NATURAL CAPITAL COALITION

Combining Forces: Priority Areas for Collaboration

A thought leadership paper on advancing natural capital approaches.

James Spurgeon (Sustain Value), Carl Obst (IDEEA Group), Marta Santamaria (Natural Capital Coalition), Mark Gough (Natural Capital Coalition) and Richard Spencer (ICAEW).

20 November 2018

NATURAL CAPITAL COALITION

Table of Contents

1 Priority areas for Combining Forces

1.1 Introduction

Many approaches to natural capital in the public and private sector have been developing for some time and there is a substantial body of technical experience and expertise. However, the approaches are yet to have a significant influence on broader decision-making and are not a core part of standard management practice for business or government. One key challenge is that the various approaches have been developed quite independently, with little focus on integration or alignment.

In recognition of this, the 'Combining Forces' program was established to bring together the public and private sectors' thinking on natural capital (Natural Capital Coalition, 2017). The objective of Combining Forces is to foster a greater mutual understanding of different approaches to the assessment of natural capital and to co-ordinate efforts to ensure that our relationship with nature is accounted for and included in decision-making. At the core of Combining Forces is the belief that single and disparate voices on natural capital will not be sufficient to make the systemic changes in decision making that are needed. Currently, 25 organizations have pledged their support for, and are signatories to, the Combining Forces Joint Statement.

Given the significant and increasing concerns over the decline in natural capital, the moment could not be more opportune to establish clear priorities for action and to build collaborations around the way we inform the sustainable use of natural capital for the long-term benefit of people and the planet.

1.2 Five priority work areas

Informed by a consultation exercise involving workshops, webinars, interviews and a survey targeting key stakeholders from different areas of practice (see Annex 1), this paper sets out five recommended priority areas for further work. These are opportunities for aligning approaches and collaborating on shared solutions to achieve the greatest positive impact. Although the areas highlighted by the consultation will be familiar to many, the intended focus is different from other activities already planned or underway due to the unique attention given to broad engagement across the public and private sectors as the basis for determining solutions and pathways to address the challenges.

The five recommended areas of work comprise one focused on 'process' (build the community) and four focused on 'content' (narrative, harmonization, data and case studies). Figure 1 shows how they inter-connect, and in particular how 'build the community' encompasses all four content-related work areas. How the work areas are to be undertaken, and by whom, is not the focus of this paper, although relevant links to existing initiatives are covered in Section 5.

An initial investigation period is strongly recommended to take stock of the current state of play within all five priority areas across the private and public sectors. This should then inform the design of a subsequent, more comprehensive work program,

creating a set of key outputs. As further explored in Section 2, the final intended outcome is for broadly understood and coordinated natural capital approaches across private and public sectors that drive more efficient and effective decision-making about natural capital.

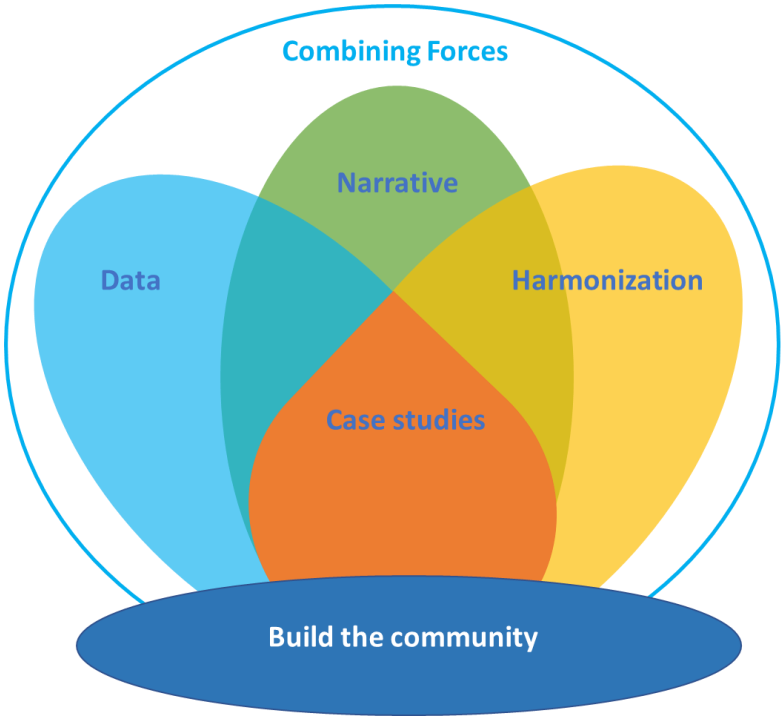

Figure 1. Overview of recommended priority areas

1. **Build the community: Further develop the ongoing integrated dialogue on natural capital.** More time and opportunities are needed to connect those people undertaking and developing public and private natural capital approaches, and in particular those working on the four content-focused priority areas. This should include engagement through other initiatives such as the Green Economy, development and infrastructure all of whom are recognizing the benefits of a natural capital approach. Initial efforts should involve documenting existing fora and groups, supporting the development of effective networks and Communities of Practice to deliver the outputs of each area, and using these connections to ensure full coverage of the necessary issues. Subsequent efforts should then focus on coordinated implementation.

2. **Narrative: Jointly further investigate, promote and enhance the case for natural capital approaches and combining forces**. Current incentives and requirements for natural capital approaches are generally relatively weak for both the private and public sectors, although they are becoming stronger. Initial efforts should work with the Government Dialogue on Natural Capital that includes a stream of work to develop a positive narrative on natural capital. This priority area should then develop and roll out a strong communications story, highlighting: (i) where the justification for action is

strongest, and (ii) how the actions and initiatives for undertaking a natural capital approach should best be strengthened. This is true for both public and private sectors. The narrative should highlight the need for joint management of shared dependencies on natural capital, in particular at a landscape level.

