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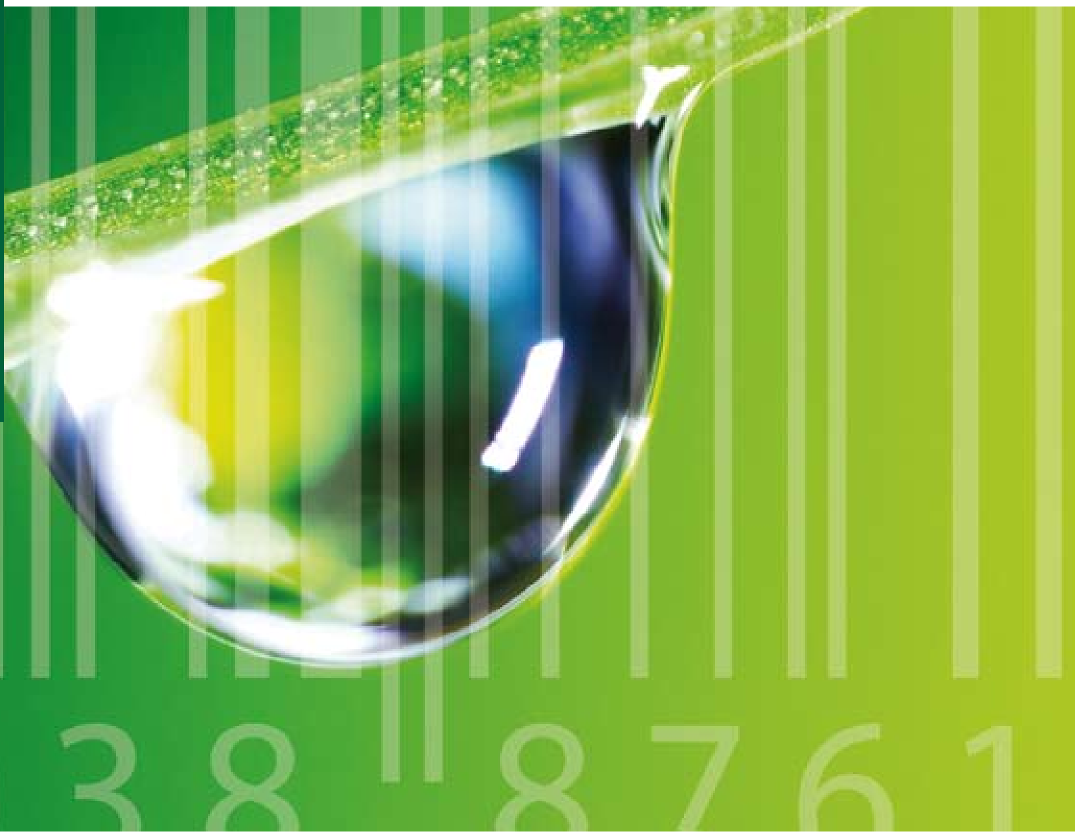
Business and Ecosystems



Issue Brief I Corporate Ecosystem Valuation

World Business Council for Sustainable Development

Corporate Ecosystem Valuation

About the WBCSD

The World Business Council for Sustainable Development (WBCSD) brings together some 200 international companies in a shared commitment to sustainable development through economic growth, ecological balance and social progress. Our members are drawn from more than 36 countries and 22 major industrial sectors. We also benefit from a global network of 58 national and regional business councils and partner organizations.

Our mission is to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues.

Our objectives include:

Business Leadership – to be a leading business advocate on sustainable development;

Policy Development – to help develop policies that create framework conditions for the business contribution to sustainable development;

The Business Case – to develop and promote the business case for sustainable development;

Best Practice – to demonstrate the business contribution to sustainable development and share best practices among members;

Global Outreach – to contribute to a sustainable future for developing nations and nations in transition.

Scoping corporate ecosystem valuation

The WBCSD is preparing to develop a comprehensive Ecosystem Valuation Initiative. The topics of ecosystem impacts and dependencies have recently been addressed in detail in the WBCSD/WRI/Meridian Institute *Corporate Ecosystem Services Review*. This provides a tool to help managers develop strategies to manage business risks and opportunities arising from their company's dependence and impact on ecosystems.

