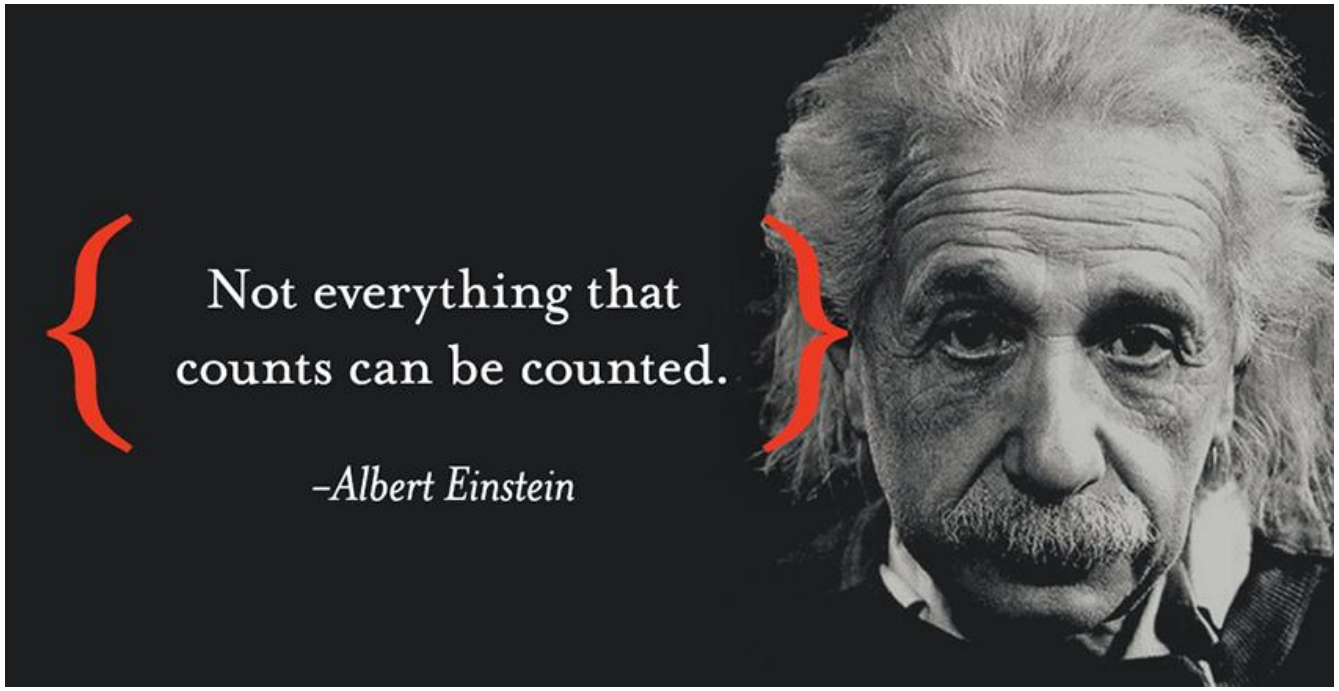
One individual sample of 10g soil was estimated to contain 8.3 million (8.3×10^6) microbial species

This complexity is what makes our natural capital so, productive, resistant to perturbations and resilient i.e. useful! ☺

*"The **stock** of **renewable** and **non-renewable natural resources** (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people."*

Source: Natural Capital Coalition (2016)

The challenges of complexity ☹



We need to reduce this complexity however in order to measure and value these benefits

Tools for measurement

We are all looking for a 1 stop shop tool that fits all scenarios! When in reality it takes a lot more tools to build a house!