3. **Harmonization: Identify and detail what is needed to further harmonize approaches and develop standards.** An over-riding aim for the Combining Forces program is that private and public sector approaches and standards are better aligned to support integrated decision-making. Initial efforts should involve further investigation of existing draft and planned natural capital approaches and standards in more detail. These approaches include, for example, the System of Environmental Economic Accounting (SEEA) (especially the Experimental Ecosystem Accounts, EEA), the Natural Capital Protocol, relevant International Organization for Standardization's ISO standards, Environmental Profit & Loss accounts (EP&Ls), corporate natural capital accounts[1] (CNCA), environmental balance sheets, the International Integrated Reporting Council framework, and relevant legislation (such as European Union Directives relating to non-financial reporting and environmental impact assessments). It should also explore how these approaches inter-relate and where greater synergies and alignment are most needed. Subsequent efforts should then explore and recommend what specific aspects should be aligned, what gaps need to be filled, and how best to implement the necessary changes.

4. **Data: Clarify data needs, map data availability, streamline data collection and enhance data accessibility**. Data is at the heart of implementing all natural capital approaches, and considerable efficiencies and cost-savings could be made through more streamlined and coordinated data collection and provision. This is especially the case in relation to application of emerging sources such as remote sensing data, big data and use of artificial intelligence and machine learning. Initial work should involve reviewing and assimilating what we currently know about joint data issues and requirements, in particular drawing upon the case studies undertaken to date, the Natural Capital Coalition's Data Information Flow project, and findings of the initial stages of the other recommended work areas. Subsequent efforts should then investigate and report in more detail around joint data needs, availability, use of tools such as Integrated Valuation of Ecosystem Services and Trade-offs (InVEST) and Artificial Intelligence for Ecosystem Services (ARIES), as well as collection processes, data accessibility and governance.

5. **Case studies: Review and expand the case study program**. To fully understand the synergies, differences, benefits of, and needs for enhanced alignment between private and public sector accounts, a more comprehensive suite of case studies is needed. An initial step should be to assimilate case study findings to date and identify key gaps that need filling, in part being informed by what comes out of the initial stages of the other recommended

[1] A specific natural capital balance sheet-based approach developed by the UK's Natural Capital Committee for landholding organizations.

work areas and investigating finer details. Subsequent efforts should be to fill the gaps, in particular covering the potential for integration at a landscape level and should result in a complete set of accessible and informative cases that show detailed similarities and differences. Recommendations from these should then feed into the other recommended work areas.

This paper provides a starting point for describing the priority areas listed above, but it is clear from the consultation process that informed this paper that a more thorough and systematic joint scoping process is needed to take stock of existing efforts and review overall needs from both a private and public sector perspective. The early stages of the Combining Forces program have highlighted that there is a significant gap in the understanding of different approaches that must be bridged. It is expected that the initial efforts will fine-tune the specifics for subsequent work required to deliver outputs across the recommended priority areas.

2 The benefits of Combining Forces

Continued and enhanced collaboration between the private and public sectors to better align actions on natural capital approaches will generate multiple benefits. These benefits are summarized in Figure 2 and are reflected in a set of specific improvements, better processes and positive outcomes each related to advancement of the Combining Forces program. They would arise through building upon the synergies and closing the gaps described in Section 3.

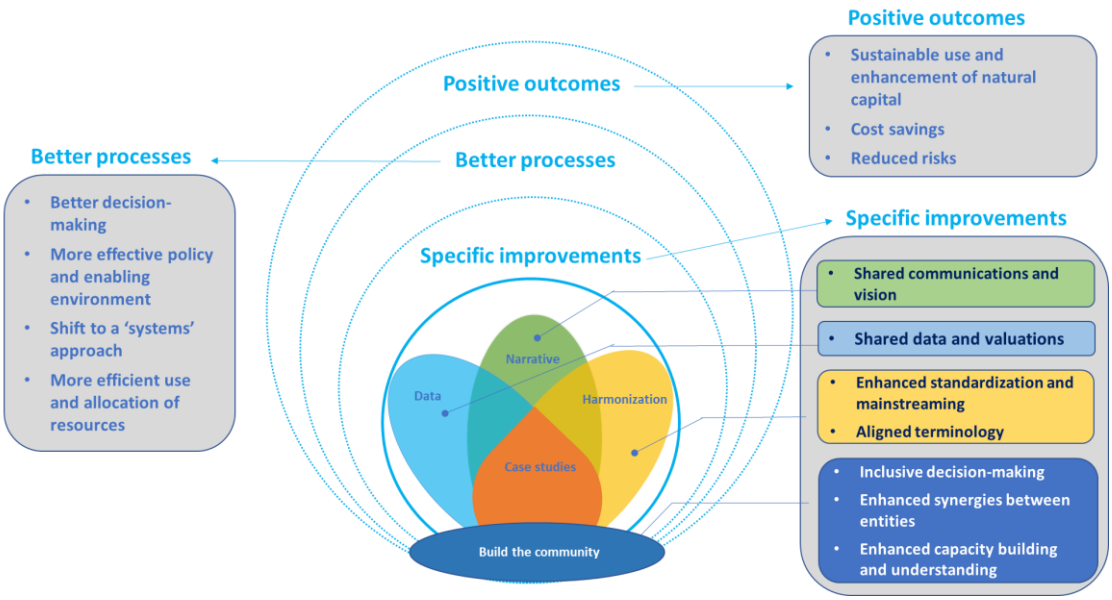

Figure 2. Benefits of the Combining Forces program

2.1 Specific improvements

We propose that advancing in the five priority areas will result in a variety of specific improvements, including:

- **Shared communications and vision.** Greater reach and comprehensiveness of engagement both within the natural capital community and more broadly, should be possible through jointly developed common language and narrative. Developing a shared vision of success early on will help inform alignment of approaches and all other work areas.
- **Shared data and valuations.** Opportunities to share data and jointly commission data collection and valuation studies could lead to significant cost-efficiencies and avoidance of duplicative efforts. Harnessing the particular strengths of both the private and public sectors should reap further dividends in moving forward on this challenging issue.
- **Enhanced standardization and mainstreaming.** More aligned approaches will promote further standardization and allow better comparison through enhanced consistency. This should encourage and facilitate both consistent government and business decisions and reporting and disclosure on the nature and value of natural capital impacts and dependencies.