Its scope does not, however, extend to ecosystem valuation or to financial analysis and reporting. There is thus a clear opportunity for the WBCSD to build on the process and steps identified in the *Corporate Ecosystem Services Review* and to develop and apply a toolbox for quantifying these ecosystem risks and opportunities in monetary terms.

With the aim of informing the design of the Ecosystem Valuation Initiative, the WBCSD has commissioned an exercise to scope out the needs, niches and opportunities to use ecosystem valuation for business.

The following document summarizes the findings of this scoping study. The scoping study aims to answer the following questions:

- What is the current state of play as regards ecosystem valuation methods, practices and applications?
- How far are these experiences and techniques relevant for business?
- In the light of the above, what are the needs, gaps, opportunities and ways forward in developing the WBCSD Ecosystem Valuation Initiative?

Acknowledgements
We would like to extend our appreciation to the members of the Ecosystems Focus Area whose leadership and vision are instrumental to the WBCSD's success.

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Disclaimer
This Issue Brief and the full scoping study have been approved by the WBCSD's Ecosystems Focus Area Core Team. A range of members reviewed drafts. It does not mean, however, that every member company agrees with every word.

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Why does ecosystem valuation matter to business?

Businesses of all kinds both depend and impact on ecosystems. For some companies these links are obvious. Forest industries of course rely on continued supplies of timber and non-timber products, while mining operations inevitably cause some level of disturbance to surrounding nature. However, such links are present even among companies that do not use environmental resources as their raw materials. It is hard to think of any business, or indeed any human being, that does not rely on ecosystem services such as clean and regular water supplies, or to identify any economic activity that does not in some way alter the natural ecosystems around it.

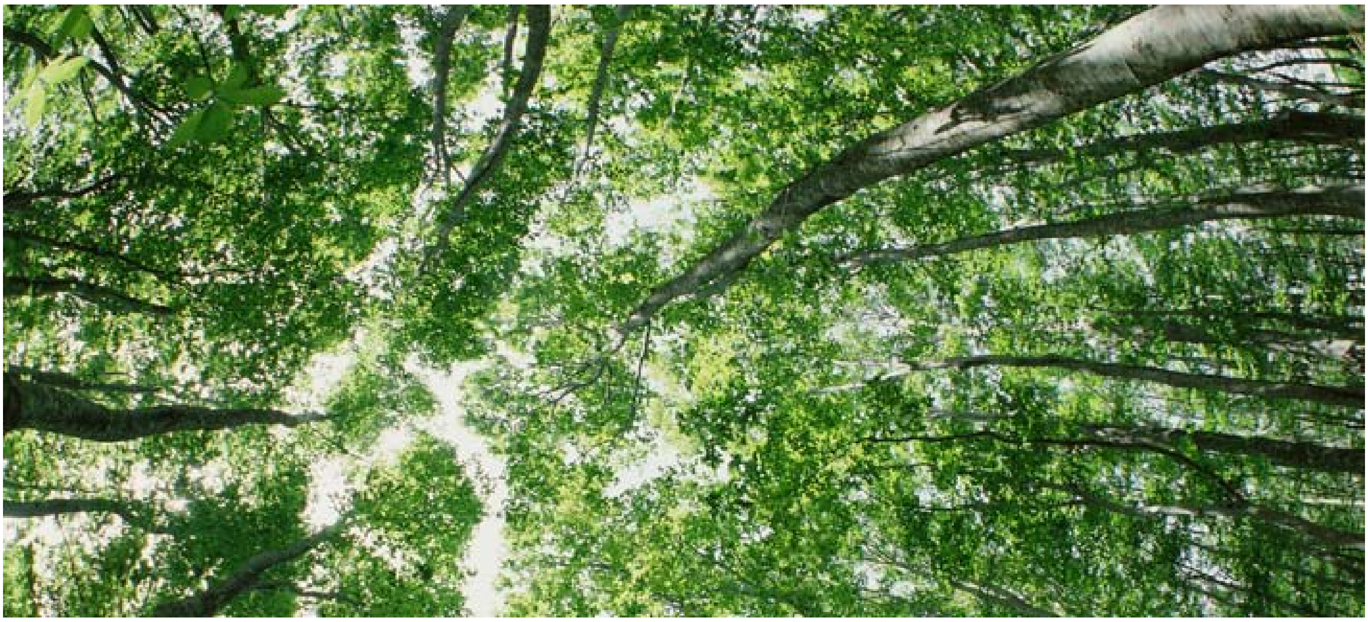
A key question for companies thus becomes how to manage these ecosystem dependencies and impacts so as to optimize its bottom line. While bigger-picture social and environmental concerns are important, there is also a strong financial rationale to asking this question.

