NCI Valuing our Life Support Systems

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What is Natural Capital?

'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).

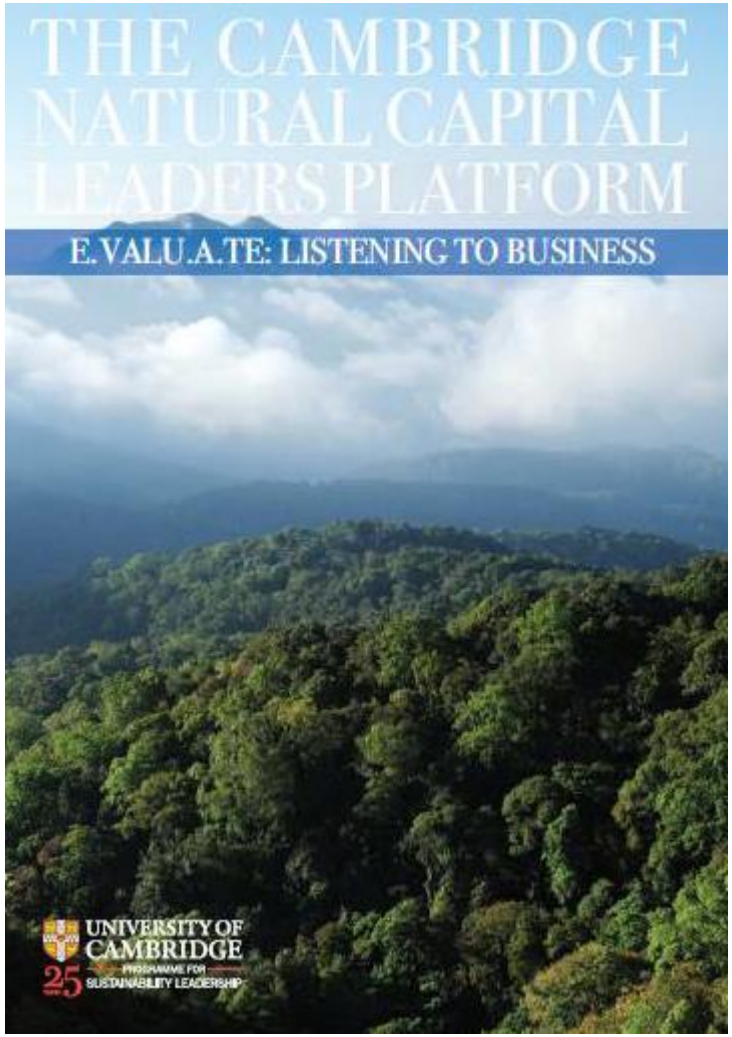
Ecosystem services (Source: Millennium Ecosystem Assessment)

1. **Provisioning services**, such as food, fibre, fuel and water
2. **Regulating services,** such as climate regulation, water purification and flood protection
3. **Cultural services,** such as education, recreation, and aesthetic value
4. **Supporting services,** such as nutrient cycling, oxygen production and soil formation. These underpin the provision of other service categories

Listening to business

In an era of environmental crisis, policy makers and businesses are increasingly seeking ways to manage their impacts, driven by the need to avoid and/or reduce future operational, financial, and reputational risks.

Businesses are beginning to understand their impacts and dependency upon the natural world. However, steps to address these impacts are often not mainstreamed in the strategic thinking of companies.



What does business need to accelerate corporate stewardship?

- **Understanding**

Many businesses express the need for greater understanding of their impacts and the materiality of these for their business in order to develop a strong case to take action.

- **Technical Analysis**

There is a growing need for business to map and quantify their impacts. This requires guidance on how to undertake assessments.

- **Internal Engagement**

While the sustainability teams of the majority of businesses understand the risks posed by companies' impacts and are keen to address them, executives in other teams (e.g. financial, operations) do not necessarily consider environmental issues a current priority.

- **Policy**

All the businesses agreed that policy and regulation is fundamental in helping their progression in addressing impacts.