wbcsd urban

Birmingham City Council

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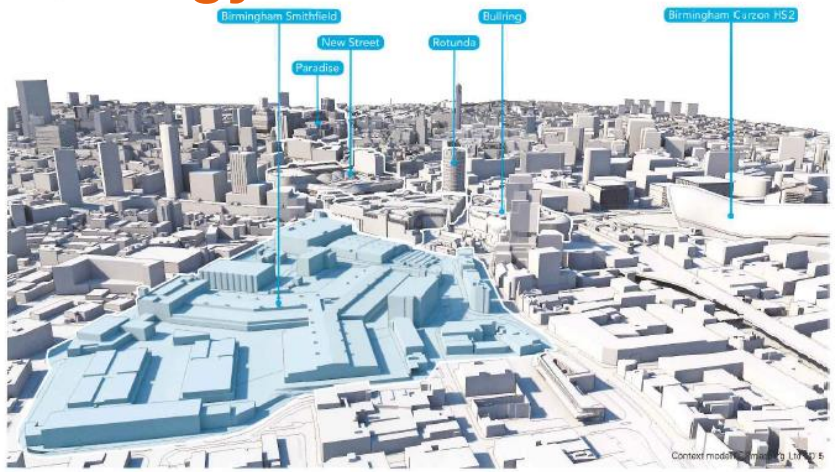
Zero Emission Cities (ZEC) Smithfield Market Development Zone STAR (Sustainable Tools for Assessing and Rating Communities) Project

Guiding Corporate Strategy



Client Challenge

Rapidly accelerating city occupation driving the need for sustainable growth

The Project

Arcadis is in liaison with BCC is developing the proposed Sustainability Framework to support Smithfield Development. The Framework draws together a range of sustainability standards and examples of Best Practice that, if embedded, will drive the sustainability aspirations of Smithfield. This is very much a ‘blueprint’ for the WBCSD ZEC vision of the delivery of a highly sustainable development at Smithfield and to cement the city’s leading position on natural capital and its UK lead as a Biophilic City.

The Result

10 sustainability categories. Under each of these categories ‘Sustainability Principles’ outline a high level approach to delivering more sustainable outcomes.
Natural Capital is one of these 10 principles, it incorporates elements of biodiversity and green infrastructure as well as social engagement and financial opportunity but Arcadis have ensured it is also woven into the other 9 principles where appropriate to prevent a “silo” approach to delivery. integration).

1.Energy and Climate Action

2.Water

3.Waste

4.Buildings

5.Natural Capital

6.Transport and Accessibility

7.Materials and Resources

8.Community and Culture

9.Local Economy

10.Health and Wellbeing

Work in progress

Balancing money making with place making

Realising and maximising the natural capital value of Multi-Functional Field Margins (MFFMs)

The Project

Can MFFMs add real natural capital value to agricultural land which is also reflected in a more sustainable business without a significant decrease in productivity?

If so can we select the simplest, most implementable measures that add the greatest value, communicate the benefits so that these measures are actioned and monitored?

Work in progress

Natural Capital Service Valuation Leading to Standardised Interventions and Monitoring of KPIs to Demonstrate Value Increase

Platform BEE is an initiative of VNO-NCW (The Confederation of Netherlands Industry and Employers) and environmental organisation IUCN NL. The platform is funded by the Dutch ministry of Economic Affairs

platform biodiversity, ecosystems & economy

Web Based Life Cycle Analysis Tool: Platform BEE

This web based tool provides a simplified LCA which will be free for all to use. It will provide users a rapid and general insight into the type, location and intensity of their most important impacts on biodiversity and ecosystems in their value chains. Based on the outcome they make clear decisions on how these impacts can be managed.

Commodities Traded + Origin of Commodity + Volume of commodity

What, Where and How?