Ecosystem degradation presents significant risks to corporate profits and performance because it jeopardizes the supply of valuable ecosystem services. It also poses a risk due to the increasing regulatory (and reputational) requirements for companies to be held financially accountable for any ecosystem damage to which their activities may give rise. At the same time, sound ecosystem management can create lucrative business opportunities for companies, for example via new or improved markets and products, cost-savings, and tax breaks. Whichever way we look at it, there are clear links between the state of ecosystems and the corporate bottom line.

Most leading companies acknowledge the importance of addressing ecosystem impacts and dependencies, and managing the associated business risks and opportunities. However, many are still struggling to identify exactly how to integrate such information into their management decisions and financial reporting.

Economic valuation provides one approach that could have the potential to help in addressing this challenge. By quantifying the relationships between ecosystems and corporate performance, and expressing them in monetary terms, it provides a series of indicators that can in principle be integrated with conventional financial measures and linked directly to a company's bottom line.

The application of ecosystem valuation techniques to business is, however, still at an embryonic stage. An important question therefore arises as to whether and how the discipline, as currently practiced, lends itself to use by the corporate sector. As yet there is little guidance available on this topic. With the aim of filling these knowledge gaps, the WBCSD commissioned an exercise to scope out needs, niches and opportunities to use ecosystem valuation for business.



What is the current state of play in ecosystem valuation?

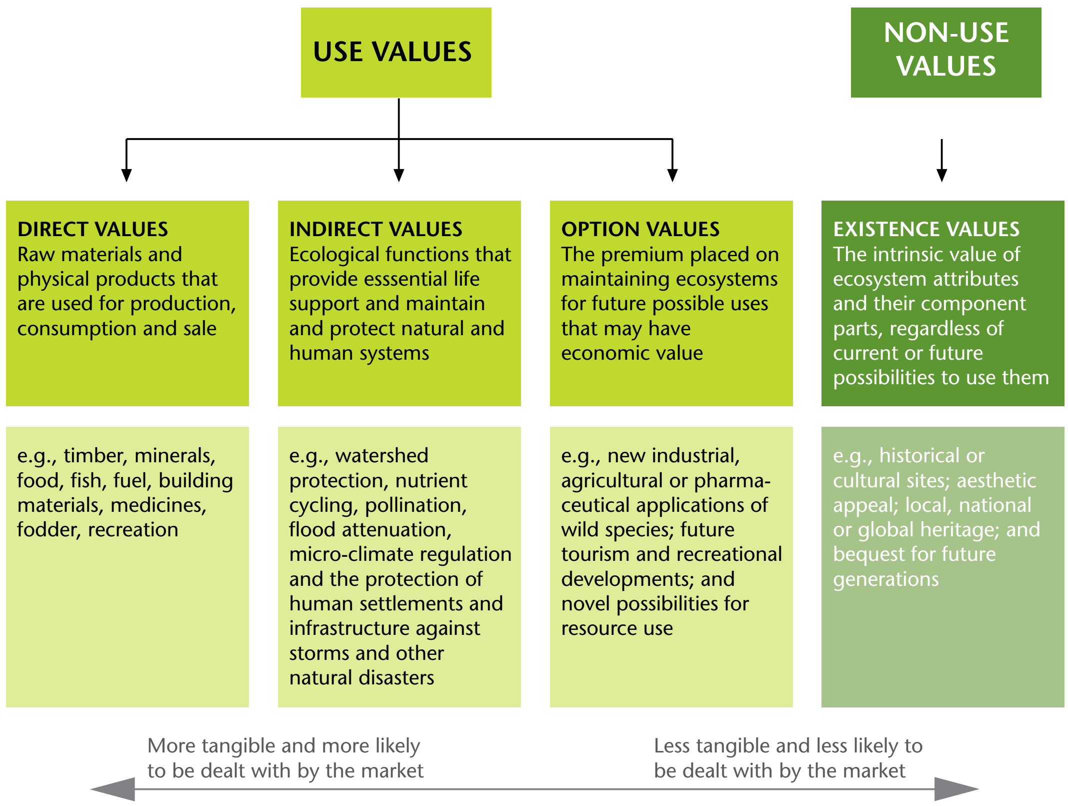
The scoping study found that the discipline of environmental valuation has evolved over a period of more than 50 years. Today there is a large and widely used toolbox of methods, techniques and models by which to value ecosystem services. One of the major innovations of this work has been to extend the scope of economic analysis beyond its conventionally narrow focus on marketed commodities to more inclusive calculations that also factor in non-market aspects of ecosystem service values.