Can Natural Capital Valuation enable this?

Valuing Environmental Externalities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- Business places pressures on the **natural environment**, which are not currently accounted for
- These have impacts on **human welfare**
- **Valuing** these currently uncosted impacts on the environment can give companies a more compelling business case for action

Incorporating these financial figures to influence business decision making

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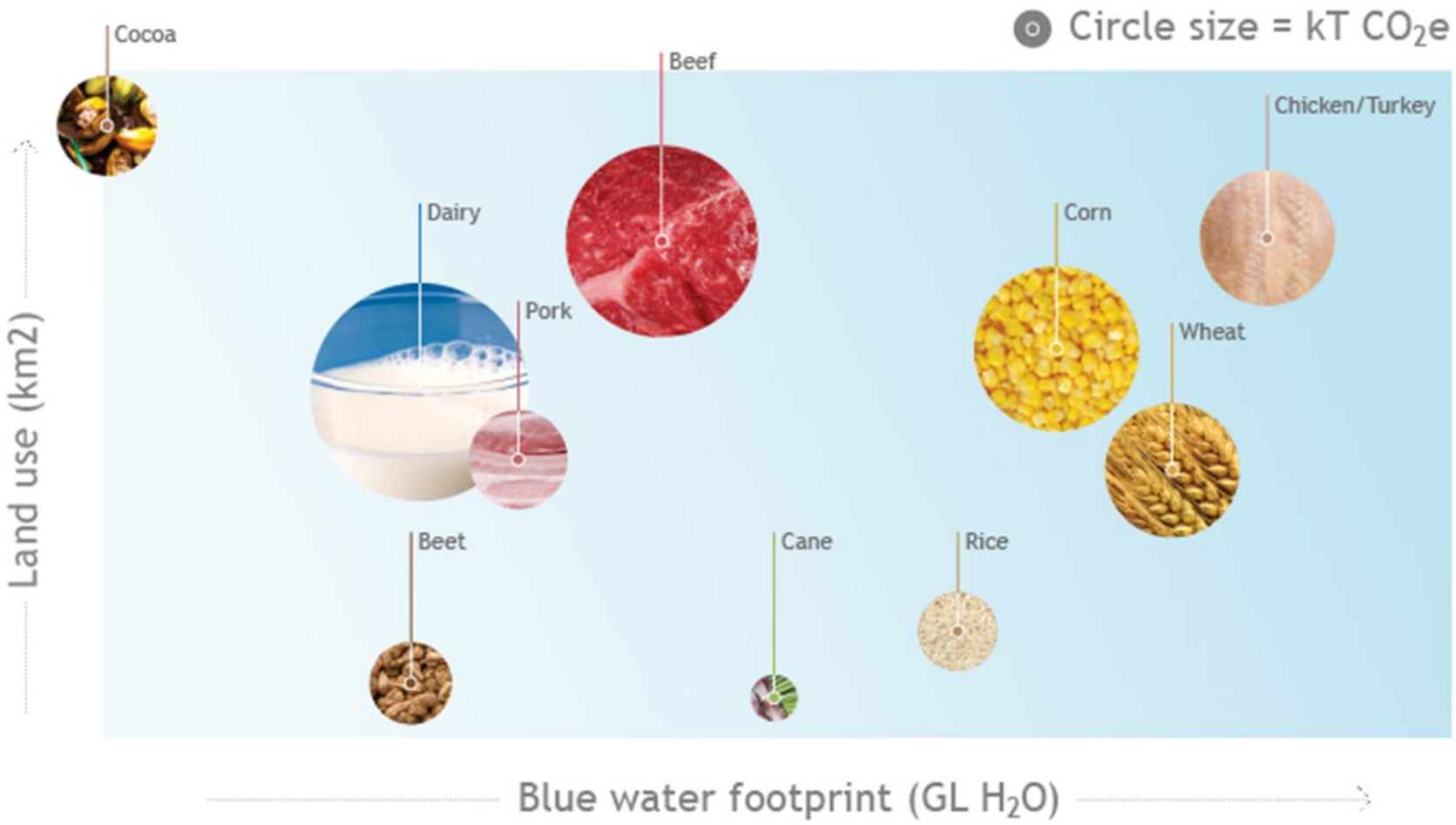
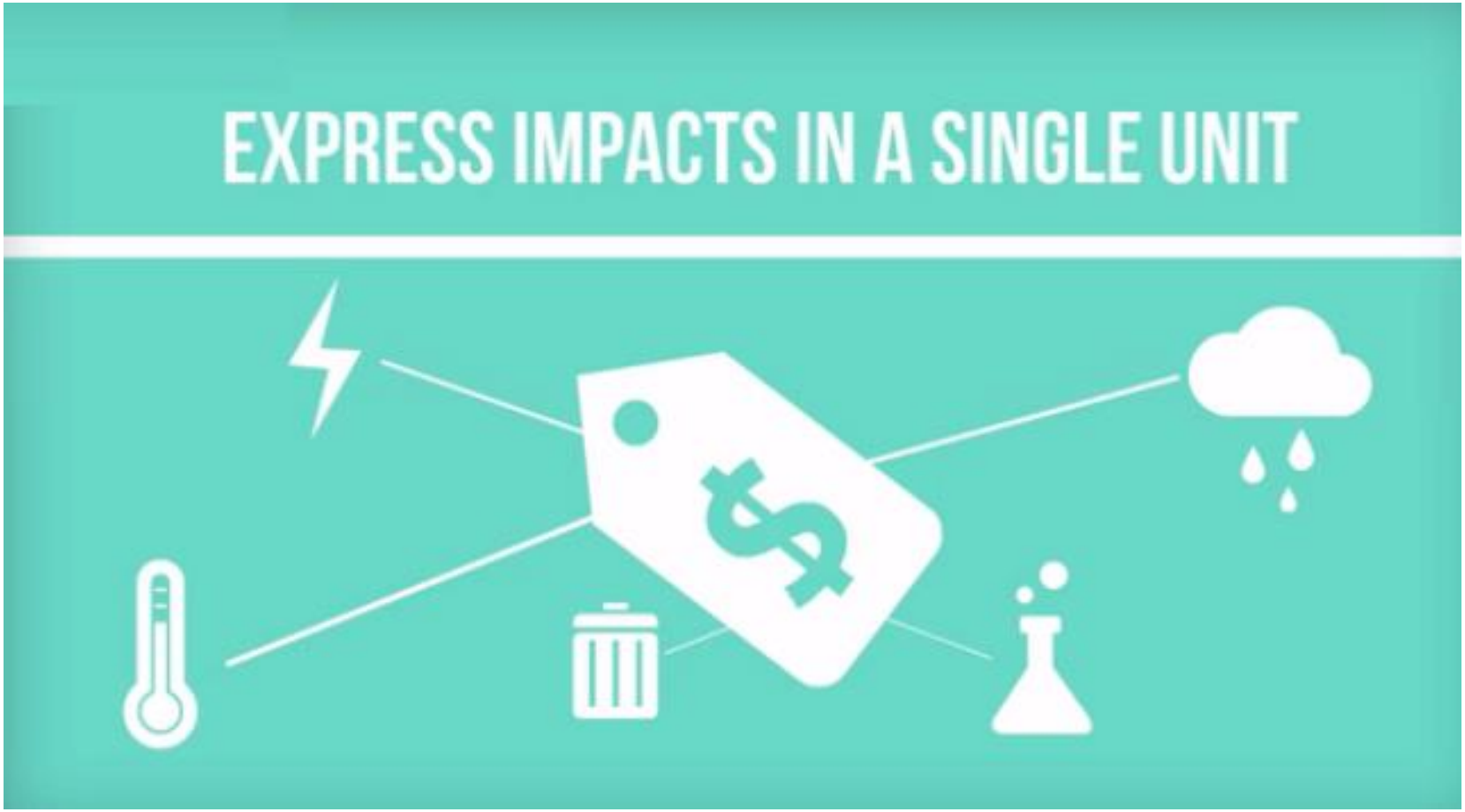
MARS – impacting Natural Capital elements



Source: Mars

Natural Capital Valuation

A common unit to factor impacts/dependencies upon natural capital into decision making processes



In summary: why should we value?

