

BOOK OF ABSTRACTS

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I. SESSION DESCRIPTION

ID: S6

Change the system: bridging the gap between ecosystem services science and the integration of natural capital approaches in business decision-making

Hosts:

	Title	Name	Organisation	E-mail
Host:		Martine Van Weelden	Capitals Coalition	martine.vanweelden@capitalscoalition.org
Co-host(s):		Justine Saunders	Capitals Coalition	justine.saunders@capitalscoalition.org

Abstract:

The success of organizations and our society is dependent on the value they receive from the capitals; natural capital, social capital, human capital and produced capital. Our current economic system is failing to mitigate climate change, reduce inequality and protect the natural world because organizations are unequipped to make sense of their complex relationships with these capitals, and to recognize the ways in which their activities impact on them and depend on them for success.

Understanding the holistic relationships provides a clear business case for the protection of and investment in the health and resilience of previously undervalued capitals, leading to cascading benefits throughout the system. The Capitals Coalition aims that by 2030 the majority of businesses, financial institutions and governments include all capitals in their decision-making in order to deliver a fairer, more just and sustainable world.

This session aims to bring together the latest scientific knowledge on ecosystem services and natural capital together with insights regarding the practical application of these concepts to support improved decision-making in organisations in an effective way. The session will also help to solidify the work of the ESP Sectoral Working Group 6: ES in Business. The session builds on the Theory of Change of the Capitals Coalition to ignite collaborative action on the following levers of Change:

- Change the Math: by identifying and measuring the value that flows between nature, people, society and the economy, we provide decision makers with holistic data which reshapes their decision-making calculus, leading to outcomes that deliver benefits across the system;
- Change the Conversation: by developing accessible and influential communications, promoting best practice, developing global Capitals Hubs and cultivating champions in our community, we embed the value of a capitals approach in the global conversation;
- Change the Rules: By working to modernize incentive mechanisms, international guidance and standards, we transform the incentives offered by investors, governments, shareholders, regulators and ratings agencies to reward those who adopt a capitals approach;

- Change the System: By changing the math, the conversation and the rules, we will ensure that the value of nature, people, and society informs decision-making at all levels, and delivers holistic value across the capitals.

We propose to split the session into two parts. In the first part, we would like to bring the business perspective to the scientific community and shed a light on ongoing projects and initiatives that support the uptake of a capitals approach by businesses and other relevant organisations. The levers of Change the Math and Change the Conversation will be key in this first part.

The second part will focus on what science can bring to business and how science can contribute to changing business rules and ultimately the system. Below a break down is provided on the topics we would like to touch upon:

PART 1. Bringing the Business to the Scientific community

- Presenting the collaborative work of the Capitals Coalition and its Theory of Change to set the scene, and to present new policy initiatives and relevant projects for the business sector;
- Presentations of invited speakers that relate to some key ongoing activities, such as the EU Business and Biodiversity Platform;
- Conversations in peer groups where scientific community sees themselves fitting into the business accounting and valuation sector and how to set up support structures to embed science in the 'other worlds' (such as business). The following levers of Change and questions will be leading:
 - Q1. Change the Math – what are the challenges faced in working with business, e.g transferring across methods?
 - Q2. Change the Conversation – how to have an inclusive language, how to bring the dialogue and stakeholders closer together in time and space?
- Feedback from groups

PART 2. Bring Science to Business

- Invite abstracts that have novel ideas about how to change math, conversation, rules, system or how this affects business decision making.
- Break out groups to gain insights/inputs into the projects presented. The following levers of Change and questions will be leading:
 - Q3. Change the rules – how does/can science influence the rules of business more?
 - Q4. Change the system – how can we unite the business and scientific realms better to effect a real change for nature?
- Feedback and way forward

Goals and objectives of the session:

The session has several objectives:

- Strengthen collaboration with the scientific community to work towards an inclusive and supportive community that delivers a transformation in how we make decisions .
- Ensure that value is accounted for in a recognised and consistent way, embedded in science .
- Strengthen the relation between the scientific and other communities the Capitals Coalition engages with.
- Gain input into ongoing projects, such as ALIGN, Transparent, SELINA, and TEEB for Business
- Strengthen the Sectoral Working Group 6 ES in Business to strengthen collaboration and build on the Ecosystem Services Community.

