Opportunities in Climate and Nature

NATURAL CAPITAL, BIODIVERSITY AND TNFD REPORT 2024

quinbrook infrastructure PARTNERS

TNFD

Table of Contents

Definitions of concepts for understanding nature[1]

Nature	The natural world, emphasising the diversity of living organisms, including people, and their interactions with each other and their environment.	Environmental assets	The naturally occurring living and non-living components of the Earth, together constituting the biophysical environment, which may provide benefits to humanity.
Natural capital	The stock of renewable and non-renewable natural resources such as plants, animals, air, water, soils, and minerals that combine to yield a flow of benefits to people.	Ecosystem services	The contributions of ecosystems to the benefits that are used in economic and other human activity.
Biodiversity	The variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part. This includes diversity within species, between species and of ecosystems.	Impacts	A change in the state of nature (quality or quantity), which may result in changes to the capacity of nature to provide social and economic functions. Impacts can be positive or negative.
Realms of nature	Land, ocean, freshwater and atmosphere. These are major components of the natural world that differ fundamentally in their organisation and function.	Dependencies	Aspects of environmental assets and ecosystem services that a person or an organisation relies on to function.
Biome	Global-scale zones, generally defined by the type of plant life that they support in response to average rainfall and temperature patterns. Examples are tundra, coral reefs, or savannas.		
Ecosystem	A dynamic complex of plant, animal and microorganism communities and the non-living environment, interacting as a functional unit.		

[1] Source: Recommendations of TNFD September 2023.

Introduction

Infrastructure plays a key role in driving growth across biodiversity and natural capital.

Since establishment, Quinbrook's central strategy has focused on the build-out of new clean energy infrastructure assets and innovative businesses that deliver real and tangible sustainability, climate, and financial solutions on behalf of investors.

For over two decades, Quinbrook's founders have specialised in investing in the opportunities arising from the energy transition and enabling solutions that can help mitigate risks presented by climate change.

Developing infrastructure and renewable energy projects in tandem with dedicated and Natural Capital or Biodiversity initiatives and allocations, enables projects to simultaneously deliver financial, biodiversity, climate, community, and social goals.

To date, Quinbrook's projects have integrated over 7,000 acres of biodiversity, agricultural, forestry, and habitat protection projects.[2]

Quinbrook's invested solar, wind, and biomass-powered energy generation projects have implemented extensive co-sited biodiversity projects, better utilising land and seeking to drive improvements in natural capital at sites.

Efforts span from early planning stages, avoiding critical biodiversity areas, and extend throughout operations, investing in land, flora and fauna protection programs. Quinbrook sites have incorporated dedicated grassland, forest, and wetland habitats into sites, alongside bee pollinators and agricultural projects to support local farming and communities.

[2] As at 31 December 2023.

In 2024, the UK government launched the Biodiversity Net Gain improvement and monetisation regulation, creating additional value for projects whilst boosting natural capital.

In February 2024, the UK introduced the mandatory Biodiversity Net Gain (BNG) legislation, requiring property and infrastructure projects to leave biodiversity in a measurably better state than before development took place and, at a minimum, 10% overall improvement across specified habitats.

BNG seeks to protect and improve flora and fauna, while delivering wider natural capital benefits, including flood protection, and water and air quality. This requirement is supported by a biodiversity unit trading, penalty, and commercialisation system, building defined value of natural capital into economic systems. This presents a major opportunity for infrastructure projects to continue driving intentional and additional biodiversity at sites, while better supporting projects, communities, land, and water systems. Europe, Australia, and other countries have proposed alternative biodiversity strategies to seek to protect and drive the value of natural capital.

Co-sited with infrastructure, biodiversity projects can provide significant opportunity to drive growth in natural capital, while adding further value to more stable infrastructure returns.

Quinbrook has implemented rewilding, forestry, desert and land protection, pollination, fauna protection, and agricultural projects at sites, creating natural capital solutions specifically suited to the local community and habitats.

To capture additional financial benefits through the BNG, Quinbrook has commenced working with portfolio companies at sites to improve baseline biodiversity analysis and to assess potential for biodiversity gains co-sited, or at adjacent site. By co-siting scaled natural capital projects with infrastructure, Quinbrook seeks to provide measurable biodiversity outcomes, supported by target infrastructure-like project returns, augmented by additional BNG unit revenue.

Quinbrook is an Early Adopter of the Taskforce on Nature-related Financial Disclosures (TNFD) working to better assess, report on, and invest in biodiversity.

Beyond the energy sector, all businesses and societies are embedded in nature. Healthy ecosystems are required to continue to provide ecosystem services which benefit businesses, communities, and by extension, returns for investors.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the leading public body interfacing between science and policy on issues of biodiversity and ecosystem services, notes that both are in decline. This poses risks for businesses, financial systems, and economies. For example, global supply chains for semiconductors and critical minerals for the energy transition face disruptions from water shortages and water stress.

Quinbrook considers nature to be a benefit to revenues, projects, and communities, and a risk management issue with significant potential financial impacts, both positive and negative. As such, Quinbrook has assimilated nature into its strategy, risk management, and investment decision-making processes, alongside its integration of climate-related considerations.

Investing in Natural Capital

Over half of global GDP, equivalent to USD 58 trillion, is estimated to be dependent on nature.[3] Natural assets have significant capacity to absorb carbon, complementing energy transition infrastructure assets, while also providing additional environmental services and potential benefits across project development, sustainability, social, and impact objectives.

Independently, as a fairly nascent asset class, stand-alone biodiversity projects have been reported to present challenges to investors.[4] Real assets, such as renewable and storage infrastructure assets, can provide a tangible and diversified solution, as physical clean energy assets which can also deliver additional and measurable natural capital growth on-site.

By coupling target infrastructure-like risk and return profiles with additional revenue from biodiversity units, investments can concurrently deliver financial, sustainability, and social impact goals to stakeholders.

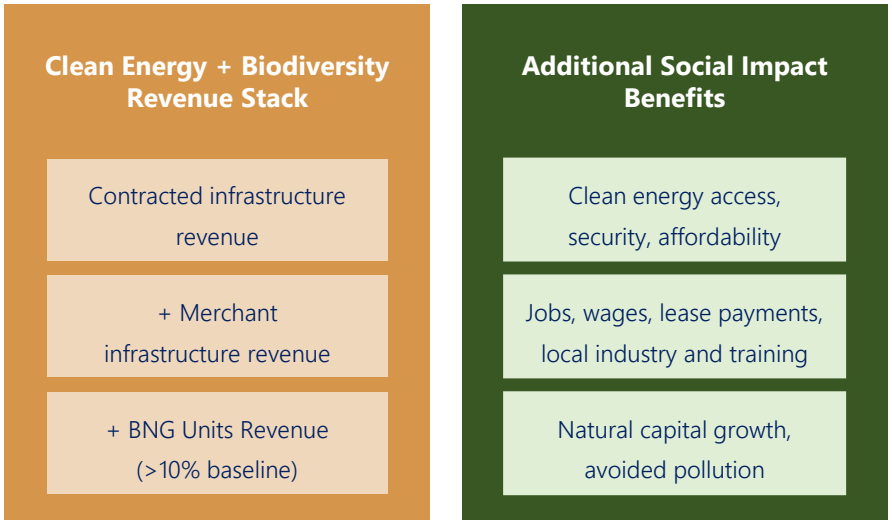
Quinbrook has invested in integrated biodiversity and natural capital initiatives in the UK, USA, and Australia since 2017.

Natural capital and biodiversity projects span key pillars of:

- land improvement;
- sustainable grassland, wetland, desert or forestry growth and/or protection projects;
- sustainable agriculture and pollinators supporting local farming;
- rewilding or woodland regeneration; and
- coastal or waterway regeneration.

Co-sited or adjacent biodiversity projects with infrastructure offers diversification, sustainability, community benefits, and the return and capital characteristics of conventional energy transition infrastructure, paired with potential for return uplift through BNG monetisation.

