

Leveraging the *Roadmap to Nature Positive:*
Foundations for the built environment system

Examples from the built
environment industry:

→ *City Developments
Limited (CDL)*



**CITY
DEVELOPMENTS
LIMITED**



General introduction

WBCSD and its member companies have now launched the *Roadmap to Nature Positive: Examples from the built environment industry*. These cases explore how built-environment industry businesses are leveraging WBCSD's [Roadmap to Nature Positive: Foundations for the built environment system](#).

The *Roadmap Foundations* provide companies with a comprehensive step-by-step "how to" guide to taking credible, impactful nature action. It follows the underlying logic of key frameworks, including the [High-level Business Actions](#) on Nature to Assess, Commit, Transform and Disclose (**ACT-D**), the [Taskforce on Nature-related Financial Disclosure \(TNFD\) LEAP approach](#) (Locate, Evaluate, Assess, and Prepare) and the [Science Based Targets Network \(SBTN\) AR3T](#) (Avoid, Reduce, Restore & Regenerate, Transform) Action Framework.

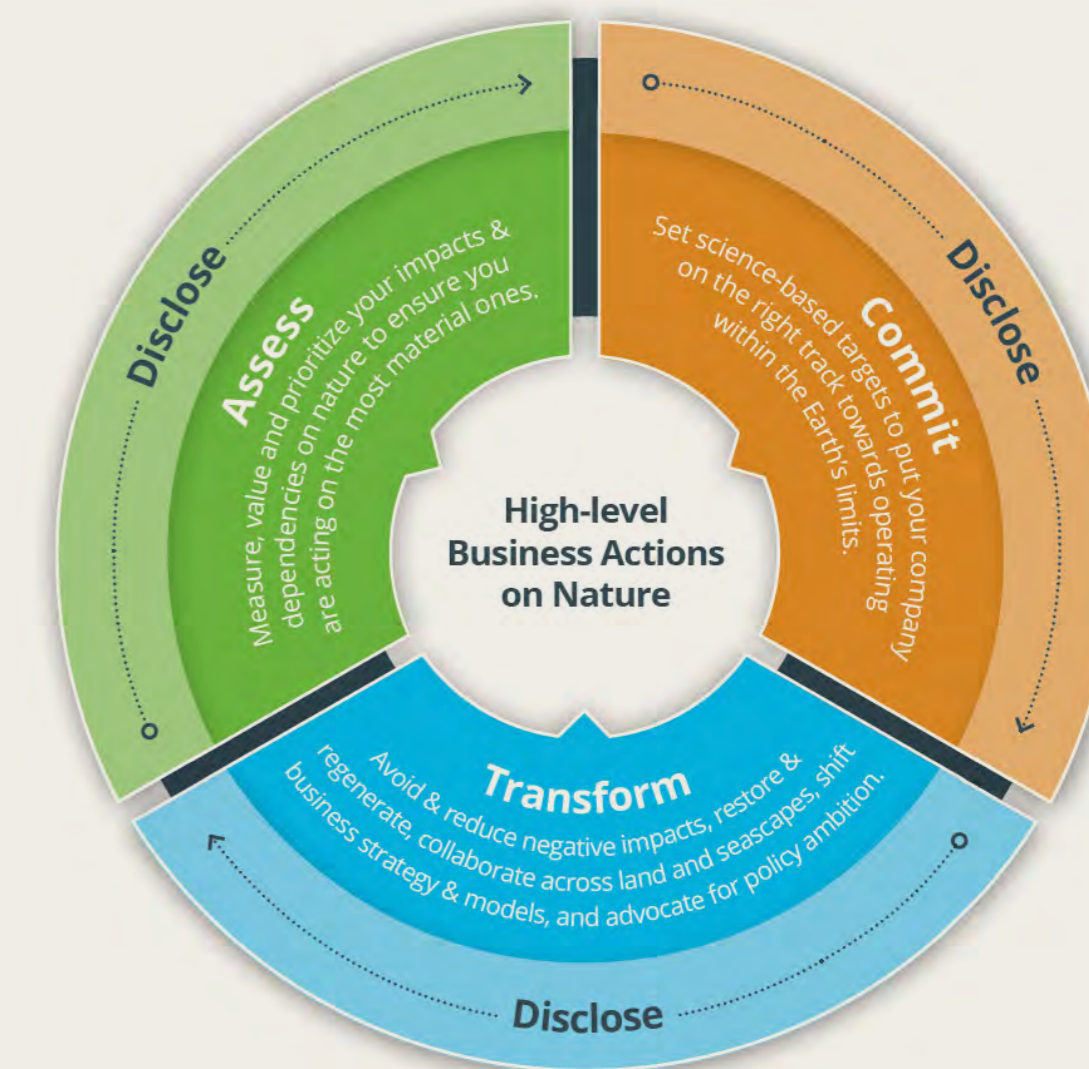
These industry examples serve as **practical illustrations that bridge the gap between theory and industry practice**. Building upon the Roadmap, they aim to show how companies in the built environment system are navigating their journey to nature action, offering

