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Finance Guidelines

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Abbreviations and acronyms

ASI	Aluminium Stewardship Initiative
BIM	Building Information Modelling
BSI	British Standards Institution
C2C	Cradle to Cradle Certified
CBC	Circular Buildings Coalition
CDW	construction and demolition waste
CELC	Circular Economy Leadership Canada
CEN	European Committee for Standardization
CLT	cross-laminated timber
CPR	Construction Products Regulation (European Union)
CSC	Concrete Sustainability Council
CTI	Circular Transition Indicators (WBCSD)
DfD	design for disassembly
DFI	development finance institution
DIN	Deutsches Institut für Normung (Germany)
DNSH	do no significant harm
DPP	digital product passport
EBRD	European Bank for Reconstruction and Development
EFRAG	European Financial Reporting Advisory Group
EMF	Ellen MacArthur Foundation
EN	European Norm (CEN standards)
ENCORE	Exploring Natural Capital Opportunities, Risks and Exposure (UNEP-WCMC and UNEP FI)
EPBD	Energy Performance of Buildings Directive (European Union)
EPC	Energy Performance Certificate
EPA	Environmental Protection Agency (United States)
EPD	environmental product declaration
EPR	Extended Producer Responsibility
ESPR	Ecodesign for Sustainable Products Regulation (European Union)
ESRS	European Sustainability Reporting Standards
FPIC	free, prior and informed consent
FSC	Forest Stewardship Council
GBF	Global Biodiversity Framework (Kunming-Montreal)
GFC	Global Framework on Chemicals
GHG	greenhouse gas
GlobalABC	Global Alliance for Buildings and Construction (UNEP)
GRI	Global Reporting Initiative

HBCD	hexabromocyclododecane
ICCM5	fifth International Conference on Chemicals Management
ICMA	International Capital Market Association
ICOMOS	International Council on Monuments and Sites
IDB	Inter-American Development Bank
IEC	International Electrotechnical Commission
IFC	International Finance Corporation (World Bank Group)
ILO	International Labour Organization
IRP	International Resource Panel (UNEP)
ISAE	International Standard on Assurance Engagements
ISIC	International Standard Industrial Classification (UN)
ISO	International Organization for Standardization
ISSB	International Sustainability Standards Board (IFRS Foundation)
KPI	key performance indicator
LCA	life cycle assessment
LEAP	Locate, Evaluate, Assess, Prepare (TNFD framework)
LMA	Loan Market Association
MAS	Monetary Authority of Singapore
MEP	mechanical, electrical and plumbing
MRF	material recovery facility
MRV	monitoring, reporting and verification
MSME	micro-, small and medium enterprise
MSS	minimum social safeguards
NACE	Nomenclature statistique des activités économiques dans la Communauté européenne
NDC	Nationally Determined Contributions
OECD	Organisation for Economic Co-operation and Development
OHS	occupational health and safety
OSHA	Occupational Safety and Health Administration (United States)
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCRA	physical climate risk assessment
PEFC	Programme for the Endorsement of Forest Certification
PEFCR	Product Environmental Footprint Category Rules (European Commission)
PFAS	per- and polyfluoroalkyl substances
PPE	personal protective equipment
PRB	Principles for Responsible Banking (UNEP FI)
RCA	recycled concrete aggregate
RE2020	Réglementation Environnementale 2020 (France)
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (European Union)
SBTi	Science Based Targets initiative
SBTN	Science Based Targets Network
SDGs	Sustainable Development Goals (United Nations)
SLB	sustainability-linked bonds

SLL	sustainability-linked loans
SME	small and medium enterprise
SPT	sustainability performance target
SVHC	substance of very high concern
TCEP	tris(2-chloroethyl) phosphate
TCFD	Task Force on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
TSB	Taxonomia Sustentável Brasileira (Brazil Sustainable Taxonomy)
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNEP FI	United Nations Environment Programme Finance Initiative
UNGP	United Nations Guiding Principles on Business and Human Rights
UNOPS	United Nations Office for Project Services
UNSPSC	United Nations Standard Products and Services Code
VOC	volatile organic compound
WBCSD	World Business Council for Sustainable Development
WEF	World Economic Forum
WHO	World Health Organization
WorldGBC	World Green Building Council
WRAP	Waste and Resources Action Programme (United Kingdom)
WRI	World Resources Institute
WWF	World Wide Fund for Nature

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Executive summary

The buildings and construction sector offers one of the world's largest economic opportunities for circular economy transformation. Circular approaches in the sector unlock significant value: enhanced material productivity (more value extracted from each unit of resource), greater supply chain resilience to material price volatility and geopolitical disruption, improved affordability over the building's life cycle and more adaptable buildings able to meet changing occupant needs. The global retrofit market needs to grow from approximately US$ 500 billion today to US$ 2.9 trillion by 2030 and US$ 3.9 trillion by 2050 to meet net-zero targets.

At the same time, the sector remains among the world's most resource-intensive industries, accounting for a significant share of global energy-related CO emissions, raw material consumption and waste generation. As urbanization accelerates and global material demand is projected to double by 2060, the sector's predominantly linear model accelerates environmental degradation, while more than 75% of waste generated by the construction industry has residual value that is not currently recovered. For financial institutions, supporting circular economy integration in buildings and construction is therefore both a strategic economic opportunity and an environmental imperative—addressing resource depletion, regulatory fragmentation, stranded asset exposure and supply chain risks while channelling capital into material recovery, design for disassembly and adaptability, adaptive reuse and circular business models. These guidelines prioritize activities that shift system behaviour by closing material loops, extending building, infrastructure and component lifespans, recovering materials at high value and designing for future disassembly and reuse.

The buildings and construction sector offers one of the world's largest economic opportunities for circular economy transformation

These guidelines focus primarily on buildings—residential, commercial, institutional and mixed-use—and the construction value chain that supplies them. The methodology is applicable to civil infrastructure projects (e.g. roads, bridges, utilities) where the activity in question relates to material-side circularity such as recycled aggregate use, design for deconstruction and material recovery; however, infrastructure-specific indicators and benchmarks may require contextual adaptation.

These sectoral guidelines provide financial institutions with an assessment methodology for classifying circular economy activities across the buildings and construction sector—comprising construction of buildings, civil engineering and transport infrastructure and specialized construction activities (NACE Rev.2 Section F and ISIC Rev.4 Section F)—as well as the enabling circular support systems that underpin them (including material marketplaces, sorting, storage and retail centres for recovered materials and digital and professional services). They operationalize the UN *Principles for Responsible Banking*—particularly Principle 2 (Impact and Target Setting) and Principle 3 (Clients and Customers)—at sectoral level, building on the screening approach described in UNEP FI *Guidance on Resource Efficiency and Circular Economy Target Setting* (2023a), complement UNEP FI's *Circular Solutions to Achieve Climate Targets in the Buildings and Construction Sector* (2024d) and are

designed for consistency with the IFC *Harmonized Circular Economy Finance Guidelines* (2025). These guidance documents support financial institutions to identify circular solutions (activities meeting all circularity criteria) and circular opportunities (activities with circular potential) across the full buildings and construction value chain—from raw material extraction and manufacturing through design, construction, use, renovation and end-of-life recovery—and inform their financing decisions and client engagement strategies.

The assessment methodology applies a consistent three-step approach.

- Step 1 identifies the primary circular economy category—circular design and production, circular use, circular value recovery, or circular support.
- Step 2 assesses whether an activity makes a substantial contribution to circularity by using indicators that are proportionate to each intervention's scale and context.
- Step 3 assesses interlinkages through three components:
  - **a.** Do no significant harm (DNSH) screening across environmental objectives—climate change mitigation and adaptation, water and marine resources, biodiversity and ecosystems, and pollution prevention and control
  - **b.** Social objectives assessment, confirming alignment with minimum social safeguards across four social objectives—reflecting the rights and principles enshrined in the ILO Declaration on Fundamental Principles and Rights at Work (as amended 2022), the UN Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct and the International Bill of Human Rights: decent work and occupational health and safety, adequate standard of living and well-being, inclusive and sustainable communities and consumer and occupant health and safety
  - **c.** Co-benefits identification across environmental and social objectives

Assessment outcomes (identification of circular solutions and circular opportunities) support multiple institutional applications: target setting, client engagement, climate action planning, nature-related strategies, pollution reduction initiatives, social impact management, transaction structuring and portfolio reporting.

The guidelines are designed for commercial banks and development finance institutions and can be used by institutional investors and insurers to support consistent classification of buildings and construction circular economy activities. Construction corporates, developers, material manufacturers, design firms and cooperative enterprises may also draw on the same framework to prepare documentation packages for financing discussions. At each assessment step, financial institutions can identify opportunities to engage clients on circular economy potential, whether supporting clients with circular solutions ready for financing or guiding clients with circular opportunities toward enhanced performance through transition plans.

