

# ACCOUNTING FOR NATURAL CAPITAL

The elephant in the boardroom



*'In stark financial terms, all the evidence demonstrates a simple fact: we are failing to run the global bank that we call our planet in a competent manner. We no longer just take a dividend each year; instead, for some time, we have been digging deep into our capital reserves. And, after the near collapse of our entire financial system, we all know that such excessive risk-taking can cause immense havoc. The ultimate bank on which we all depend – the bank of natural capital – is in the red; the debt is getting ever bigger and that is reducing Nature's resilience and considerably impeding her ability to re-stock. It leaves us dangerously exposed.'*

HRH The Prince of Wales,  
Speaking at The Prince's Accounting for Sustainability Forum,  
St. James's Palace, London, December 2013.

# EXECUTIVE *summary*

Natural capital will become as prominent a business concern in the 21st Century as the provision of adequate financial capital was in the 20th Century. Natural capital underpins all other forms of capital, including financial – ultimately we rely on it for everything. The demands of an expanding and more prosperous global population mean that natural resources and ecosystems are becoming ever more stretched. We are already 'drawing down' on 50% more natural capital a year than the earth can replenish – and the rate of depletion is accelerating. All too soon, businesses will face a stark choice: adapt or fail.

As the erosion of natural capital gathers pace, those businesses that are most fleet of foot in responding to this situation will thrive: they will be well placed to spot opportunities to innovate as well as to manage the risks associated with it. Companies that follow their lead will benefit by adopting the solutions these leaders create. Those that do nothing may suffer unsustainable profits, cash flow problems, risks to their supply chain, as well as damage to brands and corporate reputations.

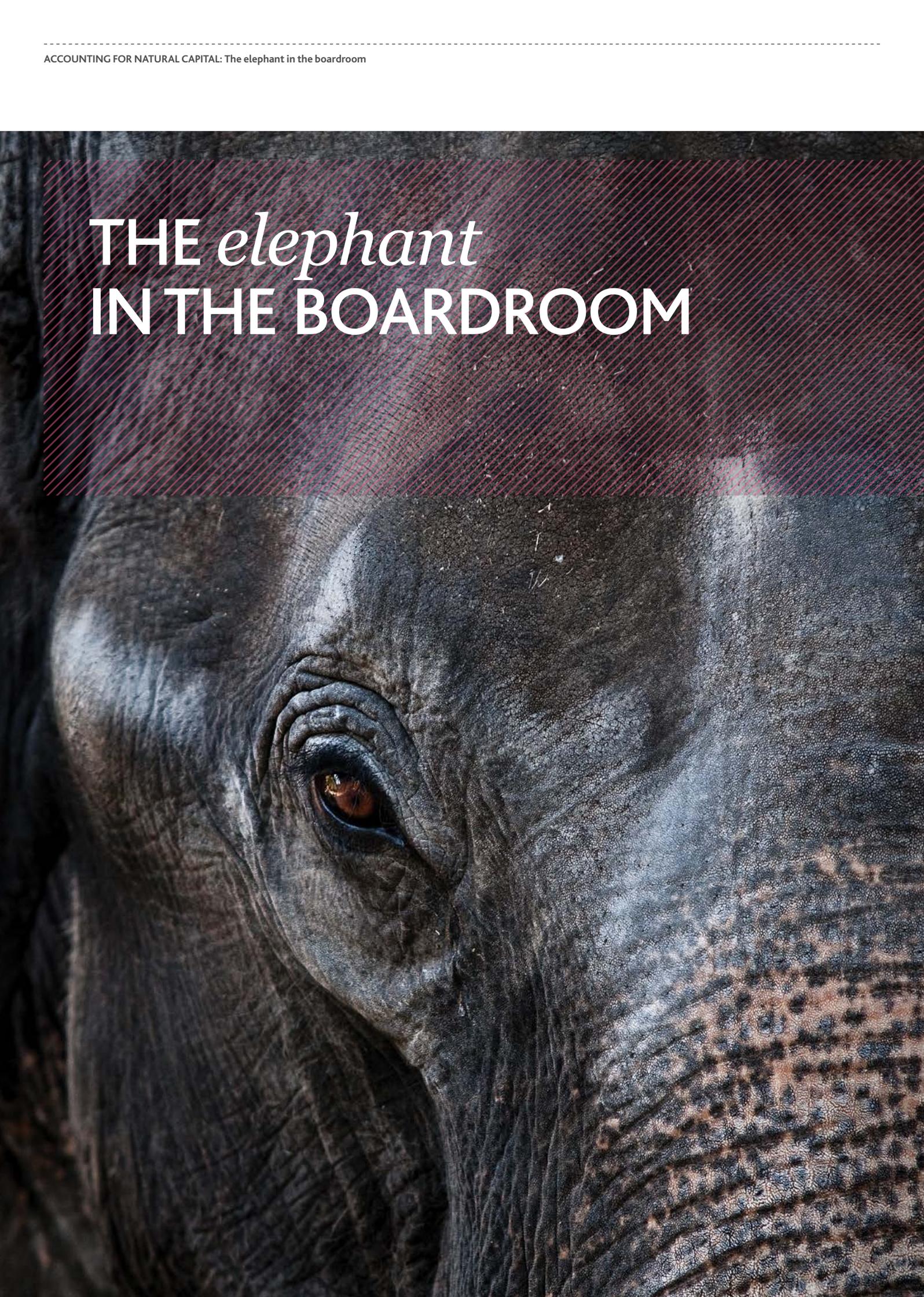
In this short paper, we examine the business issues associated with natural capital erosion, arguing that action is needed to account for the growing risks this poses to business sustainability. Natural capital depletion is the elephant in every boardroom – it is invisible in the vast majority of corporate decisions, accounts and economic models. To thrive in the 21st Century, business models, corporate accounting and economic modelling must all adapt.