Figure 1: Example Co-Sited Infrastructure and Biodiversity Benefits.



[3] PWC, https://www.pwc.com/gx/en/news-room/press-releases/2023/pwcboosts-global-nature-and-biodiversity-capabilities.html

[4] Pensions & Investments, https://www.pionline.com/esg/institutions-moving-natural-capital-strategies-are-cautious-about-new-markets

Monetising Biodiversity Solutions

Quinbrook works directly with portfolio companies and developers to implement biodiversity investments and projects at sites:

1. Biodiversity Pre-Screening Assessment and Protection

During investment pre-screening and due diligence, Quinbrook assesses investments' risk exposure to and potential impacts on biodiversity. Internal and external databases such as the IBAT, and WWF Biodiversity and Water Risk Filters can identify location-specific biodiversity red flags or concerns, such as ecosystem loss and water stress.

Throughout planning stages, considerable efforts are taken to avoid negatively affecting biodiversity, including ecologist-conducted environmental, ecosystem, and biodiversity net gain assessments, which inform decision-making on items such as site design and layout, and equipment procurement.

2. Biodiversity Planning, Improvement, and Implementation

Baselining of biodiversity occurs at sites prior to development by ecologists using the BNG methodology. From this baseline, methods and areas to increase biodiversity on-site or on adjacent land with the potential to provide gain across various habitats are identified. Biodiversity improvement initiatives are then implemented on-site during development and construction.

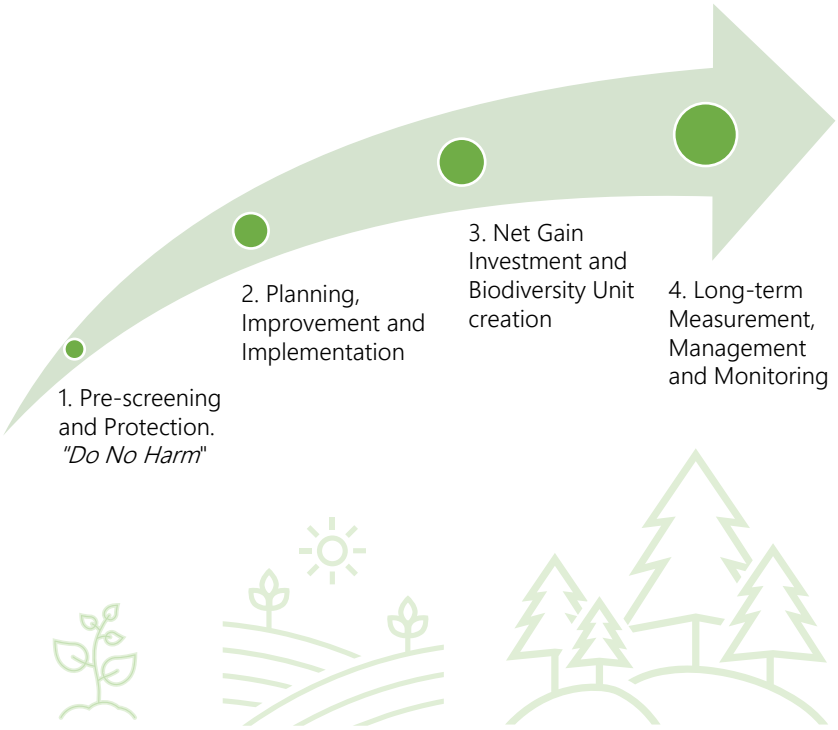
3. Net Gain Investment and Biodiversity Unit Creation

Quinbrook seeks to maximise, where feasible, biodiversity unit creation, beyond the 10% net gain required by the UK BNG regulation, and thereby monetise its biodiversity initiatives to improve project returns to investors.

4. Long-Term Measurement, Management and Monitoring

Long-term land management and biodiversity plans embed governance bodies to ensure any future stakeholders' requirement to maintain biodiversity benefits introduced, often up to 30-40 years into the future.

Figure 2: Implementing Biodiversity Investment and Solutions.



Case Study: Cleve Hill Solar

Cleve Hill is a solar and storage site located in Kent, UK. At 373 MW of solar PV capacity and 150 MW of battery capacity, Cleve Hill is the UK's first Nationally Significant solar and storage project.

Cleve Hill is situated on a wetland area of high biodiversity significance. The area historically was used for low grade arable land but was under local community pressure to re-wild the area and support local wetland birds and wildlife. Drawing on the economic benefits of solar and storage, the site has avoided higher intensity property development, and established an extensive biodiversity net gain plan.

In 2023, the project actively commenced its Landscape and Biodiversity Management Plan (LBMP), implementing extensive rewilding and habitat management, including dedicating 15% of the total site to biodiversity improvements, to actively create wildlife and biodiversity benefits and gain.

138 acres
of dedicated habitat management

67%
biodiversity net gain forecast and
15% of site dedicated to biodiversity

40 years
of ecological and ornithological monitoring

50 hectares
of new grassland and reedbed habitat creation for nesting birds

3.63 km
of native species hedgerows to be planted

Quinbrook's leadership in integrating biodiversity with infrastructure is exemplified by Cleve Hill, through:

- a full-time, on-site ecology team
- creation and enhancement of grassland, grazing marshland, riparian, and reedbed habitats
- initiatives to support hedgehogs, badgers, bats, bees, lapwings, marsh harriers, great-crested newts, water voles, eels, bearded tits, reed and sedge warblers, reed buntings, brent geese, golden plovers.

The project includes full-time on-site ecologists to support a 40-year biodiversity monitoring program, working with the Natural England, the UK Environment Agency, Kent Wildlife Trust, and the Royal Society for the Protection of Birds. Ornithological surveys are being undertaken to monitor aquatic habitats used by target bird species, including marsh harrier and the breeding bird community and to demonstrate the efficacy of riparian and aquatic management of the ditches on the site.

The project secured planning prior to 2024 and does not need to prove a net gain in biodiversity. However, a baseline BNG assessment conducted by ecologists in 2019 estimated that the project would generate a 67% increase in biodiversity units. Statutory pricing published by DEFRA in February 2024 set the cost of a credit at between GBP 42,000 to 650,000 depending on habitat distinctiveness. This will serve to boost pricing in the off-site market, and therefore may represent significant return enhancements to infrastructure projects like Cleve Hill where substantial biodiversity work is planned.

Table 1: Select Biodiversity Initiatives at Cleve Hill.

Aquatic habitat creation and enhancement	• Creation of a new 355-metre ditch and 120 metres of riparian habitat within it to replace a lost ditch. • Construction of mammal/eel/elver friendly culverts. This will improve overall water levels and therefore biodiversity in the ditch system and its value to wildlife, including marsh harrier, eels/elver and water voles.
Reedbed habitat creation for nesting birds	• Creation of reedbed habitat (0.5 ha) to provide increased nesting habitat for species such as marsh harrier, bearded tit, reed warbler, sedge warbler, and reed bunting whilst also benefitting other invertebrates and birds.
Sheep grazing and wildflower land creation	• Grazing land to be created under solar panels to provide a grassland sward of greater ecological value. The grassland will be grazed by sheep on rotation, allowing wildflower plants throughout the plant growth season.
Grassland and terrestrial fauna habitat creation	• Establishing 50+ hectares of grassland to benefit overwintering brent geese, lapwing, and golden plover. • Creation of tussocky grassland to maximise biodiversity opportunities and habitat availability for marsh harrier, terrestrial invertebrates, small mammals, ground-nesting birds, and other foraging wildlife.
Planting trees, scrubs and hedgerows	• Planting of 3.63 km of native species hedgerows, containing 519 native species trees to create significant and seasonally varied (e.g., successional flowering) additional habitat. • >5.5 ha of native species trees and shrubs will be planted.
Treatment of invasive species	• Treatment of invasive duckweed to encourage improved retention of biodiversity.
Pollination	• The protection of areas to allow late flowering plants to seed in late September and ensure that pollinators such as the Shrill Carder Bee (a very rare bee species) will have available habitat.
Conversion of WW2 pillbox into bat habitat	• Pillbox to be converted, installing roost features, to be suitable for use by roosting and hibernating bats.
Wildflower meadow	• Native wildflower mix sowing around the PV arrays, enhancing soil fertility and providing nectar for invertebrates. • Includes cornflower, corn marigold, poppy, red campion, daisies, buttercups, wild carrot, cowslip, yellow rattle.
Clean water	• Throughout operation, solar PV modules may be cleaned with water. Detergents or abrasive products will not be used and run-off from cleaning would therefore be clean water.