- Many of the goods and services provided by nature are currently not paid for, nor are the impacts of business operations compensated for; this leads to inefficiency and over-use.

- By translating the environmental impacts of business activities into a monetary value the scale of the issues and the return on investment becomes evident

- This enables the trade-offs required to protect natural capital and secure supplies to be more easily assessed.

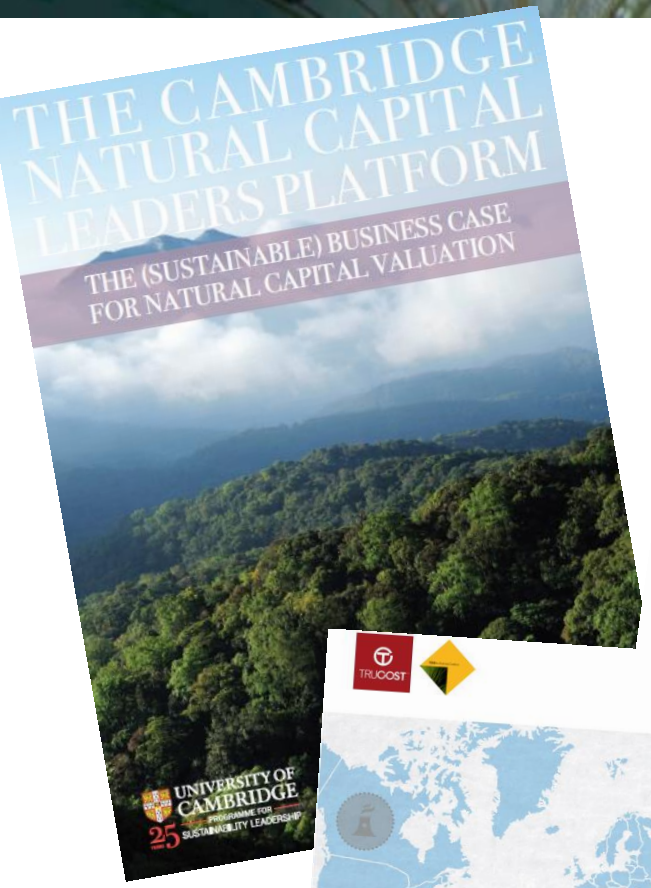
What is Natural Capital Valuation?