Planned output / Deliverables:

A summary of the session will be published online, including recommendations to further advance science–practice integration. Also, it will be actively reviewed how the outcomes of the sessions can be embedded within ongoing projects and support the work of Sectoral Working Group 6 ES in Business.

Session format:

Other (Mixed Session: Standard Session + World Café)

Voluntary contributions accepted:

Yes, I allow any abstract to be submitted to my session for review

Related to ESP Working Group/National Network:

[Sectoral Working Groups: SWG 6 – ES in Business](#)

II. SESSION PROGRAM

Date of session: Thurs, 13 October 2022

Time of session: 11:00 – 12:30

Timetable speakers

Time	First name	Surname	Organization	Title of presentation
11:00	Justine	Saunders	Capitals Coalition	Standardizing the measurement and reporting of business impacts and dependencies on nature
11:15	Mai Thi	Ta	AgroParisTech	Change the system: decoupling corporate actions and market pressures to support the creation of natural, social and human capitals.
11:27	Aina Membrive	Rivero	Cetaqua	Natural Capital assessment of three case studies from a water sector company to improve business decision–making and communication.
11:39	Richard	Thomas	ELD	The Economics of Land Degradation Initiative: a look back and forward.
11:51	Amanda	Ribeiro	Aeronautics Institute of Technology	Digital tool for the assessment and monitoring of electric energy generation externalities and dependencies on ecosystem services.
12:03	Annelies	Boerema	IMDC	Marine ecosystem performance framework – assessing business impacts on and dependencies of marine ecosystem services and natural capital
12:15	Justine	Saunders	Capitals Coalition	Discussion: Change the Conversation – what needs to change in our

Time	First name	Surname	Organization	Title of presentation
				conversations between science and business to finally Change the System.

III. ABSTRACTS

Abstracts are ordered based on the session program. The first author is the presenting author unless indicated otherwise.

1. *Type of submission: Abstract*

S. Sectoral Working Group sessions: S6 – Change the system: bridging the gap between ecosystem services science and the integration of natural capital approaches in business decision-making

Marine ecosystem performance framework – assessing business impacts on and dependencies of marine ecosystem services and natural capital

Presenting author: Annelies Boerema

Other author(s): Lucy Gwen Gillis, Bereket Tesfamariam Habtemariam, Freija Hauquier, Annemie Volckaert, Eric Smets

Affiliation: IMDC, Belgium

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Companies in the blue economy need meaningful and practical indicators to assess their negative and positive impacts on the marine ecosystem from a business context. In this project, IMDC, Arcadis and FKS develop a tool for companies to measure and assess their performance with regard to marine ecosystems (ecosystem services and natural capital). The tool enables these companies to quantify positive contributions, but also to address negative impacts with nature-based solutions and measures for restoration of the marine ecosystem, in comparison to the current marine ecosystem state. Concrete results of the project are a set of state and pressure indicators, an inventory of available data, and a performance assessment methodology. The set of indicators allows to quantify the negative and positive impact of businesses on the marine ecosystem (ecosystem services, natural capital). The number of indicators will be in accordance with the number of impact categories and interactions, which depend on the type of business activity. We make an assessment of the availability and accessibility of marine data to quantify the indicators. We discuss challenges and limitations for businesses to assess their ecosystem related impacts. The performance assessment methodology allows companies to score their performance in relation to the current ecosystem quality and good ecological status of the marine ecosystem. More specifically, the methodology will include a scoring system that allows companies to assess

their contribution to local objectives for marine ecosystems at project level. A set of concrete case studies in the Belgian part of the North Sea are assessed to validate the above 3 building blocks and illustrate their application to potential end users (e.g. offshore windfarms, dredging activities).

Keywords: current marine ecosystem state, marine business activities, ecosystem approach, positive and negative impacts, overall performance assessment

2. Type of submission: Abstract

[S. Sectoral Working Group sessions: S6 – Change the system: bridging the gap between ecosystem services science and the integration of natural capital approaches in business decision-making](#)

Natural Capital assessment of three case studies from a water sector company to improve business decision-making and communication

Presenting author: Aina Membrive Rivero

Other author(s): María Guerrero Hidalgo, Clemente Vergara Ballester, Clara Rovira Lage, Yago Lorenzo Toja, Joana Tobella Brunet, ,

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It is becoming more relevant for the private sector to understand their interactions with nature and the ecosystem services it provides them to take well-informed decisions. There is a growing number of companies assessing impacts and dependencies on natural capital through the application of the standardized framework offered by the Natural Capital Protocol, which allows organizations to assess their contribution to natural capital. The integration of the natural capital perspective can deliver benefits at a company level, but also to the broader society, by gaining awareness of potentially risks and opportunities.