Impact Intensity and Location

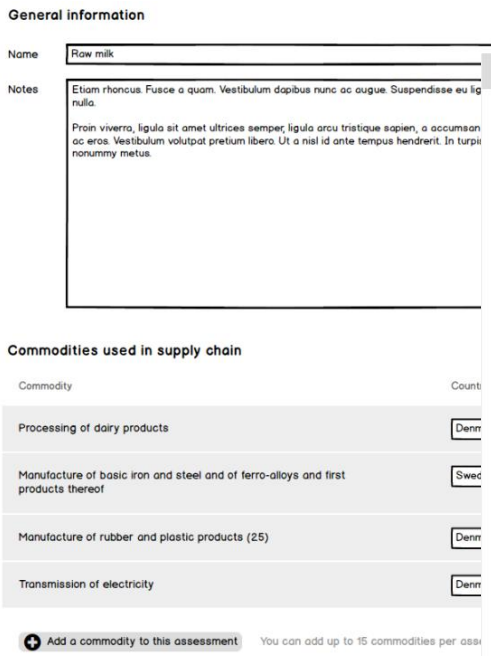
The analysis are based on a combination of Exiobase – ReCiPe data which maps the impact drivers of certain commodities. The web-based tool shall have a user-friendly user interface.

Work in progress

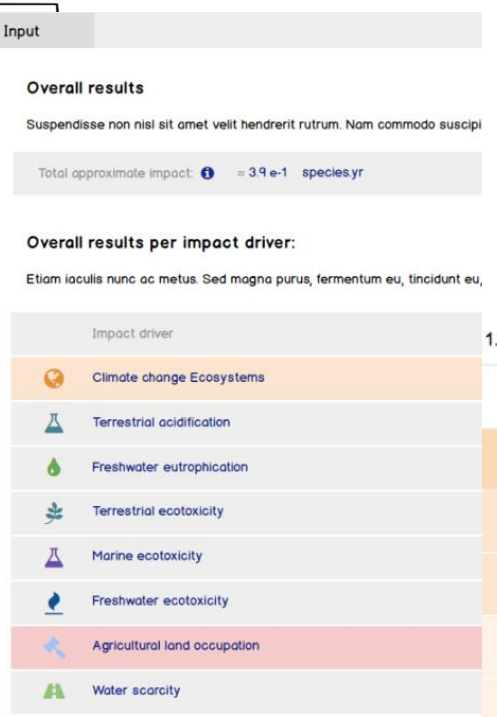
Simple, Interactive Measuring Engages the NC Issue and Promotes Positive Direction of Travel in Impact Reduction with Readily Implementable Measures