Most current approaches to ecosystem valuation are based in some way on a "total economic value" framework. Total economic value (and the suite of methods that have been developed to express its components in monetary terms) considers the full gamut of economically important goods and services associated with ecosystems. As well as looking at ecosystems as a source of raw materials and physical products (direct values), it also values their life support services (indirect values), the premium placed on maintaining them for future use (option values), as well as the intrinsic values that exist regardless of actual use (existence values).

The scoping study describes many initiatives that are using total economic value approaches to assess the environmental impacts of economic and development projects, to inform the design of taxation and pricing systems, to compute environmental liability and compensation requirements, to adjust national income accounts, to weigh up alternative land and resource management options, and to justify ecosystem conservation as a socially and economically desirable investment option. The bulk of these relate to public sector decision-making.

Although by no means universally adopted, and to a large extent still practiced on a somewhat *ad hoc* basis, ecosystem valuation has certainly gained wide acceptance and credibility. There are now many institutions, a great deal of expertise, and an immense volume of literature dealing with ecosystem valuation.

What defines these "mainstream" approaches and applications is their overriding focus on furthering public interest goals, and on ensuring that non-market benefits are better represented in public decision-making. This is not altogether surprising, as the community of ecosystem valuation practice has long been dominated by public sector, multilateral and non-governmental agencies, whose mandate is to protect the public interest and to secure economy-wide or global benefits.



Characteristics of "mainstream" approaches to ecosystem valuation	
Main practitioners	Public sector, multilateral and non-governmental agencies, research institutes and academia.
Main focus	Articulating the value of non-market ecosystem services in public decision-making, so as to better secure social benefits and further public interest goals.
Primary framework	Total economic value, with an increasing focus on incorporating human well-being indicators as laid out in the Millennium Ecosystem Assessment.
Widely-used methods	Revealed preference, cost-based and stated preference approaches.
Common applications	Cost-benefit analyses of projects, programs and policies; environmental liability and damage assessment; design of financial and economic instruments; calculation of adjusted national income accounts; making the case for conservation; integrated land and resource planning; awareness and information dissemination.

What is the relevance and applicability to business of "mainstream" ecosystem valuation approaches?

The scoping study concludes that "mainstream" ecosystem valuation, as it has developed and is currently practiced, has only limited relevance for business. There has been minimal inclusion of companies in these valuation initiatives, and the tools and techniques developed have stimulated very little uptake by the corporate sector.

For the most part, "mainstream" ecosystem valuation is not concerned with business interests or financial bottom-line goals. The corporate sector is seen largely as a passive player by the implementers of "mainstream" ecosystem valuation. Rather, business has been led to accept the associated liabilities, compensation requirements, charges and taxes recommended by ecosystem valuation. The endpoint of better articulating non-market values so as to further the public interest remains a somewhat narrow one as far as business is concerned.

While the broader public interest is certainly not irrelevant to socially and environmentally minded businesses, it is of concern that ecosystem valuation continues to largely exclude consideration of the financial bottom line. Although many members of the corporate sector are also concerned with the principles of maximizing social goals and public benefits (and are investing heavily in corporate environmental social responsibility, towards these ends), profit motivation is also core to their operations. This translates into quite a different set of interests and mandates than those that are embodied in the "mainstream" approach that has dominated ecosystem valuation to date.

How is ecosystem valuation being used by the corporate sector?

The scoping study identified an as-yet small, but growing, set of ecosystem valuation tools that have been designed and developed within the realms of the private sector, or that have business interests as their specific focus. Most of these have emerged over the last five years.

What is striking is that this new field has for the most part developed outside “mainstream” ecosystem valuation programs, as a separate set of initiatives. They are based not just on a different set of principles (largely financial bottom line goals), but also tend to use a distinct suite of methods (primarily conventional financial analysis tools).