The sectoral guidelines approach is designed for interoperability with leading global and regional frameworks that support classification, disclosure and impact assessment. Regulatory alignment is supported through compatibility with diverse national sustainable finance frameworks. This enables users to adapt the applied criteria to diverse regulatory contexts, levels of market readiness and place-based conditions, including building typologies, climate zones, material availability, regulatory maturity, land tenure systems and levels of informality in construction practices. Safeguards and integrity

underpin the approach, integrating verification of material longevity, design for disassembly, embodied carbon reduction, hazardous substance management, traceability and whole-life-cycle assessment. The buildings and construction sector's distinctive fourth social objective—consumer and occupant health and safety—ensures that circular strategies involving the reuse and recirculation of recovered materials include robust safeguards to prevent the reintroduction of hazardous substances into the material cycle and to maintain indoor environmental quality. These guidelines support institutions to direct capital to circular solutions and engage clients with circular opportunities through transition plans. UNEP FI intends to engage with financial institutions and other interested stakeholders during 2026 to validate the applicability of these sectoral guidelines, collect feedback on implementation challenges and refine the methodology.

1. Introduction

The buildings and construction sector is one of the world's most resource-intensive industries, with profound environmental, social and economic implications that highlight the need for systemic transformation. The sector accounts for approximately 37% of global energy-related CO₂ emissions and 34% of global energy demand (UNEP, 2024a), consumes roughly 40% of all raw materials extracted globally (IRP, 2024) and generates more than 2 billion tonnes of construction and demolition waste annually—approximately 30% of the world's total waste (UNEP, 2024a; UNEP, 2026). Material production alone—particularly cement, steel and aluminium—is responsible for 18% of global building-related CO₂ emissions (UNEP and GlobalABC, 2024), while embodied carbon is projected to rise from 25% to 49% of total building life cycle emissions by 2050 as operational energy efficiency improves (WorldGBC, 2019). The sector's predominantly linear "take-make-waste" model—driven by virgin resource extraction, energy-intensive production and demolition rather than deconstruction—generates significant environmental harm, with more than 75% of construction industry waste having residual value that is not currently recovered (UNOPS, UNEP and UN-Habitat, 2024). The world is currently only 7.2% circular, down from 9.1% in 2018, while only approximately 4% of global construction spending is aligned with Paris Agreement goals (Circle Economy, 2023; UNEP, 2024a).

Circular economy opportunities and challenges in the buildings and construction sector

Transitioning to circular buildings and construction systems offers a pathway to mitigate these risks by reducing dependence on virgin materials, extending buildings and component lifespans, designing for disassembly and adaptive reuse, recovering and recirculating materials at end of life and enhancing the resilience of the built environment (WorldGBC, 2023; Circular Buildings Coalition, 2024). The economic opportunity is substantial: the global retrofit market alone needs to grow from approximately US$ 500 billion today to US$ 2.9 trillion by 2030 and US$ 3.9 trillion by 2050 to meet net-zero targets, with up to 50% of materials removed during retrofits having recirculation potential worth an estimated US$ 500 billion annually by 2030 (WEF and McKinsey, 2025). At a global cross-sectoral level, the wider circular economy transition has been estimated to unlock up to US$ 4.5 trillion in additional economic output by 2030 (Accenture, 2015). The built environment is expected to represent a substantial portion of this value, given its share of global resource use.

However, scaling circularity faces persistent challenges. Complex and fragmented value chains—spanning raw material extraction, material manufacturing, component production, design and engineering, construction and installation, building operation, renovation and demolition or recovery—limit traceability and accountability. Secondary material markets remain underdeveloped, with legal, economic and policy barriers favouring virgin materials; contractors and developers cite storage costs, difficulty in insuring materials and unpredictable supply as key risks (Circular Buildings Coalition, 2024). Current valuation methods do not fully capture the additional value of circular buildings—including salvage value, adaptability, disassembly potential and maintenance savings (Circular Buildings Coalition, 2024). Recovery and recycling infrastructure is largely absent in developing countries, where an estimated 80% or more of buildings are constructed informally (UN-Habitat,

2024b). Market demand for secondary construction materials remains nascent and contamination from hazardous substances in demolition waste can undermine secondary material quality.

The impact profile of the buildings and construction sector

The buildings and construction sector's environmental and social impacts span multiple dimensions across its value chain. Figure 1 presents the UNEP FI Impact Radar for buildings and construction, illustrating the relative significance of impacts across environmental, social and economic objectives. On the positive side, the sector enables access to housing and supports infrastructure of all kinds, whether water, energy, mobility or other infrastructure systems (WorldGBC, 2023; ILO, 2024). On the negative side, the sector and its value chain are associated with material adverse impacts including modern slavery, where weak regulation, informal employment arrangements and outsourcing practices increase workers' vulnerability to coercion; natural disaster exposure through unsustainable land use and construction in high-risk areas; occupational health and safety hazards from prolonged exposure to chemicals, dust, noise, heat and unsafe machinery; below-living-wage compensation; discrimination affecting ethnic and racial groups; risks to other vulnerable groups, particularly informal workers and migrant labourers; climate instability through greenhouse gas emissions (both embodied and operational); biodiversity loss and degradation of soil quality, affecting ecosystems through resource extraction and land disruption; and resource-intensive linear production patterns generating significant construction and demolition waste.



Figure 1: UNEP FI Impact Radar for the buildings and construction sector. Source: UNEP FI *Impact Radar*, adapted for buildings and construction sector (UNEP FI, 2026).

Sustainability topics and sub-topics highlighted in Figure 1 indicate the sector's prominent negative impacts: modern slavery, disaster risk preparedness, health, decent work, equality and non-discrimination, climate stability, soil quality/pollution, biodiversity, circular economy and resource efficiency. The sector's prominent positive impacts are housing and infrastructure (UNEP FI, 2026).

This dual profile—capturing both the sector's contributions and its harms—provides the foundation for understanding where circular economy interventions can generate the greatest positive impact.

Circular economy strategies can directly address many of the sector's most significant negative impacts by acting on two key impact drivers: resource intensity and waste. By reducing resource intensity—through design for longevity, material efficiency, adaptive reuse, use of secondary and renewable materials and modular construction—the sector can address climate stability and waste generation (strong linkages), while generating moderate positive interlinkages with disaster risk preparedness, health, decent work, energy, employment, sector diversity, water quality/pollution, water preservation/use, air quality/pollution, soil quality/pollution and biodiversity. By reducing waste—through design for disassembly, selective deconstruction, high-value material recovery, construction waste minimization and closed-loop material systems—the sector can address climate stability, water quality/pollution, water preservation/use, air quality/pollution, soil quality/pollution, biodiversity and circular economy and resource efficiency (all strong linkages), as well as health, decent work, water and sanitation, food and resources and services (also strong linkages), with moderate positive interlinkages for employment and sector diversity. Both pathways carry a moderate negative interlinkage with SME development. In formal regulated markets, the upfront costs of adopting circular design and construction practices—including certification, documentation and technology adoption—may disproportionately burden MSMEs relative to larger enterprises (UNEP FI, 2024c). In rapidly urbanizing regions with substantial informal construction activity, the dynamics differ: individual actors such as waste pickers or artisanal builders often perform the majority of material recovery and recirculation. In these contexts, circular economy interventions are recommended to be designed to formalize, support and build on the contributions of these existing actors, rather than displace them through the imposition of standards or documentation requirements calibrated for formal markets (see Box 1 on informal construction contexts). The interconnected nature of these pathways demonstrates that circular economy in buildings and construction is a systemic approach that can generate co-benefits across the full spectrum of the sector's negative impacts.

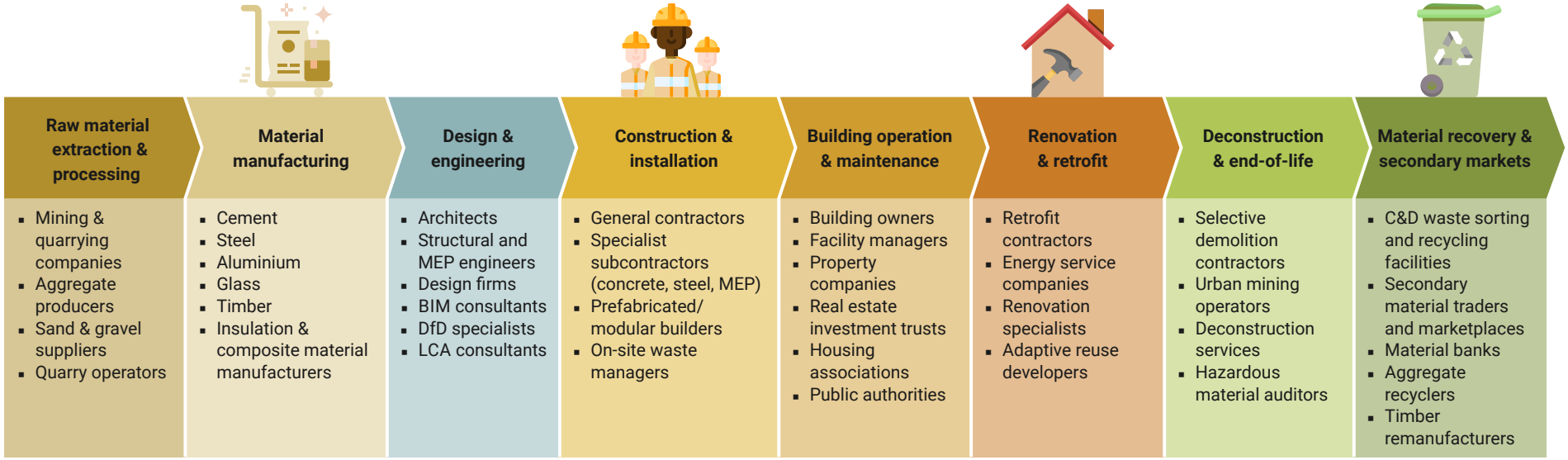


Figure 2: Overview of buildings and construction value chain actors.

