Natural Capital Initiative

Napital Group

From Nature to Capital

AECOM

iba
International Business Association

Our Partnership

NAPITAL

NAPITAL is a Hong Kong based ESG advisory company, specializing in providing advanced sustainable business and sustainable financing management solutions.

NAPITAL is committed to collaborating with various stakeholders, including businesses, government agencies, non-profit organizations, and academia, to drive positive change in the field of sustainability and ESG in Hong Kong and the Eastern Southern Asia region.

IBA

The International Business Association (IBA) is an independent organization in Indonesia dedicated to catalyzing economic development and fostering a competitive, skilled national workforce capable of excelling in various global sectors.

AECOM

AECOM is the world's trusted infrastructure consulting firm.

AECOM partner with those who want to make a positive difference as we lead the change toward a more sustainable and equitable future.

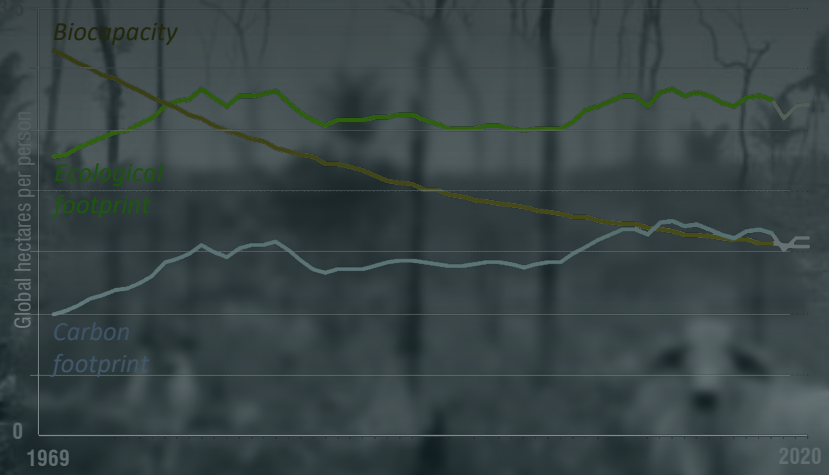
50K People

$11B USD FY'23 revenue

The Nature Emergency

The Living Planet Report 2022 by World Wildlife Fund (WWF) reveals an average decline of species population by **69%** since **1970**

*Humanity's Ecological Footprint **exceeds** Earth's biocapacity*



39% Terrestrial species

76% Freshwater species

39% Marine species

*According to the **World Economic Forum (WEF) Global Risks Report 2024**, the top four most severe risks over the next ten years to be: **extreme weather events, critical change to Earth systems, biodiversity loss and ecosystem collapse, and natural resource shortages.***

World Economic Forum, 2024

We cannot afford to rely on Charitable action or "Talking the Talk" anymore

Our Initiative aims to reverse nature loss and make the largest carbon storage mechanism financially viable.

High Performance Ecosystem

Natural Capital (NC) Gain

Natural Capital Digital Twin

Sustainable Business

Why do it?

Habitat loss increases greenhouse gas emissions; **11%** of global emissions result from deforestation and forest degradation.

United Nations Environment Programme (2021) Deforestation Factsheet

Nature and climate are intertwined. Forests, soils, peatlands, the ocean, and other ecosystems are the world's largest carbon sinks, absorbing **60%** of gross annual anthropogenic carbon emissions.

World Bank

Wildlife populations have declined by an average **69%** in the past **50** years.

The WWF's Living Planet Report 2022

Climate, biodiversity, and land degradation goals can only be reached if investments into nature-based solutions quickly ramp up to **USD 384 billion/year** by 2025, more than double of current investments.

State of Finance for Nature 2022" by UN Environment Programme (UNEP)

US$58tn

of global GDP – 55% - is higher or moderately dependent on nature

>50%

of the market cap listed on 19 large stock exchanges is exposed to material nature risks

15+

Industries' direct operations are highly or moderately dependent on nature

ENCORE database, EXCIOBASE, S&P Capital iQ, PwC Analysis

Tackling the two biggest challenges of our times:
Climate Change | Nature Loss

High Performance Wetland

High Performance Shoreline

High Performance Forest

High Performance Grassland

High Performance River

via

High Performance Ecosystems

Science & Performance Driven:
Restore our ecosystems and enhance biodiversity as the sustainable foundation for future generations.

