



Valuing Forest Carbon + Natural Capital

**Interaction between the carbon
market and biodiversity credits**

Forestry Australia's Forestry Carbon Summit
Canberra, 9th April 2025

Rayne van den Berg





Acknowledgement of Country

NatCap+ recognises the Traditional Custodians of Country throughout Australia and especially on lands of the palawa and pakana peoples of lutruwita on which we work and live. We pay our respects to Elders past and present, and recognise their continuous connection to lands, skies and waters.

Australia's First People are the world's oldest continuous living culture, and Australia's first practitioners of sustainability. They have shaped the natural environment for millennia with values and practices that respond to the unique character and challenges of the landscape.

NatCap+ recognises that the choices we make today matter for the future of tomorrow.



Nature-based Solutions for Climate Change

Solving multiple crises and problems at once

Climate change drives Nature loss & Nature loss drives Climate change

Carbon is only bad in the atmosphere



Sustainable forestry's compelling business case

Not all ACCUs are N+

Not all N+ projects have carbon

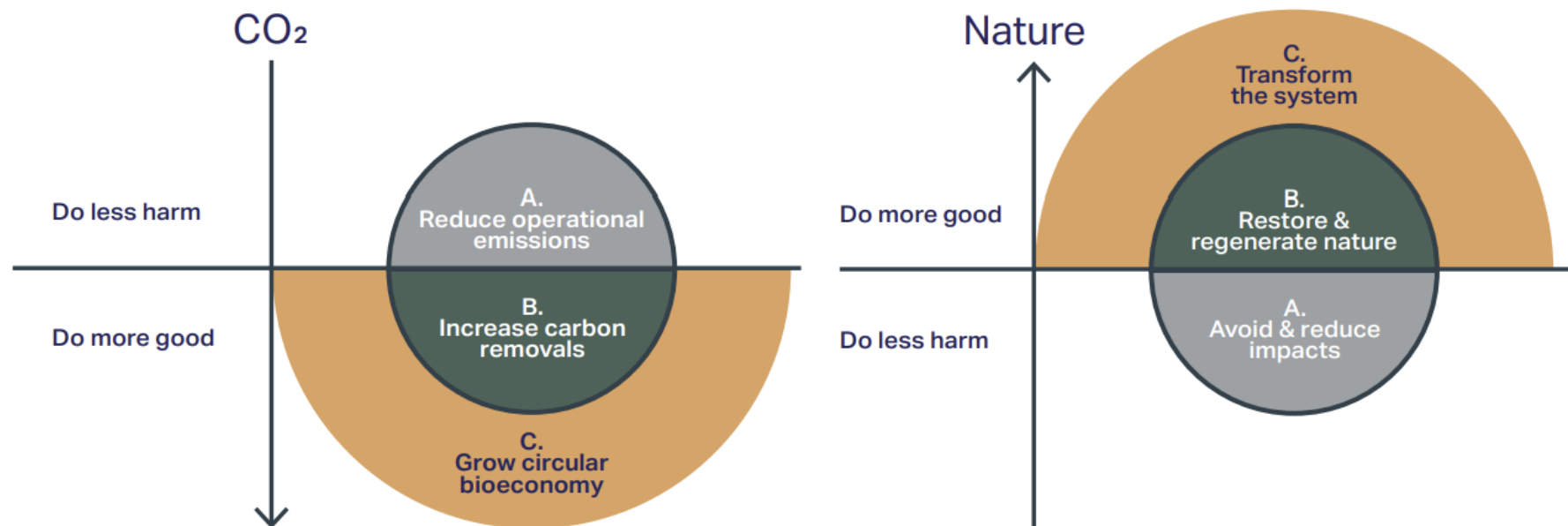
Sustainable forestry projects need to show can do both

Table 1: List of approved carbon farming methodologies that may benefit biodiversity directly or indirectly.