The guidelines adopt a whole-life-cycle value chain perspective spanning upstream material extraction and manufacturing, design and engineering, the construction process itself (including on-site material handling, waste segregation, recovery and reuse practices), building operation, renovation and maintenance and downstream deconstruction and material recovery. Circularity in this sector therefore encompasses both the circularity of built assets and materials and the circularity of construction processes and site-level operations, in line with the EU Construction and Demolition Waste Management Protocol (2024a). The value chain involves diverse stakeholders from material producers and manufacturers to designers, contractors, developers, building owners and operators, renovation specialists and deconstruction and recovery enterprises, as shown in Figure 2. Both ambition and feasibility are shaped by regulatory frameworks, infrastructure development, market readiness for secondary materials, labour standards, building typologies and climate zones, land tenure systems and levels of informality. Context-sensitive implementation reflecting local realities remains imperative. By applying such specialized approaches, users can address buildings and construction's distinct circular economy opportunities and challenges (see Box 1) while upholding fundamental circular economy principles.

Box 1: Key characteristics shaping circular economy approaches in buildings and construction

A significant share of construction globally takes place through informal, incremental, self-build and community-led pathways. While these guidelines are primarily designed for use by formal financial institutions, the methodology and classification criteria may also serve as a reference for circular economy considerations in community finance, microfinance and participatory upgrading contexts, adapted to the relevant scale and documentation capacity.

Long asset lifespans and material durability: Unlike consumer goods, buildings are long-lived infrastructure assets with typical lifespans of 50 to 100 years or more. Design decisions made today lock in material and energy performance for decades—and 85 to 95% of the building stock that will exist in 2050 has already been built (Circular Buildings Coalition, 2024). Circular economy strategies must therefore address both the existing stock (e.g. through renovation, adaptive reuse and lifespan extension) and new construction (e.g. through design for disassembly, material efficiency and flexible building systems), with financing structures reflecting the long-term nature of building assets.

Embodied carbon and material intensity: The sector consumes roughly 40% of all raw materials extracted globally. Concrete accounts for approximately 74% of total material mass but 36% of embodied carbon emissions, while steel—with only 3% of total mass—accounts for 30% (Circular Buildings Coalition, 2024). As operational energy efficiency improves, embodied carbon will account for an increasing share of total life cycle emissions, projected to reach 49% by 2050 (WorldGBC, 2019). Circular economy solutions—including secondary and renewable materials, material-efficient design and high-value recovery at end of life—are critical to addressing this growing share.

Multi-tiered value chain and stakeholder complexity: The construction value chain spans eight or more distinct phases from raw material extraction through end-of-life recovery. Decision-making is distributed across diverse actors—material suppliers, manufacturers, architects, engineers, contractors, developers, investors, building owners, facility managers, renovation specialists and deconstruction operators—whose interests, incentives and time horizons often diverge. This "split-incentive problem"—where the costs and benefits of circular interventions accrue to different parties at different life cycle stages—is a persistent barrier to scaling circular practices (Circular Buildings Coalition, 2024). Solutions include whole-life-cycle costing, new ownership and business models (such as Product-as-a-Service) and regulatory mechanisms that align incentives across the value chain.

Consumer and occupant health and safety: While health and safety considerations apply across all sectors—to workers, value-chain participants and end-consumers—buildings and construction is distinguished by the direct, multi-decade exposure of building occupants to material and indoor-environment risks throughout the asset's 50–100-year operational lifetime. This necessitates a distinctive fourth social objective in these guidelines: the health and safety of building occupants and consumers over the building's full operational life. Hazardous substances in building materials—including volatile organic compounds, asbestos, lead and substances on the Living Building Challenge Red List—pose long-term health risks. Circular strategies involving the reuse and recirculation of materials recovered from demolition or deconstruction must include robust safeguards to prevent the reintroduction of hazardous substances into the material cycle and to ensure indoor environmental quality (WorldGBC, 2023; UNOPS, UNEP and UN-Habitat, 2024).

Regional variation, informality and place-based solutions: Buildings and construction systems vary significantly by geography, climate zone, material availability, regulatory maturity and levels of formality. In many developing countries, more than 80% of construction takes place informally, outside regulated building codes (UNOPS, UNEP and UN-Habitat, 2024). Solutions are recommended to be adapted to local contexts while maintaining consistent assessment criteria. Material recovery approaches differ between highly regulated markets and informal construction systems in rapidly urbanizing regions of sub-Saharan Africa and South Asia, yet both can demonstrate genuine circularity through documented resource efficiency and waste reduction measures appropriate to their context. Traditional knowledge and locally sourced materials—such as compressed earth blocks, bamboo and timber—can contribute to circular approaches when integrated with modern engineering and quality standards (UNOPS, UNEP and UN-Habitat, 2024).

Implications for financial institutions

For financial institutions, these impacts translate into heightened portfolio exposure to tightening environmental regulations (including Extended Producer Responsibility schemes for construction and demolition waste, whole-life carbon regulations and increasingly stringent building codes), climate-related physical risks, transition risks from evolving market expectations and policy frameworks (including embodied carbon disclosure requirements and circularity mandates), reputational risks associated with financing linear construction practices and stranded asset risks as buildings that do not meet emerging sustainability standards face depreciation or obsolescence.

While financial institutions increasingly recognize the relevance of circular economy principles for buildings and construction sector risk and impact management and value creation (UNEP FI, 2024b), they often lack standardized, sector-specific criteria to evaluate the circularity of buildings and construction activities and translate these assessments into actionable financing decisions.

A harmonized assessment methodology also helps reduce transaction costs and coordination friction in blended finance structures, giving public and private capital providers a shared basis for evaluating circular buildings and construction activities.

What these guidelines provide

Developed with input from UNEP FI member banks, development finance institutions (DFIs) and sector experts, these guidelines address this gap by providing a structured methodology for the buildings and construction sector to determine whether activities, projects, clients and investment components align with circular economy principles and therefore qualify for circular economy financing. This helps financial institutions not only classify circular economy-aligned assets within existing portfolios, but also identify new opportunities to scale circular economy investments in the sector.

While primarily intended for commercial banks and development finance institutions, other financial stakeholders such as investors, asset managers and insurers may also wish to use these guidelines. Non-financial stakeholders such as construction corporates, developers, material manufacturers, design firms and cooperative enterprises may draw on the same methodology to prepare supporting information, align internal controls and understand the criteria and requirements needed to qualify for circular economy financing.

The circular economy finance assessment follows a three-step methodology further detailed in chapter 2, aligning with the UN Principles for Responsible Banking (PRB) and UNEP FI *Impact Protocol*. The methodology can be applied across portfolios (to map exposures, inform strategy and track progress), for individual transactions (to screen and structure deals with circularity-linked terms) and in product development (by embedding circularity KPIs into lending policies and sustainability-linked instruments). It supports teams across functions—origination and sector coverage, risk and compliance, portfolio strategy and stewardship and treasury/product teams. Safeguards and integrity underpin the approach, integrating material longevity, design for disassembly, embodied carbon reduction, hazardous substance management, traceability and whole-life-cycle assessment. Transition plans encourage innovation, allowing early-stage solutions to progress toward full alignment as performance matures.

A set of four annexes supports implementation of these guidelines. Annex 1 presents an illustrative, non-exhaustive list of circular economy activities across the buildings and construction sector (NACE Rev.2 Section F and ISIC Rev.4 Section F—covering construction of buildings, civil engineering, and transport infrastructure and specialized construction activities), organized by circular economy category, to assist with Step 1 category assignment. Annex 2 proposes portfolio screening guidelines mapping buildings and construction activities to NACE Rev.2 and ISIC Rev.4 codes, supporting portfolio-level circularity review. Annex 3 sets out the environmental and social material impacts for the buildings and construction sector, informing the Step 3 interlinkages assessment. Annex 4 presents an illustrative assessment example demonstrating how a financial institution might apply the three-step methodology in practice.

Development and framework interoperability

The guidelines are designed for interoperability with the IFC *Harmonized Circular Economy Finance Guidelines* (2025), which provide allocation methodologies for specific financial instrument types and with leading global and regional frameworks that support classification, disclosure and impact assessment. Internally, the methodology operationalizes the UNEP FI *Impact Protocol* (2025b) at sectoral level: the impact profile presented in Figure 1 is built directly on the UNEP FI *Impact Radar and Sector Impact Matrix*; the three-step methodology (chapter 2) translates the Impact Protocol's identification, assessment and management logic into a circular economy classification workflow; and the interlinkages assessment in Step 3 applies the Impact Protocol's holistic impact and DNSH-equivalent screening to circular activities. This ensures that financial institutions already applying the Impact Protocol can integrate these guidelines without duplicating existing methodologies.