Accountability:
Adopting smart monitoring systems, blockchain technology for streamlined, cost-effective acquisition of environmental data.

Case Study: Natural Capital Laboratory | A Digital Natural Capital Account

Performance Driven l Accountability

PROJECT OVERVIEW

- Birchfield, Loch Ness, Scottish Highlands
- Size: 42 hectares
- 2019- 2024
- Client: The Lifescape Project

KEY PROJECT TEAM

Landowner

EMILIA & ROGER LEESE

Research expert

NATURE METRICS

University of CUMBRIA

Investor

AECOM

Investor + rewilding team

the Lifescape project

PROJECT SCOPE

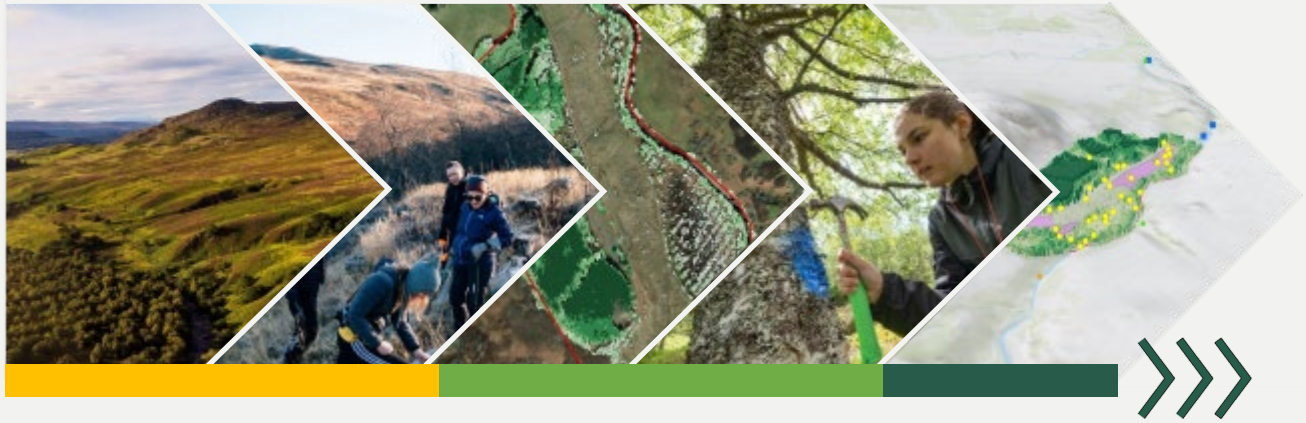
1.To **restore habitats, reintroduce lost species**, and encourage **people to connect** with the environment.

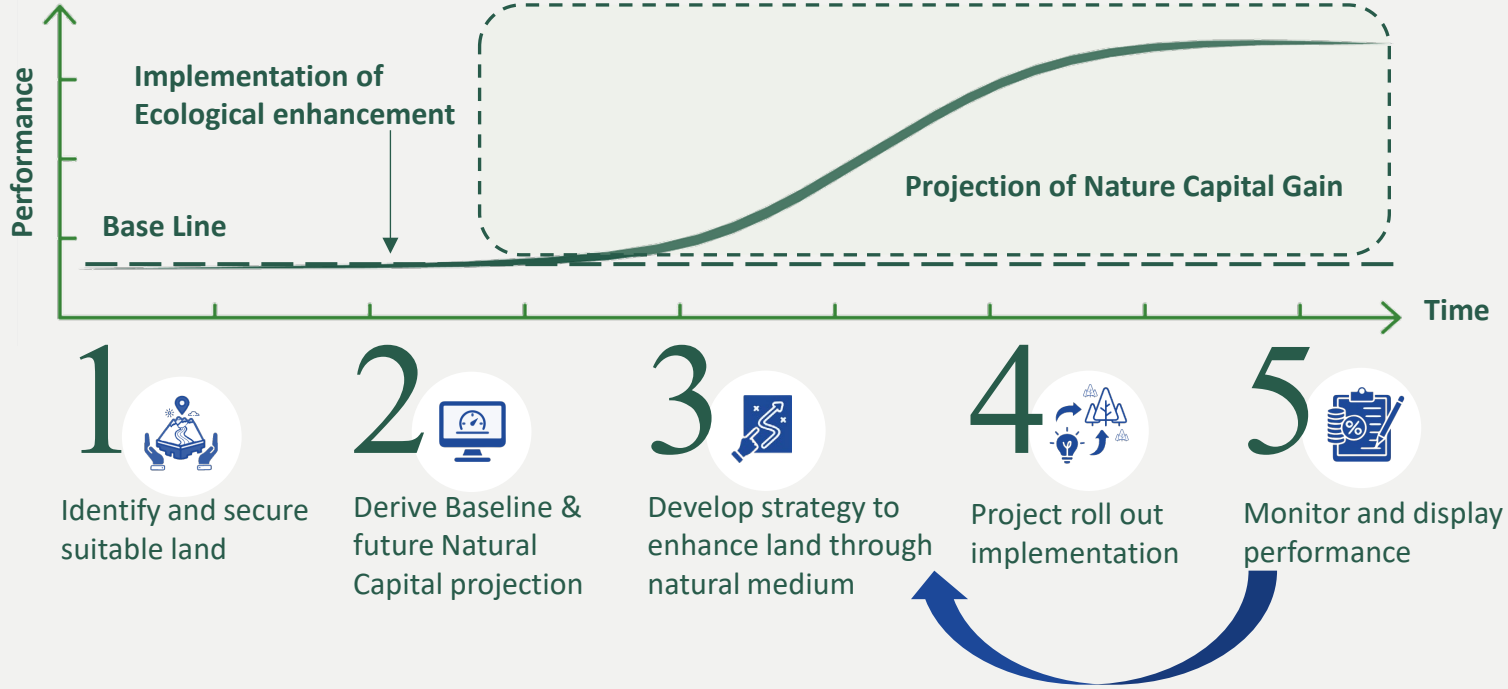
2.Set up as an **experimental testbed** to trial new techniques to **quantify, measure, and communicate** environmental and social change associated with rewilding.