Case Study: CEDG US Solar Pollinator and Agrivoltaic Projects

3 pollinator and wildflower regeneration sites

supporting local schools and farming communities in Illinois

Co-location of agrivoltaics

Sheep farming undertaken at Lincoln college

CEDG is a distributed solar platform located in Illinois, US, comprising 35 projects across schools, wastewater treatment plants, and colleges.

The schools benefit from co-located solar generation, and additional efficiencies and cost savings from behind-the-meter delivery of solar power as well as revenues for the schools through leasing of property to solar assets.

The projects provide a means for local communities to secure additional leasing of property, and a way of creating dual land usage, combining solar panels with pollinators, supporting local farmers and agriculture, and grazing animals.

The projects are expected to provide USD 5 million in community benefits, in addition to local solar teaching programs.

Case Study: Uskmouth Battery and Rewilding

Awarded Exemplary BREEAM Credit in 2023

in assessment for BNG delivery of dedicated habitat management

18%

biodiversity net gain target across ecology habitats

Uskmouth Project is a 230 MW battery energy storage project located on the site of two former coal-fired power stations, at the mouth of the River Usk in the south-east of Newport, Wales.

The site supports job regeneration in a region delegated Priority Category 1 in the UK's levelling up agenda.

The project planning has included extensive additional biodiversity requirements, driving biodiversity additionality well above planning and BNG requirements including:

- Native hedgerow and wildflower planting
- Creation of new water body to support local wildlife
- Enhancement of attenuation pond
- Installation of features including bat and bird boxes, compost, and grass snakes

TNFD Report

Purpose

The Natural Capital and Biodiversity Report discloses how Quinbrook incorporates nature into its investment and asset management responsibilities.

Quinbrook has adopted and aligned to the TNFD's recommendations. This report aims to provide information on Quinbrook's material nature-related impacts, dependencies, risks, and opportunities. Quinbrook has been a supporter of the Task Force for Climate-related Financial Disclosures (TCFD) since June 2019, and recently became an Early Adopter of TNFD in November 2023, following the initiative's launch in September of the same year.

ISSB

International Sustainability Standards

TCFD

Task Force for Climate-related Financial

Kunming-Montreal Global Biodiversity

ipbes

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem

ipcc

Intergovernmental Panel on Climate

NATURAL CAPITAL COALITION

Natural Capital Coalition

Alignment with Global Standards

Nature-related disclosures under TNFD are designed to integrate with financial institutions' existing reporting structure under TCFD, namely the four key pillars of governance, strategy, risk management, and metrics and targets.

In addition to TCFD, this report's TNFD disclosures also align with the GRI Standards and the International Sustainability Standards Board (ISSB) to enable integrated climate and nature-related reporting, replicating the four disclosure pillars and all 11 TCFD recommended disclosures, which have now been incorporated into the ISSB Standards and its global sustainability reporting baseline.

The Natural Capital and Biodiversity Report is aligned with the global policy goals and targets in the Kunming-Montreal Global Biodiversity Framework (GBF), including Target 15 on corporate reporting of nature-related risks, dependencies, and impacts.

The TNFD recommendations and disclosures herein leverage the best available science, including assessments of the IPBES and the climate science from the Intergovernmental Panel on Climate Change (IPCC).

Quinbrook's TNFD strategy evaluates its impacts and dependencies using impact and dependency pathways aligned with the Natural Capital Coalition's Natural Capital Protocol and Science-Based Targets for Nature.

Materiality

Quinbrook employs materiality as the basis for disclosure on nature-related topics.

In the Natural Capital and Biodiversity Report, and in periodic product-specific disclosures, Quinbrook seeks to provide its investors with material information on risk management and how dependencies and impacts on nature create risks and opportunities from a financial perspective, consistent with ISSB and TCFD.

Scope

The Natural Capital and Biodiversity Report covers the 12-month period from 1 January to 31 December 2023 and provides insights into Quinbrook's core strategy accelerating the energy transition, and the intersection between its climate-driven work and the natural world. This report is Quinbrook-wide, while product-specific nature-related data and risks will incorporated into regular fund reporting from 2024.

Quinbrook focuses on the sectors and geographies in which it invests and operates – namely the energy, infrastructure, and climate technologies sectors, and the UK, USA, and Australia.

.

Governance

Roles of the Board, Senior Management, and Beyond

Quinbrook has strong governance structures providing oversight of nature-related issues and broader sustainability factors, helping to drive alignment, action, and outcomes at all levels.

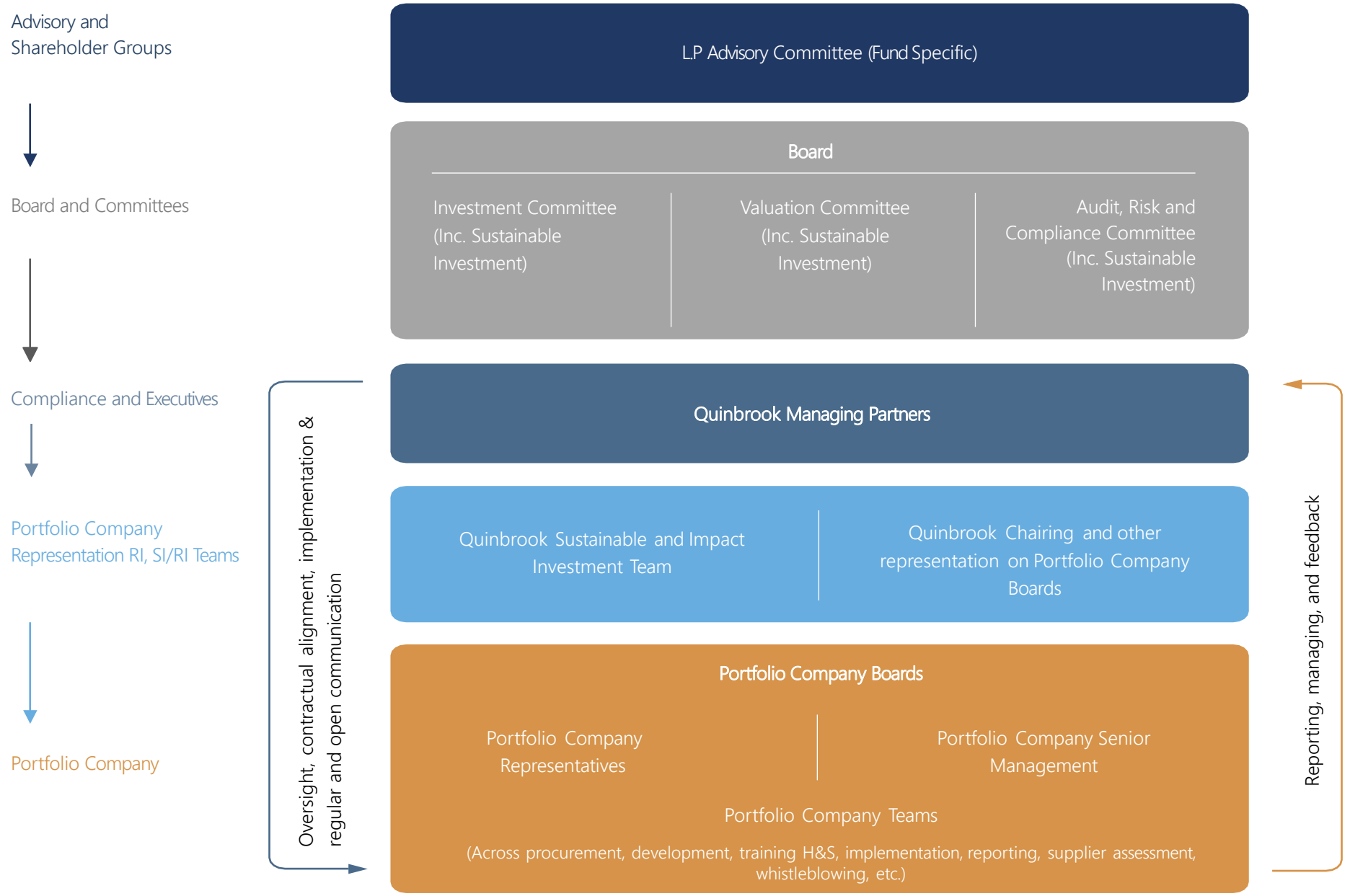
The Quinbrook Manager Board of Directors ("Board") is responsible for governing and overseeing the Company's strategy and associated nature-related risks and opportunities. The Board is supported by several other governance bodies with delegated authority including the Investment Committee, the Valuation Committee, and the Audit, Risk, and Compliance Committee. Quinbrook's governance bodies (the Board and its various committees) will discuss where relevant nature-related risks, impacts, dependencies, and opportunities as all investments (including requests for further capital expenditure at existing investee companies) are required to disclose and provide information for discussion and assessment on various nature-related issues. From the very first stages of the investment pre-screening process nature-related screening includes, but is not limited to, whether proposed investments:

- impact key biodiversity areas (KBAs);
- cause deforestation;
- contribute to soil degradation;
- emit hazardous emissions; and/or
- generate hazardous waste.

Quinbrook believes that both management and oversight of nature-related issues are necessary at all levels: from the Board and Investment Committee to individual investment and asset management team members, through to asset operational teams, and even to external contractors engaged on-site and in the selection of counterparties. Members of the Investment team and the Investment Committee incorporate environmental risk assessment and specific sustainable investment practices in due diligence investigations for each investment and drive key decision-making to mitigate potential downside risk and capture potential or upside risk. This assessment is continued by the asset management teams and portfolio company management following investment completion to ensure ongoing adherence.

Quinbrook control of and voting within portfolio company Boards and meetings ensure operational alignment with Quinbrook's sustainable investment policies, including on nature-related issues. Active management of nature-related risks, mitigation measures, and opportunities are core to Quinbrook's stewardship of portfolio companies.

Figure 3: Quinbrook's governance structure.



Engagement

Engagement on nature extends beyond Quinbrook and its portfolio companies to local communities, expert advisors, and industry peers and collaborative bodies.

Quinbrook seeks to work with research, industry, or other partners to promote information sharing, collaboration, and innovation related to nature impacts and dependencies. Through sponsorships and engagement programs Quinbrook will partner with selected organisations that are actively working to protect the environment and educate the community about environmental issues. From time to time, Quinbrook may also engage with government, regulator or policymakers through industry discussions, submissions, or policy discussions on environmental, social, governance, or other issues, either directly or through industry representatives. Teams undergo training to ensure that any engagement is aligned with Quinbrook's regulatory obligations, including the disclosure and pre-approval of any financial incentives, or political engagements or contributions. All engagement with policymakers and political groups must align with Quinbrook's overall sustainability, climate, societal, governance and compliance policies. Quinbrook's goal is to strive to contribute to the improvement of climate, environmental and social outcomes, and the quality of data available to the global investment market.

Communities, First Nations, and Social Impact

As a developer of green infrastructure, Quinbrook's investments unavoidably have a physical presence and impact on nature and the environment. Active engagement and cooperation with Indigenous Peoples and local communities are important ways that adverse impacts on nature, and other sustainability factors, are mitigated and monitored. Quinbrook recognises and values that Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities have unique knowledge and experience of local ecosystems and are valuable stakeholders to engage in mitigating nature loss.

Where Quinbrook projects are present in a geographic area with cultural heritage ties to Indigenous Peoples, Quinbrook will consult with the relevant stakeholders in order to protect and respect archaeological, paleontological, historical, cultural, artistic, and religious values, as well as on-site nature and biodiversity.

Portfolio companies have company-specific, formally adopted sustainability-related policies which cover indigenous engagement, inclusion, and consultation where located in regions with indigenous communities. Equally, like nature-related issues, disclosure of cultural heritage ties is required at the very first stages of the investment process, with direct oversight by Quinbrook's Board and Investment Committee.

Human Rights

Quinbrook has a publicly available Human Rights policy to provide guidance on its commitment to respecting human rights across its domestic and global operations as an investor, employer, and purchaser of goods and services.

Quinbrook recognises a responsibility to respect human rights under the United Nations Guiding Principles on Business and Human Rights, and its policy aligns with these principles. Quinbrook's governance structures have embedded robust processes to identify and mitigate all forms of slavery, forced or compulsory labour and child labour within Quinbrook, its investees, and their supply chains.

Quinbrook has an important role to play in investing in and fostering ethical business practices that help to eradicate modern slavery and protect human rights. More detail may be found in the dedicated policy available on Quinbrook's website.

Strategy

Quinbrook has both dependencies and impacts on nature, which both entail nature-related risks and opportunities. These four concepts are collectively referred to by the TNFD as nature-related issues, as described below.[5]

- Dependencies – of Quinbrook on nature;
- Impacts – on nature caused, or contributed to, by Quinbrook or its assets;
- Risks – to Quinbrook stemming from its dependencies and impacts; and
- Opportunities – for Quinbrook that benefit nature through positive impacts or mitigation of negative impacts on nature.

Quinbrook uses the TNFD's LEAP Framework – Locate, Evaluate, Assess and Prepare – to approach initial identification and management planning of its nature-related risks and opportunities.

TNFD LEAP – Locate

Business Footprint

Quinbrook's value chain extends up to the extraction and processing of metals, minerals, and raw materials including steel, aluminium, copper, and lithium; to transport; to the construction of facilities and sites; to downstream energy consumers; and end-of-life decommissioning.

Quinbrook will primarily focus on its interfaces with nature on-site at its projects, during all stages of asset life, from development and construction to operations and decommissioning. Due to materiality, Quinbrook's biodiversity efforts are focused on its infrastructure sites, rather than office locations of the Manager and its investees.

The Figure below shows Quinbrook's geographical presence as a business across its portfolios.

Nature Interface and Sector Identification

To assess its interface with nature, Quinbrook identified the ecosystems at site locations in its portfolio using the United States Geological Survey's (USGS) World Terrestrial Ecosystems Explorer (WTEE) tool.[6]

Table 2: Top 3 ecosystems in Quinbrook's portfolio, using USGS WTEE classification.