Regulatory alignment is supported through compatibility with diverse national sustainable finance frameworks, enabling users to adapt applied criteria to diverse regulatory contexts, levels of market readiness and place-based conditions—including building typologies, climate zones, material availability, regulatory maturity, land tenure systems and levels of informality in construction practices.

The methodology supports interoperability with evolving resource-efficiency and circularity reporting under global and regional frameworks and industry commitments, as illustrated in Box 2. UNEP FI plans to engage with financial institutions and other interested stakeholders during 2026 to validate the applicability of these sectoral guidelines, collect feedback on implementation challenges and refine the methodology.

Box 2: Frameworks and standard examples for circularity and safeguards in the buildings and construction sector (illustrative, non-exhaustive)

Global and industry examples: Global and industry frameworks provide operational anchors for documenting circularity and its interlinkages in buildings and construction value-chain activities. The Global Alliance for Buildings and Construction (GlobalABC) Climate Action Roadmap toolkit (2024) supports holistic decarbonization assessment across the full building value chain, including materials and circularity dimensions. The National Circularity Assessment Framework for Buildings—developed by UNOPS, UNEP and UN-Habitat under the GlobalABC Materials Hub's Circular Built Environment Working Group, led by the 10YFP Secretariat—provides a national-level methodology for measuring circularity using quantitative and qualitative indicators (2024). The WorldGBC Circular Built Environment Playbook (2023) establishes four core principles of circularity—reduction in materials consumption, optimization of lifespan, design for disassembly and reuse and regeneration of nature—with more than 20 implementation strategies and global case studies. The Circular Buildings Coalition report identifies systemic barriers and strategies for overcoming market, finance and ownership challenges in the circular built environment (Circular Buildings Coalition, 2024). The ISO 59000 series provide circular economy vocabulary, measurement frameworks and business model guidance applicable to the construction sector (ISO, 2024a). WBCSD's Circular Transition Indicators v4.0 (2025) offer business-level circularity metrics applicable across buildings and construction enterprises. The One Planet Network's *Global Framework for Action: Harnessing sustainable and circular public procurement to drive demand for a near-zero emission and resilient built environment* (2024) developed by the 10YFP Secretariat in consultation with more than 200 stakeholders across the value chain and launched at COP29, positions procurement as a catalyst for the circular transition across the whole life cycle of buildings and infrastructure. The IFC Harmonized Circular Economy Finance Guidelines (2025) provide allocation methodologies for specific financial instrument types. The WEF and McKinsey report The Circular Economy—A Powerful Force for Climate Mitigation (2025) provides quantitative assessments of circular economy potential in the buildings sector.

Regional examples of taxonomies and other frameworks and standards (illustrative, non-exhaustive):

- **Asia-Pacific:** The ASEAN Taxonomy for Sustainable Finance Version 3 (effective December 2024) includes construction sector guidance with specific criteria for sustainable building practices and material use (ASEAN Taxonomy Board, 2024). Singapore-Asia Taxonomy provides activity-level guidance incorporating buildings and construction under Plus Standard safeguards (MAS, 2023). National building energy codes and green building certification systems—such as Bangladesh's BEEER (2023) and GreenARCH (2024)—are emerging across the region, though many are not yet fully operational (UN-Habitat, 2024b).

- **European Union:** The EU Taxonomy Regulation (EU 2020/852) includes technical screening criteria for construction activities under climate and circular economy objectives, including specific provisions for building renovation and new construction (European Union, 2020). The European Sustainability Reporting Standards (ESRS) E5 on Resource Use and Circular Economy, adopted by the European Commission in 2023 (European Commission, 2023a) and developed with the advisory support of EFRAG, currently subject to review and potential updates, requires disclosure on material flows, waste and circularity performance. The EU Renovation Wave strategy targets 35 million building renovations by 2030 and a 3% annual renovation rate, emphasizing the use of materials with low embodied impacts (European Commission, 2020a). The Construction Products Regulation (CPR) and Extended Producer Responsibility (EPR) provisions address transparency, safety and quality for construction materials (European Commission, 2024b). **Relationship to EU Taxonomy Technical Screening Criteria:** These guidelines are designed to complement EU Taxonomy Technical Screening Criteria (TSC). Where institutions can already apply EU Taxonomy TSC for circular economy at whole-building level (e.g. under economic activities 3.1 Construction of New Buildings and 3.2 Renovation of Existing Buildings), the UNEP methodology can serve as a parallel CE classification and client engagement tool—for example, to identify co-benefits, assess material-level circularity contributions, or support transition plan structuring. The methodology is also applicable to manufacturing and materials activities (e.g. building materials production, component manufacturing) not yet fully covered by the EU Taxonomy's Delegated Acts, where it can provide a consistent classification basis alongside institutions' internal frameworks.
- **Africa:** The African Circular Economy Alliance has identified the built environment as a priority area, with emphasis on sustainable urbanization, construction waste management and local material innovation (ACEA, 2021). The African Union Continental Circular Economy Action Plan (2024–2034) outlines strategic objectives for member states, while national circularity assessments conducted under the UNEP Global Programme for Transforming the Built Environment—including those for Senegal—provide baseline data and policy recommendations for advancing circular construction practices in developing country contexts (UNEP and GlobalABC, 2024).
- **Americas:** Brazil's Sustainable Taxonomy (Taxonomia Sustentável Brasileira, TSB) provides classification for construction activities with criteria addressing resource efficiency, waste management and sustainable building practices (Central Bank of Brazil, 2024). *Financing the Circular Economy: A Guidance Document for Canadian Financial Institutions* includes a categorization system with frameworks developed through collaboration between CELC and UNEP FI with local banks (CELC and UNEP FI, 2024). The Inflation Reduction Act (2022) in the United States of America introduced financial incentives for energy-efficient and low-carbon construction, supporting green building transitions, though the scope and continuity of specific provisions has varied with subsequent legislative and regulatory changes; financial institutions are encouraged to verify current applicability with prevailing federal and state programmes.

2. Overview of the circular economy finance assessment

This chapter provides an overview of the three-step assessment methodology enabling financial institutions to systematically identify, classify and align financing for buildings and construction sector activities that deliver circular economy benefits while maintaining environmental integrity and social safeguards. The methodology presented here is consistent across all UNEP FI sectoral circular economy finance guidelines (textiles, agriculture, and buildings and construction): a single, harmonized three-step approach is applied across sectors, with sector-specific application detailed in chapter 3 and the annexes. This ensures comparability across portfolios and reduces the methodological burden on financial institutions operating across multiple sectors.

Selecting the assessment pathway

Before beginning the assessment, users can determine which pathway matches the intended purpose. For individual transaction assessment or client origination, users can start with the client assessment pathway, beginning at Step 1 in chapter 3. For portfolio-level circularity mapping, target setting or systematic reviews, users can proceed directly to the portfolio review pathway in Annex 2.

In developing an assessment approach that fits the institution's strategy, a distinction can be made between large corporate clients and micro-, small and medium enterprises (MSMEs). While large corporates typically support granular analysis through extensive reporting, a lighter assessment path may be chosen for MSMEs. MSMEs—including SME contractors, informal builders and construction MSMEs—often have fewer formal policies and practices, yet contribute significantly to the circular economy in the buildings and construction sector. For smaller enterprises, assessment may rely on project-level documentation, industry certifications, or aggregated data via trade associations rather than comprehensive corporate reporting. Adjusting documentation requirements proportionately ensures these key actors are not excluded from circular finance while maintaining assessment integrity.

Regardless of client size, the same three-step methodology applies. Institutions are encouraged to integrate this circular economy assessment into existing internal processes, such as MSME risk scoring, sustainability scoring frameworks, or corporate due-diligence workflows, so that circularity classification builds on, rather than duplicates, current assessment practices. This assessment methodology is designed to operationalize Principle 3 (Clients and Customers) of the Principles for Responsible Banking framework, complementing UNEP FI *Guidance on Client Engagement* (UNEP FI, 2024a), which outlines the broader engagement cycle for supporting client transitions to sustainable business models.

Both the client assessment and portfolio review approaches apply the same rigorous circularity assessment logic. However, they offer different entry points and supporting resources once the initial pathway is selected—comprising environmental DNSH screening, social objectives assessment (aligned with minimum safeguards) and co-benefits identification—to determine whether activities qualify as circular solutions or circular opportunities.

Three-step methodology overview

Figure 3 sets out the three-step assessment methodology financial institutions can use to classify circular-economy-aligned buildings and construction activities.