platform biodiversity, ecosystems & economy

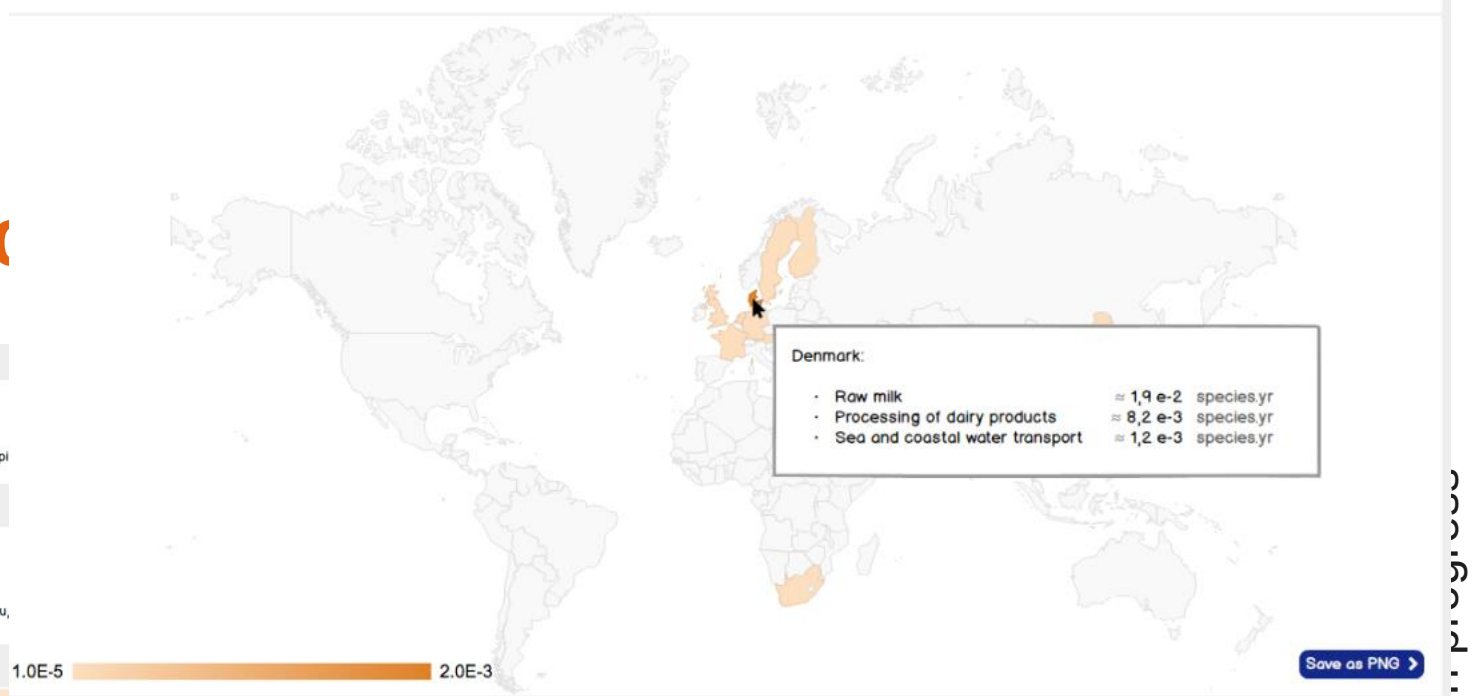
Web Based Life Cyc



Simple data entry



Intensity per impact c



Process	Country of origin	Approximate impact	Relative contribution
Raw milk	Denmark	≈ 1,9 e-2 species.yr	36%
Processing of dairy products	Denmark	≈ 8,2 e-3 species.yr	15%
Manufacture of basic iron and steel and of ferro-alloys and first products thereof	Sweden	≈ 7,3 e-3 species.yr	14%
Processing of dairy products	Rest of Middle East	≈ 2,8 e-3 species.yr	5%
Manufacture of basic iron and steel and of ferro-alloys and first products thereof	Sweden	≈ 2,1 e-3 species.yr	4%
Sea and coastal water transport	Denmark	≈ 1,2 e-3 species.yr	2%

Top 3 impacts, intensities and location of impacts

Demonstrates Clearly at a High Level Easy to Communicate Cross Sector, Cross Discipline and Globally

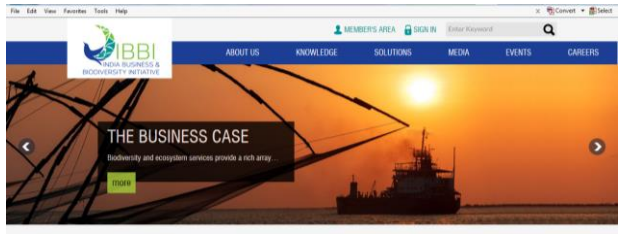
Tools for measurement - NCP

Stage	FRAME Why?	SCOPE What?			MEASURE AND VALUE How?			APPLY What next?	
Step	01 Get started	02 Define the objective	03 Scope the assessment	04 Determine the impacts and/or dependencies	05 Measure impact drivers and/or dependencies	06 Measure changes in the state of natural capital	07 Value impacts and/or dependencies	08 Interpret and test the results	09 Take action
Questions this will answer	Why should you conduct a natural capital assessment?	What is the objective of your assessment?	What is an appropriate scope to meet your objective?	Which impacts and/or dependencies are material?	How can your impact drivers and/or dependencies be measured?	What are the changes in the state and trends of natural capital related to your business impacts and/or dependencies?	What is the value of your natural capital impacts and/or dependencies?	How can you interpret, validate and verify your assessment process and results?	How will you apply your results and integrate natural capital into existing processes?