Category	Method	Potential benefits
Vegetation	Avoided clearing of native regrowth method	Direct benefits for native vegetation, habitat for wildlife. Potential benefits for soil health and water quality.
	Designated verified carbon standard projects method	Direct benefits for native vegetation and habitat for wildlife. Potential benefits for soil health and water quality
	Plantation forestry method	Potential benefits for biodiversity
	Reforestation and afforestation method	Direct benefits for biodiversity
	Reforestation by Environmental or Mallee plantings FullCAM method	Direct benefits for biodiversity
	Savanna fire management methods	Indirect benefits for biodiversity through avoided loss and/or promotion of appropriate fire regimes for vegetation regeneration
	Tidal restoration of blue carbon ecosystems method	Direct benefits for biodiversity
Agriculture	Animal effluent management method	Indirect benefits for water quality and aquatic biodiversity
	Estimating soil organic carbon sequestration using measurement and models method	Potential benefits for soil biodiversity
	Estimating sequestration of carbon in soil using default values method	Potential benefits for soil biodiversity
	Fertiliser in irrigated cotton method	Indirect benefits for water quality and aquatic biodiversity

Beyond climate change – towards nature positive

GLOBAL SOCIETAL GOAL	Climate mitigation hierarchy	Nature mitigation hierarchy
	Reduce emissions to keep rising temperatures within the 1.5°C safe operating space	Halt and reverse nature loss in order to bring back more nature by 2030 than there was in 2020



Source: adapted from WBCSD²³ and SBTN²⁴



What is the value to buyers?

What are their motivators?

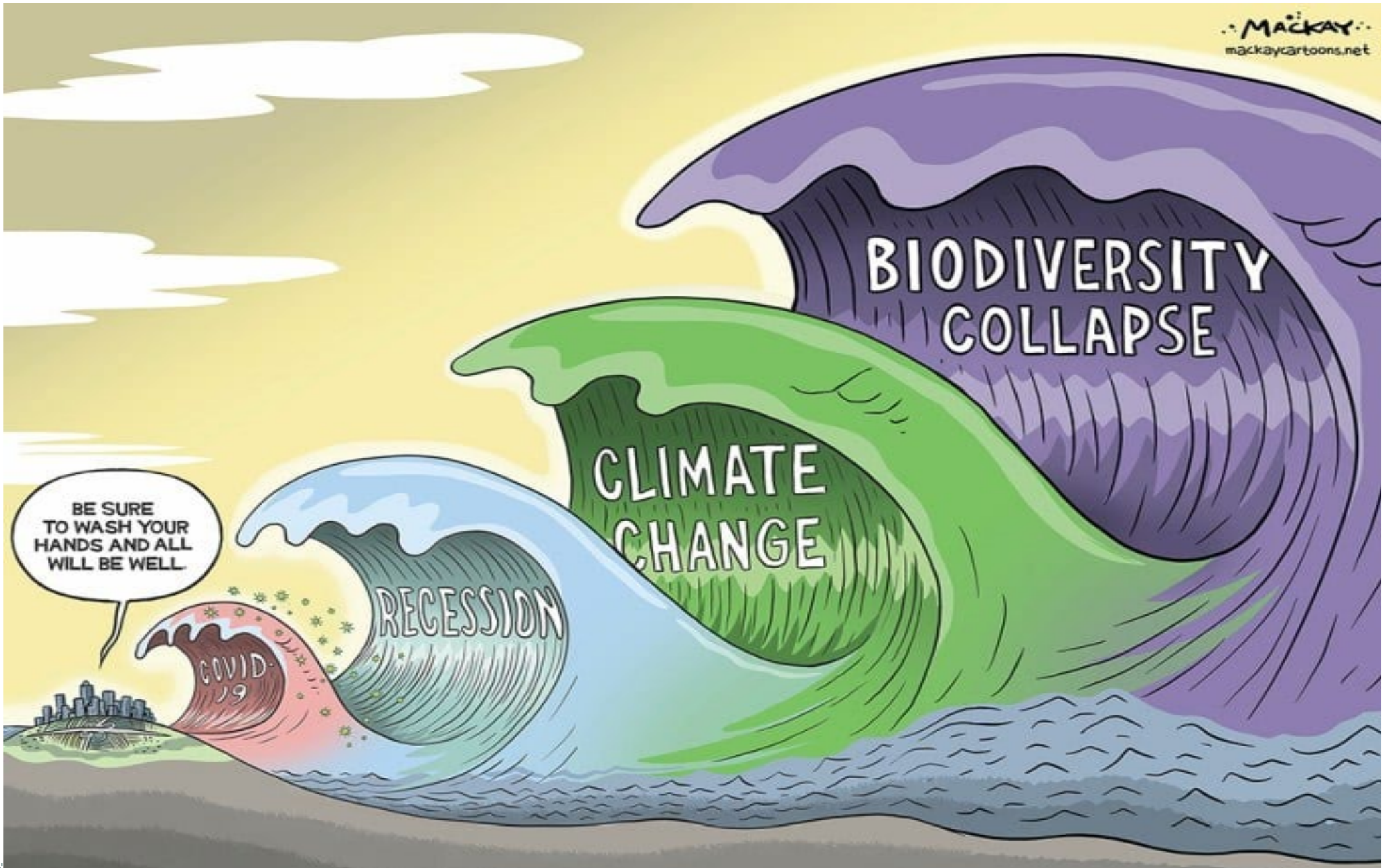
Is there a clear demand driver?