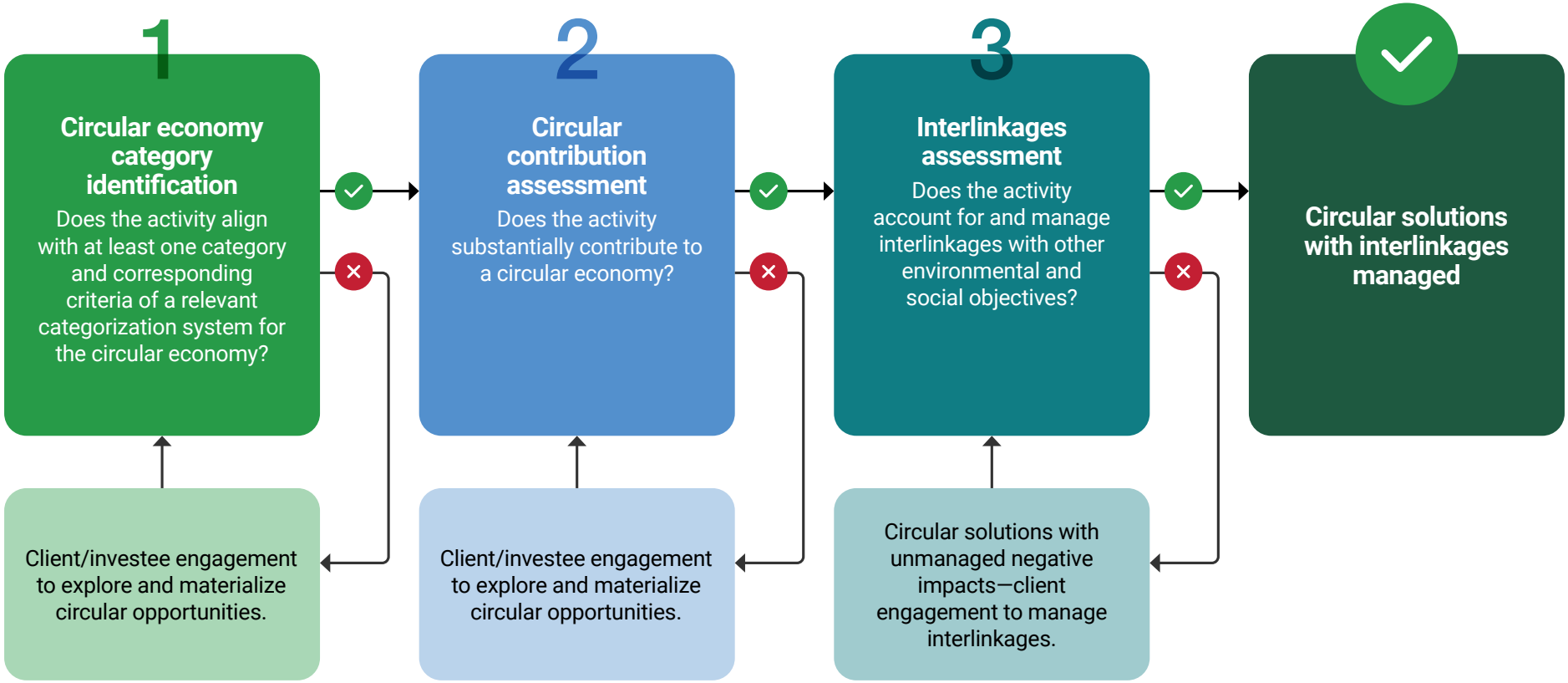


Figure 3: Three-step assessment methodology.

Note on level of application: The three-step decision tree is presented at activity/transaction level for clarity, reflecting how individual financing decisions are made. The same methodology is applied at portfolio level by aggregating activity-level outcomes across exposures—see chapter 3, Using the assessment outcomes, and Annex 2 for guidance on portfolio screening, target setting and reporting.

Circular economy finance decision tree steps

1

Circular economy category identification

Does the activity align with at least one category and corresponding criteria of a relevant categorization system for the circular economy?

In Step 1—Circular economy category identification: Users determine whether an activity qualifies as circular and, if so, assigns the primary circular economy category for the activity: circular design and production, circular use, circular value recovery, or circular support (see Box 3 for definitions). These categories, adapted to the buildings and construction sector's specific context, are consistent with recognized circular economy categorization systems (see examples in Box 2; UNEP FI, 2025a). In Table 1, a rapid screening allows for a quick assessment of whether an activity demonstrates circular characteristics and to which circular economy category it corresponds.

Outcomes of Step 1: Activities demonstrating circular characteristics are assigned a primary circular economy category (circular design and production, circular use, circular value recovery, or circular support) and proceed to Step 2. For activities without clear circular alignment, financial institutions are encouraged to engage with their client or investee to explore circular opportunities.

2

Circular contribution assessment

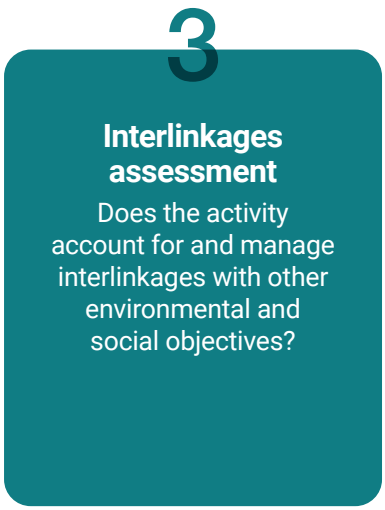
Does the activity substantially contribute to a circular economy?

In Step 2—Circular contribution assessment: Users assess whether an activity makes a substantial contribution to circularity by applying sector-relevant indicators and recognized frameworks and disclosure standards. Depending on the context and ambition of the activity, supporting information can range from basic documentation (such as internal policies, pilot results or early metrics), through third-party certifications, to comprehensive, externally assured records including audit reports, longitudinal performance data and transition plan reporting. Financial institutions are encouraged to calibrate assessment and documentation proportionately to the activity's context and scale, supporting credible classification, informing financing structure and establishing a foundation for long-term monitoring and performance tracking.

Outcomes of Step 2: Activities are classified as either circular solutions (meeting all circularity criteria stipulated by the financier) or circular opportunities (not meeting all circularity criteria but demonstrating circular potential). Circular solutions proceed to Step 3; circular opportunities are directed to targeted client engagement.

Note on taxonomy and categorization framework selection: Financial institutions are encouraged to use the circular economy categorization system (mandatory or not) already in place in their bank's region or jurisdiction, if any. The frameworks and standards listed in Box 2 provide a non-exhaustive reference of regional taxonomies and circularity criteria applicable to buildings and construction activities. Where no obvious categorization system is available at regional or national level, it is recommended to use the European Commission circular economy business models categorization system (European Union, 2020), as referenced in Box 3, or a comparable system appropriate to the

bank's relevant geography. It is recognized that harmonized technical screening criteria for secondary construction materials are not yet fully developed across all jurisdictions. Where gaps exist, financial institutions are encouraged to apply the best available recognized framework for the activity in question and to document their selection rationale. This document will be updated as standards and criteria evolve.



In Step 3—Interlinkages assessment: Users assess interlinkages between circular activities and other environmental and social objectives. The assessment comprises: (a) DNSH screening across environmental objectives; (b) social objectives assessment, confirming alignment with minimum social safeguards; and (c) co-benefits identification across environmental and social objectives.

Screening is place-based and proportionate to the activity and geography, building on established environmental and social frameworks adapted to the buildings and construction context (e.g. hazardous substance management in demolition and recovered materials, embodied carbon assessment, water use in construction processes and biodiversity safeguards for extractive material sourcing). The UNEP FI *Impact Protocol* supports holistic impact assessment and interlinkages management to avoid negative externalities and foster positive impacts (UNEP FI, 2025b).

Outcomes of Step 3: Activities initially classified as circular solutions in Step 2 are assigned one of two outcomes based on interlinkages assessment.

- **Circular solutions with interlinkages managed:** Activities with potential co-benefits identified across climate, nature, pollution, or social dimensions or with negative impacts in other sustainability topics appropriately managed or mitigated. No unmanaged significant negative impacts across environmental DNSH criteria and social objectives.
- **Circular solutions with unmanaged negative impacts:** Activities meeting all circularity criteria but with identified negative impacts on other environmental or social objectives that are not yet managed or mitigated, for which client engagement is encouraged to manage interlinkages.

Using the assessment outcomes

Upon completion of the three-step assessment, financial institutions will have classified activities as either circular solutions—activities meeting all criteria across steps 1–3 as stipulated by the financial institution, including environmental DNSH screening and social objectives assessment—or circular opportunities—activities demonstrating circular potential but not yet meeting all criteria, requiring further client engagement support, mitigation measures or transition plans. Among circular solutions, the interlinkages assessment (Step 3) will further distinguish those with interlinkages managed—where co-benefits are identified and negative impacts in other sustainability topics are appropriately managed or mitigated—from those with unmanaged negative impacts, for which client engagement and ongoing monitoring are encouraged.

These classification results support multiple applications across institutional functions—including transaction structuring, client engagement and portfolio monitoring—and connect to UNEP FI's broader circular economy guidance suite.

These outcomes can be applied at two levels: (1) structuring transactions and engaging clients and (2) aggregating exposures for portfolio management, target setting and reporting. For detailed guidance on applying these outcomes, see chapter 3, Using the assessment outcomes.

Box 3: Circular economy category definitions under the European Commission circular economy business models categorization system (European Union, 2020)

Circular design and production: Activities contributing to circular design and production aim at increasing resource efficiency through (a) design innovation, (b) process innovation and re-engineering or (c) material innovation and substitution.