A concerted effort is underway to create methodologies and frameworks to value and account for natural capital in business. Governments, particularly in emerging economies, are also responding by valuing their natural assets. But there is much more to do. This paper provides details of these early efforts and of the approaches some leading companies are starting to use to account for their relationship with natural capital.

Crucially, this paper argues that accountants and finance professionals, especially those in leadership roles, have a vital role to play in helping companies navigate the challenges and opportunities which natural capital depletion will bring. Accountants have the skills, experience and oversight to draw out the connections between natural capital, commercial opportunity and business risk, and, ultimately, financial performance.

Finally, we suggest some practical short-term steps you can take to start the process and catalyse a dialogue at Board level. In the longer term, wholesale change is needed to ensure that all natural capital dependencies and impacts are considered in corporate finance and adequately accounted for.

We face a period of unprecedented change in the global business environment from this impending natural capital crisis. As a profession, we must urgently step up to this challenge.

A close-up photograph of an elephant's face, showing its eye and textured skin. A red hatched pattern is overlaid on the top portion of the image, serving as a background for the title text.

# THE *elephant* IN THE BOARDROOM

- Q: Significant unmanaged risks in your supply chain threaten the stability of your business and future cash flows. How would you raise these issues with your board?*
- Q: Material off-balance sheet liabilities are accumulating that threaten the medium-term viability of your business. What would you do?*
- Q: Although your profits may be growing, your capital base is eroding at a faster rate than it can be replenished. There is no straightforward solution to restoring it. What would be your responsibility to shareholders, employees, suppliers and customers?*

**When these questions address risks and liabilities relating to the financial capital of an organisation, Boards are likely to respond with urgency. The very security and future prosperity of the business will almost certainly depend on how effectively these issues are resolved. Yet how would a Board respond if the same questions were being asked of the organisation's risks and liabilities stemming from its natural capital base?**

While accountants have developed ever more sophisticated ways of accounting for financial capital, and the efficiency with which a business is able to transform this into commercial value, natural capital is still largely hidden from view and absent from the corporate narrative. This situation is no longer acceptable if organisations are to become truly sustainable.