One market's risk is another's opportunity

What problem are we solving by bundling?

Do "Greeniums" really exist?

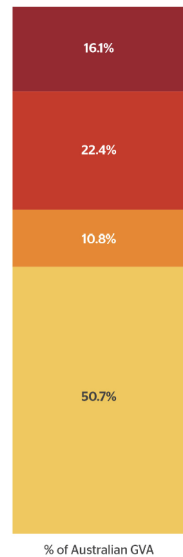
Any competitive advantage from leadership?



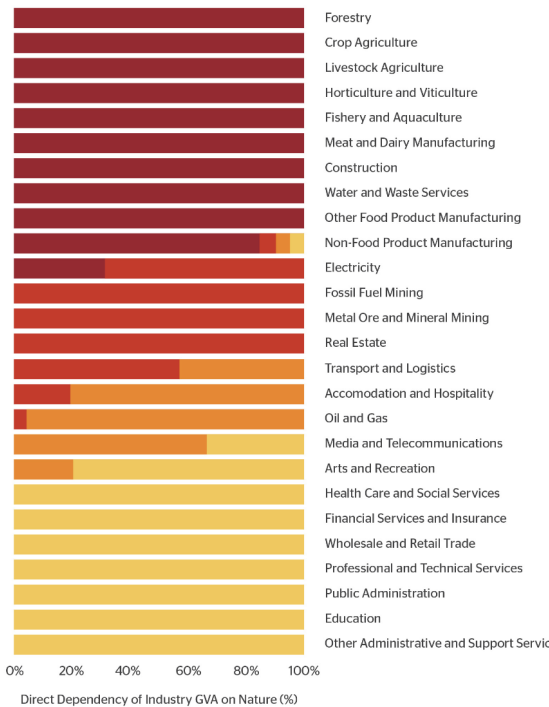
But most of all people are talking about: Natural Capital risks translating into Financial Risks

High dependency

Direct nature dependency of the Australian economy by GVA



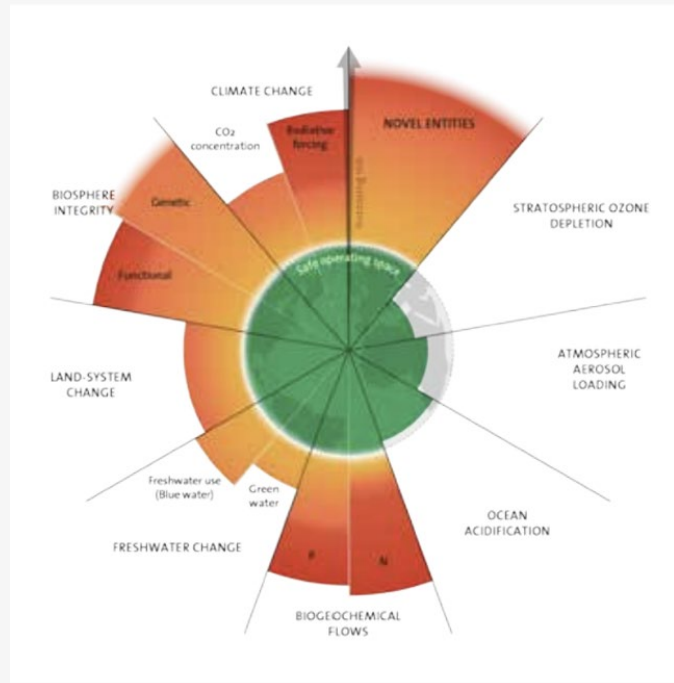
Direct nature dependency by industry sector