Operational activity

Environmental impact

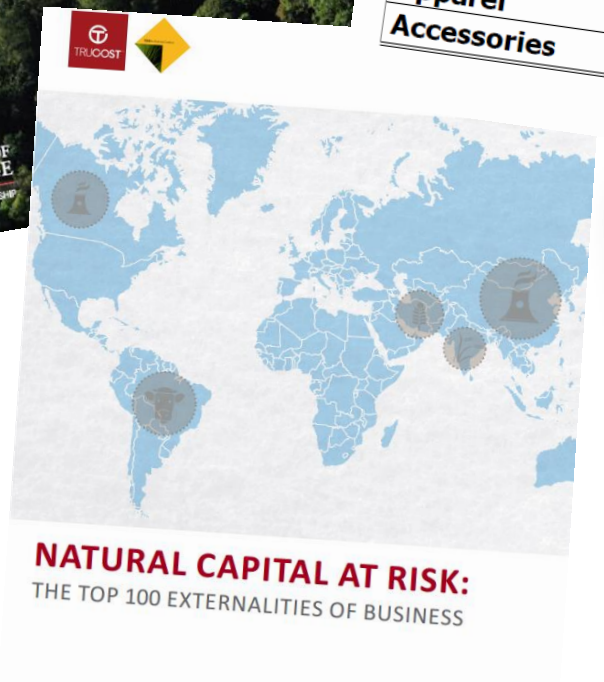
Human welfare impact

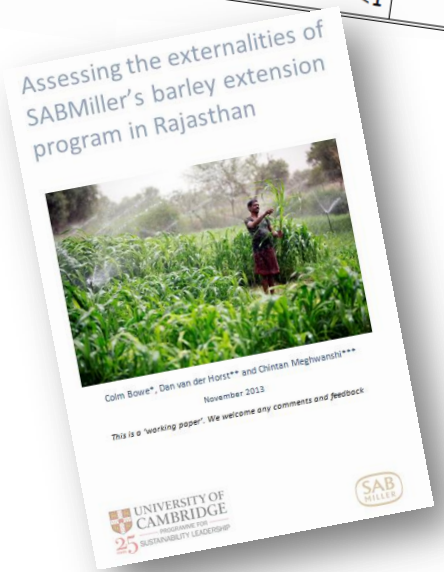
Who is using valuation already?

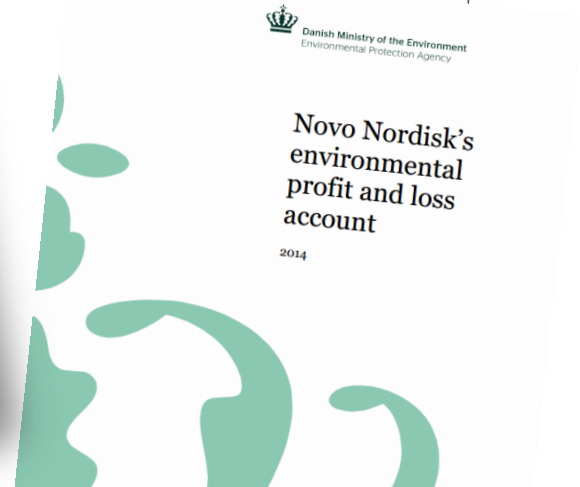


PUMA

	Water use	GHGs	Land use	Air pollution	Waste	TOTAL	
	€ million	€ million	€ million	€ million	€ million	€ million	% of total
TOTAL	33%	32%	26%	7%	2%	100%	
PUMA operations	47	47	37	11	3	**145**	100%
Tier 1	<1	7	<1	1	<1	**8**	6%
Tier 2	1	9	<1	1	2	**13**	9%
Tier 3	4	7	<1	2	1	**14**	10%
Tier 4	17	7	<1	3	<1	**27**	19%
	25	17	37	4	<1	**83**	57%
EMEA	4	8	1	1	<1	**14**	10%
Americas	2	10	20	3	<1	**35**	24%
Asia/Pacific	41	29	16	7	3	**96**	66%
Footwear	25	28	34	7	2	**96**	66%
Apparel	18	14	3	3	1	**39**	27%
Accessories	4	5	<1	1	<1	**10**	7%







Trucost 100 top externalities

Economic costs of greenhouse gas emissions, loss of natural resources, loss of nature-based services such as carbon storage by forests, climate change and air pollution-related health costs to the global economy is approx

$4.7 trillion pa

Rank	Impact	Sector	Region	Natural Capital $bn	Revenue $bn	Impact ratio
1	GHG	Coal Power Generation	Eastern Asia	361.0	448.1	0.8
2	Land Use	Cattle Ranching & Farming	South America	312.1	16.6	18.7
3	GHG	Iron & Steel Mills	Eastern Asia	216.1	604.7	0.4
4	Water	Wheat Farming	Southern Asia	214.4	31.8	6.7
5	GHG	Coal Power Generation	Northern America	201.0	246.7	0.8
6	GHG	Cement Manufacturing	Eastern Asia	139.9	174	0.8
7	Land Use	Cattle Ranching & Farming	Southern Asia	131.4	5.8	22.6
8	Water	Rice Farming	Southern Asia	123.7	65.8	1.9
9	Air Pollutants	Coal Power Generation	Northern America	113.4	246.7	0.5
10	Water	Water Supply	Southern Asia	92.0	14.1	6.5