valuable insights into the **particular and specific challenges** that businesses encounter on this journey.

As each organization confronts a combination of unique and shared hurdles, it is important to openly share these experiences to foster collaboration among peers and support the development of effective solutions.

It is by making these lessons available and collaborating with peers to develop solutions that it is possible to reach the speed and scale needed to achieve the shared goal of halting and reversing nature loss by 2030.

Figure 1: ACT-D framework, SBTN



Source: Business for Nature (2022). [High-level Business Actions on Nature](#)

Built environment member: *City Developments Limited (CDL)*

Sector: Real estate

Value chain: Builders and suppliers

Company strategy & approach to nature positive

City Developments Limited (CDL) has adopted a climate-first strategy, recognizing the intrinsic link between a healthy planet and thriving people and businesses. Since 1995, CDL's ethos of *Conserving as We Construct* has driven its sustainability efforts. The company's nature-positive strategy acknowledges the significant impact businesses have on nature and biodiversity. CDL aims to mitigate nature-related risks by contributing to ecosystem conservation and restoration, thereby creating opportunities for sustainable growth within planetary limits.

The CDL [Future Value 2030 Sustainability Blueprint](#) (FV2030) launched in 2017, sets out the company's strategic environmental, social and governance (ESG) goals with corresponding 2030 targets. Key metrics include carbon emissions, embodied carbon, energy and water use and waste management published in its quarterly reports and [Integrated Sustainability Report 2024](#).

CDL bolsters its commitment to nature-positivity by its early adoption of the Taskforce on Nature-related

Financial Disclosures (TNFD) Discussion paper on Draft sector metrics and alignment with International Sustainability Standards Board (ISSB) inaugural standards IFRS S1 and IFRS S2 (starting from FY2025) and the World Economic Forum's nature and climate pillars. As the first Singaporean company to adopt TNFD recommendations in 2024, CDL improves its ability to identify and disclose nature-related dependencies, risks and opportunities.

Embracing TNFD recommendations strengthens CDL's commitment to a purpose-driven, resilient triple bottom line benefiting both the planet and its people. The company integrates biodiversity into its targets, policies and procurement processes, setting sustainable sourcing targets in line with its biodiversity and green building policies.



Built environment member: CDL
continued

CDL's value creation model, based on the ethos of *Conserving as We Construct* since 1995, integrates its roles as a developer, asset owner and corporate citizen to create lasting value for its business and stakeholders. The model leverages six capitals – financial, intellectual, natural, manufactured, human and social, and relationships – and aligns its operations and sustainability efforts with 15 of 17 of the United Nations Sustainable Development Goals (SDGs).

Rationale for the company to start the nature journey:

→ **Recognition of the nature crisis and alignment with the Global Biodiversity Framework (GBF)**

CDL's commitment to addressing nature loss and climate change drives its nature-focused initiatives. Along with the Paris Agreement's climate targets and **Target 15** of the Convention on Biological Diversity's **Global Biodiversity Framework (GBF)**, CDL believes that integrated action on nature and climate can positively impact its business and the broader community.

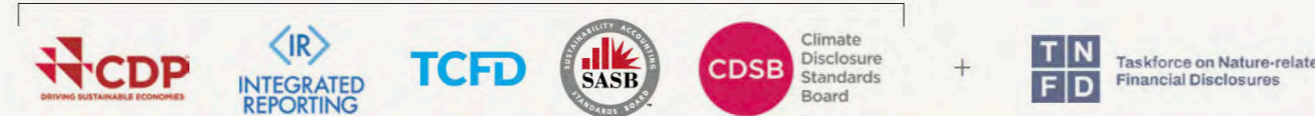
→ **Reliance on natural capital**

CDL acknowledges its significant reliance on natural capital, especially water, which is vital for its operations and supply chains. This dependence exposes the company to considerable nature-related physical risks, highlighting the need to understand and address these impacts, risks and opportunities.