Top 3 Ecosystems in Quinbrook's Portfolio	
Cool Temperate Moist Settlement on Plains	33
Cool Temperate Moist Settlement on Hills	10
Cool Temperate Moist Cropland on Hills	10

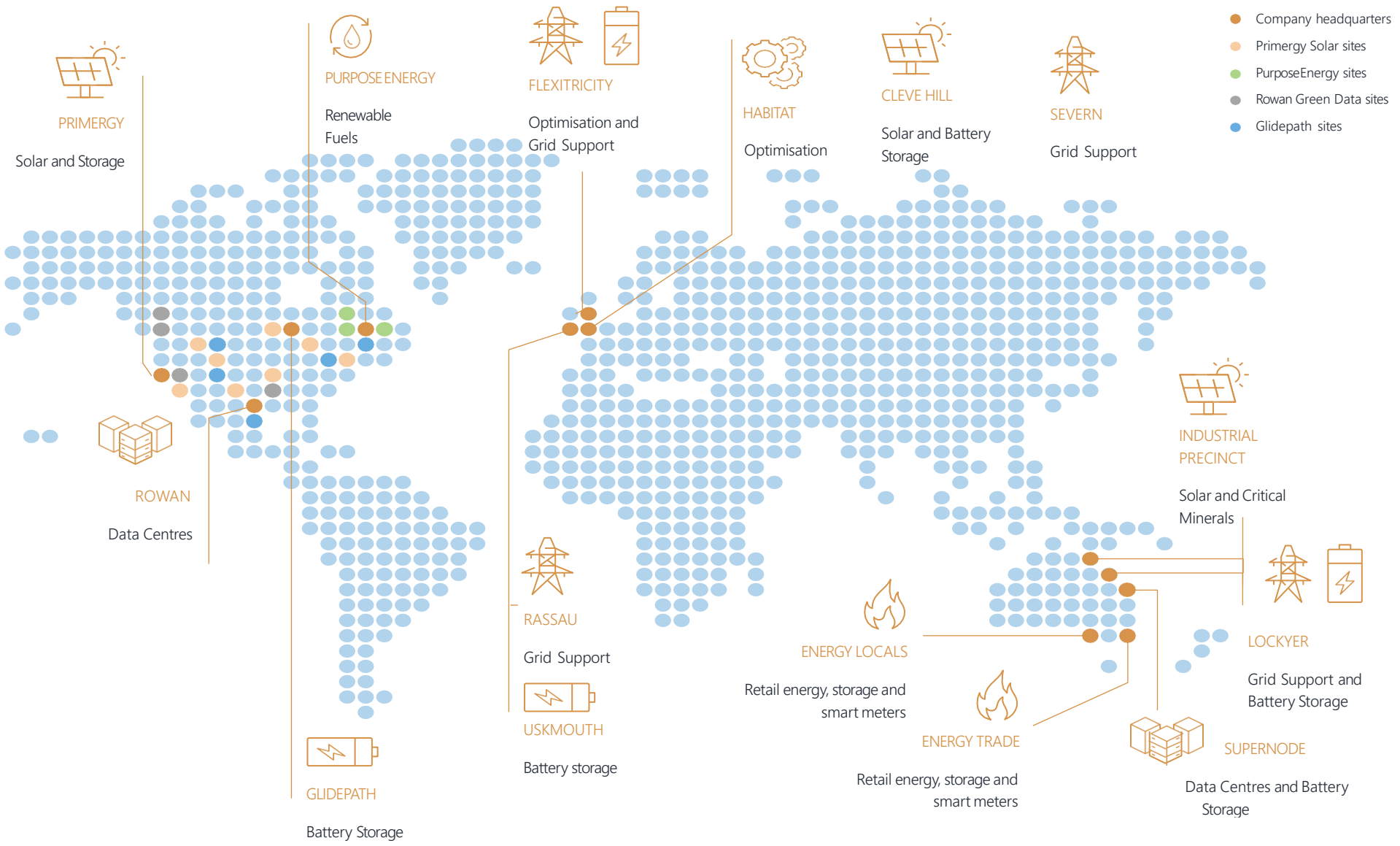
Portfolio companies and sites were also mapped to industry sectors based on Global Industry Classification Standard (GICS), but used the WWF Risk Filter's narrowed down list of 25 sectors as WWF notes that some broader GICS classifications (e.g., electric energy production) encounter distinct nature-related risks and therefore should be disaggregated for this analysis (e.g. into electric energy production from solar/wind, hydropower, combustion, etc.).[7]

The material sectors in Quinbrook's portfolio are:

- Electric Energy Production - Solar, Wind
- Electric Energy Production - Combustion (Biomass, Gas)
- Metals and Mining - Decarbonisation
- Land development and Construction – Data Centres

[5] TNFD, Recommendations of TNFD.
[6] United States Geological Survey (USGS) World Terrestrial Ecosystems Explorer.
[7] WWF Risk Filter https://riskfilter.org/biodiversity/home, and WWF Methodology explanation.

Figure 4: Location of Quinbrook portfolio companies and assets.



Note: Selected Quinbrook assets operating and under development.

Prioritising biodiversity impact across the portfolio

Quinbrook analysed its portfolio for nature and biodiversity-related risks and impacts using numerous public and private data sources, including the Integrated Biodiversity Assessment Tool (IBAT) and WWF's Biodiversity and Water Risk Filters. The following indicators were assessed:

WWF Biodiversity Risk Filter	WWF Water Risk Filter	Integrated Biodiversity Assessment Tool
Forest Productivity and Distance to Markets Flooding	Water Scarcity	Protected Areas
Limited Wild Flora and Fauna Availability	Flooding	Key Biodiversity Areas
Soil Condition	Water Quality	Rarity-Weighted Richness
Water Condition	Ecosystem Services	Species Threat Abatement
Air Condition		Species Restoration
Ecosystem Condition		
Pollination		
Landslides		
Fire Hazard		
Plant/Forest/Aquatic Pests and Diseases		
Herbicide Resistance		
Extreme Heat		
Tropical Cyclones		
Land, Freshwater and Sea Use Change		
Tree Cover Loss		
Invasives		
Pollution		

This analysis allowed Quinbrook to identify a priority list of sites with high nature-related risks and opportunities. Despite the analysis above representing 'double materiality' by assessing both the portfolio's exposure to nature-related risks and the impacts the portfolio could have on nature, Quinbrook based its priority list on sites with high potential impact on nature as all sites are required to go through robust risk evaluation as part of Quinbrook investment and asset management processes. This priority list will be used for mitigating nature-related impacts and positively enhancing biodiversity where possible.

The priority list was constructed based on three indicators and data from IBAT:[8]

1. Key Biodiversity Areas:

   Key Biodiversity Areas are "sites contributing significantly to the global persistence of biodiversity", in terrestrial, freshwater and marine ecosystems. Sites qualify as global KBAs if they meet one or more of 11 criteria, clustered into five categories: threatened biodiversity; geographically restricted biodiversity; ecological integrity; biological processes; and, irreplaceability. Databases searched through IBAT's screening include the Alliance for Zero Extinction Sites, and Important Bird and Biodiversity Areas.

2. Protected Areas:

   Protected areas designated or proposed at the national or sub-national level. As well as protected areas designated by Natura 2000, Ramsar, MAB, and UNESCO as natural World Heritage sites. The main database used is the World Database on Protected Areas (WDPA), the most comprehensive global database of marine and terrestrial protected areas, a joint project between UN Environment and the International Union for Conservation of Nature (IUCN).

3. Rarity-Weighted Richness:

   The rarity-weighted richness map indicates an area's contribution to the global distribution of species of mammals, birds, amphibians, crabs, crayfish, and shrimp. In areas with high Rarity-Weighted Richness (RWR) scores, loss of species' populations is of disproportionate significance in terms of loss of global biodiversity. Rarity-weighted richness is also known as 'range-size rarity' or 'range-rarity' and has been used as a metric of 'biodiversity significance'.

[8] IBAT https://www.ibat-alliance.org/?locale=en

When Quinbrook's portfolio was assessed against these indicators, 11 site locations were identified as having the potential for high impact on nature and biodiversity. A summary of the priority list is shown in the Table below.

Table 3: Quinbrook's High Priority List for Sites with High Potential for Nature-Related Impacts.