Despite the relatively long history of ecosystem valuation, it is only very recently that we have seen a suite of tools emerging that have been designed within the realms of the private sector, or that have business interests as their specific focus. So far, these remain very limited in number - the review identified only six current tools and initiatives that could strictly be defined as ecosystem valuation tools developed by or for business. These are applied to four main areas of practice: corporate environmental accounting (Corporate Environmental Accounting and the Biodiversity Accountability Framework), environmental and financial performance assessment (Trucost, (sdEffect™), and risk management (Ecosystem Services Benchmark and ENVEST).

Although these case studies mainly represented one-off calculations or pilot programs, businesses’ interest in ecosystem valuation is clearly growing. The scoping report concludes that although corporate ecosystem valuation is dynamic and innovative and a rapidly emerging field, it is very much at an embryonic stage – it is clear that additional work needs to be carried out to advance its reach and hone its focus.

The scoping report summarizes ten case studies of how companies have used ecosystem valuation to inform business decision-making. The case studies are clustered around six main topics and issues in business decision-making: identifying new investments, markets, prices and products; managing risk; highlighting opportunities for saving, reducing taxes and sustaining revenues; assessing environmental liability and compliance; articulating environmental performance and costing environmental impacts; and reassessing company assets and share value.

	Reviewed ecosystem valuation tools					
	Corporate Environmental Accounting	Biodiversity Accountability Framework	Trucost	sdEffectTM	Ecosystem Services Benchmark	ENVEST
Identifying new investments, markets, prices and products	✓				✓	
Managing risk					✓	✓
Highlighting opportunities for saving costs, reducing taxes, sustaining revenues	✓				✓	
Assessing environmental liability and compliance					✓	
Articulating environmental performance and costing environmental impacts	✓	✓	✓			✓
Reassessing company and share value			✓	✓		

Characteristics of "business" approaches to ecosystem valuation

Core elements	Applications	Examples
Identifying new investments, markets, prices and products	Improving existing prices and production as well as identifying additional or alternative revenue streams based on ecosystem service markets	Implementation of a fee-to-access program for recreational users of Potlatch Corporation's lands
		Identification of TXU Energy's eco-assets that could generate income via mitigation credits that would be equal or greater to alternative land uses or sale values
Managing risk	Managing both environmental and economic risk in relation to ecosystem issues	Identified the financial implications of future environmental risks to the US pulp & paper industry.
		Highlighted the financial, social and environmental rationale for Coca-Cola investing in water-source protection
Highlighting opportunities for savings, reducing taxes and sustaining revenues	Avoiding unnecessary expenditures, as well as investing in ecosystem measures that will enhance production potential and efficiency	Highlighted cheaper and more effective waste management options for DuPont.
		Allowed Allegheny Power to gain deductions in Federal taxes.
		Calculated operational cost savings and greater revenues for INECEL to invest in watershed protection.
Assessing environmental liability and compliance	Factoring environmental damage and remediation costs into investment appraisal and project planning, as well as dealing with liability and compensation claims levied by or against the company	Provided monetary estimates of oil spill environmental damage costs to Exxon Mobil that could be used to negotiate compensation liabilities
Articulating environmental performance and costing environmental impacts	Internal management information needs as well as requirements for external and mandatory reporting, and public disclosure	Allowed Ontario Hydro to identify cost savings, cost avoidance, revenue generation, waste reduction and improved image
Reassessing company and share value	Calculations made to inform companies themselves, as well as to generate information for their shareholders and for market and investment analysts	Assisted Inco to reassess company and share value, based on corporate environmental performance

The common factor between the different case studies is their triple bottom line motivation. While there is in most cases some element of public environmental interest, all show a strong focus on profit optimization and financial goals. The case studies are, however, also defined by their lack of adherence to a single valuation model, or set of valuation techniques. Interestingly, the scoping study found that these real-world corporate applications of ecosystem valuation mix-and-match "mainstream" ecosystem valuation techniques tools, more recent ecosystem valuation tools developed for and by business, and traditional financial analysis tools that have long been used by businesses for non-environmental planning and reporting purposes.

What are the needs, niches and opportunities for further advancing corporate ecosystem valuation?

One important conclusion of the scoping study is that ecosystem valuation clearly does offer a useful set of tools for business – as evidenced by its growing use by the corporate sector. However, mainstream ecosystem valuation practice, in its current form, has severe shortcomings as regards its relevance and applicability to business.