Figure 2: Enhancing value and impact on CDL's established triple bottom line (2024)



Impact **GRI** Since 2008 + **ISSB** Value



Since 2005 2013 2016 2018 2010 2015 2017 2020 2021 2023

Built environment member: CDL
continued



Alignment with nature frameworks

Over the past three decades, CDL has actively aligned with additional global frameworks:

- **GRI 304: Biodiversity** (2016), **ISSB Standards** (ongoing from FY2024) and the five pillars of the **World Economic Forum Centre for Nature and Climate**
- **Target 15** of the **Global Biodiversity Framework** (GBF)
- **Natural Capital Protocol Framework**
- 2023 CDP **A listed companies for water security**, the fifth consecutive year it has received an A score

See pages 58 – 60 of CDL's **Integrated Sustainability Report 2024** to learn more about how the company supports international industry best practices and ESG commitments to uphold strong corporate governance, conduct business with integrity and accelerate climate action in its operations and supply chain

Built environment member: CDL
continued

Stage 1 in the Roadmap to Nature Positive – Assess

This section describes how the company assesses nature-related dependencies, impacts, risks and opportunities (DIROs).

CDL integrates nature and biodiversity into its business and sustainability strategies. Its third climate change scenario study, completed in December 2022 and incorporating TNFD recommendations, has provided the company with valuable insights into the connections between nature-related impacts, climate change and actionable measures. Focusing on its top five markets and hotel operations, CDL recognizes the significant influence nature and climate have on its business. The company plans to conduct a dedicated nature scenario study to gain a deeper understanding of its nature-related dependencies, impacts, risks and opportunities.

Since 2010, CDL has also conducted voluntary biodiversity impact assessments (BIAs) on greenfield sites located within or adjacent to natural habitats before construction to implement environmental mitigation measures. In 2016, the company expanded its efforts with an environmental impact assessment (EIA) for the Forest Woods residential project. These early assessments allowed CDL to monitor its impact on nature and biodiversity and have enabled the company to ensure no sites are near protected areas, indicating no significant biodiversity risks by 2023.

As an early adopter of TNFD, CDL released its first TNFD report in its [Integrated Sustainability Report 2024](#), under the title *Zero in on Nature*. Using the [Xylo Systems](#) artificial intelligence (AI) platform, the company assessed a project area of 238,161 m² comprising new and existing wholly owned assets and developments under CDL's direct operational and management control in Singapore as a pilot to understand the company's biodiversity footprint. The findings revealed a high biodiversity index – 0.86 – and low species extinction rates, with human disturbance identified as a key factor in species decline. This approach streamlined biodiversity data, improved target tracking and enhanced stakeholder communication. In addition, the company also leveraged the [ENCORE](#) tool and findings from its 3rd Climate Change Scenario Study to gain insights into its nature-related dependencies, impacts and risks, guiding strategic mitigation measures.

Impacts and dependencies

Nature-related impacts

1. Significant air pollution and carbon emissions from the built sector, including transportation services and/or electricity generation.
2. Water pollution through improper wastewater discharge.
3. Soil pollution through improper waste disposal.
4. Noise pollution from properties near sensitive ecological habitats.

5. Natural resource depletion, natural habitat loss or fragmentation resulting from property developments and operations.

Nature-related dependencies

1. Provisioning service

- Developing new buildings requires raw materials, ranging from timber to steel. The stability and sustainability of the supply and production of such materials have a direct impact on the company's core business operations.
- Water remains a crucial natural resource. Its core activities are water-intensive and highly dependent on a reliable water supply.

2. Regulating service

- An increased likelihood of extreme weather events resulting from climate change may affect water flow and purification, flood control, carbon storage and climate regulation (reducing the effectiveness of ecosystem regulating services). The company also captures these as part of its physical risks.

3. Cultural service

- Extreme weather events caused by climate change may damage the recreational or aesthetic value of tourism areas or hinder eco-tourism translates into a loss in revenue.

Built environment member: CDL
continued

Turning risks into opportunities

Water management

Managing its water supply is critical as CDL's core activities are water-intensive and highly dependent on a reliable water supply. In Singapore, it is increasingly more expensive to produce and supply water. Projected pricing hikes will be introduced in April 2024 and 2025. Due to climate change, more investment is also required in local water infrastructure to prepare Singapore for drier days ahead.