Site Name	Industry	Country	Lifecycle Stage	Ecosystem	Biodiversity Protection and Growth Initiatives	Key Biodiversity Area?	Protected Area?	Rarity-Weighted Richness
Site 1	Electric Energy Production - Solar	UK	Construction	Cool Temperate Moist Cropland on Plains	Yes	Yes	Yes	Medium
Site 2	Electric Energy Production – Peaking Gas	UK	Construction	Cool Temperate Moist Cropland on Plains	Yes	No	Yes	Medium
Site 3	Electric Energy Production - Solar	USA	Construction	Warm Temperate Moist Cropland on Plains	Yes	No	No	High
Site 4	Electric Energy Production - Solar	USA	Development	Warm Temperate Moist Cropland on Plains	Yes	No	No	High
Site 5	Industrial and Mineral Decarbonisation	AUS	Development	Sub-Tropical Dry Forest on Mountains	Yes	No	No	High
Site 6	Industrial and Minerals Decarbonisation	AUS	Development	Sub-Tropical Dry Shrubland on Plains	Yes	No	No	High
Site 7	Land development and Construction	USA	Development	Sub-Tropical Dry Cropland on Plains	Yes	No	No	High
Site 8	Land development and Construction	USA	Development	Cool Temperate Moist Forest on Mountains	Yes	No	No	High
Site 9	Electric Energy Production – BESS and Gas	AUS	Development	Sub-Tropical Dry Shrubland on Mountains	Yes	No	No	High
Site 10	Land development and Construction – Data Centres	AUS	Development	Sub-Tropical Moist Shrubland on Hills	Yes	No	No	High
Site 11	Electric Energy Production - Solar	USA	Development	Warm Temperate Dry Cropland on Hills	Yes	No	No	High

Dependency and Impact Pathways and Screening

Consistent with the Natural Capital Coalition's Natural Capital Protocol[9], Quinbrook's dependencies and impacts are identified and measured using dependency and impact pathways that consider:

a) impact drivers and external factors;
b) changes to the state of nature; and
c) changes to the availability of ecosystem services.

An impact pathway describes how, as a result of a specific business activity, a particular impact driver results in changes in natural capital and how these changes in natural capacity affect different stakeholders.

A dependency pathway shows how a particular business activity depends upon specific features of natural capital. It identifies how observed or potential changes in natural capital affect the costs and/or benefits of doing business.

Identifying Material Impact Drivers and Dependencies

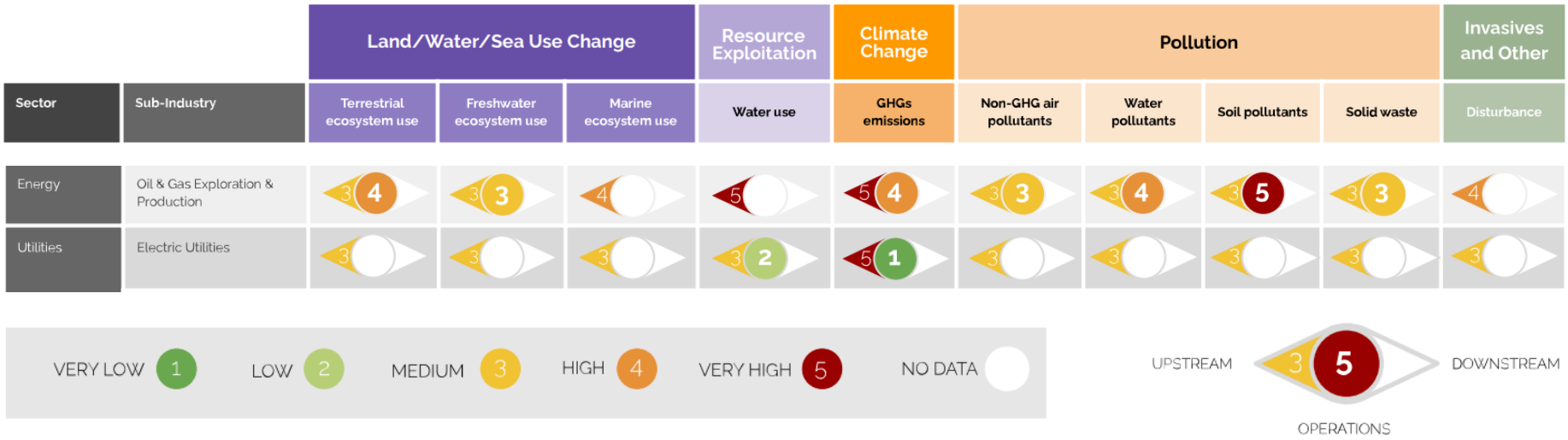
Quinbrook first undertook sector-level materiality assessment using ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure) and Science-Based Targets Network (SBTN). The results highlighted five dependencies for Quinbrook's sectoral exposures shown in the Table below, notably water dependency (albeit limited) and natural dependencies enabling the undisrupted operations of assets.[10]

Table 4: ENCORE dependencies for Quinbrook's sectoral and technological exposure.

		Solar	Electric power transmission and distribution	Wind
Direct physical inputs	Groundwater	Very Low	-	-
	Surface water	Very Low	-	-
Protection from disruption	Global climate regulation	Very High	Medium to High	Very High
	Flood and storm protection	Medium	Very High	Medium
	Mass stabilisation and erosion control	Medium	High	Medium

[9] Natural Capital Coalition, Natural Capital Protocol.
[10] ENCORE, https://www.encorenature.org/en.

Table 5: SBTN and ENCORE materiality ratings of companies' impacts on environmental issues for selected sectors. Source: SBTN.[11]



Following the sector-level materiality assessment using ENCORE and SBTN analysis and inputs, covering all of value chain (upstream, direct operations, and downstream), Quinbrook identified its most material impact drivers and dependencies by revising and refining sector-level estimates using company-specific information. In order to assess materiality, internal stakeholders were consulted, available internal data for the portfolio was studied, and external data and information sources were used to gauge the materiality to other stakeholders.

The table below summarises the most material dependencies and impact drivers for Quinbrook and its assets. In regular product-specific investor reporting, Quinbrook will measure impact drivers, changes in the state of natural capital, and calculate an estimated value of impacts and dependencies.

[11] SBTN, https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/11/Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf.

Table 6: Summary of Quinbrook's material dependencies and impact drivers.

	Business input / output	Category	Description / Example	Time Horizon
Dependencies	Consumptive	Energy	All Quinbrook's investments are dependent on nature to provide the natural resources for energy generation. For most assets, this dependence is direct. For example, Primergy Solar requires the sunlight to produce electricity and generate revenue. Non-generational assets are also indirectly dependent on nature for their energy consumption requirements. For example, Rassau, two synchronous condensers which provide stability to the UK grid, consumed 11.7 GWh of energy in 2022.	Long-term
	Consumptive	Water	Assets are dependent on water for operations. For example, Quinbrook's green data centre platform, Rowan, requires water to cool installed digital infrastructure.	Long-term
	Consumptive	Materials	As an investor primarily in the real asset sector, material use is almost ubiquitous in Quinbrook's investments. For example, steel is used in solar panels.	Long-term
	Consumptive	Land	Land dependency is true for the majority of Quinbrook's assets which require physical sites for their operations. For example, PurposeEnergy often co-locates its renewable fuels sites adjacent to its feedstock suppliers'.	Long-term
Impact Drivers	Input	Water use	Due to dependence on water, this also represents an impact driver to natural capital. Water use in water stressed areas may cause further depletion of stocks of natural capital and damage to ecosystems which also rely on water.	Long-term
	Input	Terrestrial ecosystem use	Land use can impact the natural capital of an ecosystem, both positively and negatively.	Long-term
	Output	GHG emissions	While the majority of Quinbrook's portfolio represents clean energy, there are some assets which directly emit scope 1 emissions, such as the UK portfolio of peaking natural gas plants, Velox (now incorporated into Flexitricity). Much of the portfolio also has associated scope 2 and 3 emissions, as well as avoided emissions due to its operations.	Medium-term
	Output	Soil quality	Quinbrook portfolio company PurposeEnergy promotes positive soil health as an output of its anaerobic digestion process is solid digestate which is applied to farms as a pesticide-free fertiliser.	Short-term
	Output	Solid waste	PurposeEnergy takes waste from industrial food and beverage processing facilities, often diverting waste from landfill or wastewater treatment sites, and converts it into clean energy, biogas, and digestate using anaerobic digestion.	Medium-term
	Output	Disturbances	Sites produce noise, dust, and light on-site, particularly during construction but sometimes also in operations. For example, trucking to and from Quinbrook's sites during construction phases will create noise on roads to the site.	Short-term

Nature-related Risks

Nature-related risks are potential threats posed to an organisation that arise from its and wider society's dependencies and impacts on nature. Relevant nature-related risks to Quinbrook include physical risks and transition risks.