- **Aligned terminology.** Collaboration and alignment will help improve consistency in the use of terms, explain why differences in terminology exist and promote exchange of data and ideas. Amongst other things this may ease company survey response burden and establish common data requirements stimulating commercial and public data supply.
- **Inclusive decision-making.** Combining Forces can provide an opportunity for other groups that are not always included, such as indigenous communities, to be heard.
- **Enhanced synergies between entities.** Combining Forces can help identify and enhance synergies within and between different entities. This is true for both the private and public sectors, and can result in multiple efficiencies, cost savings and realization of opportunities.
- **Enhanced capacity building and understanding.** Greater collaboration should lead to a better understanding of many of the complex issues involved, and significant opportunities for shared learning. The collaboration is also a safe space for testing ideas and provides a good opportunity to learn from each other. Various challenging topics such as determining and setting of natural capital thresholds (i.e. acceptable limits of change) would benefit from joint insights provided by both the public and private sectors.

2.2 Better processes

These improvements will help create better processes around public and private sector management of natural capital. The better processes include:

- **Better decision-making.** As mentioned by many stakeholders during the consultation, the specific improvements should result in overall better approaches to, and a stronger evidence base for, decision-making.
- **More effective policy and enabling environment.** The improvements should lead to better and more effective policy development and implementation, as well as enhanced enabling conditions. The latter include the much-needed and stronger incentives and regulatory mechanisms to make it more worthwhile (financially and otherwise) for companies and governments to adopt practices that support more sustainable use of natural capital.
- **Shift to a 'systems' approach.** The improvements will also encourage and facilitate a more widely adopted and much needed paradigm shift towards a 'systems approach' to environmental management at a local, landscape and national level. The Combining Forces program should be a powerful catalyst to help to drive a common language and appropriate framing for this shift.
- **More efficient allocation and use of resources.** Furthermore, the specific improvements should result in more efficient allocation, use of, and development of both organizational resources and natural capital resources. The former would, for example, arise through streamlining and sharing of data and use of standard training and capacity building approaches. The latter would arise from making better decisions about who should use natural

capital resources and in what way, to broaden benefits to a range of different stakeholders.

2.3 Positive outcomes

Effective implementation across the five priority areas should ultimately result in a range of positive outcomes generated through the specific improvements and better processes. This includes more sustainable use, and the enhancement of, natural capital over the long term. In addition, it would likely lead to cost savings and reduced risks for both the private and public sectors in the short term and, perhaps more significantly, in the longer term. Indeed, the costs of inaction are likely to be far greater.

3 The relationship between approaches

The relationship between private and public sector natural capital approaches has been the subject of a various investigations[2]. These reveal many and varied synergies and gaps between private and public sector natural capital approaches[3]. An initial set of approaches are shown in Figure 3 which highlights the relationships among some of the key frameworks and approaches. These approaches are also summarized in Table 1, with relevant synergies and gaps described further below.

3.1 Inter-relationships and comparison of approaches

At a very broad level, natural capital approaches for the private and public sectors can be used in two main ways. On the one hand, some approaches are used primarily[4] for compiling accounts, reporting and disclosure and undertaking comparisons over time. The latter can be within and across companies, sectors and countries. On the other, some approaches are used primarily for internal decision-making, for example in making choices between alternative scenarios. Both applications can be termed as 'natural capital assessments', whilst the former is also commonly referred to as 'natural capital accounting'.

One of the findings of previous work is that bigger differences have emerged among approaches related to the use for accounts, reporting and disclosure, whereas the approaches adopted for decision-making show greater similarities (Spurgeon, 2015).

[2] Including for example Obst (2015), Spurgeon (2015), Vardon *et al* (2016), IDEEA Group (2017), Natural Capital Coalition (2017), Vardon *et al* (2017a and 2017b) and in the recent Government Dialogue work.

[3] Multiple tools also exist for private and public sector use (e.g. Input-Output analysis, InVEST), but these are not reviewed here. The Natural Capital Toolkit references a range of relevant tools.

[4] It is important to note that potential uses of accounts/disclosure can also include informing decision-making. For example, financial accounts are used for decisions by investors and internally by companies, and government environmental accounts can be used to inform a broad range of decisions.