→ CDL adopts a holistic approach to maintaining and enhancing the efficiency, resilience, desirability and value of its assets with sound water management practices. This allows it to deliver a reliable supply of water and cost savings to the company's homeowners and tenants. Within CDL's managed buildings, the company draws potable and NEWater (for non-potable use) from the Public Utilities Board (PUB) utility network for building operations and maintenance activities. To reduce reliance on potable water, the company uses NEWater from Singapore for its operations where possible. For commercial buildings, it uses water for cooling towers, toilets, pantries, water features, irrigation and washing activities.

- The company designs its developments with a life-cycle approach to water sustainability, from construction to daily operations and through water conservation and rainwater harvesting, where feasible. CDL has set reduction of water use intensity targets under its Future Value 2030 Goals and is on track (see pages 41 – 44 in its [Integrated Sustainability Report 2024](#)).
- CDL monitors water consumption monthly and annually to detect any anomalies in water use that may require attention and identify buildings that may be heavy water consumers. To date, PUB has certified 10 out of 11 of the company's managed buildings as Water Efficient Buildings for outstanding water conservation efforts.

Supply chain engagement

CDL assesses risks in its supply chain through regular engagement with suppliers to procure sustainably sourced and safe building materials, ensuring fair labor and human rights practices for workers and providing healthy buildings for building occupiers.



Built environment member: CDL
continued

Stages 2 & 3 in the Roadmap to Nature Positive – Commit & Transform

This section illustrates how the company, after identifying the material DIROs, is implementing practical and concrete actions, setting its commitments and improving its nature-related strategy.

Commitments

- In 2018, CDL established greenhouse gas reduction targets, validated by the Science Based Targets initiative (SBTi), based on a 2°C warming scenario. In 2021, the company revised these targets to align with a more ambitious 1.5°C warming scenario. CDL also committed to the World Green Building Council (WorldGBC) **Net Zero Carbon Buildings pledge** in 2021, aiming for net-zero operational carbon by 2030 in its wholly-owned assets under its direct operational and management control and further expanded its commitment to cover whole-life carbon emissions, including maximum reductions in embodied carbon of new developments and major renovations where it has direct control, as well as compensation of all residual upfront emissions. In 2022, CDL updated its 2030 targets after the successful validation of its carbon reduction targets by SBTi. The company submitted its interim progress report to the WorldGBC in 2023.
- CDL has implemented various sustainability initiatives, including a **Biodiversity Policy** in 2020, sustainable procurement practices since 2008, a **Sustainable Finance Framework** since 2019 and

the CDL **Sustainable Investment Principles (SIP)** to guide responsible capital allocation. Additionally, the company became a signatory to the **UN Principles for Responsible Investment (UNPRI)** in 2021.

- The company plans to enhance its TNFD reporting to fully align with TNFD recommendations in future disclosures. Additionally, it is dedicated to integrating SBTN targets and adhering to the latest **GRI 101: Biodiversity 2024 standard** in upcoming reporting cycles.
- CDL has implemented sustainable procurement guidelines since 2008, including Responsible Procurement Guidelines and Green Procurement Guidelines since 2009. These guidelines encourage eco-friendly and recycled materials certified by approved local certification bodies.
- In 2021, CDL updated its Smart, Sustainable, Super Low Energy (3S) Green Building Framework to align with the latest **Building and Construction Authority (BCA) Green Mark 2021**, focusing on net-zero targets. These green procurement guidelines indicate a preference for **ISO 14001**, **ISO 45001** and the Workplace Safety and Health Council **bizSAFE Level 3** certified suppliers/vendors. CDL's target is to ensure that 100% of its appointed suppliers receive recognized and certified **EHS standards** by 2030.



Built environment member: CDL
continued

Actions on nature

Avoid/reduce

Water management

- In 2023, CDL conducted a Smart Water Valve system pilot at City Square Mall, effectively reducing water costs by 12% annually. The company partners with PUB for Singapore World Water Day, engaging corporate staff, tenants and the public in water conservation efforts through the [Make Every Drop Count campaign](#).
- The company engages its tenants and homebuyers through initiatives such as its *Green Lease Partnership Programme* and *Green Living Guide*. These initiatives promote good water conservation practices that complement the company's water-efficient design and features in buildings.
- At the Grand Copthorne Waterfront, Singapore introduced in-room filtered water through water dispensers during its retrofitting works. This eliminates PET-bottled water for guests, reducing single-use plastics by 98%, equivalent to 400,000 plastic bottles annually. CDL's hospitality arm, Millennium and Copthorne, spearheads this initiative, which aims to eradicate single-use plastics from its operations by 2025.

