

Natural Capital at Risk

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The economic need for Australian industries to preserve and grow our natural capital

Australian businesses should not ignore the risks associated with the ongoing decline of our natural capital assets.

This capital is essential to both the economic and social quality of life that Australians tend to take for granted. However, a growing combination of scarcity, uncertainty and social pressures are prompting changes in both demand for, and regulation of, our natural capital.

This is increasing the risks for business; which may, among other things, result in lower profitability, cash flow issues, supply risk, fluctuating commodity prices, and reputation impacts.

When assessing business risk, Australian companies need to account for natural capital in a similar manner as they do their financial capital. This means understanding and assessing the risks involved with respect to their dependency on ever-declining and harder-to-access natural capital and the goods and services it provides.

Purpose

This paper is intended to help Australian businesses better understand their dependency on natural capital and underpin a more sustainable economy and healthy environment via:

- Fostering a greater understanding of Australian businesses' dependency on natural capital.
- Encouraging and facilitating discussion within the business community about where they are most likely to be exposed to risks related to natural capital.

This briefing paper provides an overview of why natural capital is a material risk for our economy. It is the high-level introduction to a more detailed paper that is currently being developed, in which specific sectoral analysis will be undertaken to demonstrate the key risks for Australian business. Sectors covered will include:

- Mining
- Agriculture, Forestry and Fishing
- Electricity, Gas, Water and Waste
- Manufacturing
- Construction
- Financial Services
- Tourism

The direct and indirect natural capital exposures of these macro-level industries will be analysed and discussed in more detail to provide the rationale for Australian businesses to better understand the links between their financial and natural capital risks.

Business risk

The Australian business community should no longer view natural capital as perennially available at low or free cost without business risk. A single disruption may have broad ramifications.

The severity of any disruption depends on how much a business relies on natural capital, the rate of natural capital depletion, and whether substitutes exist that can be utilised to replace natural capital assets when they become scarce or difficult to access.

Consider this: If your access to a specific resource, such as water, was restricted or halted, what effect would this have on your business? If you run a fish farm, grow crops or use water to produce energy, the results could be extremely costly to your business and extend throughout your supply chain.

The challenge is to understand the extent of natural capital risks relevant to your business, which can include:

Higher costs.

This may include, for example, the increased cost of extraction as resources become harder to access, and the cost of products used to substitute or enhance depleting natural capital (e.g. the cost of fertilisers, desalination of water, filtration plants). This is also very much an issue with supply chains. As a clothing manufacturer, a drought in Australia may directly impact global wool prices, significantly increasing costs.

Environmental regulations.

The environmental regulatory framework in Australia is designed to support the coexistence of economic activity and natural capital conservation and preservation. Regulation can at times limit access to natural capital assets e.g. designation of national parks, and often requires "internalising" the costs of using or depleting natural capital e.g. licensing/payment for ecosystem services.

The difficulty of assessing such risk is often amplified through complex and heavily integrated supply chains. It is within these supply chains that unmeasured and unmanaged natural capital may pose a material and currently unaccounted for business risk.

Dependence on natural capital

Every individual, every business and every economy depends, either directly or indirectly, on our 'bank' of natural capital.

By definition, primary industries directly draw from natural capital to produce outputs that flow into our economy (i.e. secondary and tertiary industries). The connections between natural capital, the economy and final demand are represented in Figure 1.