SERVICES

- ✓ Ecology monitoring and reporting
- ✓ Natural and social capital accounting
- ✓ GIS
- ✓ Virtual reality
- ✓ Drone surveys
- ✓ Ecological visualisation
- ✓ Remote sensing
- ✓ Aquatic ecology

How to create High Performance Ecosystems?





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How does Natural Capital Accounting work?

Design & Implementation | Digital Monitoring | Data Display & Analysis

Key Results

BIODIVERSITY GAIN

CARBON CAPTURE

ADVANCE DIGITAL TOOLS

Onsite monitoring

LIDAR+Audio moth+ eDNA

Open data for public

DASHBOARD AR/VR

COMMUNITY ENGAGEMENT

+52%
Stakeholders & public attention

A Comprehensive Set of Natural Capital Performance Data

Biodiversity Gain

Biodiversity

Biodiversity gain involves creating, enhancing and improving natural habitats and calculating the numerical change in biodiversity using ‘biodiversity units’. The UK has already rolled out a statutory biodiversity metric to measure losses and gains. In Asia, AECOM has developed the Singapore Biodiversity Accounting Metric and is developing similar metrics elsewhere.

By quantifying the value of habitats, the tool calculates the potential loss or gain in biodiversity that can help stakeholders improve the sustainability of natural asset management.

Ecosystem Services

Air Quality

Water Quality

Soil Quality

Rewilding aims to restore and protect natural ecosystems by reintroducing native species, improving habitat quality, and reducing human impact. These projects help improve air, soil, and water quality by promoting natural processes that enhance ecosystem health. By restoring balance and biodiversity, rewilding projects contribute to the overall well-being of ecosystems and habitat areas.

With good quality, we can ensure that ecosystems continue to thrive and support a diverse range of plant and animal life.

Carbon Capture

Carbon Sequestration

Carbon dioxide (CO2) is a greenhouse gas that is the main contributor to global warming, being released in huge amounts through the burning of fossil fuels. Ecosystems such as forests, wetlands and seagrass beds naturally absorb CO2 during photosynthesis. This process of carbon sequestration removes CO2 from the atmosphere, reducing overall CO2 concentrations and consequently having a positive impact on global warming.

Display through Natural Capital Digital Twin

1

Digital tools and techniques are increasingly used to track and communicate a vast array of complex relationships and data at scale.

2

Scalable based on investor's requirements and enhanced user experience, as well as an open, transparent, reliable, and visualised display platform for the public.