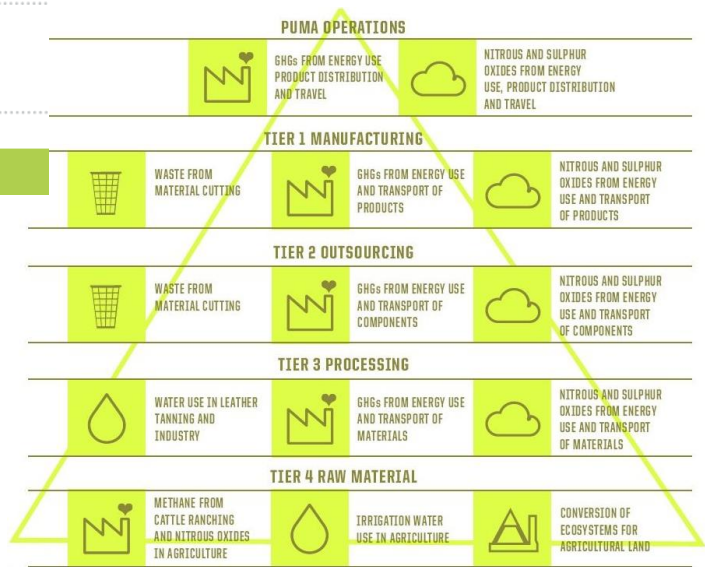
Source: Trucost

Environmental Profit & Loss

PUMA'S ENVIRONMENTAL PROFIT & LOSS ACCOUNT
world's first E P&L

	Water use $ million	GHGs $ million	Land use $ million	Other air pollution $ million	Waste $ million	TOTAL $ million	% of total
	33%	32%	26%	7%	2%	100%	
TOTAL	**47**	**47**	**37**	**11**	**3**	**145**	100%
PUMA operations						8	6%
Tier 1						13	9%
Tier 2						14	10%
Tier 3						27	19%
Tier 4						83	57%

www.trucost.com



SABMiller results

The case study:

- Understand our impact through consistent measurement of water use and CO2 emissions of a Barley Program promoting agricultural best practices in Rajasthan, India.
- First order objectives:

  Company: Increased high quality barley sourcing capacities

  Farmers: Increased income
- Second order objectives:

  Evaluate *impacts* in terms of water use and CO2 emissions (through fertilizers applications)

  Measure *externalities*.

Increase their barley yield by 55% and increase the quality of their barley which they sell to the company

Increase their income by $1/day by following the best agronomic advice for malting barley

Achieve a four-fold reduction of irrigation water use compared to other farmers

Reduce their carbon emissions by 16% compared to other farmers

SAB MILLER

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A common, transparent approach to valuation

NATURAL CAPITAL COALITION

- Natural Capital Protocol (generic, across all sectors)
- A high-level guide for executives and stakeholders
- Business engagement and stakeholder to shape the Natural Capital Protocol and test it through a selection pilot studies
- Specific sector guides for food/beverage and apparel

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What business leaders are suggesting

How can Natural Capital Valuation help business decision makers?

