

Forests and the Future Bioeconomy

Measuring the Contribution of Nature to Global Prosperity



Building a nature positive bioeconomy



With support from the
Taskforce on Nature-related
Financial Disclosures (TNFD)

The Forestry Natural Capital Project

18 leading forestry organizations stewarding a combined
23 million hectares (almost 57 million acres) in 38 countries



Building a nature positive bioeconomy



With support from the
Taskforce on Nature-related
Financial Disclosures (TNFD)

An aerial photograph showing a river meandering through a lush, dense forest. The river is a dark, winding line that cuts through the vibrant green canopy of the trees. The forest appears to be a mix of deciduous and coniferous species, with varying shades of green. The overall scene is a testament to the beauty and complexity of natural ecosystems.

The invisible backbone of our planet

Forests are critical ecological infrastructure, as essential to the global economy as roads, bridges, and power grids. Forests are life supporting systems; they regulate the planet's climate, provide clean water, stabilise soils, and host much of the world's biodiversity. Yet nature's contributions remain largely invisible in financial markets and overlooked in decision-making.

This is not just an ecological oversight; it's an economic blind spot.



Today's global economy operates on the assumption that nature is free and infinite, but it is neither. Forests provide substantial economic, social, and ecological value that underpins economies and communities. When that value is left unmeasured, it is undervalued, and ultimately, at risk.

The forestry sector leads positive change

18 leading forestry organizations

23 stewarding over 23 million hectares (57 million acres) in

38 countries

came together to take action with a simple, yet transformative goal: **to make nature's value visible in decision-making.**

Led by the International Sustainable Forestry Coalition (ISFC) and the Capitals Coalition, supported by the Taskforce on Nature-related Financial Disclosures (TNFD), these organizations launched the **Forestry Natural Capital Project**, to turn this ambition into reality.

The project connects industry practitioners, thought leaders, scientists, investors, and policy experts to measure and value forestry's natural capital and the ecosystem services forests provide to inform decision-making.

By aligning science, stewardship, and capital, we're beginning to translate the benefits that forests provide to society, such as carbon sequestration and storage, biodiversity, clean water, and community resilience, into terms that financial markets understand and investors trust.

This unprecedented scale of collective ambition positions the forestry sector to deliver shared outcomes no single company could achieve alone.



Building a nature positive bioeconomy



With support from the
**Taskforce on Nature-related
Financial Disclosures (TNFD)**



Nature's contributions explained

The seven ecosystem services

Forests sustain many ecosystem services. As an early milestone of the project, the participating companies prioritised **seven ecosystem services** to provide a harmonised, consistent approach to understanding and measuring these services across the world's diverse global forest contexts. The seven ecosystem services chosen for this project were prioritised based on their **global relevance, environmental significance, and for having double materiality**, meaning they are important both financially and socio-environmentally. Together, these ecosystem services form the foundation for measuring and valuing forestry's contribution towards a nature-positive, climate-resilient future.

Forests are essential infrastructure for resilient economies

Globally, forests provide more than timber. They deliver climate stability, water security, cultural connection, clean air, habitat for biodiversity, and resilience in the face of disruption. These are ecosystem services, nature’s contributions that underpin industries, stabilise economies, and shape the quality of life for billions.

This project identified seven priority ecosystem services to measure and value, spanning three categories within the Common International Classification of Ecosystem Services (CICES): **provisioning, regulation and maintenance, and cultural**, as the primary ways to reflect forestry’s value to both society and the planet.

Ecosystem Service Category	Ecosystem Service (based on UN System of Environmental-Economic Accounting)	Forestry Natural Capital Project Name
Provisioning services	Wood provisioning	Sustainable timber and fiber supply
	Water supply	Water quantity
Regulation and maintenance services	Global climate regulation	Carbon
	Habitat maintenance	Habitat and biodiversity
	Soil and sediment retention	Water quality
	Air filtration	Air quality
Cultural services	Recreation-related and other cultural services	Recreational/cultural activities



Sustainable timber and fiber supply (Wood provisioning)

What it is

The timber and fiber used in construction, packaging, textiles, and countless other products, originates from sustainably managed forests. Through biological tree growth and harvest, these forests ensure a continuous, responsibly sourced flow of materials that supports societal demand and responsible economic development.

Why it matters

Sustainable timber and fiber supply are essential to producing thousands of products used daily and meeting global demand for renewable materials that replace fossil-based products. Wood products store carbon, reduce emissions, and are central to circular bioeconomies that generate jobs, housing, and infrastructure. This service supports low-carbon economies and is key to achieving climate goals, raw material security, and long-term resilience.

Role of forests

Forests are living productive systems, converting carbon dioxide, sunlight, water, and soil nutrients into renewable biomass. Through responsible management and reforestation, they deliver a consistent source of timber and fiber while maintaining ecosystem health. By responsibly balancing harvest with regeneration, forests sustain material supply chains and contribute to resilient, nature-based economic growth.