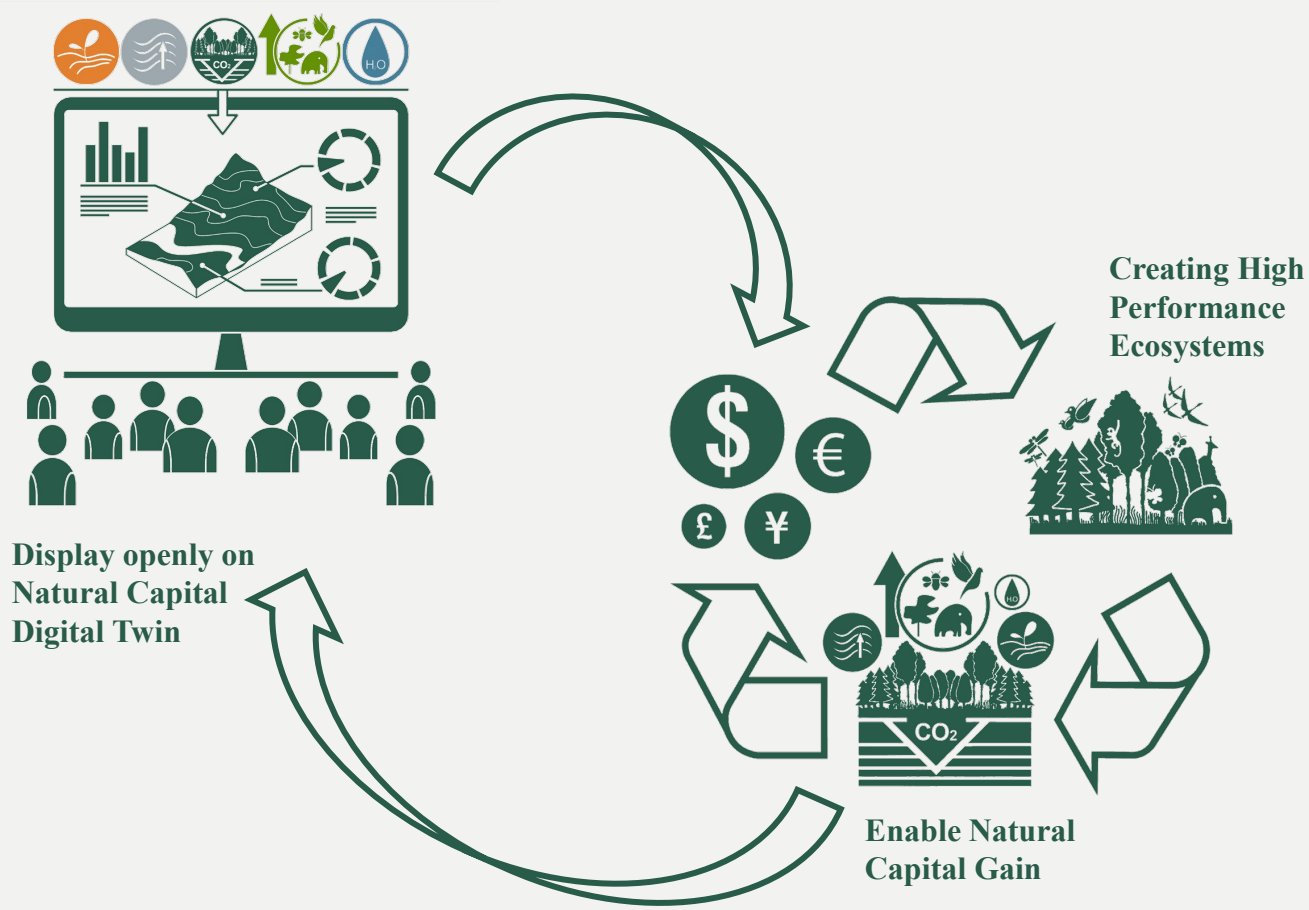
3

Measure the increase in ecosystem services over time as natural capital matures, resulting in a set of “Nature Capital Performance Data” in exchange for financial incentives.

Facilitate the transformation of Natural Capital into Financial Capital.

Case study example: *https://planengageuk.alytics.com/aecom-ncl-digital-natcap/study/Asset-Register*

Harness quantifiable ESG benefits from Natural Capital to enhance corporations' commercial performance



Riding on the results and data collected from High Performance Ecosystems (Natural Capital Projects) on the ground, such data shall be reinforced by a sound metric + measurement system (Natural Capital Accounting) to ensure accountability. These are key assets for obtaining financial concessions, enhance corporate branding and are potentially tradable as the sphere of ESG matures around the globe.