The startling erosion of our natural capital base will become the defining 21st Century challenge facing every business. Natural capital is the foundation that supports human society, all economic activity and every business. The decline in this capital base, if left unchecked, will wreak havoc on business and society as we know it.

The elephant in the boardroom is that this impending crisis is largely unaccounted for. Natural capital issues are generally absent from the boardroom agenda, ignored by most investors and are at best a secondary consideration in major capital allocation and investment decisions.

The reality is that the vast majority of boardrooms today work to an agenda dominated by short-term issues, pressures and priorities. Issues of natural capital erosion are sidelined as academic, abstract, remote or outside the boundary of responsibility of the organisation. Sustainability professionals are often too removed from major decision making to be able to influence an issue which should be on the core agenda of the Board. This must change.

Nothing short of a radical shift in mindset is required, along with a redefinition of corporate responsibility to enable a transformation in how we account for, manage and preserve this most precious and primary source of all capital.

Accountants and finance professionals, particularly those working in leadership roles in business and government, have a pivotal role to play in this transformation. Chief Financial Officers (CFOs) are responsible for taking into account all relevant factors and risks in corporate and financial decision making and reporting, including material economic, environmental and social factors. Accountants are organisational stewards, and have a central role in navigating their organisation towards the creation of value.

It is time for the profession to take centre stage in the development of methods of accounting for natural capital. This is so that an organisation's relationship with biodiversity, clean water, the minerals in the ground and under the sea, or the 'services' provided by the world's ecosystems, is meaningfully understood by decision makers, applied to business processes and communicated to stakeholders.

In short, it is time for our profession to play a leadership role in accounting for the relationship between the business world and the natural world, ushering in a wave of innovation that will be essential to preserving the basis of our future prosperity.



*THE invisible  
foundations*  
**OF BUSINESS**

**Natural capital refers to the elements of nature that produce value, directly and indirectly, for people, such as forests, rivers, land, minerals and oceans. It includes the living aspects of nature, such as fish stocks, as well as the non-living aspects, such as minerals and renewable or non-renewable resources. Natural capital underpins all other types of capital and is the foundation on which our economies, societies and prosperity are built.**

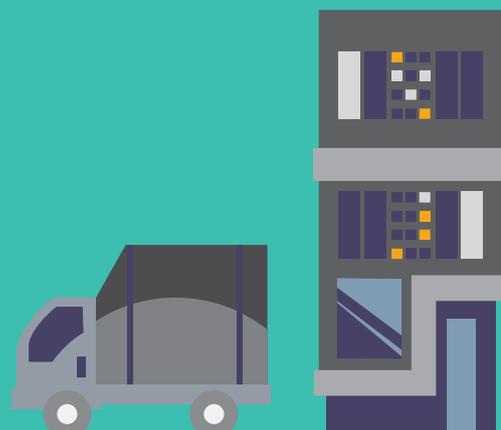
Yet natural capital and our dependence on it are largely invisible in corporate accounts and decision making. How can something so fundamental be absent from our thinking? There are a number of systemic reasons for this:

- 1) Our entire economic and financial system is based on flawed assumptions of infinite resources and perpetual equilibrium in the natural ecosystem.
- 2) Our thinking and behaviour are overly dominated by purely financial measures of progress and 'success' such as gross domestic product (GDP), revenues, profit, cash flows and earnings per share.
- 3) The structures of modern accountancy are derived historically from societies and economies which assumed that nature's abundance would last indefinitely.
- 4) Our business models and practices do not reflect how business is an integral part of a wider, complex system.
- 5) The focus of the vast majority of businesses is woefully short-term – typically directed at quarterly performance reports, short-term financial performance and annual returns.
- 6) Perhaps, most importantly, we lack the frameworks and systems needed to account for the relationship between natural capital and business strategy and performance.