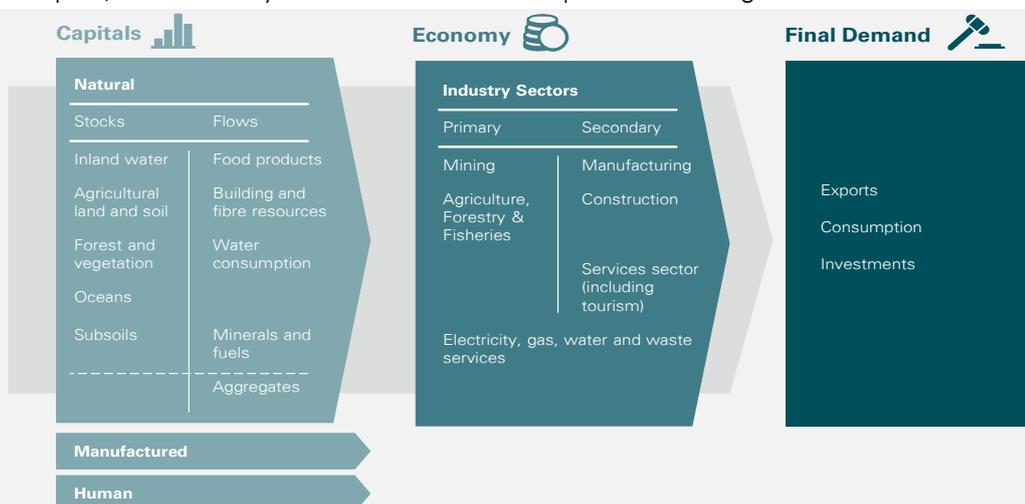


Figure 1
The flow of natural capital into the economy, through to final demand

The economy's direct and indirect dependencies on natural capital can be identified by mapping the flow of economic outputs – across industry to final demand – and overlaying this with the flow of natural capital into the economy (see Figure 2).

From this it can be seen that:

- Natural capital enters the economy at three critical economic points – primary industries, particularly Mining, Agriculture, Forestry and Fishing, and Electricity, Gas, Water and Waste.
- Primary industries convert natural capital into energy, food, fibre and raw materials that are then used as inputs into secondary (i.e. Manufacturing and Construction) or tertiary (i.e. Services) industries.
- Secondary industries (which represent a much larger proportion of the economy in financial terms) convert the primary industry outputs that flow into all sectors of the economy and directly to final demand. The most significant flow of outputs is from manufacturing into the Services sector.
- Outputs from the tertiary industries, where the economic output is greater than the primary and secondary industries combined, flow into all sectors of the economy and final demand.

As natural capital flows through the economy, businesses' dependency on it becomes more challenging to identify. For example, the iron and carbon that ends up as steel are not given much thought while you're driving your car, but the entire supply chain can be at risk if one or more elements that go into making it are depleted.

Such inherent dependence on natural capital occurs across the global economy and comes with risks that may ultimately impact financial capital flows that are critical to Australia's economy.

The finance sector, for example, has seemingly minimal direct natural capital impacts. However, through its financing and investment activity in particular, it does have indirect dependence and impact.

Financial institutions are potentially making investments in businesses with 'unknown' or 'unquantified' natural capital risks. This is why there are a lot of pilot studies and research activities underway both amongst Financial Institutions themselves and through collaborations of Financial Institutions with broader business, government and NGO's.