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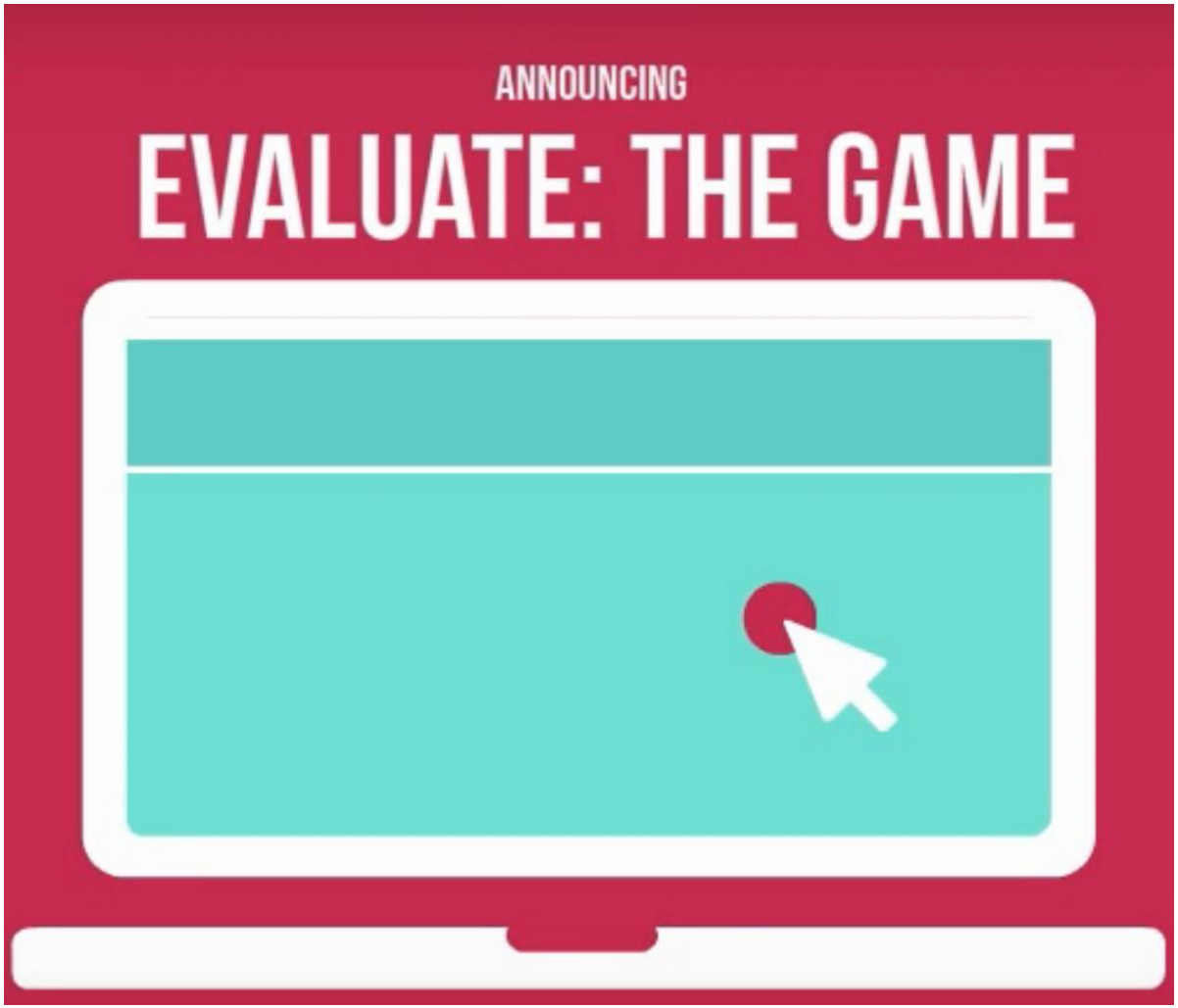
Announcing E.Valu.A.Te: the Game

Demystifying natural capital valuation: interactively demonstrating how it can inform commercial decisions that mitigate risk, reduce negative environmental impacts, and create value