Circular use: Activities contributing to circular use aim at increasing resource efficiency through (a) product and asset life cycle extension based on reuse, repair, repurposing, refurbishment or remanufacturing strategies or (b) product- and asset-use-optimizing leasing and sharing models.

Circular value recovery: Activities contributing to circular value recovery aim at increasing resource efficiency through the recovery of wastes in preparation for reuse and recycling or other circular economy strategies.

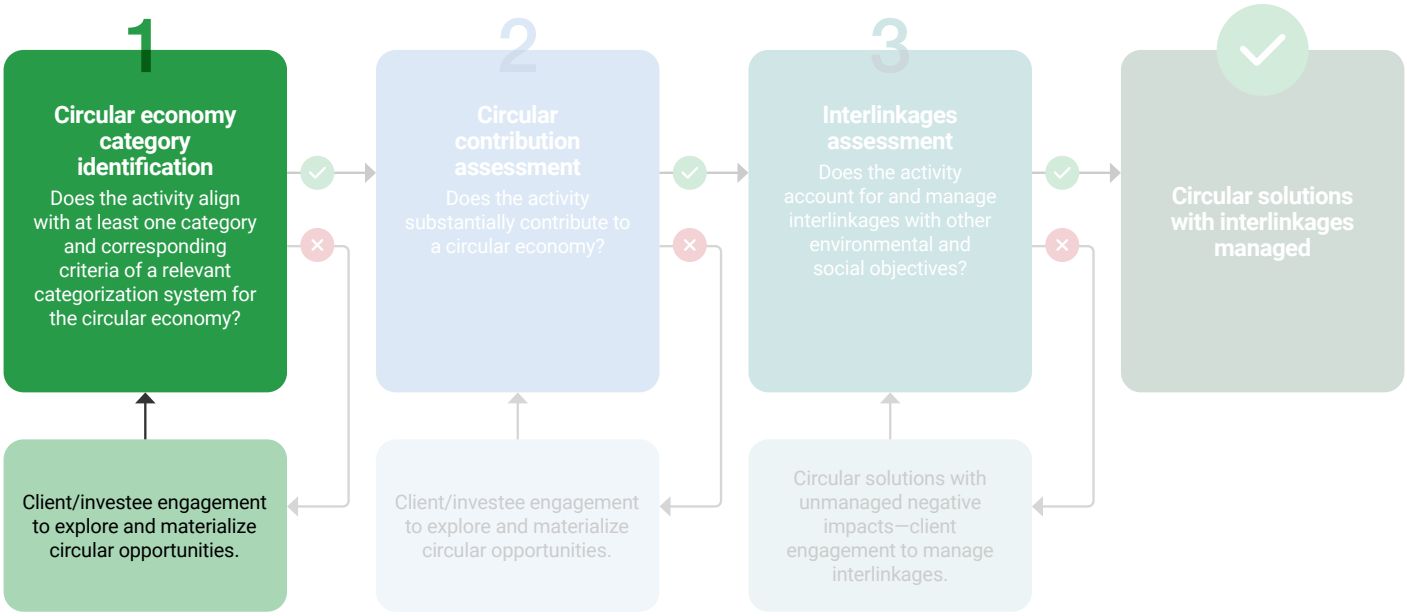
Circular support: Activities in the circular support category aim at enabling other circular activities and projects, thus indirectly contributing to increasing resource efficiency.

These categories are consistent with existing circular economy categorization systems such as the *Harmonized Circular Economy Finance Guidelines* developed by IFC (2025), the *Circular Economy Finance Guidelines* issued jointly by ABN AMRO, ING and Rabobank (2018), the methodology developed by Inter-American Development Bank (IDB), IDB Invest and BASE together with local banks in Colombia (IDB and BASE, 2022) and in Peru (IDB Invest, 2024), the methodology developed by Circular Economy Leadership Canada (CELC), UNEP FI and local banks for Canada (CELC and UNEP FI, 2024) and the categorization systems developed by UNEP FI, BASE and local banks in Chile, Costa Rica, Uruguay and Dominican Republic (UNEP FI, 2025a).

3. Application of the circular economy finance assessment methodology to the buildings and construction sector

Robust classification is essential to ensure that financial flows directed toward circular economy activities in the buildings and construction sector achieve genuine impact. This chapter provides a detailed overview of each step of the decision tree, enabling financial institutions to systematically screen, classify and assess whether buildings and construction activities qualify for circular economy financing. The approach supports consistent and transparent decision-making across origination, due diligence, structuring and portfolio monitoring, while providing a clear basis for reporting to external stakeholders and regulatory frameworks. Where examples in this document reference specific jurisdictions, users are encouraged to substitute relevant regional equivalents in line with their local context and frameworks.

Step 1: Circular economy category identification



Purpose: Identify which of the four circular economy categories the buildings and construction activity falls under: circular design and production, circular use, circular value recovery, or circular support (see Box 3). This categorization forms the foundation for all subsequent assessment steps and ensures consistent classification across portfolio and transaction applications.

Understanding the four circular economy categories

The four categories defined in Box 3 serve as the primary classification for this methodology. They are designed to capture the full life cycle of circularity in buildings and construction, from design and material choices that enable future material recovery, through business models that maximize buildings and component utilization, to the recovery systems that return materials to the construction value chain. While interconnected, each category has sector-specific considerations and eligibility criteria tailored to buildings and construction's material, regulatory and life cycle characteristics.

- **Circular design and production** covers interventions that embed circularity at the point of design, specification or manufacturing—for example, design for disassembly, durable and long-life components, modular or prefabricated systems and material substitution. Circular design and production initiatives re-engineer civil engineering and transport infrastructure design, construction systems and material production processes. Effective approaches address buildings and construction-specific challenges such as designing for disassembly and adaptive reuse, reducing embodied carbon through substituting virgin or hazardous materials with recycled, renewable or bio-based alternatives, material efficiency, enabling modular and prefabricated construction systems and minimizing construction waste through optimized design and manufacturing processes. Design and production choices may include design for disassembly with documented material passports, modular and prefabricated building systems, use of recycled aggregate, reclaimed steel and certified sustainable timber, bio-based insulation and structural materials (such as cross-laminated timber, bamboo and compressed earth blocks), low-carbon concrete and cement alternatives incorporating recycled or by-product inputs (e.g. blended cements with slag, fly ash, or recycled aggregate) and on-site waste minimization through digital fabrication and lean construction methods.

- **Circular use** covers interventions that activate circularity during the use phase of a building or asset—for example, maintenance regimes that extend service life, adaptive reuse, flexible and modular interior layouts and shared-use models that increase utilization and avoid new construction. Activities are characterized by demonstrated extension or optimization of buildings and components use in the built environment. This includes building refurbishment and deep retrofit[1], adaptive reuse and change-of-use conversions, long-term maintenance and repair and refurbishment service contracts (including for building equipment and services such as HVAC, electrical, lifts and plumbing, where component-level circularity, refurbishment and remanufacturing offer significant material recovery and lifespan extension potential), flexible and modular design enabling future adaptation, shared-use and co-working models and long-life durable material selection. Buildings and construction specific considerations include long asset lifespans (typically 50 to 100 years), the split-incentive problem between different life cycle actors, geographic and climate variation affecting building performance and access constraints for MSMEs and informal construction actors. Evidence of circularity typically involves documented lifespan extension compared to conventional demolition-and-rebuild, higher utilization rates for building spaces, reduced demand for new construction and verified displacement of virgin material consumption through renovation rather than new build.

1 "Deep retrofit" refers to a comprehensive, whole-building renovation that goes beyond single-measure improvements to address multiple building systems—typically the building envelope, ventilation, heating and cooling and, where applicable, renewable energy integration—with the aim of achieving significant reductions in energy demand and greenhouse gas emissions. There is no single universal definition: energy reduction thresholds vary by jurisdiction and assessment framework (ranging from ≥40% to ≥60% reduction in primary energy demand or energy use intensity from a pre-renovation baseline). For the purpose of these guidelines, deep retrofit activities are assessed on the basis of documented, whole-life-cycle performance improvement rather than any single threshold, in recognition of the diversity of regulatory contexts, building typologies and climate zones in which users operate.

- **Circular value recovery** activities are defined by the ability to return construction and demolition waste, post-renovation materials and end-of-life building components to productive use at high value. Priority is given to systems that recover materials in ways that maintain structural performance and material quality, displace virgin inputs and support building-to-building material reuse. Examples include selective deconstruction and material salvage, mechanical and chemical recycling of concrete and aggregates, urban mining operations, construction waste sorting and grading, secondary material markets and trading platforms, preparation-for-reuse infrastructure and contamination removal and material conditioning beyond what is required by national or regional regulation, ensuring genuine additionality of the financed activity. Quality control and contamination management are central, including pre-demolition hazardous material audits (for asbestos, lead, PCBs, PFAS and other substances of concern), documented remediation protocols, traceability to end-use in construction applications and compliance with relevant structural performance and safety standards.