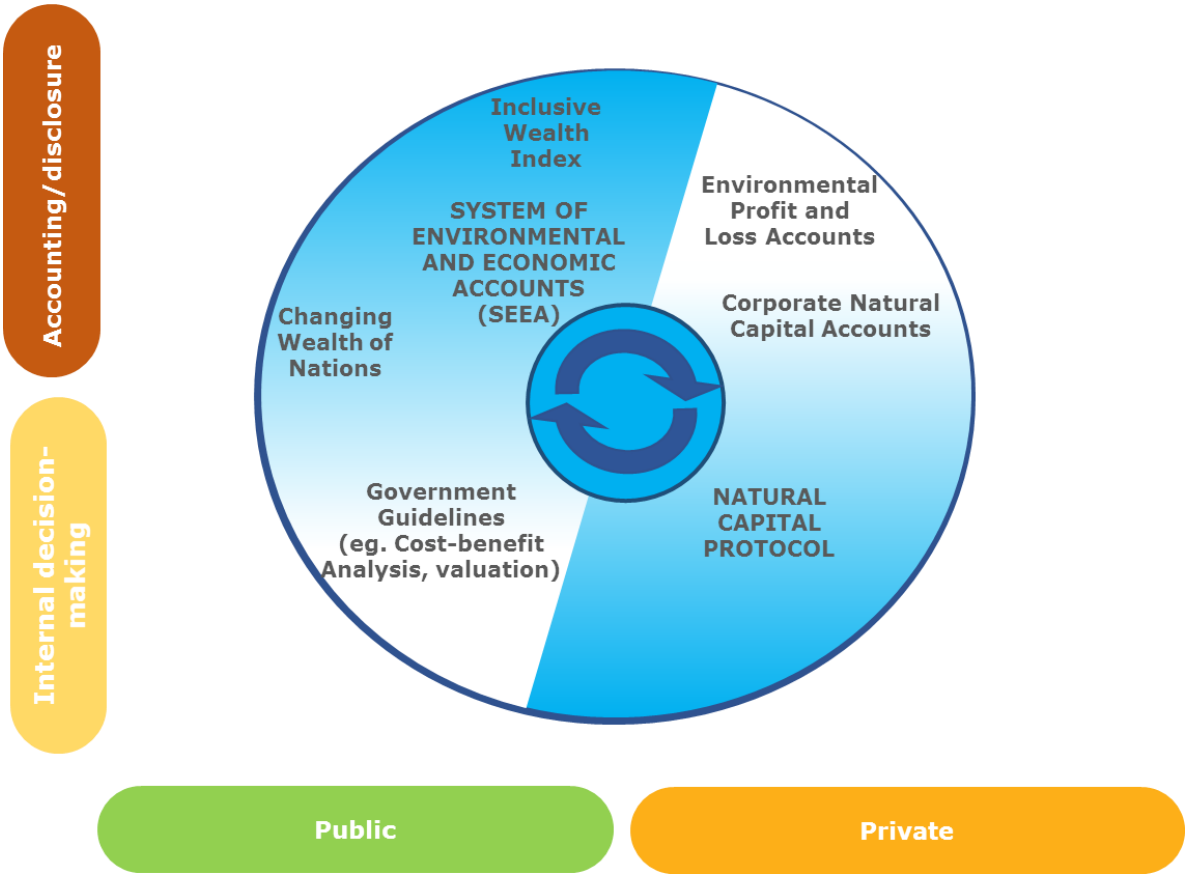

Figure 3. Inter-relationships between natural capital approaches

The aim of the Combining Forces program is to identify ways in which approaches from both sectors and for different primary purposes can benefit each other, thus breaking down the distinctions inherent in the figure, by focusing on complementarities.

The transitional blue shading in Figure 3 indicates that whilst the Natural Capital Protocol is primarily focused on private sector decision-making, it is also applicable to private sector accounting and disclosure. In addition, it can potentially be used in a public decision-making context. Similarly, the blue shading for the System of Environmental Economic Accounts indicates that it very much applies to government reporting but it also has strong potential application to private sector accounting and disclosure and can play a role in internal decision-making, especially in a public sector context.

Accounting/disclosure

These approaches equate closely with 'financial accounting' and the 'System of National Accounts'. These approaches typically look at stocks of natural capital comparing two points in time (e.g. balance sheets and asset accounts) and record the changes in stocks between the two points in time and the associated flows of services and benefits (e.g. Environmental Profit & Loss accounts and ecosystem service supply and use accounts).

Key desirable features include repeatability and consistency to allow for comparison (e.g. between years, companies or countries) and assessment of performance and outcomes over time. As such, there is considerable benefit to be gained from consistency, so standardization of definitions, measurement boundaries (e.g. of assets and income) and rules around valuation is of very high importance.

Internal decision-making

These approaches equate closely to 'management accounting' and approaches for 'option/investment appraisals'. In the private sector, the Natural Capital Protocol (hereafter the 'Protocol') has been developed specifically to support companies to include their relationship with natural capital within decision-making through a non-prescriptive, process-based approach. In the public sector, there are numerous government guidelines and manuals setting out different approaches for incorporating the environment and natural capital in policy decisions, for example in cost-benefit analyses (e.g. OECD, 2006; HM Treasury, 2013; and OECD 2018). There is less need for a prescriptive and consistent approach between organizations when undertaking such assessments, as long as the best decision is made. Given the vast spectrum of potential internal decisions to be made in so many different contexts, the critical issue here is that measurement boundaries and approaches to valuation simply need to be 'fit for purpose'.

Key desirable features thus include flexibility while sticking to key principles. However, there are benefits from having consistency to techniques and approaches within decision-making, as evidenced by the existence of many guidelines and books on management accounting and environmental valuation techniques. When trying to demonstrate 'creating shared value' or when managing shared dependencies, transparency and standardization of approaches would certainly be beneficial, especially in the eyes of stakeholders.

The ideal end point is that the information created through natural capital approaches is useful and in this respect, it will be important to establish where there is most need for consistency, and where it makes sense to retain flexibility. As with standardization of financial accounts, there will likely be continuous updates and adjustments required, but progress requires making the first step. Efforts to harmonize assessment of environmental costs and benefits and associated monetary valuation at an international level covering the private and public sector have already begun through the draft development of ISO 14007 and 14008 with a focus on describing flexible, process-based approaches, including delineation of potential valuation options.

Table 1. Frameworks for natural capital assessments for private and public sectors

Framework/ Approach		Type	Leading organizations	Objective	Content and focus	Valuation approach
Public Sector						
System of Environ-mental-Economic Accoun-ting (SEEA)	SEEA Central Frame-work	Primarily accounting /disclosure	United Nations; European Commission; Food and Agriculture Organization; Organization for Economic Development & Cooperation; International Monetary Fund; World Bank Group	To develop sets of accounts that complement standard economic accounts and inform on the relationship between the economy and the environment.	A prescriptive international statistical standard to develop sets of four linked accounts covering: • Environmental flows (natural inputs, products & residuals); • Stocks of traded environmental assets (mineral & energy, land, soil, timber, aquatic, other biological & water); • Economic accounts showing links with national accounts • Environment related expenditures. These accounts are linked to the System of National Accounts.	Residuals (i.e. pollutants) measured in physical terms. Exchange[5] values for all other values and costs. Includes expenditures.
	SEEA Experi-mental Eco-system	Primarily accounting /disclosure	United Nations; European Commission; Food and Agriculture Organization; Organization for Economic	To complement the SEEA Central Framework by adding information on: - Ecosystem extent &	A prescriptive international statistical standard to develop sets of five linked accounts covering: • Ecosystem extent, • Ecosystem condition, • Ecosystem services, • Monetary ecosystem assets, • Thematic accounts (land, water, carbon and biodiversity)	Ecosystem elements measured in physical terms. Exchange values (even for valuing non-monetary transactions of

[5] Exchange values can be defined as *'the current transaction values or market prices for the associated goods, services, labor or assets that are exchanged*. (UN et al, 2014a). Exchange values can be estimated for non-monetary transactions based on prices that would apply if a market had existed.