As a result, we have seen the evolution of two fairly distinct branches of ecosystem valuation. One is the mainstream approach, concerned with public values and the social and environmental bottom lines. The other is business applications that are primarily (although, it is important to note, not exclusively) engaged in looking at private values and the financial bottom line.

The greatest opportunity to advance the development of corporate ecosystem valuation would therefore seem to lie in making efforts to promote a greater coherence between the two approaches. The scoping study identifies that corporate ecosystem valuation, as it is starting to be applied, combines a focus on financial bottom-line goals with a broader concern with social and environmental bottom lines.

This suggests that neither "mainstream" ecosystem valuation methods nor conventional financial valuation methods are by themselves sufficient (even though each may be necessary) to serve these ends. It would seem that there is a need to find ways of merging the best and most useful of each set of tools, and embedding them in a framework that is relevant and useful for corporate planning, analysis and decision-making. In effect, this would entail "borrowing" the most relevant tools and experiences from mainstream ecosystem valuation and merging them with the innovations in financial analysis that businesses themselves have been developing to deal with ecosystem issues.

A strong conclusion of the scoping study is that any attempt to advance corporate ecosystem valuation should focus neither on trying to shift mainstream ecosystem valuation initiatives towards a business perspective, nor on forcing businesses into mainstream ecosystem valuation models. Rather, there is a need to look to new ways of valuing ecosystem dependencies and impacts within the realm of existing financial and business planning tools, drawing where relevant on the methods that have been developed specifically to value ecosystem services. Unless ecosystem valuation issues are dealt with inside companies in similar ways to other management decisions, they are likely to remain things that are largely imposed from outside rather than being a core (and useful) part of decision-making processes.

What might a WBCSD Ecosystem Valuation Initiative look like?

Clearly there is a substantial, and as-yet unfilled, niche for the WBCSD to engage more substantively in further advancing corporate ecosystem valuation. There is also apparently a demand for it.

The niche lies in the fact that other organizations working in the field of ecosystem valuation have largely failed to rise to the challenge of working with and for business. The demand is evidenced by the stated interest of WBCSD members themselves, and also by the recent emergence of company-led efforts to adapt and modify ecosystem valuation approaches to their own ends. Underpinning this is the clear potential of ecosystem valuation to provide a suite of tools that can help businesses manage their ecosystem dependencies and impacts, and improve their financial, social and environmental bottom lines.

The WBCSD recently completed the *Corporate Ecosystem Services Review,* which has been received extremely well by both conservation and business communities. The review provides a tool to help managers develop strategies to manage ecosystem-related business risks and opportunities, but stops short of considering ecosystem valuation. It would therefore seem to present a useful springboard from which the WBCSD could launch its Ecosystem Valuation Initiative as an additional step in ecosystem services review – the step of quantifying ecosystem dependencies and impacts in monetary terms, and capturing the potentials they offer for companies to strengthen their business performance, management decision-making, and financial (or triple) bottom line.

The goal of the WBCSD's Ecosystem Valuation Initiative would thus be to use ecosystem valuation to strengthen the business license of WBCSD member companies to operate, innovate and grow by managing ecosystem risks and seizing ecosystem opportunities. Its modus operandi would be to work within the framework of existing business accounting and financial analysis tools to incorporate ecosystem valuation.

The WBCSD is a membership organization. This is also its main strength and comparative advantage. Further input from members will be critical if significant advances are to be made in pushing forward the boundaries of corporate ecosystem

valuation in a manner that is both relevant and applicable to business goals. These dialogues and contributions would form an essential first step in the initiative and in shaping how it is subsequently designed and rolled out.

A second-phase guide to corporate ecosystem valuation, as a companion volume to the *Corporate Ecosystem Services Review* would fill a significant gap left by mainstream ecosystem valuation. While this activity would deliver a concrete product that would benefit businesses that are currently endeavoring to internalize ecosystem valuation into their own planning and decision-making, it could also – and equally importantly – serve to foster a more participatory process of determining just where the priorities in corporate ecosystem valuation lie and what are the best tools to address them. To achieve this latter aim, substantial efforts would need to be made to road-test the guide among WBCSD members and other companies.

It is only through this type of on-the-ground endeavor that any attempt to advance corporate ecosystem valuation will remain relevant for, useful to, and used by business.

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