Very high direct dependency on nature High direct dependency on nature Moderate direct dependency on nature Lower direct dependency on nature

+ High impact

The declining health and resilience of the earth's systems...



= Increased Natural Capital risks

10 Years

- 1 Failure to mitigate climate change
- 2 Failure of climate-change adaption
- 3 Natural disasters and extreme weather events
- 4 Biodiversity loss and ecosystem collapse
- 5 Large-scale involuntary migration
- 6 Natural resources crises
- 7 Erosion of social cohesion and societal polarisation
- 8 Widespread cybercrime and cyber insecurity
- 9 Geoeconomic confrontation
- 10 Large-scale environmental damage incidents

Case Study: a major asset owner in Europe

Natural Capital Impacts for portfolio risk assessment

Impact Materiality Matrix of a Portfolio

Industry	Climate	Pollution		Resource use		Investment Value
	GHG Emission	Air, Water and Land	Solid waste	Water	Land	
Technology	0.7%	0.5%	0.5%	0.4%	0.2%	30%
Health Care	0.3%	0.4%	0.5%	0.4%	0.4%	25%
Industrials	5.0%	8.7%	2.9%	1.9%	1.8%	18%
Energy	3.7%	1.8%	1.3%	0.6%	1.4%	12%
Basic Materials	5.8%	21.0%	12.1%	8.7%	2.0%	8%
Consumer Staples	0.7%	1.7%	1.3%	1.0%	12.3%	7%

Challenge:

A major **Asset Owner** wanted to understand the relative sizes of **sector-wise natural capital impacts** (and hence, future internalization risks) of their **portfolio** investees.

Solution:

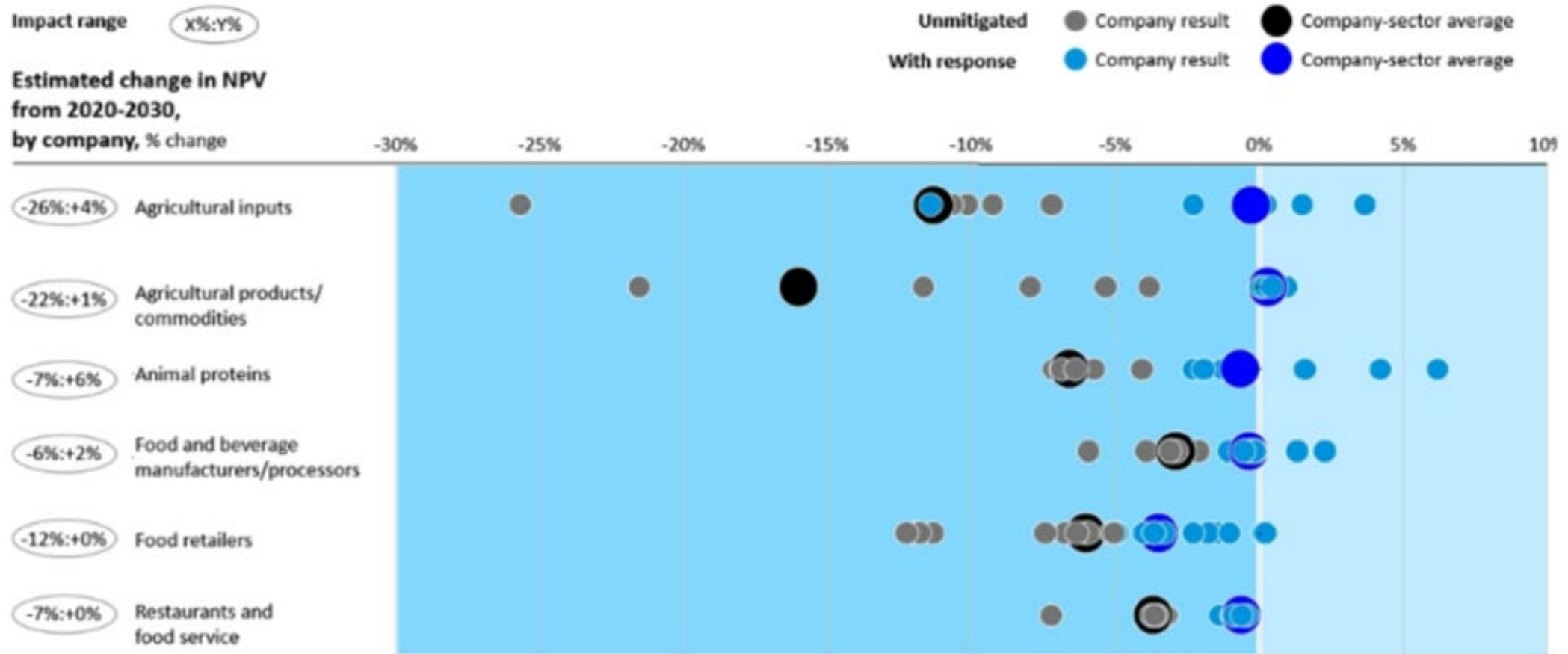
GIST Impact provided **bottom-up** investee-wise and sector-wise **Impact Data** that gave additional insights that helped assess their portfolio's materiality with regards to natural capital impact. Criteria measured & valued included:

- Investment Value
- Type and impact profile of company invested
- Location of investee company assets

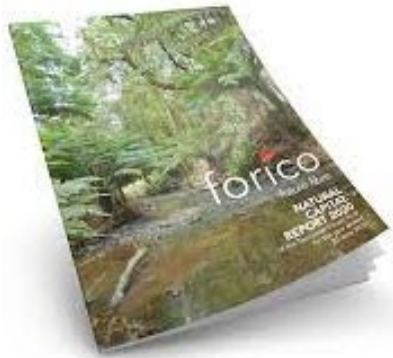
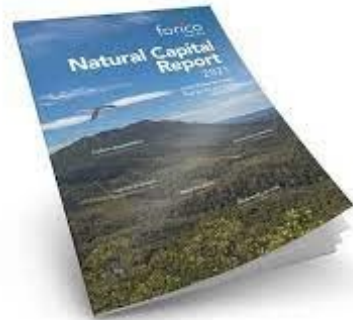
(Note: this analysis **aligns with TNFD's** recommended approach for evaluating company impacts)

* % is calculated by comparing \$ impacts of "driver and sector" box with \$ impact of entire portfolio

High dependency + Negative impact = Natural Capital Risks = Financial risk



Realising value from Natural Capital



NATURAL CAPITAL REPORT Natural Capital Balance Sheet as at 30 June 2022	30 June 2022						30 June 2021		
	NOTES	Measure	Metric	Value to Business \$k	Value to Society \$k	TOTAL \$k	Measure	Metric	TOTAL \$k
ENVIRONMENTAL ASSETS									
Biomass									
Productive Plantation	3	11,977	'000 gmt	553,159	-	553,159	11,700	'000 gmt	487,955
Carbon Sequestration									
Productive Plantation									
Carbon - above ground	4	12,387	kt CO ₂ -e	1,375	432,066	433,441	18,453	kt CO ₂ -e	295,205
Carbon - below ground	4	52,309	kt CO ₂ -e	-	1,830,809	1,830,809	53,883	kt CO ₂ -e	862,121
Carbon - forest debris	4	6,576	kt CO ₂ -e	-	230,177	230,177	1,317	kt CO ₂ -e	21,064
Future carbon sequestration before harvest	4	24,725	kt CO ₂ -e	14,037	700,100	714,137	54,365	kt CO ₂ -e	653,819
Natural Forest									
Carbon - above & below ground	4	52,453	kt CO ₂ -e	-	1,835,872	1,835,872	52,453	kt CO ₂ -e	839,256
		148,451		15,412	5,029,023	5,044,436	180,471		2,671,465
Natural Forest Habitat									
	7	77,024	ha	-	284,769	284,769	77,552	ha	254,838
TOTAL ENVIRONMENTAL ASSETS				568,572	5,313,793	5,882,365			3,414,258
ENVIRONMENTAL LIABILITIES									
Maintenance provision - Natural Forest	8	77,024	ha	21,388	-	21,388	77,552	ha	26,359
Provision for future harvest carbon emissions	9	295		8,403	-	8,403			
TOTAL ENVIRONMENTAL LIABILITIES				29,792	-	29,792			26,359
TOTAL NET NATURAL CAPITAL				538,780	5,313,793	5,852,573			3,387,900