	Account-ing (EEA)[6]		Development and Cooperation; and World Bank Group	condition and biodiversity, - Non-market ecosystem services and associated values.	These accounts can be developed at any geographic scale.	ecosystem services). Welfare values[7] also used depending on the purpose of analysis.
Inclusive Wealth Index		Accounting /disclosure	UN University & United Nations Environment Programme (UNEP)	To measure sustainability of country's growth. Going beyond GDP by including welfare values of changes in three capitals.	A prescriptive methodology to develop integrated country accounts covering three capitals: (i) Produced capital, (ii) Human capital and (iii) Natural capital. Natural capital includes: • Agriculture. • Timber & non-timber forest resources. • Fisheries. • Fossil fuels. • Metals and minerals. Periodic series available since 1990 (to 2014) for 140 countries.	Mainly exchange values but also welfare values (for non-timber forest products and for carbon adjusted damages).
Changing Wealth of Nations		Accounting /disclosure	World Bank Group	To measure sustainability of country's growth.	A prescriptive methodology to develop integrated country accounts covering four assets: (i) Produced capital, (ii) Human capital, (iii) Natural capital and (iv) Net foreign assets.	Exchange values mainly but welfare values used for

[6] Revised EEA due in 2020

[7] Welfare values can be defined as '*The total (or gross) economic gain associated with the quantities of a product that are transacted. They include both the consumer and producer surplus. The concept of welfare economic value differs from that of exchange value as a result of the inclusion in the former of consumer surplus'*. (UN et al, 2014b).

			Going beyond GDP by including welfare values of changes in four assets. (three capitals).	Natural capital includes: • Sub-soil assets (fossil fuels, minerals) • Agricultural land. • Protected areas. • Forests (timber and some non-timber forest products). Annual and periodic series available since 1995 (to 2014) for 141 countries.	protected areas (proxy values) and non-timber forest products.
Government cost-benefit and environmental valuation guidelines	Decision-making	National government departments	Guidance on how to incorporate natural capital impacts in project & policy appraisals.	Typically includes methodology and process guidance covering areas, such as cost-benefit analysis and environmental valuation.	Welfare values and/or physical units.
Private sector					
Natural Capital Protocol	Primarily for decision-making. Can inform accounting /disclosure	Natural Capital Coalition	Standardized framework for businesses to measure & value natural capital impacts & dependencies	Non-prescriptive process-based guidance covering four stages: • Why? (Frame) • What? (Scope) • How? (Measure & value) • So what? (Apply) Covers impacts and dependencies.	Exchange and/or welfare values.
Environmental Profit and Loss Accounts	Primarily for accounting /disclosure.	Various companies & consulting firms[8].	To show the true value to society of a company's annual	Currently a non-prescriptive framework typically covering: • Carbon emissions • Water use • Water pollution	Welfare values

[8] The luxury good company Kering was the first to publish a detailed Environmental Profit and Loss Account in 2013 (for PUMA), the methodology for which has since been made publicly available for other users (Kering, 2016).

	Can inform decision-making		environmental impact.	• Land use • Air pollution • Waste	
Corporate Natural Capital Accounts	Primarily for accounting /disclosure. Can inform decision-making	UK government's Natural Capital Committee	Supports land owners to assess & record the extent & value of natural capital assets & costs to maintain them.	Prescriptive method to build a balance sheet account, including: - Natural capital asset register (assets, size and condition) - Physical flow account - Monetary accounts - Maintenance cost account	Identifies exchange values to the company and welfare values to society Includes expenditures
Draft frameworks					
Draft ISO 14007[9] Environmental management: Determining environmental costs & benefits. Final due out 2019	Primarily decision-making. Can inform accounting /disclosure.	International Organization for Standardization (ISO)	Guidance for organizations for assessing environmental costs & benefits of impacts & dependencies.	Will address environmental aspects, impacts and dependencies of the activities, products and services an organization determines are to be included among its environmental costs and benefits.	Exchange and welfare values.
Draft ISO 14008[10] Monetary valuation of environmental impacts & related environmental aspects. Final due out 2019	Primarily decision-making. Can inform accounting /disclosure.	International Organization for Standardization (ISO)	Guidance for organizations on principles and requirements for monetary valuation of environmental impacts.	Will provide a framework that includes principles, requirements and guidance for established methods of monetary valuation of environmental impacts and related environmental aspects.	Exchange and welfare values. Focuses on valuation rather than costing methods.

[9] These ISO Standards are excluded from Figure 3 because they are still being drafted and have yet to be made publicly available.

[10] As per note above.

3.2 Synergies and differences in approaches

Natural capital approaches adopted by the private and public sectors share a number of important synergies with considerable potential to be further harnessed. At the same time, they also have several key differences, some of which could be resolved, whilst others should justifiably be retained. In some cases, synergies and differences can relate to the same topic. A selection of synergies and differences identified through the consultation and review process are described in the boxes below.

Box 1. Synergies in natural capital approaches

Objectives. Ultimately, both private and public sectors undertaking natural capital assessments have a common goal to better understand natural capital impacts and dependencies and to incorporate these understandings in improved decision-making – to ensure more sustainable use of natural capital. The most closely aligned private and public sector approaches in terms of methodology and outputs are Corporate Natural Capital Accounts and UN Experimental Ecosystem Accounting, which both attempt to develop accounts detailing habitat asset area, extent and associated environmental values. Linked to this asset-based approach is the increasingly recognized common objective to use natural capital approaches at a landscape level to inform the management of shared natural capital dependencies (e.g. water).