Water quantity (Water supply)

What it is

The reliable freshwater used for drinking, agriculture, industry and the basic functioning of other ecosystem services, is delivered through natural processes such as rainfall capture, storage in soils and aquifers, and flow through rivers, wetlands, and lakes. Forest ecosystems serve as reservoirs and delivery systems, regulating water availability across space and time.

Why it matters

Adequate freshwater underpins human health, food production, economic development, and biodiversity. When ecosystems supply consistent water, they maintain water balances and reduce vulnerability to droughts, floods, and climate extremes. Maintaining these ecosystems strengthens water security, lowers downstream infrastructure and treatment costs, and helps ensure that communities and nature can thrive in a changing climate.

Role of forests

Forests act as natural water infrastructure capturing, storing, and steadily releasing freshwater to regulate hydrological cycles and ensure reliable supply for communities and industries. Soils reduce runoff and recharge aquifers, vegetation filters pollutants that could raise treatment costs. By moderating drought and flood risks, forests stabilise economies, protect downstream assets and investments.





Carbon

(Global climate regulation)

What it is

The capacity of ecosystems to absorb, store, and release greenhouse gases, especially carbon dioxide, helps maintain atmospheric balance. Forests play a central role through carbon sequestration and storage in biomass, soil, and wood products, providing a critical natural mechanism that stabilises the global climate.

Why it matters

Effective climate regulation is vital for global economic stability, food security, and human well-being. By moderating temperature and reducing greenhouse gas concentrations, this ecosystem service can reduce adverse climate change impacts. Credibly quantifying carbon storage and sequestration positions forestry as part of the solution to climate change, creates new opportunities for investment, and enables governments and industries to meet net-zero targets.

Role of forests

Forests can act as large-scale carbon sinks, capturing atmospheric carbon dioxide through photosynthesis and storing it in trees, soils, and durable wood products. Sustainable forest management enhances this balance whilst providing renewable resources, bioenergy, and economic value. By maintaining healthy forests, societies secure one of the most effective, scalable, and cost-efficient solutions for achieving global climate goals.

Habitat and biodiversity

(Habitat maintenance)

What it is

The living conditions species need to thrive are provided by healthy ecosystems. By maintaining vegetation structure, soil health, and landscape connectivity, forest ecosystems support genetic, species, ecosystem diversity and ecological balance that underpin life and ecosystem productivity.

Why it matters

Biodiversity underpins global food systems, medicine, and economic resilience. Healthy habitats reduce risks from pests, disease, and potential ecosystem collapse, directly supporting industries such as agriculture, forestry, and fisheries. Maintaining healthy habitats safeguards ecosystem functions that supply clean water, carbon storage, and pollination, ensuring reliable natural inputs to economic and social well-being.

Role of forests

Forests provide essential habitats that sustain countless species, from soil organisms to large mammals. Their layered vegetation, microclimates, and nutrient cycles create diverse ecological niches. By conserving habitat quality and landscape connectivity, managed forests strengthen biodiversity, enhance ecosystem resilience, and ensure the continued supply of services vital to the global economy.





Water quality

(Soil and sediment retention)

What it is

The vegetation and root systems that stabilise ground surfaces help prevent erosion and reduce sediment flow into rivers and streams. This natural process maintains soil fertility, supports agricultural productivity, and protects water quality essential for ecosystem and human health, and economic activity.

Why it matters

Stable soils reduce the risk of downstream infrastructure damage, lower infrastructure maintenance costs, and protect freshwater sources, and aquatic biodiversity. In hilly and mountainous regions, stable forest soils help prevent landslides and minimise floods that threaten communities and assets. This service safeguards public health, reduces disaster recovery costs, and sustains productivity across industries dependent on clean, reliable water.

Role of Forests

Forests act as natural soil stabilisers through their extensive root networks, canopies, and ground cover. They reduce runoff velocity, anchor topsoil, and filter sediments before they reach waterways. This process maintains clean water, sustains aquatic ecosystems, and protects fisheries from habitat degradation. By maintaining forest integrity and slope stability, societies secure long-term land productivity, water quality, and reduced vulnerability to erosion-related natural disasters.

Air Quality

(Air Filtration)

What it is

The vegetation that absorbs carbon dioxide and releases oxygen, also captures, absorb, and neutralise airborne pollutants such as particulate matter, ozone, and nitrogen oxides. Through physical interception and chemical absorption, this ecosystem service improves air quality, supporting healthier environments for people, wildlife, and surrounding landscapes.

Why it matters

Clean air supports public health, labor productivity, and economic efficiency. Forest-based air filtration reduces respiratory disease, healthcare costs, and lost working hours in polluted regions. By improving air quality, this service enhances urban livability, supports national health systems, and contributes to climate resilience and sustainable development across growing economies.