The Agbar group, dedicated to delivering services of the complete water cycle, is interested in identifying and measuring the most relevant interactions with the natural environment and biodiversity. The assessment covers three different case studies with some of their activities more related to nature's protection and restoration. The first case study is the construction of a sustainable urban drainage system (SUDS); the second case study focuses on a constructed water body that supports water resilience and ecosystem restoration, and the third one is a defined set of measures within the renaturalization plan carried out in the last 5 years at group's level.

This will shed light on the actual impact and dependencies of the organization. Furthermore, this exercise also resolves one of the problems faced by many companies in the water sector, the lack of awareness by the society of the actions taken by the industry to adapt to climate change and mitigate its impact, so it will allow Agbar to better communicate its actions.

Although water cycle companies depend on and impact directly on water as a natural resource, there are not many references for natural capital assessment in this sector. Therefore, the present study provides new references for natural capital assessment application in the water sector.

Keywords: ecosystem services, natural capital, water, decision-making, communication

3. Type of submission: Abstract

[S. Sectoral Working Group sessions: S6 – Change the system: bridging the gap between ecosystem services science and the integration of natural capital approaches in business decision-making](#)

Change the system: decoupling corporate actions and market pressures to support the creation of natural, social and human capitals.

Presenting author: Mai-Thi Ta

Other author(s): Harold Levrel

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Wild species provide multiple ecosystem services to billions of people relying on them for food, medicine, energy and income. Their sustainable use is therefore critical to reverse biodiversity loss and sustain livelihoods. To achieve this goal, market institutions are considered as a threat since they encourage individual-based behaviors and private profit strategies rather than collective action and social benefit production. Among market institutions, the trade organizations play a key role in shaping the relations between the forms of trade and the sustainable uses of natural resources, including wild species. Surprisingly, how these organizations affects the creation or destruction of natural resources remains scarcely analyzed. Based on the comparative analysis of different trade organizations of vicuna fiber in South American biosphere reserves, we show that the dynamics linking trade and sustainable use of wild species are not straightforward. Trade organizations can use three elements to support alignment of conservation and development objectives. First, they can adapt the characteristics of the product, for example buying longer fibers to encourage production practices supporting conservation. They can also adapt practical working conditions – such as flexible time and place – and automation to increase social and economic outcomes. Last, providing technical support, e.g. legal compliance advices, is key. One explanation of this alignment can be found in the creation of local social and human capital. Our results indicates that, if market institutions are developed in a strong sustainability way, trade can encourage collective action and sustainable use of wild species. While much of the tools promoting sustainable use of wild species focuses on public policies and are most of the time based on a list of “best practices”, we highlight the possibility to support and develop context-specific institutions to promote both profitable and sustainable uses and biodiversity for local communities.

Keywords: sustainable use, firms, biosphere reserve, wild species, trade



4. Type of submission: Abstract

S. Sectoral Working Group sessions: S6 – Change the system: bridging the gap between ecosystem services science and the integration of natural capital approaches in business decision-making

DIGITAL TOOL FOR THE ASSESSMENT AND MONITORING OF ELECTRIC ENERGY GENERATION EXTERNALITIES AND DEPENDENCES ON ECOSYSTEM SERVICES

Presenting author: Amanda Ribeiro

Other author(s): Bruna Pavani, Wilson de Sousa Júnior, Aline Ribeiro, Pablo Sosa, Paulo Sinisgalli,

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The electricity sector's activities ultimately result in significant environmental and social costs. The externalization of these costs out of the market inevitably leads to inefficient electricity generation and usage. This externalization has negative environmental consequences both locally and globally and leads to the unaware and uneven socialization of the costs. It is thus crucial to assess possible pathways for the mitigation of this classic market failure.

Despite existing research focused on the assessment of externalities, there is a gap between academic groundwork and decision-making stakeholders. This disconnection exists both at business and policymaking levels and means that society is not benefiting from such research efforts. A simplified tool was developed to bridge this gap and aid the operational decision-making of power plants. The Quantitative Environmental Valuation Tool (FVAQ, in portuguese) associates the plants' operation activities with the environment through their relationships with ecosystem services (ES): positive and negative externalities and/or dependence relations.