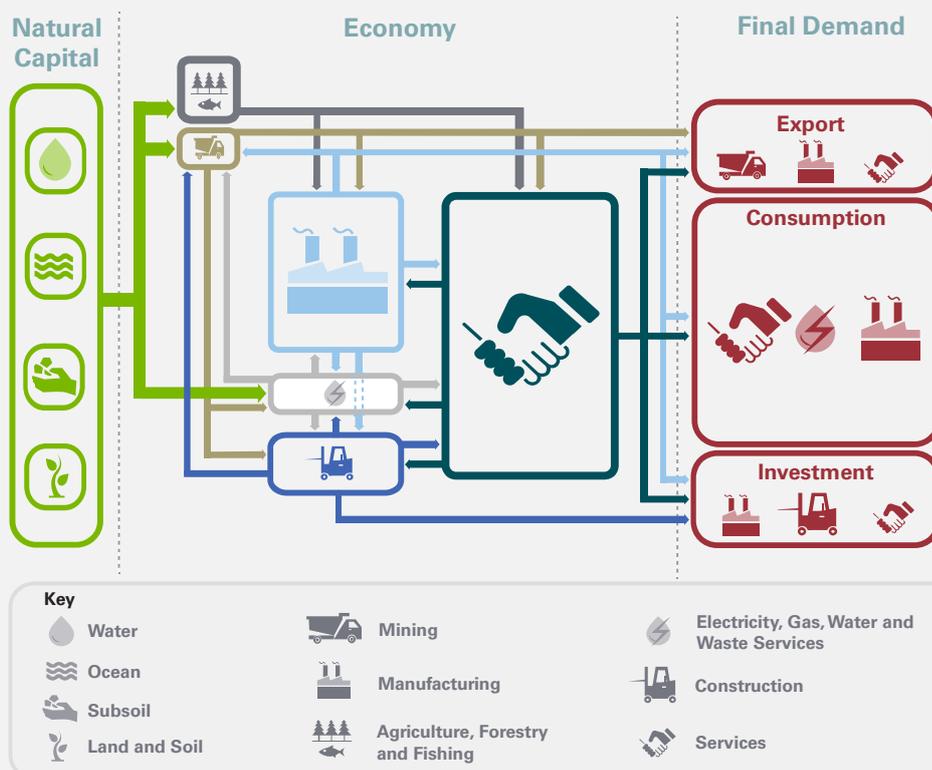


Figure 2
Mapping the flow of economic dependencies on natural capital to final demand for goods and services Source: The National Accounts, data: industry gross value added for 2012

Key insights

The reasons behind Australia's ongoing depletion of natural capital are many and complex; from a growing population, increased household consumption, increased occurrence of severe weather events, and competing demands for access to natural resources.

What is clear is that since our society depends on natural capital, its depletion creates a significant risk to business sustainability and the economy, both now and in the future.

In 2010, the United Nations Environmental Programme estimated that our global ecosystems deliver essential services worth over 72 trillion US dollars a year.¹ However, the same report stated that nearly two-thirds of our planet's land and water ecosystems are significantly degraded due to human activity. A more recent report from the Global Footprint Network shows that "humanity's demand on the planet is more than 50 percent larger than what nature can provide".²

Such substantial loss in natural capital is a challenge for everyone; especially as humankind relies on natural capital to produce the goods and (often crucial) services we need to survive – and thrive.

This loss of natural capital is also proving costly to business. In 2012, the KPMG report *Expect the Unexpected: Building business value in a changing world*³ estimated that companies could soon expect to lose 41 cents in every dollar earned through paying for external environmental costs. The knock-on effects of such costs would have a huge impact on global economies.

The risk is very real, especially as natural capital systems are often not linear, which means predicting the threshold or tipping points at which they collapse is not always possible.

Historically, businesses have tended to focus only on impacts of business activity (e.g. carbon emissions) with a financial metric that can be measured, tracked and managed. Put simply, 'free' inputs of natural capital have not had the attention of the CFO.

While 'managing the environment' has usually been part of standard business practice the commercial drivers for understanding natural capital dependencies and risks have not been identified. This is changing. Strong commercial drivers are now emerging as a result of increasing financial and non-financial costs of natural capital substitutes (e.g. chemical fertilisers), environmental regulations (e.g. approvals, licences and penalties), resource extraction, and access to land.

Such economic interactions with natural capital systems are complex and understanding the extent to which a business' financial capital relies on natural capital is challenging. The crux of the challenge lies in measuring the degree of natural capital dependence. Currently, not all services provided by natural capital are valued and measured, leaving businesses unable to fully understand their exposure to the risk of natural capital scarcity and depletion.

These critical gaps must be closed.

¹ Nellemann, C., E. Corcoran (eds). 2010. **Dead Planet, Living Planet – Biodiversity and Ecosystem Restoration for Sustainable Development**. A Rapid Response Assessment. United Nations Environment Programme, GRID-Arendal. http://www.unep.org/pdf/RRAEcosystems_screen.pdf

² Global Footprint Network, 2014 edition of the Living Planet Report. The biennial report, produced by WWF in collaboration with Global Footprint Network and the Zoological Society of London

³ <http://www.kpmg.com/AU/en/IssuesAndInsights/ArticlesPublications/Pages/expect-the-unexpected-building-business-value-changing-world.aspx>

What can be done

Businesses across all sectors should share information to better assess the often collective issues and risks of natural capital depletion. Working collaboratively to develop standard information systems will ultimately benefit all businesses and strengthen the resilience of our economy.

The data requirements for measuring the degree of natural capital dependence need to be considered at a sectoral, business and geographic level through collaborative action. Only then can standardised approaches to monitoring and reporting the condition of natural capital be fully developed.