Sustainability Challenges and Needs

Finding common ground: bridging the gap between public and private sector

Public sector:

- Tackle Climate change and Carbon emissions
- Minimise Ecosystem Disruption and Biodiversity Loss
- With Conservation Responsibility
- Enhance environmental capacity and launch high performance habitat
- Responsible stewardship of natural resources and livelihood for local communities
- Public health and wellbeing
- Measuring and tracking the diversity and health of species and habitats within a given area.

Private sector:

- Growing Emphasis on Green Investment, ESG Integration and ESG compliances
- Incentive to improve ESG rating & SDG Performance to receive favorable financial concessions (Green Finance opportunities through Green Loan, Sustainability Linked Loan, Green Bond, etc.)
- Reinforce Corporate Branding and Social Impact
- Anti Greenwashing and Offset scandal
- New potentials in Nature-related Credit Market
- Develop comprehensive accounts of a company's or region’s natural capital assets and the changes in their value over time.

Primary Benefits: Impact on Site

Each Natural Capital Project brings in a portfolio of "Natural Capital Asset" and Social influences:

Carbon sequestration through new plantations, foresting/reforesting, shoreline restoration, etc.

Improve **biodiversity performance** through ecological restoration & habitat creation

Improvement on **environment conditions**: water, air quality; soil erosion, etc.

Social impact and corporate branding

Education and Engagement to the public

Secondary Benefits: ESG Value and Sustainability Engagement

Financial Disclosures | ESG Reporting and Rating | Corporate Sustainability Branding | Impact Investment

ESG Rating Pillars

Environmental	Social	Governance
Carbon Emission /Capture/sequestration	Project in Developing Country	Business Ethnics
Climate Change Vulnerability	Supporting Local Communities	Corporate Behavior
Financing Environmental Impact	Generate Employment	Data Transparency
Forest Management	Human Capital Development	
Biodiversity Gain	Community Relation	
Climate Resilience		
Resource Efficiency and Circulatory		

MSCI GRI TNFD

SUSTAINABLE DEVELOPMENT GOALS

8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION
15 LIFE ON LAND
17 PARTNERSHIPS FOR THE GOALS

Tertiary Benefits: Future Potentials

Recognizing Nature's Finite Resources, Establish The Future of Responsible Finance

- A New Asset Class
- A New Type of Investment
- Credit Market
- Trade Market
- Tokenization
- Derivative
- Commodity
- Financial Instrument