These business norms persist despite overwhelming scientific evidence of a crisis. We are 'drawing down' 50% more of this capital each year than the earth can replenish, according to WWF's Living Planet Report in 2012.<sup>1</sup> Moreover, this rate of depletion is accelerating. Energy demand is expected to rise by 40% between 2009 and 2035. By 2050, food demand will rise by 70% and water demand by 55%. The global population is expected to rise to 8 billion by 2030, with 3 billion new middle class consumers who will all want to enjoy the same material benefits that others have been enjoying as fruits of their success.

If we continue operating 'business as usual', by 2030 it is estimated that we will need the natural capital equivalent of two planets to sustain ourselves. The only way to maintain such consumption will be to draw down on the earth's capital reserves, rather than living off its 'income'. As Hawken, Lovins and Lovins put it in their book *Natural Capitalism*, 'What might be called "industrial capitalism" does not fully conform to its own accounting principles. It liquidates its capital and calls it income. It neglects to assign any value to the largest stocks of capital that it employs – natural resources and living systems.'<sup>2</sup>

*Natural capital and our dependence on it are largely invisible in corporate accounts and decision making.*





*New thinking*  
**NEEDED**

**This natural capital crisis presents both material risks and opportunities to all businesses in the short, medium and long term. For those businesses that ignore the issue and fail to adapt their business models to the economic reality of dwindling reserves of precious natural capital, the crisis may manifest itself through declining profits and at worst as an issue of going concern.**

Unilever, for example, announced in 2013 that the impact of climate change was costing the company €300 million a year as a result of drought and flooding. Yet how we manage our stocks and reserves of natural capital also represents the single greatest commercial opportunity of the 21st Century. The relationship between value creation and natural capital therefore demands attention, and Board-level accountability, from the perspective of a diverse group of stakeholders, including shareholders.

It is estimated that the top 100 environmental externalities<sup>3</sup> cost the global economy around US\$4.7 trillion a year, according to a 2013 report commissioned by The Economics of Ecosystems and Biodiversity (TEEB) for Business Coalition, now known as the Natural Capital Coalition. The report observes that half of all existing corporate profits are at risk if the costs associated with natural capital were to be internalised through market mechanisms, regulation or taxation. A water shortage, for example, would have a 'severe' or 'catastrophic' impact on 40% of Fortune 100 companies.

The United Nations Environment Programme's (UNEP) fifth Global Environment Outlook in 2012 concluded that the future success of businesses in a range of sectors, such as transport, tourism, finance and food, will hinge on their ability to manage the major risks posed by climate change, depleted natural resources, the loss of biodiversity and extreme weather conditions. In the pharmaceutical industry alone, UNEP estimated that biodiversity loss, and the subsequent extinction of plant species, could result in the loss of one major drug development opportunity every two years.

'Companies that face up to these realities are likely to be the ones that thrive and remain competitive in a rapidly-changing world where factors such as climate change and the dwindling availability of natural resources like water will shape future profit and loss and drive new markets,' according to UNEP's executive director Achim Steiner.

The possibility of a new economy is emerging: one that fully integrates the real value of nature into business models, observes the final report of the Ecosystems Markets Taskforce, a business body set up by the UK's Department for Environment, Food and Rural Affairs (DEFRA) and chaired by Sir Ian Cheshire, Group Chief Executive, Kingfisher plc.

'The new model for business seeks to integrate the real value of nature into its thinking ... These companies are not just taking notice of the market price of natural resources: they also assign value to the services provided by nature and are finding ways to make what was once the invisible value of nature's resources and services apparent in their business models. As a result such businesses are making their companies more resilient, managing risk more effectively, concentrating on the right relationships with customers

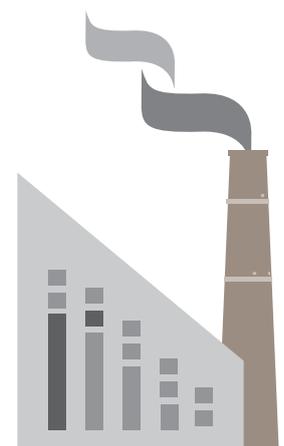
and suppliers and strengthening their reputations. For the economy as a whole this shift in understanding will drive innovation, improve resilience and enhance competitiveness.'