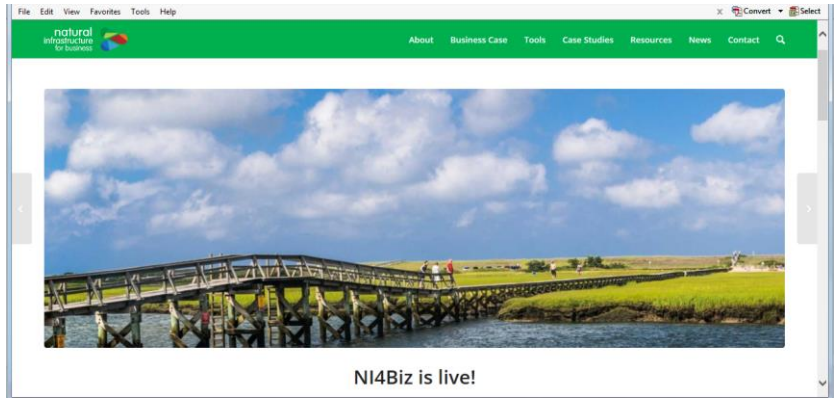
PRINCIPLES: Relevance, Rigor, Replicability, Consistency

Next steps

Collaboration



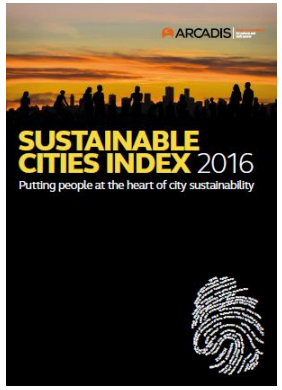
http://businessbiodiversity.in/

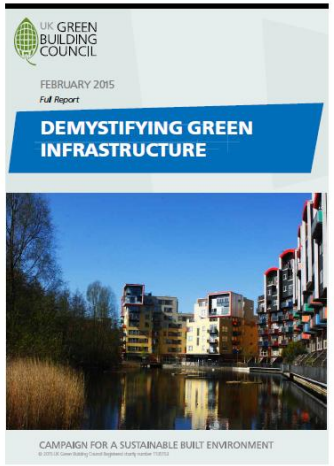


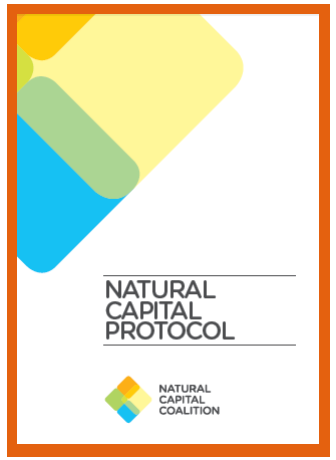
http://www.naturalinfrastructureforbusiness.org/news-story/

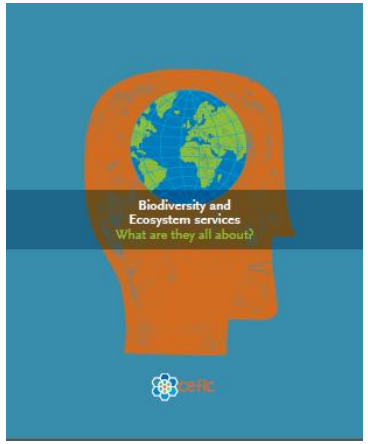
https://www.arcadis.com/en/global/our-perspectives/2016/07/making-natural-capital-count

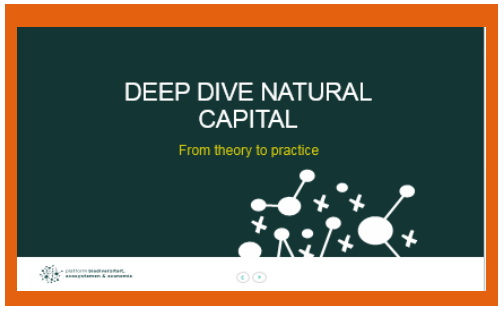
Knowledge Sharing











Practice

Collaborating with partners, sharing with all and practicing and as often as possible!

“An ounce of practice is generally worth more than a ton of theory.”

Ernst F. Schumacher, Small Is Beautiful: A Study of Economics as if People Mattered

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Making Natural Capital Count: matching economic generation with environmental preservation