Role of Forests

Forests improve air quality by filtering pollutants through leaves, needles, and bark, which trap particulate matter and absorb harmful gases while releasing oxygen. By integrating forests into landscape and urban planning, societies enhance air purification capacity, reduce pollution-related costs, and strengthen environmental and economic health outcomes simultaneously.





Recreational/cultural activities (Recreation-Related and Other Cultural Services)

What it is

The benefits gained from nature, through leisure, education, spiritual enrichment, and cultural identity, enhance well-being, inspire creativity, and foster social cohesion. For many Indigenous Peoples and First Nations, these relationships are rooted in deep cultural traditions, ancestral knowledge, and long-standing land stewardship. These experiences represent vital contributions of ecosystems to strengthen human connection, cultural continuity, and quality of life.

Why it matters

Access to nature supports mental health, tourism, and community identity, generating economic and social value. It encourages physical activity, reduces healthcare costs, and sustains local economies through nature-based tourism. Cultural and recreational services also improve public well-being and create shared spaces that strengthen trust, inclusion, and social stability.

Role of forests

Forests provide spaces for recreation, reflection, and cultural expression. They host trails, parks, and community areas that connect people to nature. Forests are also sites of cultural practice, spiritual meaning, and intergenerational knowledge. Forests generate tourism and additional sources of revenue, support rural livelihoods, and enhance quality of life through opportunities for education, celebration, and connection to natural heritage.

Accounting for nature



To make nature visible, we need to link nature and finance. Natural Capital Accounting means translating nature's value into financial language. The **Forestry Natural Capital Project** aims to connect forest data, valuation methodologies, and accounting principles to express forests' contributions in monetary terms.

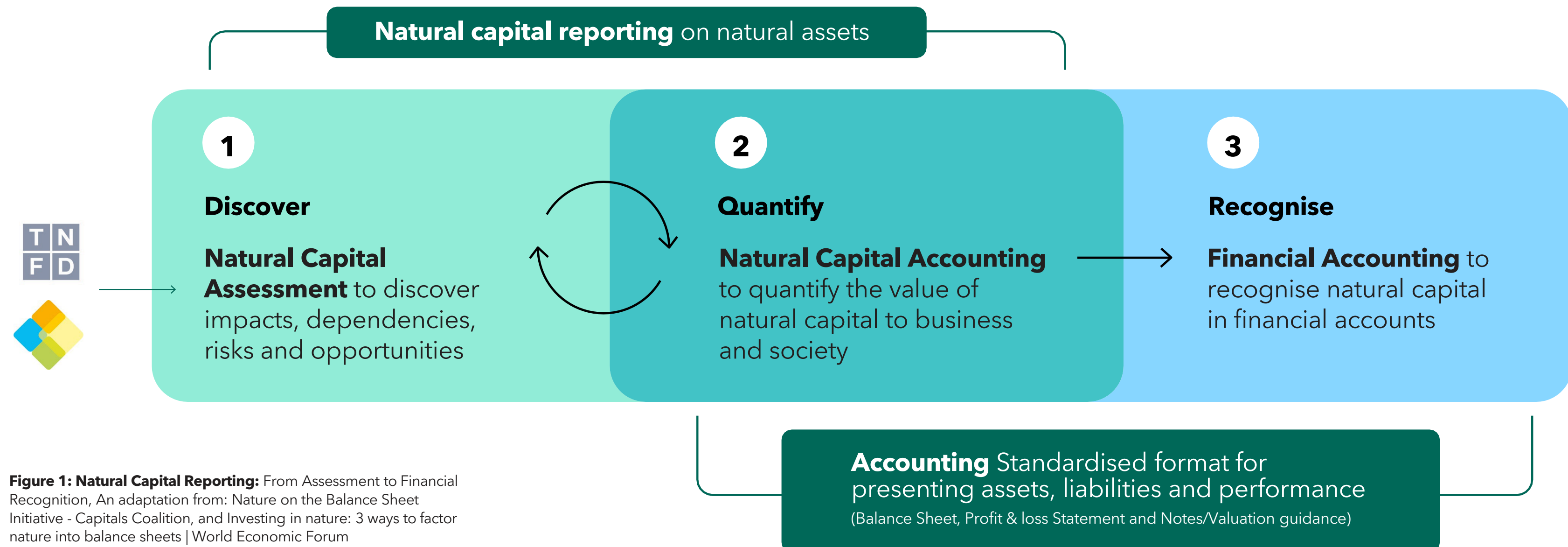
By linking nature and finance, this approach provides decision-makers with tools to recognise, report, and reward sustainable forest management. It enables comparability across companies and regions and strengthens trust among businesses, investors, and society.