Data needs. Potentially significant synergies exist between the type of data available and used by both businesses and governments. This topic deserves greater investigation to explore how useful it may be, especially in terms of government accounts, potentially drawing upon on an aggregation of business level data. Localized spatial data is where most synergies may perhaps exist, in particular in relation to Corporate Natural Capital Accounts, the ecosystem accounting component of UN System of Environmental Economic Accounting and landscape level assessments.

Valuation approaches. Both public and private sectors use a variety of valuation techniques to attempt to value natural capital. 'Exchange' and 'transaction' valuation approaches used in public sector approaches are the same or similar to 'financial' or 'private/business' values used by the private sector, as covered in the Protocol. The range of welfare valuation techniques used is typically the same in both private and public decision-making approaches that incorporate welfare values, i.e. social costs and benefits, for example in extended Cost Benefit Analysis.

Communication goals. Considerable synergies exist for private and public sectors to jointly communicate the importance of adopting a natural capital approach. This includes the need to enhance natural capital stocks to maintain flows of benefits and the advantages of using a value-based approach that accounts for context. Aligned terminology would certainly help in this respect.

Box 2. Differences in natural capital approaches

Objectives. Whilst the ultimate objectives are typically the same (see above), some differences in objectives exist too. The public sector tends to be more interested in stocks of assets whereas the private sector has tended (to date) to be more focused on assessing their impacts on natural capital (both direct operations and along the value chain).

Type of value assessed. Public sector natural capital accounts following the SEEA adhere to using 'exchange' values for monetary valuation to support integration into standard economic accounts, while, in theory, wealth accounting approaches use shadow prices that incorporate social costs and benefits. Most private sector natural capital accounts tend to focus on welfare values, for example in Environmental Profit and Loss accounts, although both welfare and exchange values are accommodated in Corporate Natural Capital Accounts.

Terminology. There are many examples of different terms and definitions used in the different approaches (e.g. use of 'residuals' vs 'impact drivers' or 'business outputs' and the terms 'natural capital' vs 'environmental assets'). What is needed here is a systematic assessment of terms used, guidance on any differences, and recognition of which terms need greater harmonization in the future.

Geographic and organizational scope. Public sector accounts are usually applied at a national level, but in principle can be applied at a sector, state, city, borough, catchment or site (e.g. protected area) level. Private sector accounts are often applied at an organization, supply chain, project and/or product level thus potentially take into account sites and impacts across countries. Generally, although not commonly perceived, public and private sector approaches can usually be applied to whatever scale is desired.

Other differences. These include the degree of prescriptiveness, for example, both the System of Environmental Economic Accounting and Corporate Natural Capital Accounts have standard definitions and measurement boundaries, whilst the Protocol and Environmental Profit and Loss accounts are much more flexible (the latter having no specific prescriptive guidance available yet, although this may change in coming years). Also, the private sector tends to focus more on business specific topics, whereas the public sector generally takes a broader perspective since it must consider a range of views. Potentially, a key role of public sector accounts may be to help businesses understand what issues may be most material in their context (e.g. providing information to farmers in a catchment that there are issues around water scarcity or concerning climate change effects).

4 Key challenges and opportunities

The consultation identified a number of challenges and opportunities associated with the Combining Forces program. Characterization of the key challenges and opportunities has been used to inform the recommended work areas. Table 2 sets out how each of the five work areas both deal with the challenges and harness the opportunities.

Table 2. Challenges and opportunities that the Priority Areas cover

Area	Challenges	Opportunities
Build the community Further develop the ongoing integrated dialogue on natural capital.	• **Crowded space.** It is a large and growing space with so many new initiatives. • **Silos.** Existing communities can be siloed, not interact, and be skeptical of each other. • **Weak business incentives.** It can be difficult to engage businesses on the topic – especially as there is a lack of incentives for them to do so.	• **Cross learning.** Communities of Practice to cover different topics (e.g. leveraging government statistics community's experience on concepts and definitions) • **Business input.** Needed to help mainstream public accounts and make them more business relevant. • **Closer global connections.** To initiatives such as IPBES[11]. • **Grow capacity**. There is a current lack of technical capacity which could be addressed through joint efforts.
Narrative Jointly further investigate, promote and enhance the case for natural capital approaches and combining forces.	• **Weak incentives.** Weak current enabling environment and lack of incentives for businesses to better manage impacts on. • **Conflicting terminology.** Disagreement around terminology. • **Different interests.** Different core interests (e.g. public sector for welfare, private sector for profits). • **Lack of understanding of interests.** The different sectors don't fully understand each other's interests (e.g. around motivations and shared benefits).	• **Identify workable incentives.** Mutually agreeable and workable incentives and regulations both sectors can support. • **Enhance key links**. Build on interest in climate change, resource scarcity, biodiversity decline, circular economy, plastic pollution, Sustainable Development Goals and sustainability risk assessments. • **Raise awareness of uses.** How natural capital assessments can be used. • **Leverage dependency angle.** Focus on dependencies for both public and private sector to clarify beneficiaries and inform better incentives for ecosystem management.