Natural Capital Projects' Key Players

1

Landowner

Supply land for the natural capital projects

2

Expert/Consultants

Provide expert input & ESG as service

3

Project Platform

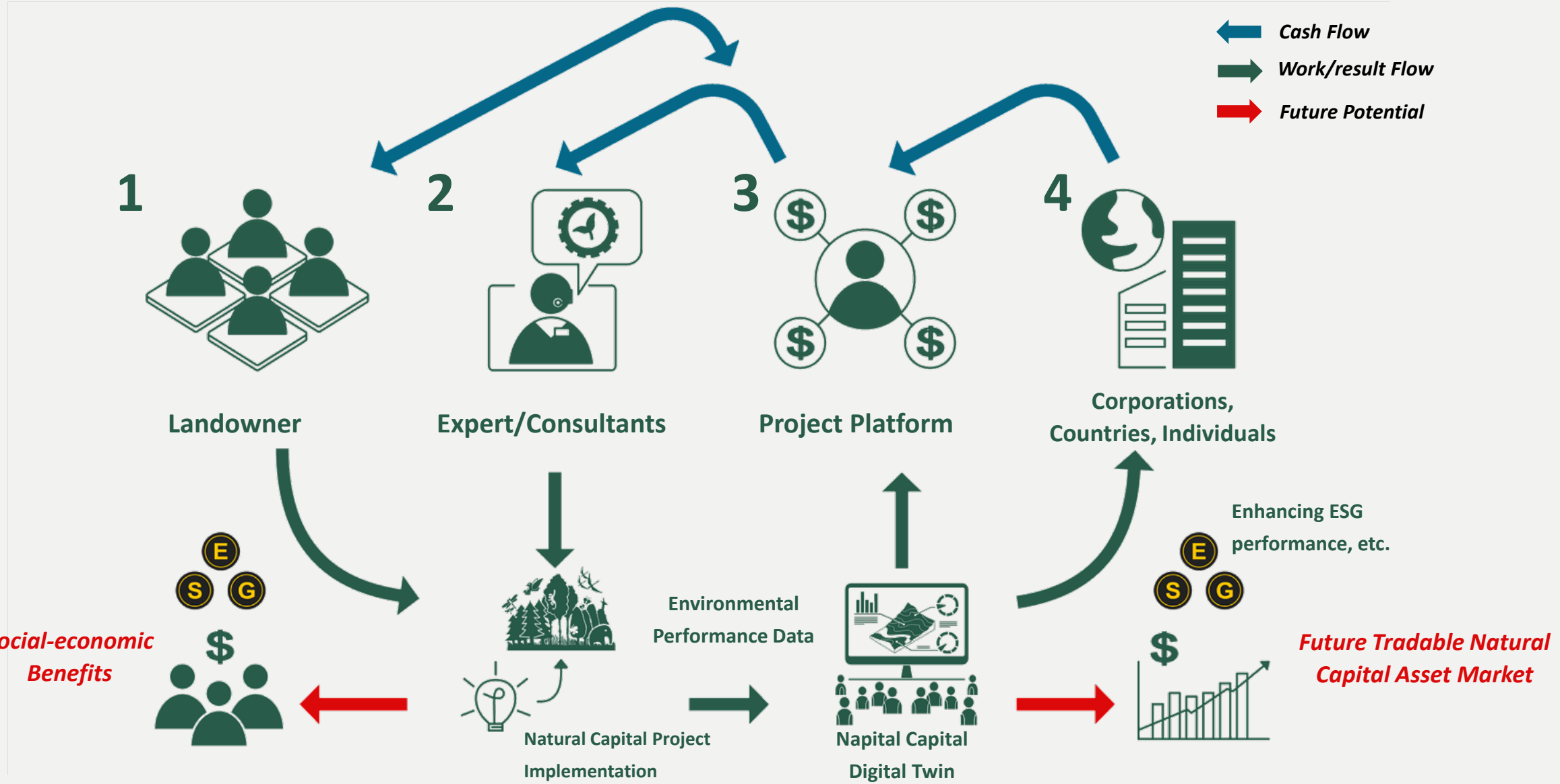
As project proponent to centralise financial fundings

4

Corporations, Countries, Individuals

Funding for natural capital projects

Natural Capital Initiative Roadmap



We need to start delivering Natural Capital Projects to retore our planet

High Performance Ecosystem

Nature should be restored to optimize their environmental performance, hence maximising total Natural Capital gain

Natural Capital (NC) Gain

Environmental performance is represented by 5 major metrics: biodiversity gain, carbon sequestration, air quality, water quality and soil quality.

Natural Capital Digital Twin

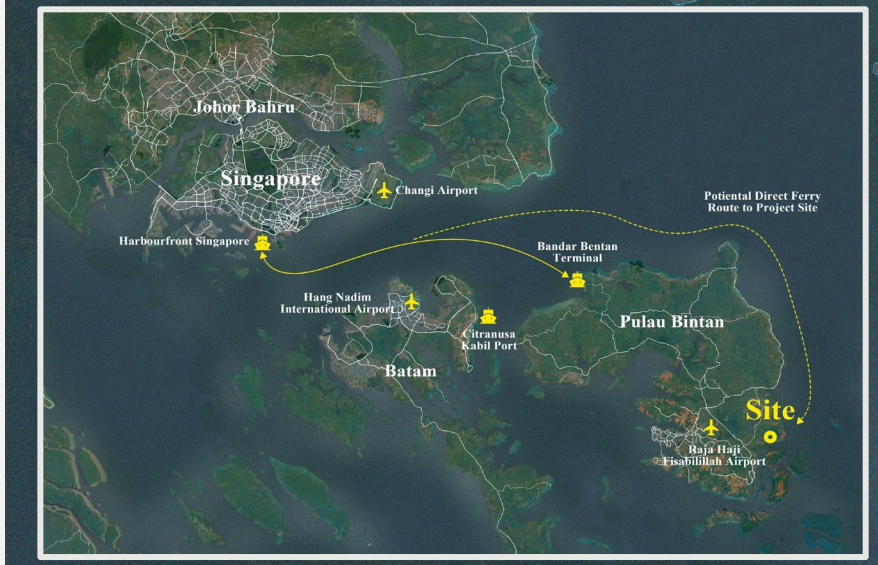
Environmental data are digitally gathered, recorded, and displayed on a digital twin to showcase performance transparently

Sustainable Business

The idea of quantifiable Natural Capital creates financial incentives and sets a robust foundation for the business sector's participation.