- **Circular support** covers crosscutting enablers that make the other categories workable at scale. Priorities include a broader set of digital and enabling technologies for circular economy outcomes—material passports and traceability platforms; digital and online material exchange marketplaces; Building Information Modelling (BIM)—based circularity tracking and design optimization tools; building scanning and X-ray technology supporting adaptive reuse decision-making; material identification and condition assessment tools (e.g. NIR spectroscopy, moisture meters); sorting equipment and processing technologies (including robotics, sensors and AI-enabled sorting); material cleaning and processing technology; and floor-plan optimization and adaptive-reuse decision-support software—alongside design for disassembly assessment and verification services, life cycle assessment and embodied carbon calculation services, environmental product declarations and testing, deconstruction planning and audit services, BIM integration for circular economy, Extended Producer Responsibility (EPR) scheme infrastructure, reverse logistics and material collection systems, training and skills development for selective deconstruction and cooperative or platform governance that enables inclusive participation. Effective support activities provide reliable data, interoperable systems and governance structures that help designers, contractors, developers, building owners and financial institutions adopt and sustain circular buildings and construction practices over time.

The quick screening pathway

Users may reference the indicative list of 49 circular economy activities presented in Annex 1. Where a direct match exists, the user can assign the corresponding category and proceed to Step 2 or for multi-component assessment, if applicable. If the activity is not on the indicative list (e.g. early-stage innovations as illustrated in Box 4), financial institutions can use Table 1 to help with category assignment (see the illustrative example in Annex 4).

Table 1 sets out quick screening questions to determine the circular economy category. To use the screening table, first identify which circular economy category best describes the activity based on the italic descriptors in the left column. Answer the four screening questions for that category.

- If all four answers are “Yes”, the activity demonstrates circular characteristics and may proceed to Step 2.
- If three or fewer answers are “Yes”, the activity is classified as a circular opportunity and enhanced client engagement is recommended to explore and develop its circular potential. A “No” response to one or more questions does not exclude an activity from financing consideration—it signals where targeted client engagement or transition planning can strengthen circular performance over time.

Note: Check Annex 1 before applying Table 1. Where a direct match to the 49 illustrative activities in Annex 1 exists, the category can be assigned directly and the user can proceed to Step 2 without completing Table 1. Table 1 is reserved for activities not covered by Annex 1, including early-stage innovations (see Box 4).

Table 1: Circular economy category quick screening guide

Circular economy category	Quick screening questions
Circular design and production Select this category if the activity redesigns buildings, building components, or materials to enable circularity. **Common buildings and construction circular economy aligned activities:** Design for disassembly, design for adaptability and flexible use, low-carbon material innovation, recycled and renewable material substitution, modular prefabrication, low-embodied-carbon material substitution and design, bio-based materials, on-site waste minimization.	▪ Does the activity redesign building design, construction systems or material production processes for circularity (e.g. design for disassembly, modular systems, elimination of hazardous chemicals)? ▪ Does it substitute virgin or hazardous materials with safer, renewable or recycled alternatives (e.g. recycled aggregate, recycled steel, certified sustainable timber, bio-based insulation)? ▪ Are performance thresholds captured or available (e.g. recycled content %, material recovery rates, design for disassembly certification, embodied carbon intensity)? ▪ Does the design specify recycled, reclaimed or secondary materials as substitutes for virgin inputs?
Circular use Select this category if the activity extends building or building component life through refurbishment, renovation, repair, maintenance or adaptive reuse. **Common buildings and construction circular economy aligned activities:** Building refurbishment and deep retrofit, adaptive reuse and change-of-use conversions, long-term maintenance and repair service contracts, flexible and modular design enabling future adaptation, shared-use and co-working models, long-life durable material selection.	▪ Does the activity extend building or building component life through refurbishment, renovation, repair, sharing, or adaptive reuse? ▪ Is there a mechanism to track and optimize building or space utilization (e.g. occupancy rates, space flexibility, service-life extension, avoided new construction)? ▪ Does it eliminate waste or convert building material waste streams into production inputs during renovation? ▪ Does the activity show indicators of system-level change versus incremental efficiency gains?

Circular economy category	Quick screening questions
Circular value recovery Select this category if the activity converts construction and demolition waste into new building material production inputs or enables high-value material recovery. **Common buildings and construction circular economy aligned activities:** Selective deconstruction and material salvage, mechanical and chemical recycling of concrete and aggregates, urban mining operations, construction waste sorting and grading, secondary material markets and trading platforms, preparation-for-reuse infrastructure, contamination removal and material conditioning.	▪ Does the activity recover value from post-demolition, post-renovation or post-industrial construction and demolition waste, including from in-construction processes (e.g. on-site segregation, recovery and reuse of excavation material, brownfield material, formwork and waste deriving from support infrastructure)? ▪ Are recovered outputs validated for building-to-building reuse or input substitution (e.g. contractor or designer acceptance, quality certification, material specs compliance)? ▪ Does it include monitoring, traceability or verification services (e.g. material passports, chain-of-custody documentation, environmental testing, hazardous material verification)? ▪ Is there supporting documentation that the service or tool accelerates construction circular transition at scale? ▪ Is there a documented process for enabling conversion of building material waste streams into marketable construction inputs (e.g. recycled concrete aggregate, reclaimed timber, secondary steel)?
Circular support Select this category if the activity provides services, tools or platforms enabling other circular activities. **Common buildings and construction circular economy aligned activities:** Digital material passports and traceability platforms, design for disassembly assessment and verification services, life cycle assessment and embodied carbon calculation services, environmental product declarations and testing, deconstruction planning and audit services, BIM integration for circular economy, EPR scheme infrastructure, reverse logistics and material collection systems.	▪ Does the activity provide services, tools or infrastructure enabling other buildings and construction circular activities? ▪ Are there digital platforms, certification systems, standards alignment, or testing protocols integral to the model? ▪ Are design, deconstruction planning, or maintenance services integral to the business model? ▪ Does it enable demonstration of measurable extension of building service life, material recovery, or displacement of new construction?

Assessing circularity: Key considerations

While the circular activities in Annex 1 represent promising interventions, users are encouraged to consider potential unintended effects when assessing specific business models. As policies around construction and demolition waste management, embodied carbon regulations, Extended Producer Responsibility schemes and building codes evolve, a critical lens is essential.

Initiatives that move construction and demolition materials across regions are recommended to demonstrate that this does not compromise local material recovery capacity or secondary material markets. For example, large-scale export of reclaimed structural elements from a region with established reuse infrastructure to a market without quality assurance systems may undermine local circular supply chains. Similarly, the application of recycled aggregate or reclaimed materials from mixed demolition waste streams warrants reliable supporting documentation that the material meets stringent quality and safety standards (e.g. EN 12620 for recycled aggregates, relevant national structural codes, or pre-demolition hazardous material audits per ISO 20887) to avoid contamination with hazardous substances such as asbestos, lead, PCBs or PFAS. Activities that do not clearly align with the screening questions in Table 1 may be suited to alternative sustainable finance frameworks or may represent early-stage innovations (see Box 4 for illustrative examples).

Whole-life-cycle assessment for retrofit and renovation: Building retrofit and renovation transitions require whole-life-cycle assessment (ISO 14040/44; EN 15978) to illustrate genuine circularity beyond operational energy improvements alone. Operational-energy gains alone do not constitute a circular activity under these guidelines; they are recommended to be paired with material-side circular interventions (recovery, reuse, design for adaptability, embodied-carbon reduction) for the activity to qualify as a circular solution. Claims based on energy retrofit alone (e.g. insulation upgrades, window replacement) without documented material recovery, reuse or embodied carbon reduction are recommended to be classified as circular opportunities until material circularity outcomes are documented through material flow analysis, pre-renovation material audits and post-renovation waste diversion data. Financial institutions are encouraged to assess whether renovation activities included material recovery, reuse and recirculation at high value alongside any operational energy improvements.

Material recovery claims may improve waste management, but do not in themselves constitute circular buildings and construction systems if recovered materials are not put to productive high-value use. The preferred pathway is reuse or recycling within the construction value chain—including internal closed-loop reuse within a single client's portfolio—as this builds sectoral circular economy resilience and reduces dependence on virgin material extraction. Where within-sector pathways are not technically or commercially viable, recovery into other sectors at equivalent or higher value (e.g. recovered glass for industrial applications, recovered metals into manufacturing supply chains) is recognized as a legitimate circular pathway and is not excluded by these guidelines. For instance, concrete crushing operations that produce documented structural applications may represent waste diversion rather than circular material flows. Financial institutions are encouraged to assess traceability, recovered material quality and that secondary materials reach productive end users—preferentially construction end users—and displace virgin inputs. Consistent with the EU Taxonomy circular economy criteria and the IFC Harmonized Circular Economy Finance Guidelines (2025), waste-to-energy conversion of construction and demolition waste is not classified as a circular economy activity in these guidelines, since the energy-recovery pathway does not return the material resource to productive reuse and entrenches a linear material flow. Where waste-to-energy is used as a residual disposal route for genuinely non-recoverable construction and demolition (C&D) fractions, this may be classified under conventional waste management for accounting purposes but not reported against circular value recovery indicators.