Waste generation and wastewater management

- CDL prioritizes waste reduction through investment in innovative technologies like [Prefabricated Prefinished Volumetric Construction](#) (PPVC), a construction method of three-dimensional modules fabricated off-site, minimizing dust and pollution.
- In 2023, constructions at all active construction sites amounted to 1,694 metric tons of waste, with a waste intensity of 15.7 kg/m², lower than that in 2022 due to increased constructed gross floor area (GFA). Its objective is to cap the waste intensity from its construction sites at 40 kg/m² by 2030.
- The company collaborates with National Environment Agency (NEA)-licensed vendors to collect, treat and recycle waste from its properties and construction projects.
- CDL applies a circular economy approach to materials it uses for development projects. To close the waste loop, it uses recycled construction materials, such as recycled steel and concrete, wherever applicable.
- The company strictly regulates the discharge of wastewater into public systems, ensuring compliance with legal limits to protect surrounding ecosystems and human health. The company works closely with all contractors to track the quality of water discharged into public sewerage and drainage systems.

- The company is on track to achieving its [Future Value 2030 goals](#) to reduce waste intensity for office and industrial, retail and corporate offices (see pages 41 – 46 and pages 99-100 of CDL's [Integrated Sustainability Report 2024](#) for more details).

Built environment member: CDL
continued

Restore/regenerate/transform

CDL has been exploring new frontiers in how it designs, constructs and manages its properties, applying new solutions and technologies to accelerate change in harmony with nature.

- The **Tree House** condominium, developed in 2014, has 77% of its site area dedicated to landscaping, earning a Guinness World Record for its vertical garden.
- In the past year, the company has intensified innovative and viable green building technology and decarbonization solutions. For instance, at Irwell Hill Residences, the company initiated the **CarbonCure** concrete that embeds recycled carbon dioxide in fresh concrete to create sustainable concrete without compromising performance.
- CDL has also been transitioning to **electronically commutative** (EC) fans for improved energy efficiency in its local assets.



Tree House, Singapore

Built environment member: CDL
continued

Advancing sustainable communities through engagement and education

- **CDL Green Gallery**, launched in 2013 in cooperation with the Singapore Botanic Gardens Heritage Museum, has reached 390,000 visitors through 21 free exhibitions highlighting Singapore's greening efforts to promote the climate and nature agenda.
- The **Singapore Sustainability Academy (SSA)** is a collaborative effort between CDL, six government agencies and 15 industry and NGO partners. The partners inaugurated this groundbreaking zero-energy facility as a hub for capacity building and thought leadership on climate action and the Sustainable Development Goals. In 2023, it facilitated over 190 events, engaging over 5,600 participants from various sectors.
- CDL involves tenants and homebuyers in sustainable practices through initiatives like the Green Lease Partnership Programme and Green Living Guide. These efforts aim to encourage low-carbon practices and provide eco-friendly tips for a sustainable lifestyle, promoting positive interactions with nature and fostering sustainable behavior.

CDL Green Gallery, Singapore



Built environment member: CDL
continued

PROJECT EXAMPLE

Amber Park

One of the company's latest residential property developments – **Amber Park** – has dedicated 65% of the overall site area to landscape and facilities, with almost 100% for Level 1 and 22. In addition to setting aside a large proportion of its overall site area towards nature-related functions, the site also displays biophilic design of this property incorporating nature-based solutions featuring a lush garden, a forest trail and a collection of plant species indigenous to the tropics, as well as the use of native plant species for extensive yet sustainable landscaping.

The residential property development also features a 32,507 sq. foot sea-view rooftop recreational deck with a 600 m jogging track connecting the green roof gardens of 3 blocks of 22 levels at 235 ft above sea level, including a yoga deck and a gymnasium, which adds to the incorporation of active green spaces available on the property. It has made the residential running track/jogging path on the property from recycled shoes as its base material. In line with the efforts to reduce waste, there is the provision of recycling bins separating paper, glass and plastic at every residential block.

Amber Park also houses a siphonic rainwater discharge system on the roof to collect the harvested rainwater for reuse in the major landscape areas as water-efficient irrigation. In terms of material selection, CDL has chosen environmentally-friendly construction materials certified by the **Singapore Green Labelling Scheme** as well as low-volatile organic compound paints on the internal walls, which provides healthier indoor air quality for residents.