Quinbrook recognises that nature-related risks and opportunities have financial effects for organisations. These may be direct through impact to revenues and costs or valuation of assets, as well as indirect through access to and cost of capital, for example. Due to the material financial effects that nature risks and opportunities present, Quinbrook actively identifies, monitors, and manages material nature-related risks and equally seeks to pursue identified nature-related opportunities.

The inclusion of physical risk considerations in Quinbrook's investment decisions has led to an assessment of low or heavily mitigated physical risk exposures. To manage and mitigate physical risks, Quinbrook regularly employs third-party expertise where necessary to assess and monitor sites. Assets are built to rigorous standards and consider the risk of extreme weather events in their design. Quinbrook is an active manager, working directly with portfolio company technical advisers, engineers and equipment procurement teams, biodiversity experts and others to implement nature and climate mitigation, resilience and adaptation solutions, or to better stress test forward looking climate risk outcomes and prepare assets for potential eventualities. As an investor who typically invests in projects at early stages, Quinbrook has extensive capability to better prepare assets for future risks and implement planning solutions upfront, seeking to reduce mid and long-term risks.

Nature-related physical and transition risks relevant to Quinbrook are shown here.

Figure 5: Nature-related physical risks.

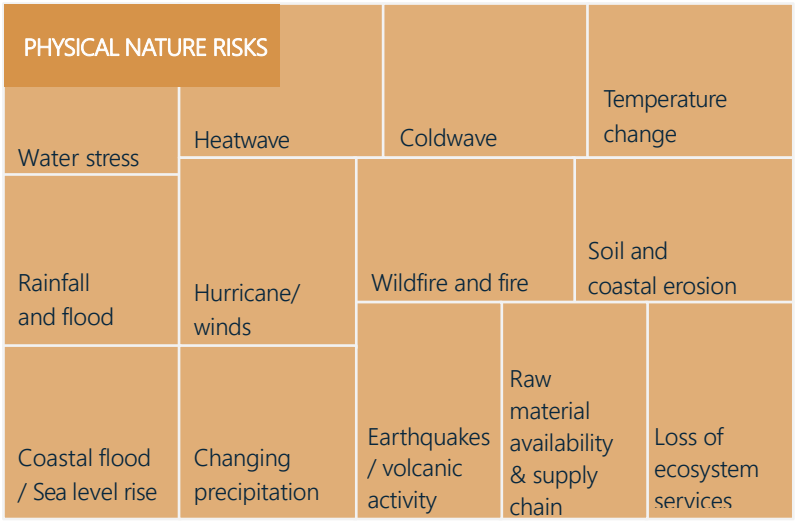


Table 7: Nature-related transition risks.

Risk	Description
Policy	Legislatures may introduce or amend existing policy in efforts to create positive impacts on nature or mitigate negative impacts on nature.
Market	The market value of assets may be affected by changes in natural capital where they represent dependencies.
Technology	Substitution of products or services with a reduced impact on nature and/or reduced dependency on nature.
Reputational	Changes in perception of the organisation's nature impacts, which may affect consumer demand, investor confidence, and business operations.

Nature-related Opportunities

Nature-related opportunities are activities that create positive outcomes for organisations and nature through positive impacts or mitigation of negative impacts on nature.[12] The table below sets out the primary nature-related opportunities identified by TNFD which are relevant to Quinbrook.

Table 8: Nature-related opportunities.

Opportunity	Description
Market	Changing consumer demands, investor sentiment, and government intervention spurs new markets for nature and biodiversity.
Resource efficiency	Avoiding or reducing impacts and dependencies on nature while achieving co-benefits such as improved operational efficiency or reduced costs.
Capital flow and financing	Access to capital markets, improved financing terms or financial products connected to positive nature impacts or the mitigation of negative impacts.
Reputational capital	Benefits arising from changes in perception concerning a company's nature impacts.
Ecosystem protection, restoration, and regeneration	Activities that support the protection, regeneration or restoration of habitats and ecosystems, including areas both within and outside the organisation's direct control.

Quinbrook aligns with the Science Based Targets Network (SBTN) Action Framework's (AR3T) mitigation hierarchy in responding to nature-related risks and opportunities.[13] This means that in responding to risks and opportunities, Quinbrook and its portfolio companies prioritise actions that avoid or minimise negative impacts on nature over restoration efforts or mitigation of existing damage through reconstructive or compensatory measures.

[12] TNFD, Recommendations of TNFD.
[13] SBTN, Step 4: Act. https://sciencebasedtargetsnetwork.org/how-it-works/act/

Risk Management

Quinbrook has designed and implemented a disciplined approach to incorporate transition and physical nature risk assessment into decision-making, valuations, operations, and strategy across initial investment processes and during ongoing stewardship and asset management. Nature-related risks are identified, assessed, and monitored within Quinbrook's direct operations, as well as in its upstream, downstream, and value chains.

Risks are continuously assessed and are prioritised by the scale of impact and the likelihood of occurrence. These risks are then managed through Quinbrook's overall risk management forums and processes, and are mitigated at the asset-level with the aim of supporting short and long-term value.

How Quinbrook's identifies, priorities, and monitors nature-related risks during the pre-investment, asset management and exit stages is displayed in the following Figure.

Figure 6: Biodiversity risk management process across asset life.

Pre-Investment Screening

- Positive impact, nature and biodiversity risk and strategy
- Screenings and exclusions
- Due diligence framework and SI financial sensitivity analysis
- IC: SI risk, capital protection and opportunity assessment

Asset Management

- Nature-related KPIs, structuring and contracting
- Long-term governance milestones and alignment
- Board representation, chairing and voting control
- Portfolio wide controls – including supply chains
- Day-to-day management and stewardship
- Sustainability reporting and valuation impact

Exit

- SI oversight of exit, market appetite and sale processes
- Demonstrated purchaser sustainable investment requirements

ACTIVE STEWARDSHIP

Metrics and Targets

TNFD LEAP - Prepare

Having completed the Locate, Evaluate, and Assess phases of the TNFD LEAP approach, Quinbrook is equipped with an assessment of material nature-related issues for its portfolio. Quinbrook has used this assessment to inform decision-making on how to respond to the issues identified.

As noted above, Quinbrook will respond to nature-related risks and opportunities in alignment with the SBTN AR3T mitigation hierarchy, prioritising actions that avoid or minimise negative impacts on nature. Quinbrook shall prioritise nature-related impact mitigation efforts at sites in the priority list.

Quinbrook will report against TNFD metrics and targets for its assets within its product-specific reporting from 2024. This reporting will cover the TNFD's core global and sector disclosure metrics. Reporting may be expanded in future to cover additional metrics.

While prior to becoming a TNFD Early Adopter, Quinbrook assessed nature and biodiversity risks throughout its investment processes (from investment pre-screening, through asset management, to exit), TNFD represents a step-change in Quinbrook upgrading the granularity and comprehensiveness of its nature-related data collection and reporting. As stipulated by TNFD, Quinbrook will report core global disclosures on a comply or explain basis, and where disclosures cannot be reported due to limitations with methodologies or access to data, Quinbrook will explain this and planned steps to enable future reporting. For certain metrics, Quinbrook will not have existing measurement and data collection processes in place and will have to establish these before reporting can occur. This is consistent with TNFD's stated expectations of financial institutions and their early-stage reporting. Targets will be set after establishing a baseline for these metrics. Quinbrook will not report on 'placeholder metrics' while TNFD defines measurement of these metrics.

Table 9: TNFD core global disclosures to be reported on in Quinbrook product-level reporting.