[11] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

Harmonization Identify and detail what is needed to further harmonize approaches and develop standards.	• **Early stages.** Discussions about standardization are at an early stage. • **Lack of systematic approach.** Research to look across the different approaches and particularly at the connecting aspects. • **Multiplicity of approaches.** Many different approaches, techniques and applications. • **Weak business incentives.** Investor interest is gaining traction and will help incentivize businesses, but businesses still perceive weak incentives to engage.	• **Draw knowledge from UN System of Environmental Economic Accounting (SEEA).** The UN SEEA has significant technical detail to offer to support harmonization. • **Design systematic approaches**. There is scope to harness UN processes to work towards standardization. • **Capture many benefits.** Much potential to gain efficiency and effectiveness through increased standardization. • **Use learnings from business.** Potential for learning from businesses (e.g. simple processes and guidance, and how to apply the concept of 'ecosystem thresholds').
Data Clarify data needs, map data availability, streamline data collection and enhance data accessibility.	• **Variability of data volume.** Lack of relevant data available on some things, and too much on others. • **Accessing data.** Finding and accessing existing data, including issues around cost of collecting and obtaining data, and data confidentiality. • **Extensive data requirements.** So much potential data needed e.g. spatial, hydrology, biodiversity, toxicity.	• **Partnerships.** Potential for forming partnerships to collect data and undertake research jointly. • **Leverage government research**. Capitalize on extensive government research on economic development and encourage interest in natural capital. • **Efficiency gains**. Gain in efficiencies and save costs through shared data work and undertaking of meta-data analysis to make data more useful to others. • **Better sharing of existing data.** Investigate and make more data available on private sector environmental expenditures and in general on environmental values.
Case studies Review and expand the case study program.	• **Breadth of topic.** So many different potential approaches, scales and organizational aspects to cover.	• **Partnerships.** Develop public-private partnership pilots at national and sub-national levels and link to Green Economy. • **Potential for landscape approach.** Investigate how natural capital accounting can assist landscape approaches for public and private benefit through evaluating and managing shared dependencies on natural capital. • **Various other potential roles.** Use cases to investigate private sector environmental expenditures, explore links to the Sustainable Development Goals, and communicate the benefits and challenges of natural capital approaches.

5 Links with existing initiatives

To ensure implementation of the priority work areas is effective and worthwhile, it is essential to avoid duplication of effort and to co-ordinate with related initiatives - collaborating where appropriate and practicable. As such, potential links the work areas have with other existing initiatives are set out below. This in particular includes links with the Government Dialogue where some obvious synergies exist.

Build the community: Further develop the dialogue on natural capital.

This work area will need to leverage the many difference initiatives around the world including the green economy community. It will link through the Coalition's regional platforms, the EU Horizon 2020 programs on private and public sector natural capital accounting, the Government Dialogue and World Bank and UN work on natural capital and wealth accounting, as well as the Platforms for Business and Biodiversity Partnership of the Convention on Biological Diversity. The Natural Capital Coalition, as the home of the natural capital movement, is a focal point to bring this learning together.

Narrative: Jointly further investigate, promote and enhance the case for natural capital approaches and combining forces.

This work stream should work with the existing Government Dialogue Narrative Workstream, which is focusing on the need for a positive natural capital narrative to capitalize on the enormous potential the natural capital concept has to accelerate and guide transformative economic changes. A key question will be whether to develop a separate broader narrative, a single unified narrative, or one narrative with adaptations depending on the audience.

Harmonization: Identify and detail what is needed to further harmonize approaches and develop standards.

This work area should work with and build on the Government Dialogue Accounting Workstream, which is focusing on the links between natural capital accounting being undertaking by governments and the private sector. It should also involve close liaison with the various financial standard setters such as Financial Accounting Standards Board (FASB), International Financial Reporting Standards (IFRS) and the International Accounting Standards Board (IASB) as well as sustainability standard setters such as Climate Disclosure Standards Board (CDSB), Sustainability Accounting Standards Board (SASB), International Integrated Reporting Council (IIRC), Global Reporting Initiative (GRI), and others such as the Reporting 3.0 initiative, Corporate Reporting Dialogue and International Organization for Standardization (ISO). There are also links with the work of the UN Statistics Commission in terms of statistical standards, in particular the System for Environmental-Economic Accounting, and in relation to Sustainable Development Goals indicators.

Data: Clarify data needs, map data availability, streamline data collection and enhance data accessibility.

This work area should involve working closely with the ongoing collaborative projects being run through the Natural Capital Coalition including the Data Information Flow project and the supplementary information being developed on Biodiversity. This will avoid duplication of effort and jointly leverage resources. Connections should also be made with the many relevant European Union projects such as: Mapping and Assessment of Ecosystems and their Services (MAES), Knowledge Innovation Project – Integrated Natural Capital Accounting (KIP-INCA), Operational Potential of Ecosystems Research Applications (OPERAs), Operationalization of Natural Capital and Ecosystem Services (OpenNESS) and Enhancing Ecosystem Services Mapping for Policy and Decision Making (ESMERELDA), as well as the Group on Earth Observation (GEO) initiatives such as Earth Observation for Environmental Assessment (EO4EA), and the many other modelling initiatives such as Integrated Valuation of Ecosystem Services Trade-offs (INVEST), Artificial Intelligence for Ecosystem Services (ARIES) and the NatCap[12] Project of Stanford University.

Case studies: Review and expand the case study program.

This work area should involve reviewing and expanding case studies and pilot studies from the existing Government Dialogue on Natural Capital (both Narrative and Practice Workstreams). In addition, it should review case studies developed as part of the International Finance Corporation/Natural Capital Coalition Country Level Assessments, the ongoing EU-funded UN project on Natural Capital and Valuation of Ecosystem Services, the World Bank Wealth Accounting and the Valuation of Ecosystem Services (WAVES) Partnership, Conservation International's Ecosystem Values and Accounting (EVA) project as well the array of country and regional initiatives. The Natural Capital Hub, which is the central global repository for private-sector case studies and which also provides links to other repositories hosted across the community, will be a key resource.

5.1 Who should be involved?

Involvement of the private (business and finance) and public sectors, as well as members of non-government organizations, academia, consultants, international organizations and standard setters, in the alignment process is critical to ensure joint ownership of the outcomes and to ensure a richness of inputs.

[12] Natural Capital

6 Next steps

Having identified five priority areas for action, the Combining Forces program now needs to scope out how each of these areas should best be developed. As mentioned, this will include taking stock of ongoing initiatives, reviewing existing materials in more detail and developing a suitable collaborative plan for furthering each area, working together with, and leveraging, existing initiatives. A focus must be placed on securing regular and tangible outputs to continually reinforce the possibilities and recognize that we must build on and connect the broad, if disparate, set of natural capital approaches that exists.

7 References

HM (Her Majesty's) Treasury (2013) The Green Book: appraisal and evaluation in central government. Published by UK Government.