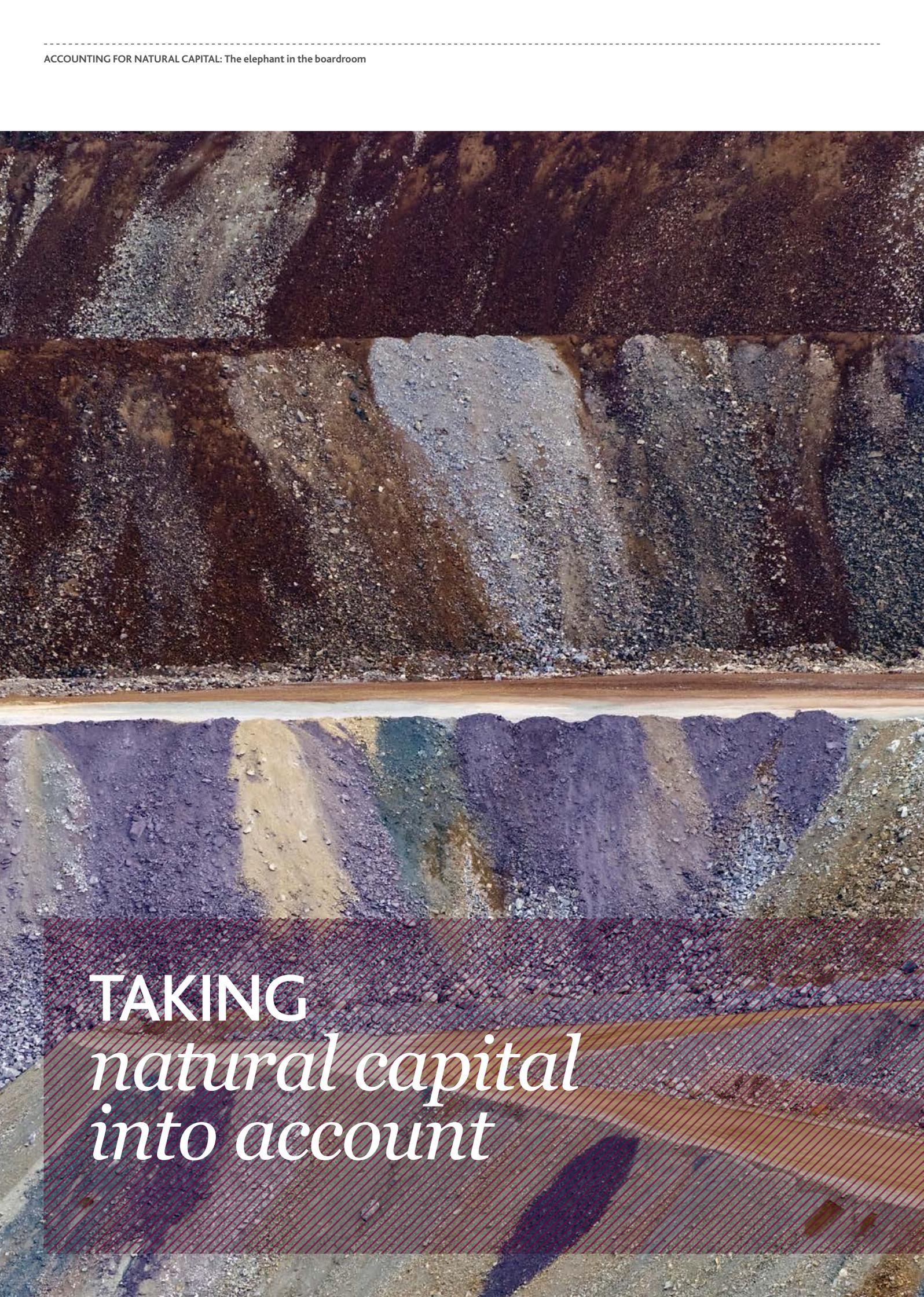
With increasing demand for environmentally-sustainable products and services – both consumer and government-led – and mounting pressure on resources, businesses that engage early will undoubtedly reap the rewards from an altered competitive landscape in the years to come.