Built environment member: CDL
continued

Stage 4 in the Roadmap to Nature Positive - Disclose

This section illustrates how the company is currently disclosing and planning to disclose, including any relevant disclosure requirements it aligns with.

- CDL continues to score well on 14 Global ESG rankings and ratings through robust reporting and disclosures.
- Since 2017, the company has been reporting according to **GRI 304: Biodiversity 2016**.
- CDL has achieved the ranking of the top real estate company from 2020 to 2024 and the 22nd most sustainable corporation globally in 2024.
- The company has maintained AAA status since 2010 on the **MSCI ESG Ratings**.
- CDL is the only company in Singapore to achieve Double A status for climate change (since 2018) and water security (since 2019) and the only company in Southeast Asia and Hong Kong to remain on the CDP A List for six consecutive years.
- The S&P Dow Jones Sustainability Asia Pacific Index has listed the company since 2011.
- CDL is the first Singapore company to publish TNFD-aligned disclosures in its **Integrated Sustainability Report 2024**.



Built environment member: CDL
continued

Key challenges & lessons learned

Embracing global frameworks – Strengthening CDL's approach to nature-related risks and opportunities

- CDL's alignment with global frameworks and its reporting approach since 2015 has enabled it to better assess and manage nature-related risks and opportunities, including water use, biodiversity loss, waste and resources.
- The company's quarterly tracking facilitates the proactive implementation of solutions, aiding in achieving its 2030 targets amid increasing investor and consumer activism and stricter regulations.
- Over nearly three decades, CDL has embedded sustainability into its operations, believing long-term success surpasses short-term profits. This approach enhances resilience, future-proofs businesses and ensures long-term financial success.

Enhancing business resilience – expanding tools for calculating nature impact

- CDL aims to use more resources and tools to calculate the impact on nature to strengthen its business resilience and prevent further location-specific biodiversity loss.

Learning from TNFD – addressing gaps and refining processes for better reporting

- Due to the recent introduction of TNFD, the company has limited benchmarks, particularly in the real estate sector, as a reference. Drawing from the reporting experience with the Task Force on Climate-related Financial Disclosures (TCFD), CDL has reported based on the metrics most relevant to its businesses' disclosure dependencies, impacts, risks and opportunities. TNFD's guidelines and LEAP approach have identified business gaps, prompting the implementation of new processes to refine over time in collaboration with other business units.

Outcomes & benefits

- CDL's adoption of TNFD enhances its operational purpose, fostering a robust triple bottom line that benefits the planet and its people. This move builds on TCFD recommendations, strengthening its capacity to address nature-related issues. The adoption complements CDL's proactive ESG disclosure efforts.
- Understanding the TNFD framework provides the company with a comprehensive view of its environmental impact, encompassing climate and nature-related risks, facilitating informed decision-making for sustainability.

- The measurement and management of biodiversity impacts offer invaluable insights into the complex interactions between CDL's operations and the natural environment, underscoring the integration of sustainability risks as business risks.



Sustainability Academy, Singapore

Acknowledgements

Disclaimer

This document showcases a practical example of a corporate approach to building a nature strategy for the built environment sector. The primary intention is to offer a real-life case illustrating how an industry player is undertaking their nature journey and implementing the WBCSD *Roadmap to Nature Positive: Foundations for the built environment system*.

The example does not prescribe a one-size-fits-all approach. Each case depicted is specific to the context of the respective company and may not be directly applicable to all situations. Given the evolving nature of sustainability practices, it is advisable to continuously review and update strategies in line with emerging industry standards, regulatory changes and evolving best practices.

Acknowledgements

This publication has been written by CDL in collaboration with WBCSD and represents CDL's perspective and position. This publication is not a disclosure document. The report has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax, legal or other professional advice.

This publication is a complementary resource of WBCSD's **Roadmap to Nature Positive: Foundations for the Built environment system** guidance.

About WBCSD

The World Business Council for Sustainable Development (WBCSD) is a global community of over 220 of the world's leading businesses, representing a combined revenue of more than USD \$8.5 trillion and 19 million employees. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature and tackle inequality.

We accelerate value chain transformation across key sectors and reshape the financial system to reward sustainable leadership and action through a lower cost of capital. Through the exchange of best practices, improving performance, accessing education, forming partnerships, and shaping the policy agenda, we drive progress in businesses and sharpen the accountability of their performance.

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