These statements should be read in conjunction with the accompanying notes and scope, and users should note its limitations regarding completeness.

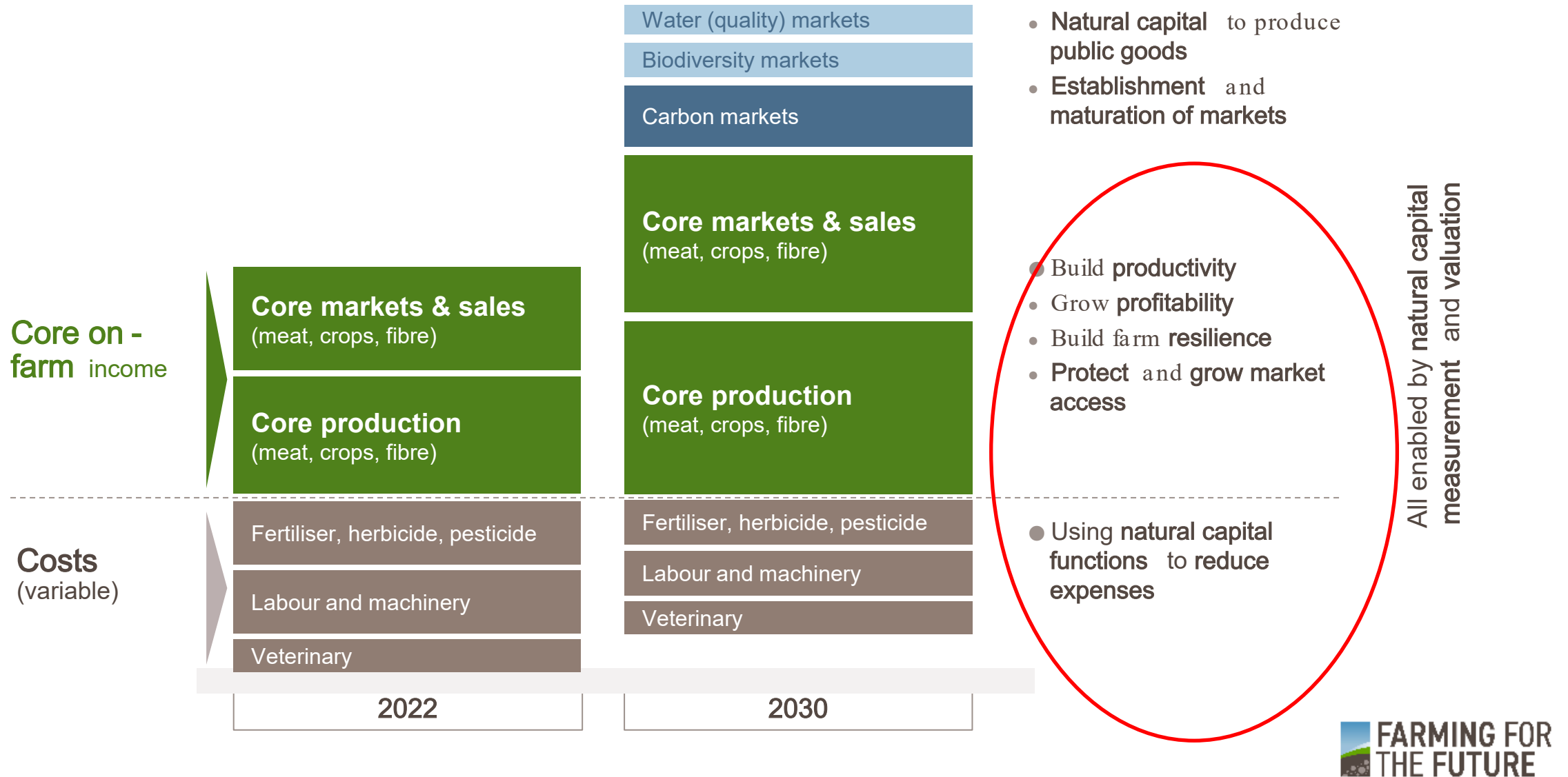
Addressing the barriers

- > Public perceptions
 - Forestry vs Deforestation
 - Biodiversity vs Monocultures
- > Permanence
- > Additionality – Halt & Reverse = Protect & Repair
- > Disproportionate value chains
- > Price and valuation signals
 - Transparency
 - inconsistency in market messaging
- > GHG protocol politics
- > Land competition and HBU
- > Ecological restoration costs – forest industry skill set and opportunity?

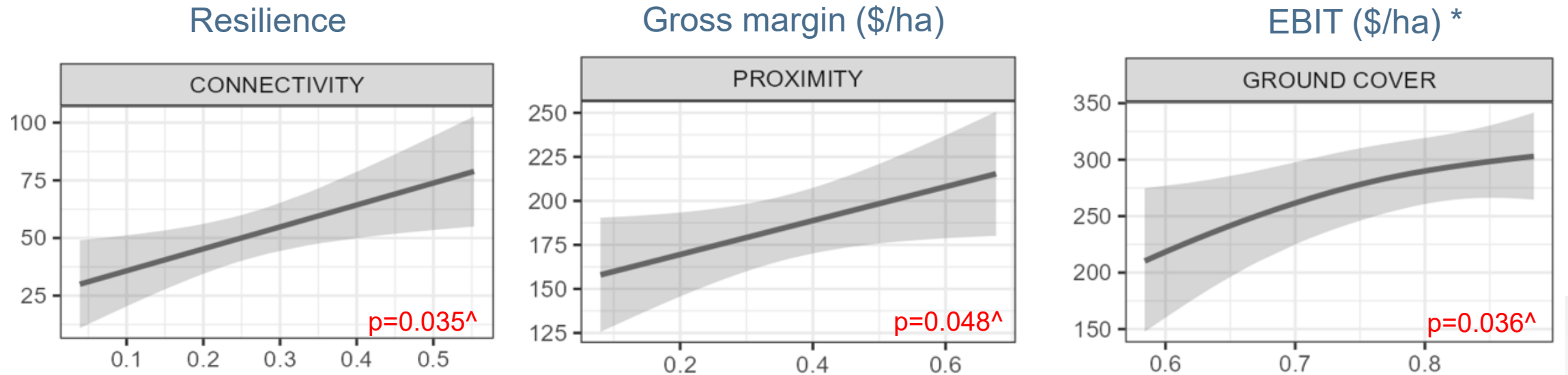
Leveraging the opportunities

- > Broader NatCap story of risk mgmt. provided from ecosystem services (drought resilience, reduce soil erosion, flooding prevention, rainfall retention)
- > ISSB and TNFD reporting
 - quality of process not for disclosure's sake
- > Investor signals
 - Norges Bank and Blackrock
- > Emerging Australian Nature Repair Market
- > Regulated but voluntary ACCU market
- > But beyond credit markets
 - Investable Natural Capital Asset Classes
- > Circular bioeconomy
- > Link to agricultural productivity + profitability + resilience

Focusing on core production on-farm profitability not just off-farm income streams



Plotting the relationships between: Improved Natural Capital + Improved Profitability/ Resilience



Most of the relationships between natural capital and farm performance observed from our full farm sample were positive or neutral. We did not observe any significant negative relationships.

*Excluding environmental payments

$^{\wedge}$ Moderate statistical evidence



Thank you

Thank you once again for the opportunity to speak with you.

I look forward to working with you as we achieve great things!

CONTACT

Rayne van den Berg FCA GAICD

+61 (0)408 75 2299

natcaplus.com.au

rayne@natcapplus.com.au