Yet very few companies are currently either measuring or accounting for the risk or the opportunity of their relationship with natural capital. Generally, businesses and their investors operate as if they exist separately from the natural world rather than as an integral part of it.

One notable exception is the DIY retailer Kingfisher plc, which depends on a forest area the size of Switzerland each year to supply the timber for its products. Kingfisher's ambition is to be 'net positive' across four core areas of its business including timber, where it aspires to create more forests than it uses and to source all of its wood from responsibly-managed sources (many of which will be independently certified) by 2020. It has, for example, already achieved 89% of its target for responsible sourcing and is actively involved with projects which will create new sources of sustainably-managed wood to help ensure the future security of its timber supply. If Kingfisher is to fully realise its ambition, it will need a whole range of metrics about timber use, certification and strategic sourcing; it does not require a great leap of the imagination to see how these can be linked to the financial performance of the business.

The example of Kingfisher's 'net positive' strategy illustrates how setting quantifiable objectives around a crucial natural capital dependency, and measuring how effectively these are being achieved, identifies risks and opportunities in the supply chain, enhances security of supply and provides stakeholders, including investors, with information to assess the organisation's ability to create value over time.





**TAKING**  
*natural capital*  
*into account*

**If organisations are to manage the risks associated with their dependencies and impacts on natural capital effectively, they must first understand their relationship with this resource as thoroughly as they do their relationship with financial capital. However, currently most companies and their investors do not have mature approaches, methods or tools for taking account of the ecosystem services, biodiversity or natural capital externalities that their business may draw on or contribute to.**

Standardised methodologies for quantifying or 'pricing' natural capital externalities to inform better and more sustainable decision making need to be tailored and applied by accountants to their organisations. Some organisations have also been developing their own bespoke methods of accounting for their resource dependencies and impacts. Three examples show the variation and innovation among such approaches.

#### **Puma**

Puma quantifies a range of environmental impacts arising from its supply chain, transport networks, operations and manufacturing, focusing especially on the leather and cotton in its products. They measure water use, greenhouse gas emissions, land use and waste. Puma believes that by monetising its impacts it has facilitated better strategic planning and helped identify those areas of the business where management action is most required.

#### **Coca Cola**

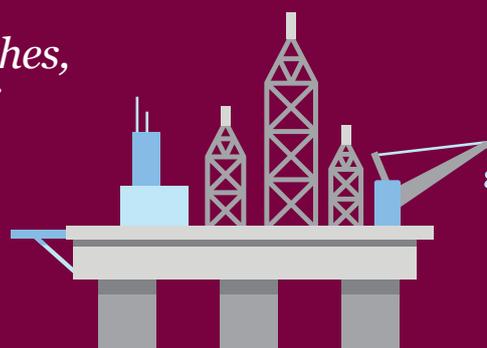
Coca Cola has a strong focus on water stewardship as water scarcity is a material risk affecting its business model. Its commitment is expressed through an ambitious target to replenish as much water as it uses by 2020. Achieving this target requires Coca Cola first to quantify the water it replenishes, which it has been able to do with support from third party organisations like The Nature Conservancy.

#### **Dow Chemical Company**

Dow Chemical Company is analysing its impacts and dependencies on ecosystems at its joint venture production site in Santa Vitória, Brazil. This pilot project helped create a roadmap for Dow for assessing the economic value of the 'services' provided to it by nature, which informs decision making at a strategic and operational level.

These examples illustrate the variety of approaches for accounting for natural capital that leading corporates are experimenting with. This is a complex and fast-developing area. Furthermore, stakeholders are fragmented and a plethora of initiatives create the risk of a lack of consistency and standardisation.