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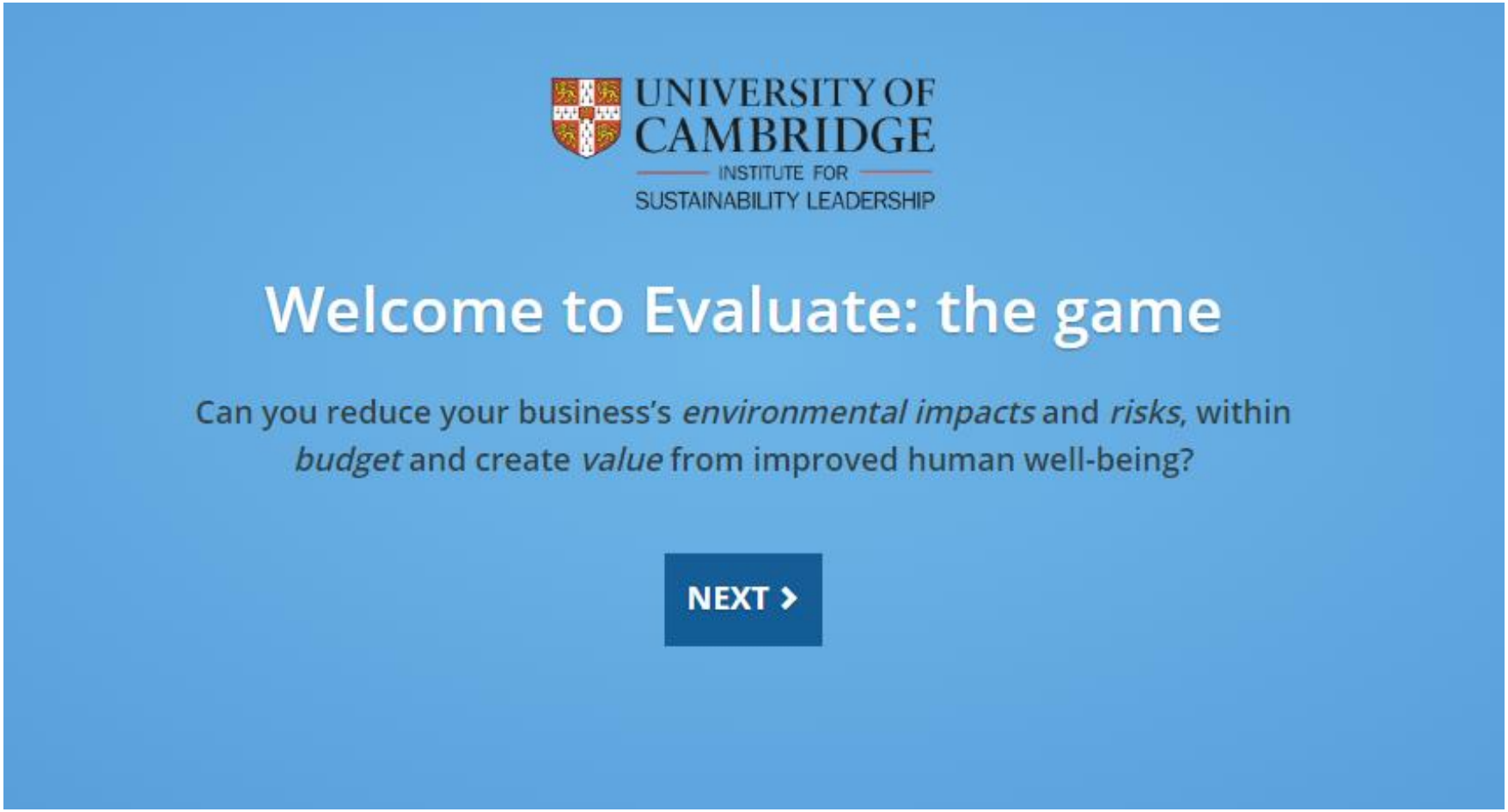
E.Valu.A.Te: the Game

See how good you are…



www.cisl.cam.ac.uk/natcap

Can you rise to the challenge?

E.Valu.A.Te: the Game

You can play now!

- You can play the game via the CISL online platform
- www.cisl.cam.ac.uk/natcap

Tweet your score!

- Have a play and tweet about it
- Compare your score with other players using the hashtag #evaluategame

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