Bintan Island Pilot

Our site is in the southeast coast of Bintan Island, Indonesia, with convenient transport and near the airport and ferry terminal. Our Napital project is to restore 100Ha test site of underperforming woodland - in proximity to a 300Ha conservation area.



Berakit
Lagoi
Teloekdalam
Pulau Bintan
Tandjungban
Telukbakua
Kangboi
Tenaga
Mengkilo
Tembeling
Pulao Mapur
Site
Tanjungpinang
Kelong
Nibum
Riau
N
0 5 10 20km

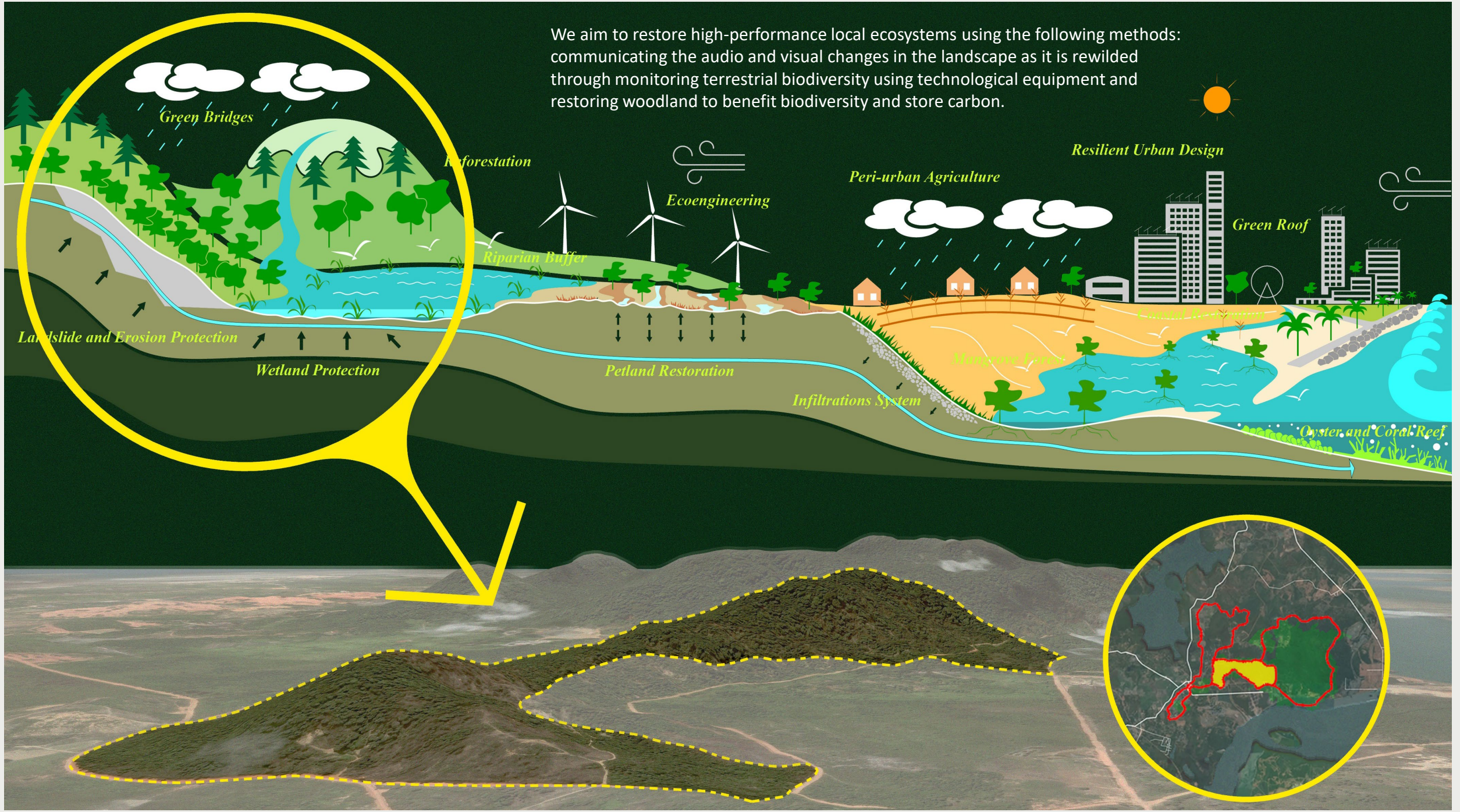
Bintan Island Pilot

Project Information

Our site is in the Southeast coast of Bintan Island, Indonesia. Primary forest consists of dipterocarp forest is mainly located in Mount Bintan Besar, which is a protected forest area of tropical rainforest (Puspitaningtyas, 2019). The rest of the island have faced serious human disturbances before.