"This lighthouse project will be an important contributor to the global Nature on the Balance Sheet Initiative (NBI), driving action to put nature into financial statements."
Mark Gough - Chief Executive Officer, Capitals Coalition

Harmonizing global frameworks

This work is structured around the Capitals Coalition's Natural Capital Protocol and is aligned with the recommendations of the TNFD and related initiatives. This project aims to demonstrate the interoperability and conceptual alignment across leading global frameworks.

By harmonizing across standards, the sector is pioneering a practical, scalable approach to valuing natural assets for better decision-making.



Looking ahead

From insights

Through 2026, Forestry Natural Capital Project participants will continue to develop this work. Their efforts will include agreeing to shared methodologies and engaging external stakeholders to prepare a Natural Capital Account, with the goal of releasing a final illustrative consolidated Forestry Natural Capital Report by COP31.

To action

The goal is clear: when forests and the ecosystem services they support are valued fully, they aren't just essential to planetary health, they are investable, resilient assets for the future.

Our approach and methodology

The **Forestry Natural Capital Project** is deliberately ambitious and structured as an intensive, two-part process over 18 months, with strategic milestones around COP30 and COP31. It builds on existing frameworks and guidance with a proven track record, in particular the Natural Capital Protocol and TNFD’s LEAP Framework.

Part 1

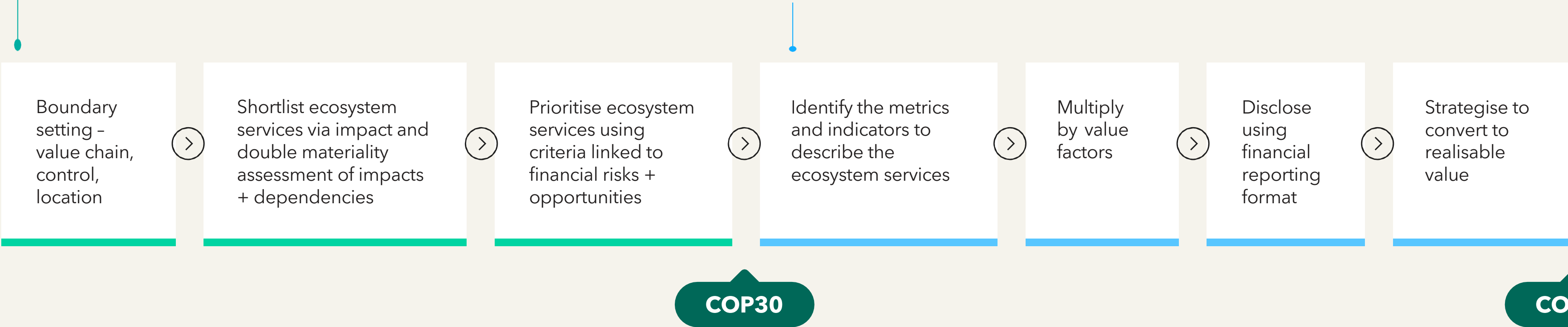
Context & Scoping (July–November 2025):

Build capacity, form the community of practice, and determine ecosystem service priorities.

Part 2

Measure, Value, and Present (December 2025–November 2026):

Implement common measurement and valuation methodologies, prepare Natural Capital Accounts, and release a final illustrative report by COP31.



A joint project by ISFC and Capitals Coalition



Building a nature positive bioeconomy

The ISFC is the global association for the private forestry sector. The ISFC strongly advocates for a climate and nature positive, forest-based circular bioeconomy. The ISFC companies steward more than 31 million hectares (76 million acres) of forests in 38 countries on all six forest growing continents. Read more at <https://is-fc.com/>



The Capitals Coalition is a global collaboration with a shared vision for a resilient economy that values what matters. Through a network of over 500 partners, we are building confidence and empowering action to embed the value of all capitals (Natural, Social, Human and Produced) in decision-making by 2035. Value Australia is the regional hub of the Capitals Coalition working to drive momentum towards COP31. Read more at <https://capitalscoalition.org/>

Supported by TNFD



The Taskforce on Nature-related Financial Disclosures (TNFD) is comprised of 40 business and finance leaders from around the world and was launched in 2021 with the support of the G20. TNFD provides recommendations and guidance for market participants and other stakeholders about how nature beyond climate should be assessed, managed and reported. It has built a global movement of support and action, including over 500 organisations and over USD\$17 trillion in assets under management (AUM) now committed to reporting their nature-related issues aligned with the TNFD recommendations published in September 2023. The TNFD recommendations build on the previous approach and recommendation of the Task Force on Climate-related Financial Disclosures (TCFD) and are aligned with the impact standards of the GRI, the European Union’s Corporate Sustainability Reporting Directive (CSRD) and the sustainability reporting standards of the International Sustainability Standards Board (ISSB). Read more at <https://tnfd.global/>