This will enable businesses and government to:

- Assess and respond to the risks of a decline in natural capital
- Develop plans to maintain or improve the quality and quantity of natural capital, in a similar manner to financial capital.

Governments have a further role to play to encourage industries to consistently monitor and report information on natural capital risks. Government policies and reporting frameworks, which assist businesses to identify and manage natural capital exposures, will enable a deeper understanding of the shared societal risk of natural capital depletion, as well as the relative contribution to depletion from individual businesses or sectors.

Businesses can benefit from considering integration of natural capital risk into their risk management framework and processes – especially as such decisions are likely to be required beyond current management decision-making periods. To better understand natural risks and dependencies, businesses can consider:

- 1) Mapping natural capital inputs, both direct and indirect, to understand natural capital risks and dependencies
- 2) Assessing the likelihood that natural capital may fail to meet the needs of your business in the future (i.e. what is the threat that the supply the goods and services you depend on will be interrupted?)

- 3) Understanding the consequences of an event where the flow of goods and services from natural capital are interrupted
- 4) Developing strategies to mitigate the consequences of dependence on depleting natural capital, such as the use of substitutes and preserving natural capital.

What is being done

A range of initiatives are currently working towards the development of measurement and accounting frameworks for natural capital across a range of levels – national, industry and individual businesses.

One such initiative is the Natural Capital Protocol (NCP) from the Natural Capital Coalition, a group of individual corporations, industry bodies, non-government organisations and academic bodies.

The NCP will provide high level guidance on the measurement and reporting on natural capital indicators, such as water, land use, biodiversity, soil nutrition and forestry. It is actively seeking to bring together current and potential indicators with reporting techniques to help organisations assess and manage natural capital exposures so they can improve management outcomes.

In parallel, the Natural Capital Declaration (NCD) Project is working towards the development of a financial sector supplement of the NCP. This will be aimed at assisting financial institutions understand this risk and build it into their business systems.

The depletion of Australia's natural capital is a serious challenge for business.

But it is possible to reduce the risks, minimise costs, generate revenue, and protect your brand and reputation to safeguard our environment and take your business beyond expectations.

Glossary

Biodiversity: The variability among living organisms from all sources at a species, habitat and genetic level – a constituent of natural capital⁴.

Ecosystem: A dynamic complex of plant, animals and micro-organism communities and their non-living environment interacting as a functional unit, e.g. ecosystems include deserts, coral reefs, wetlands or rainforests⁵.

Ecosystem Asset: The naturally occurring living and non-living components of the Earth, together comprising the biophysical environment, that are used in production and that deliver ecosystem services to the benefit of current and future generations⁶.

Ecosystem services: The benefits, closely dependent on biodiversity, that human beings obtain from ecosystems.⁷

Natural capital: The limited stocks of physical and biological resources found on earth, and the limited capacity of ecosystems to provide ecosystem services⁸.

About us

This paper is a collaboration between National Australia Bank, KPMG Australia, Fauna and Flora International and Melbourne Sustainable Society Institute. It is intended to be read as an overview and introduction to the business report, *Natural Capital at Risk* to be released later this year.

Individually each party has unique perspective and insight on risks and opportunities resulting from business and the economy's relationship with natural capital and environmental services. Collectively all parties share the view that greater business understanding of the materiality of natural capital risk for business is critical and that cross-sector, cross-government and cross-society discussion is important.

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NAB



KPMG



**Fauna and Flora
International
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**Melbourne Sustainable Society
Institute (MSSI)**



⁴ United Nations, Convention on Biological Diversity, 'Article 2. Use of Terms' (UN Conference on Environment and Development) (1992).

⁵ Millennium Ecosystem Assessment, Ecosystems and Human Well-being: A Framework for Assessment, Island Press (2003)

⁶ System of Environmental-Economic Accounting 2012—Central Framework United Nations New York (2014)

⁷ Millennium Ecosystem Assessment, Ecosystems and Human Well-being: A Framework for Assessment, Island Press (2003)

⁸ TEEB (2010) The Economics of Ecosystems and Biodiversity : Mainstreaming the Economics of Nature:

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