In the 1740s, Gambier and pepper plantations thrived in Bintan Island, later replaced by rubber. These large-scale monoculture plantations led to soil degradation and biodiversity loss. Abandoned plantations have since transformed into secondary forests. By the 1990s, Bintan Island was densely vegetated. From 1990 to 2020, bare land increased by 186%, with vegetation hitting its lowest point in 2016 before rebounding in 2020 due to expanding mining activities. This mining has harmed soil fertility, impacting forest vegetation and biodiversity.

By assessing the ecosystem integrity after restoration, to determine the current performance and uplift of natural capital after the enhancement. Thus, to facilitate green finance and release alternative financing potentials with curated natural capital improvement and data.


We aim to restore high-performance local ecosystems using the following methods: communicating the audio and visual changes in the landscape as it is rewilded through monitoring terrestrial biodiversity using technological equipment and restoring woodland to benefit biodiversity and store carbon.
Green Bridges
Reforestation
Ecoengineering
Peri-urban Agriculture
Resilient Urban Design
Green Roof
Riparian Buffer
Landslide and Erosion Protection
Wetland Protection
Petland Restoration
Infiltrations System
Mangrove Forest
Oyster and Coral Reef

Invest in our 100 Ha Forest Enhancement

Per project / by area / by %
or other flexible means to
break project down.

Cost Composition

The project can be broken down to meet different investment needs. Investors can invest in the project by area, percentage, site, or other flexible means.

The basic cost composition of a 100-hectare site can be divided into five parts: consultation, implementation, maintenance, administration and land cost.

Natural Capital Gain

Project Team

Dr. David Gallacher

Environmental Lead – AECOM

Executive Director with AECOM (Hong Kong) with over 20 years' experience in the environmental sector. David has worked on hundreds of projects through the Middle East, South Asia, South-east Asia and East Asia, in partnership with government departments, private developers and multilateral banks..

Alex Wong, JP

Project Leader & Commercial Lead

Accomplished business leader with over 30 years of experience in insurance and aviation. Proven track record of driving growth, improving efficiency, and leading high-performing teams. Previously on the leadership team at JOHN SWIRE & SONS (H.K.) LIMITED and served as General Manager at Swire Group. Devoted to establishing diverse business potentials since retired, especially in CSR and ESG, leveraging his extensive expertise. Founder and director of Napital Group, a pioneering company focused on Natural Capital Asset and Accounting Development, providing innovative ESG solutions for the Asia-Pacific markets.

Stephen Suen

Masterplanning Lead – AECOM

UK chartered landscape architect / urban designer with 20 years of global experience in Design and Masterplanning. Stephen's background in engineering, landscape and urban design has enabled him to lead multi-disciplinary teams with strong focus in delivering sustainable design solutions

Sherry Hui

Social & Communication Lead – AECOM

An experienced sustainability and social impact professional with expertise in environmental anthropology, cultural studies, and reconciliation practices. Sherry brings a unique interdisciplinary perspective to the role as the Social and Communication Lead

Ash Welch

Natural Capital Lead – AECOM

Biodiversity Lead at AECOM (Singapore) and has 12 years of extensive experience working with clients to deliver nature-based solutions (NBS) at a natural and urban scale. His primary focus is on creating multi-functional habitats that provide biodiversity and ecosystem benefits, such as climate change resilience.

Doing Good should Not be an Afterthought

It is time to join force and collaborate

In tandem with the climate emergency, the crisis of nature loss is equally threatening to our lives and livelihood.

Our global food supply is hanging by a thread and our ecosystem plays a key part in securing the production of enough sustenance and clean water for our growing population.

Numerous people primarily rely on nature for their jobs. Fresh catches, harvests, and beautiful scenery are the source of income for many local communities.

Consider nature as the planet's "coat". Nature regulates climate; restoring it helps us better combat climate change.