*Currently, most companies and their investors do not have mature approaches, methods or tools for taking account of ecosystem services, biodiversity and natural capital.*





*A uniform*  
**APPROACH**

**The divergence of approaches that companies are beginning to adopt in accounting for their relationship with natural capital illustrates the need to develop a universal approach to and understanding of natural capital accounting.**

This would help companies to apply consistent approaches, and facilitate the production and disclosure of information which is comparable, material and robust from the perspective of an investor. The global accounting profession has a central role to play in the development of natural capital accounting principles and an equally important role in helping accountants apply these to their organisations' decision making and business reporting.

The Natural Capital Coalition, a multi-stakeholder initiative, is seeking to create a harmonised framework that will help standardise how natural capital is accounted for and valued: the Natural Capital Protocol. It is supported by, among others, the United Nations Environment Programme, the World Bank's International Finance Corporation (IFC), and the accountancy profession (represented by CIMA, EY, ICAEW, IFAC, Accounting for Sustainability and others).

During 2014 and throughout 2015, the Coalition will develop and pilot test the Natural Capital Protocol. Business participants in the Coalition include Coca Cola, Kingfisher plc, Dow Chemical Company, FMO, IDB, Patagonia, Perrigot and National Australia Bank, with new business and stakeholder members continuing to join.

The Protocol will draw on emerging methodologies and approaches, and link to existing national and international policy and frameworks. It aims to facilitate the mainstream adoption of natural capital accounting and assist with the application and tailoring of these tools and valuation techniques to business decisions. Business applications of this protocol range from strategic decision making, responsible procurement and sourcing, management of an organisation's impacts through its supply chain, internal management reporting and external integrated reporting. An organisation's disclosures about its natural capital dependencies and impacts can be incorporated into investor analysis to determine the risks and opportunities a portfolio presents and inform better decisions about capital allocation.

There are a number of other initiatives, such as the Natural Capital Business Hub and the Corporate Ecosystems Services Review, which aim to engage businesses on natural capital. Links to more information can be found on page 15.

*The Natural Capital Coalition, a multi-stakeholder initiative, is seeking to create a harmonised framework that will help standardise how natural capital is accounted for and valued.*





**TAKE ACTION –**  
*lead the change*

**Sustainability can no longer be treated as a discrete activity that exists in isolation from other business processes, functions or reporting channels. An effective and responsibly managed organisation must integrate sustainability into all business activities, especially those which draw on this most precious of all scarce resources.**

Accountants have a crucial role in supporting the adoption of natural capital accounting in their organisations and ensuring that natural capital externalities are reflected in data collection, decision making, risk management and reporting. Change on this scale and of this substance requires more than a superficial response: it will only work if corporate Boards integrate information about natural capital into strategic planning decision making and core business processes.

There are a number of ways in which you can help galvanise your organisation to make this change:

#### **Raise natural capital as a strategic issue and make the business case for it**

- Engage with natural capital as a strategic, competitive and financial issue at Board level and facilitate debate about how natural capital relates to your strategy, business model, performance outlook and social licence to operate
- Frame the risks and opportunities that underpin natural capital impacts and dependencies in robust business terms, including how and over what time frames they may have an effect on the business
- Model business scenarios to facilitate dialogue around how these issues and uncertainties may unfold
- Identify how natural capital impacts and dependencies can be incorporated into decision making at all levels so that the organisation can respond to the opportunities and risks which these may pose.

#### **Measure and value**

- Explore the most appropriate methodologies and help shape evolving standards for measuring and valuing your natural capital impacts and dependencies. Value can be assessed through non-monetary metrics or in monetary terms
- Define the scope or boundary of measurement and valuation e.g. your organisational footprint, supply chain or across the whole value chain
- Engage with suppliers to understand better how the organisation is impacting on critical natural resources and to identify risk 'hot spots' in the value chain.

#### **Use in decision making**

- Prioritise those areas of the business where natural capital accounting will drive management action, such as strategic planning, risk and supply chain management, project and investment appraisal, governance and incentives, innovation and operational management
- Adapt business processes and systems to incorporate natural capital considerations and information so that these can be embedded into decision making and reporting
- Integrate material natural capital issues in both management information and integrated reporting to external stakeholders.