Metric no.	Driver of nature change	Indicator	Metric Description
C1.0	Land / freshwater / ocean use change	Total spatial footprint	Total spatial footprint (km^2) (sum of): • Total surface area controlled by QB (km^2) • Total disturbed area (km^2) • Total rehabilitated/restored area (km^2)
C1.1		Extent of land / freshwater / ocean use change	a) Extent of land / freshwater / ocean use change (km^2) by: • Type of ecosystem[14] • Type of business activity b) Extent of land / freshwater / ocean ecosystem conserved or restored (km^2), split by:

[14] Ecosystem types sourced from the USGS WTEE.

			• Voluntary • Required by law c) Extent of land / freshwater / ocean ecosystem that is sustainably managed (km^2) by: • Type of ecosystem • Type of business activity
C2.0	Pollution / pollution removal	Pollutants released to soil split by soil type	Pollutants released to soil (tonnes) by type.
C2.1		Wastewater discharged	Volume of water discharged (m^3) split into: • Total • Freshwater • Other[15] Include the concentrations of key pollutants in the wastewater discharged, by type of pollutant
C2.2		Waste generation and disposal	a) Weight of hazardous and non-hazardous waste generated by type (tonnes): b) Weight of hazardous and non-hazardous waste disposed of (tonnes), split into: • Waste incinerated (with and without energy recovery) • Waste sent to landfill • Other disposal methods c) Weight of hazardous and non-hazardous waste (tonnes) diverted from landfill, split into waste: • Reused • Recycled • Other
C2.3		Plastic pollution	Plastic footprint as measured by total weight (tonnes) of plastics (polymers, durable goods and packaging) used or sold broken down into the raw material content. For plastic packaging, percentage of plastics that is: • Re-usable • Compostable • Technically recyclable • Recyclable in practice and at scale
C2.4		Non-GHG air pollutants	Non-GHG air pollutants (tonnes) by type: • Particulate matter ($PM_{2.5}$ and/or PM_{10}) • Nitrogen oxides (NO_2, NO and NO_3)

[15] Freshwater: (≤1,000 mg/L Total Dissolved Solids). Other: (>1,000 mg/L Total Dissolved Solids). Reference: GRI (2018).

			• Volatile organic compounds (VOC or NMVOC) • Sulphur oxides (SO_2, SO, SO_3, SO_X) • Ammonia (NH_3)
C3.0	Resource use / replenishment	Water withdrawal and consumption from areas of water scarcity	Water withdrawal and consumption[16] (m^3) from areas of water scarcity, including identification of water source from categories below: • Surface water • Groundwater • Seawater • Produced water
C3.1		Quantity of high-risk natural commodities sourced from land / ocean / freshwater	Quantity of high-risk natural commodities[17] (tonnes) sourced from land/ocean/freshwater, split into types, including proportion of total natural commodities. Quantity of high-risk natural commodities (tonnes) sourced under a sustainable management plan or certification programme, including proportion of total high-risk natural commodities.
C7.0	Risk[18]	Value at risk (transition)	Value of assets, liabilities, revenue, and expenses that are assessed as vulnerable to nature-related transition risks (total and proportion of total).
C7.1		Value at risk (physical)	Value of assets, liabilities, revenue and expenses that are assessed as vulnerable to nature-related physical risks (total and proportion of total).
C7.2		Nature-related financial liabilities	Description and value of significant fines/penalties received/litigation action in the year due to negative nature-related impacts.
C7.3	Opportunity	Capital deployed	Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity, with reference to a government or regulator green investment taxonomy or third-party industry or NGO taxonomy, where relevant.
C7.4		Nature-positive Revenue	Increase and proportion of revenue from products and services producing demonstrable positive impacts on nature with a description of impacts.[19]

[16] Water consumption is equal to water withdrawal less water discharge. Reference: GRI (2018) GRI 303-5.
[17] Users should refer to the Science Based Targets Network (SBTN) High Impact Commodity List (HICL) and indicate what proportion of these commodities represent threatened and CITES listed species.
[18] Refer to the TNFD Glossary for the definition of vulnerable. Core global metrics C7.0 and C7.1 are connected to additional metrics A8.6 and A9.0 which ask for disclosure of exposure to nature-related risks. For organisations following the LEAP approach, exposure is determined in the Evaluate phase and connected to exposure to nature-related dependencies and impacts, whilst vulnerability is determined in the Assess phase, considering the likelihood of the risk arising and the organisation's ability to mitigate the risk.
[19] Positive impacts on nature refer to positive changes to the state of nature. They can be generated by both positive impact drivers and those that reduce negative impact drivers.

References

CITES-listed Species database - https://cites.org/eng/node/10288

Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE), Biodiversity module - https://www.encorenature.org/en

Global Forest Watch database - https://www.globalforestwatch.org/

Natural Capital Coalition, Natural Capital Protocol - https://naturalcapitalcoalition.org/wp-content/uploads/2018/05/NCC_Protocol_WEB_2016-07-12-1.pdf

Science-Based Targets for Nature (SBTN), Initial Guidance for Business - https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/11/Science-Based-Targets-for-Nature-Initial-Guidance-for-Business.pdf

Taskforce for Nature-related Financial Disclosures (TNFD), Draft sector guidance – Electric utilities and power generators https://tnfd.global/publication/draft-sector-guidance-electric-utilities-and-power-generators/#publication-content

TNFD, Guidance on the identification and assessment of nature-related issues: the LEAP approach - https://tnfd.global/publication/additional-guidance-on-assessment-of-nature-related-issues-the-leap-approach/

TNFD, Recommendations - https://tnfd.global/recommendations-of-the-tnfd/

United States Geological Survey (USGS), World Terrestrial Ecosystems Explorer - https://rmgsc.cr.usgs.gov/wtee/wtee.shtml

Integrated Biodiversity Assessment Tool (IBAT) - https://www.ibat-alliance.org/?locale=en

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) - https://www.ipbes.net/

International Union for Conservation of Nature (IUCN), Global Ecosystem Typology - https://global-ecosystems.org/

World Wildlife Fund (WWF), Risk Filter (Biodiversity and Water) - https://riskfilter.org/

WWF, Methodology Documentation - https://cdn.kettufy.io/prod-fra-1.kettufy.io/documents/riskfilter.org/BiodiversityRiskFilter_Methodology.pdf

Disclaimer

Quinbrook's focus on investment in the energy transition stems from its core area of expertise, long-term Founder focus and role as an asset manager and fiduciary. Investment is focused on client preferences and investment objectives, seeking to achieve risk-adjusted financial returns. Quinbrook considers relevant and material investment risks and opportunities when considering investments, including those arising from the transition to a low-carbon economy and related impacts on financial markets.

There is no guarantee that Quinbrook will successfully implement and make investments that create positive climate impacts while enhancing long-term value and achieving financial returns. The act of selecting and evaluating material factors is subjective by nature, and there is no guarantee that the criteria utilised or judgment exercised by Quinbrook will reflect the beliefs or values, internal policies or preferred practices of any particular limited partner or other asset managers or reflect market trends.

There can be no assurance that the material climate topics and data covered in this document is exhaustive and additional topics may be identified as material by Quinbrook on an investment-by-investment basis in the future.

This document contains forward-looking statements which are based on Quinbrook's current beliefs and expectations and are subject to substantial risks and uncertainties.

Forward-looking statements speak only as of the date on which they are made, and Quinbrook assumes no obligation to update or revise any forward-looking statements or other information contained herein, whether as a result of new information, future events or otherwise. Certain information contained herein relating to goals, targets, intentions, or expectations, including with respect to certain targets and related timelines, is subject to change, and no assurance can be given that such goals, targets, intentions, or expectations will be met. Further, statistics and metrics relating to climate, sustainability and impact matters may be estimates and subject to assumptions or developing standards (including Quinbrook's internal standards and policies).

Case studies presented herein have been selected in order to for illustrative purposes only. References to these particular portfolio companies should not be considered a recommendation of any particular security, investment, or portfolio company or be used as an indication of the current or future performance of Quinbrook's investments. Future investments may vary from those contained in this document. In gathering and reporting upon the information contained herein, Quinbrook may depend on data, analysis, or recommendations provided by its portfolio companies.