The FVAQ is an interactive digital tool enabling businesses' monitoring of environmental indicators. Externalities and dependences can be continually quantified and assessed based on different operation scenarios inserted in the model. The FVAQ was developed based on two case studies, a thermoelectric and a hydroelectric power plant in Brazil. Firstly, site-specific methodologies were developed for the quantification and economic valuation of externalities and dependence relations with the ES. Secondly, different operation scenarios were identified. Such scenarios include climate change, regulatory tightening, and the implementation of best practices, among others. The tool has already been adopted by the case-study plants and by the company's central management.



The FVAQ provides the necessary information to optimally reduce negative externalities, increase positive externalities, and monitor environmental dependences. It plays a crucial role in the conversion of a punctual and time-limited assessment of ES into a continuous and dynamic one, while remaining site-specific.

Keywords: electricity sector, ecosystem services valuation, internalization of externalities, ecosystem services valuation tool, ecosystem services indicators

5. Type of submission: Abstract

[S. Sectoral Working Group sessions: S6 – Change the system: bridging the gap between ecosystem services science and the integration of natural capital approaches in business decision-making](#)

Author(s): Justine Saunders, Martine van Weelden

Affiliation: – Capitals Coalition

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Only a tiny fraction of the current global economy can be considered to be sustainable according to leading financial institutions and multinational agencies, but the EU has set out an ambition to achieve a sustainable financial system and economy by 2050. The EU has recognized that in order to achieve this ambition, a shift is required in the way that businesses understand and account for their relationships with nature and people, and that accounting for the value of nature in decision making is crucial to achieve this shift.

The lack of a comprehensive sustainable management system and standardization across corporate environmental assessment methods – including natural capital standards and practices – continues to hamper the mainstreaming of sustainable economic activity across Europe and the rest of the world. In order to enable this shift, the business community is calling for holistic datasets and standardized methodologies that allow them to include the value of nature and people in their internal decision making and their external disclosure. Integrated datasets will also enable businesses to better understand how best to align their organizations with broad societal ambitions such as the European Green Deal and the Sustainable Development Goals.

This session will present the opportunities and needs of current and evolving assessment and reporting approaches on nature to accelerate the transition to a net-zero, nature-positive and equitable world. It will aim to bring key information from the following initiatives: Align, the Taskforce on Nature-related Financial Disclosures (TNFD), Partnership for Biodiversity Accounting Financials (PBAF), Global Reporting Initiative (GRI), Science-Based Targets for Nature (SBTN), The Economics of Ecosystems and Biodiversity for Agriculture and



Food (TEEBAgriFood) and Transparent to understand what are their respective roles in driving standardised measurement and reporting on nature and how do they interlink/reinforce each other. This overview will set the scene for the case studies that follow from our speakers in the session.

6. Type of submission: Abstract

[T. Thematic Working Group sessions: T13b – Making a business case for nature-based solutions / nature conservation](#)

The Economics of Land Degradation Initiative: a look back and forward

Presenting author: Richard Thomas

Other author(s): Johannes Kruse, Nina Bisom

Affiliation: ELD, Canada

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As countries, development agencies and the private sector gear up to meet the objectives of the UN Decade on Ecosystem Restoration, one recurring theme is the need for more detailed estimations of the costs and benefits of specific interventions to avoid, reduce and reverse the loss of ecosystem services. The Economics of Land Degradation initiative (ELD) during its first decade focused on the economics of improved cropping, rangeland and agroforestry systems in developing countries, with most identified as priority areas for restoration. The approach depends on trained national teams applying ELD's 6+1 methodological approach to develop cost-benefit scenarios for sustainable land management options. The studies range from farm, watershed to national scales and attempt to estimate total economic valuations of all four categories of ecosystem services. Over 40 case studies are available plus two continent-wide soil erosion studies for African and Asia (www.eld-initiative.org). Some examples will be presented.

The data is being incorporated into the Ecosystem Services Valuation Database and the new ECON-WOCAT dataset. As ELD moves into its second decade, the methodological approach is being revised based on experience and feedback from national participants and other experts in order to support national responses to various natural capital accounting exercises promoted by the UN SEEA, TEER, the World Bank and others.

How ELD can link and work with these other initiatives will be a discussion topic at the Thematic session on "Guidelines, tools and standards for integrated ecosystem services assessment"



Keywords: Economics, Sustainable land management, agriculture, forestry, cost–benefit analysis