#### **Influence the debate**

- Establish links with international and professional organisations that are supporting the development of natural capital accounting, such as the Natural Capital Coalition's project to develop a protocol for valuing natural capital, to ensure your views are represented.

#### **Develop relevant skills**

- Build capacity in your team to enable natural capital accounting with the same rigour and discipline you would apply in accounting for financial performance
- Forge relationships with stakeholders, relevant experts and specialists in this rapidly evolving area.

#### **Further research**

There are compelling reasons to account for nature. But how should organisations account for natural capital? What approaches, methodologies and accounting systems are being used? And how are these insights changing decision making? We will continue research in this area. If you would like to participate in the research or share examples from your organisation contact us at [research@cimaglobal.com](mailto:research@cimaglobal.com).



## Footnotes

1. WWF's Living Planet Report is the world's leading science-based analysis on the health of our planet and the impact of human activity  
[www.panda.org/livingplanet](http://www.panda.org/livingplanet)
2. Natural capitalism: The Next Industrial Revolution, Paul Hawken, Amory B. Lovins, L. Hunter Lovins, Little, Brown & Company, 1999
3. An externality is a consequence of an action that affects someone other than the company undertaking that action, and for which the company is neither compensated nor penalised through the markets. Externalities can be either positive or negative.

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## *Useful resources on natural capital*

1. **Natural Capital Coalition** is a multi-stakeholder and not-for-profit organisation that is building the business case for and supporting the uptake of natural capital accounting, with the aim of improving business and investor decision making. In November 2013 the Coalition announced a groundbreaking project to develop a harmonised protocol for valuing natural capital in business – the Natural Capital Protocol. To participate in the development of the Protocol or to join the Coalition visit:  
[www.naturalcapitalcoalition.org](http://www.naturalcapitalcoalition.org)
2. **Natural Capital Business Hub** is a searchable database with examples of natural capital accounting in business, created by The Nature Conservancy and Corporate Eco Forum. The Hub also includes content on the business case for natural capital accounting and tools and frameworks for implementing natural capital accounting in business.  
[www.naturalcapitalhub.org](http://www.naturalcapitalhub.org)
3. **Corporate Ecosystems Services Review**, developed by the World Resources Institute in collaboration with the WBCSD and the Meridian Institute, offers guidelines for identifying business risks and opportunities arising from ecosystem change. This helps business managers identify possible risks and opportunities from dependencies and impacts on priority ecosystem services, and offers guidance on developing strategies to address these risks and opportunities.  
[www.wri.org](http://www.wri.org)
4. **Pitch for Nature** is a short video produced by the WBCSD in conjunction with a range of other stakeholders including CIMA, explaining why businesses should invest in natural capital.  
[www.pitchfornature.com](http://www.pitchfornature.com)
5. **What has Nature Ever Done for Us?** by Tony Juniper (Profile Books, 2013) illustrates the 'natural services' that keep the economy going – from Indian vultures to Chinese bees. It is full of interesting and educational stories, containing both warnings (such as the tale of India's vultures, killed off by drugs given to cattle, leading to an epidemic of rabies) and positives (how birds protect fruit harvests, coral reefs protect coasts from storms and how the rainforests absorb billions of tonnes of carbon released from cars and power stations).  
[www.tonyjuniper.com](http://www.tonyjuniper.com)
6. **Natural Capital at Risk: the Top 100 Externalities of Business.** This 2013 report from Trucost and TEEB for Business Coalition (now the Natural Capital Coalition) identifies the significant financial risk to business sectors from environmental externalities: damages from climate change, pollution, land conversion and depletion of natural resources. The report estimates that the global top 100 environmental externalities cost the economy \$4.7 trillion a year in terms of the economic impact of greenhouse gas emissions, loss of natural resources, loss of nature-based services such as carbon storage by forests, climate change and air pollution-related health costs.  
[www.naturalcapitalcoalition.com](http://www.naturalcapitalcoalition.com)

## *Notes*







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