IDEEA Group (2017) 'Natural Capital Protocol – System of Environmental Economic Accounting Toolkit: Discussion paper'.

Kering (2016) Environmental Profit and Loss Accounts (E P&L), 2015 Group results.

Lange, G.M.; Wodon, Q.; Carey, K. (2018) *The Changing Wealth of Nations 2018: Building a Sustainable Future*. Washington, DC: World Bank.

Natural Capital Coalition (2017) 'Combining forces on Natural Capital'.

Obst, C. (2015) *Links between the Natural Capital Protocol and other accounting frameworks*. Institute for the Development of Environmental Economic Accounting. June, 2015.

OECD (2006) Cost-Benefit Analysis and the Environment Recent Developments, OECD Publishing, Paris.

OECD (2018) Cost-Benefit Analysis and the Environment: Further Developments and Policy Use, OECD Publishing, Paris.

Spurgeon, J.P.G (2015). Comparing Natural Capital Accounting approaches, data availability and data requirements for businesses, governments and financial institutions: a preliminary overview. Final report to the EU Business and Biodiversity Platform, performed under the ICF contract.

United Nations, European Commission, Food and Agriculture Organization of the United Nations, International Monetary Fund, Organisation for Economic Co-operation and Development and The World Bank (2014a) *System of Environmental-Economic Accounting 2012 – Central Framework.*

United Nations, European Commission, Food and Agriculture Organization of the United Nations, Organisation for Economic Co-operation and Development and The World Bank (2014b) *System of Environmental-Economic Accounting 2012 – Experimental Ecosystem Accounting.*

UNU-IHDP (United Nations University – International Human Dimensions) and UNEP (United Nations Environmental Programme) (2014). *Inclusive Wealth Report 2014. Measuring progress toward sustainability*. Cambridge: Cambridge University Press.

Vardon, M., Burnett, P., and Dovers, S., (2016) 'The accounting push and the policy pull: balancing environment and economic decisions' *Ecological Economics* 124, pp 145-152.

Vardon, M., Bass, S., Ruijs, A. and Ahlorth, S. (eds.) (2017a). Business and national accounting for natural capital towards improved understanding and alignment.

Vardon, M., Birt, J., and Carter Ingram, J., (2017b) 'Business and national accounting for natural capital – toward improved understanding and alignment'.

8 Acknowledgements

We'd particularly like to express our thanks to those experts below who kindly contributed their time and thoughts through either a telephone interview or submitting a completed questionnaire.

Bram Edens	United Nations Statistics Division (UNSD)
Caroline van Leenders	Netherlands Enterprise Agency
Emily Benson	Green Economy Coalition
Gerard Bos	International Union for the Conservation of Nature (IUCN)
Ian Dickie	Economics for the environment consultancy (eftec)
Juha Siikamaki	International Union for the Conservation of Nature (IUCN)
Kiruben Naicker	National Department of Environmental Affairs, South Africa
Lars Hein	Wageningen University
Lars Mueller	European Commission
Mark Eigenraam	Institute for Development of Environmental-Economic Accounting (IDEEA)
Martin Lok	Ministry of Agriculture, nature and Food Quality, Netherlands
Michael Bordt	UN Economic and Social Commission for Asia and the Pacific (ESCAP)
Michael Vardon	Australia National University (ANU)
Monica Velez-Posada	Department of Environment and Energy, Australia
Oliver Greenfield	Green Economy Coalition
Rocky Harris	UK Department for Environment Food and Rural Affairs (DEFRA)
Rosimeiry Portela	Conservation International
Sarah-Jane Hindmarsh	Department of Environment and Energy, Australia
Sofia Ahlroth	World Bank
Steven King	UNEP World Conservation Monitoring Center (WCMC)
Will Evison	PricewaterhouseCoopers (PwC)

The study has also drawn upon the feedback kindly provided at two Combining Forces workshops (held in the Netherlands and Australia in September 2018), and in two Combining Forces webinars held on 1st of October 2018.

In addition, the views of the authors, James Spurgeon, Carl Obst, Marta Santamaria, Mark Gough and Richard Spencer have been incorporated within the paper. Sustain Value would also like to thank Sophie Neupauer and Maggie Cormack for providing internal research support on this project.

This study has been undertaken through the following organizations on behalf of the Natural Capital Coalition:

Sustain Value is a UK based natural and social capital consultancy firm established in 2011. We specialize in helping businesses identify, value and manage environmental and social impacts and dependencies. We provide highly cost-effective support to clients throughout the world, operating through a flexible global network-based structure drawing upon a diverse range of independent experts and researchers. All projects are led by James Spurgeon, who has 25-years' experience valuing environmental and social issues for clients in different sectors in the UK and internationally.

IDEEA Group is committed to building the capacity of governments, businesses and the community in environmental-economic accounting and specialize in the development and implementation of the UN System of Environmental-Economic Accounting at business, regional and national scales. We improve the understanding of how people and society connect to the environment by integrating information about ecosystems and natural capital into their choices and decision making.

ICAEW is a world leading professional membership organization that promotes, develops and supports over 178,500 chartered accountants and students worldwide. We provide this community of professionals with the power to play its part to build and sustain strong economies. Training, developing and supporting accountants throughout their careers, we ensure they have the expertise and values to meet the needs of tomorrow's businesses. Our profession is at the heart of the decisions that will define the future, and we contribute by sharing our knowledge, insight and capabilities with others. That way, we can be sure that we are helping to build robust, accountable and fair economies across the globe.

The **Natural Capital Coalition** is a unique global multi-stakeholder collaboration that brings together leading initiatives and organizations to harmonize approaches to natural capital and grow a supportive enabling environment for natural capital thinking. The Coalition represents almost 300 organizations.

Suggested citation: Spurgeon, J., Obst, C., Santamaria, M., Gough, M., and Spencer R., (2018) Combining Forces: Priority Areas for Collaboration. A thought leadership paper on advancing Natural Capital Approaches.