Shared-use models can significantly improve building space utilization across both commercial and residential contexts. Commercial applications include co-working and shared workspace models. Residential applications include co-living, co-housing and shared or intergenerational living arrangements. In all cases, the full circular benefit depends on the displacement of new construction and a net reduction in resource use, rather than simply enabling more intensive use of existing spaces. Residential shared-use models could also be designed to avoid overcrowding and to safeguard habitability standards consistent with the right to adequate housing. Before classifying these models

as circular solutions, financial institutions are encouraged to assess utilization rates, documented displacement of new construction, demonstrable building lifespan extension and the project's system-level impact—including changes in total material consumption, embodied carbon outcomes and actual displacement rates for new construction—recognizing that rebound effects remain plausible.

Robust governance for digital enablers such as material passports, BIM-integrated circularity tools and deconstruction planning platforms is important; users are recommended to look for interoperability, inclusivity and independent assessment, since reliance on proprietary systems or unverified claims may be insufficient.

Box 4: Illustrative early-stage activities

The activities below are not yet at commercial maturity but represent credible pathways toward circular solutions. The "positive signals" listed for each activity are early indicators that financial institutions can use to identify clients who are progressing along a transition pathway and may merit support via transition financing, technical assistance, or sustainability-linked structures (see chapter 4). These are not eligibility criteria for circular solutions classification—they signal circular opportunity status with a credible pathway toward circular solutions over time.

Life cycle performance validation for early-stage circular innovations: Early-stage circular solutions are encouraged to be supported by life cycle assessments (LCAs) to determine whether innovations deliver environmental benefits beyond technical feasibility. LCAs using recognized methods (ISO 14040/44, 2006 or EN 15978 for buildings) help confirm reductions across embodied carbon, material consumption, waste generation and pollution impact categories while identifying potential burden-shifting.

Advanced material recovery from mixed construction and demolition waste: Positive signals include pilot demonstrations of automated sorting technologies for mixed CDW streams, recovered material quality meeting construction-grade specifications (e.g. recycled aggregate meeting EN 12620 or equivalent standards) and preliminary offtake agreements with contractors or material suppliers. Transition plans can include demonstration of verified virgin material displacement when reaching stable commercial operation.

Modular and prefabricated construction systems: Modular construction systems designed for multi-cycle reuse—with circular design and manufacturing principles demonstrably embedded (design for disassembly and adaptability, standardized connections, lean or zero-waste manufacturing)—are expected to demonstrate documented component tracking and take-back logistics, evidence of component reuse across multiple building projects and transparent life cycle costing. Transition plans may include established component recovery networks and documented financial returns from reuse versus replacement.

Digital material passport and BIM-integrated circularity platforms: Positive signals for digital platforms include interoperability with existing building information modelling (BIM) systems and construction project management tools, coverage across multiple value chain participants (designers, contractors, demolition operators, material suppliers) and verified integration with certification schemes or regulatory compliance frameworks (e.g. EU Digital Product Passport requirements, Level(s) framework). Progression can be tied to user adoption rates, data quality and measurable enablement of circular activities (e.g. material recovery optimization, design for disassembly documentation, embodied carbon tracking).

Performance-based material service contracts (Product-as-a-Service): Positive signals for façade leasing, MEP service contracts, or interior fit-out take-back programmes include documented component tracking systems, manufacturer take-back obligations and preliminary evidence of component reuse across projects. Transition plans may include established recovery logistics and demonstrated financial viability of reuse versus replacement.

Bio-based and earth-based structural material innovations: For emerging technologies and production systems for bio-based structural materials (e.g. engineered bamboo, mycelium-based composites, hempcrete) or advanced earth construction (e.g. 3D-printed earth structures, compressed stabilized earth blocks), positive signals include pilot projects demonstrating structural performance meeting relevant building codes, durability testing under local climate conditions and integrated supply chains with documented end markets. Transition plans can include commercial-scale production roadmaps, third-party structural certification and documented evidence of material performance across multiple projects and climate conditions.

Circular district-scale material recovery hubs: Positive signals include demonstrated catchment area for construction and demolition waste collection, modular processing capacity designed for future expansion and preliminary agreements with municipal authorities or construction consortia. Progression can be tied to tonnes of CDW diverted from landfill and secondary material market integration.

Classifying multi-component transactions

Buildings and construction transactions often combine design system redesign, shared infrastructure investment, material innovation and end-of-life recovery capacity in one project. In such cases, financial institutions can determine the primary category mechanism through which the investment most directly and materially advances circular buildings and construction. The following questions can be asked to help determine the primary category with documented rationale:

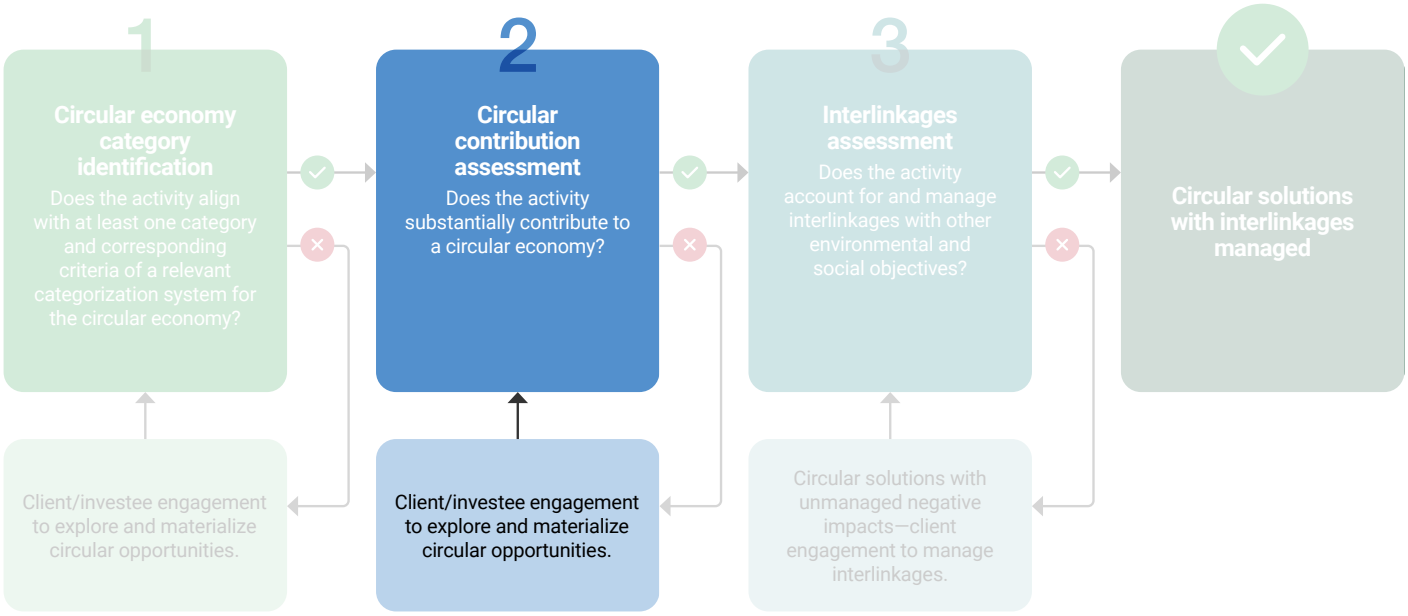
- **Capital allocation:** Which component accounts for the majority of funding?
- **Circular impact:** Which activity most directly enables material recirculation or extended use?
- **System catalysis:** Which component is most catalytic or foundational to future circularity?

Proportional allocation is appropriate only when financing lines are clearly segregated, each component maps to distinct categories and governance processes maintain auditable records. This prevents double counting and ensures interoperability with emerging regulatory frameworks (IFC, 2025).

Outcomes of Step 1

Upon completion of the rapid screening assessment, users will have assigned a primary circular economy category to the activity. Activities falling into one of the four circular economy categories are classified as having circular characteristics and proceed to Step 2 for circular contribution assessment. Activities not clearly aligned with one of the four categories but demonstrating circular potential are directed to enhanced client engagement to explore circular opportunities.

Step 2: Circular contribution assessment



Purpose: Step 2 assesses whether the activity demonstrates a substantial contribution to circular outcomes through documented performance, whether quantitative or qualitative. Financial institutions are encouraged to select screening circularity criteria proportionate to the activity's context and scale, drawing on recognized frameworks. The criteria and KPIs presented in this section serve as informative reference points, not prescriptive requirements. Table 2 presents examples of illustrative resources and non-exhaustive application examples for circular buildings and construction screening under Step 2.

Table 2: Example indicators and documentation sources for Step 2 and Step 3 (non-exhaustive)

Resource type	Description/Illustrative examples	Potential Step 2 uses
Regulatory and certification	**Building materials and design:** ISO 20887; ISO 14025; EN 15978; FSC/PEFC; PEFC CanopyStyle. **Material recovery and circularity:** ISO 59014:2024; ISO 21930. **Embodied carbon and LCA:** PEF/PEFCR for construction materials; EU Taxonomy technical screening criteria.	Attach FSC/PEFC chain-of-custody documentation for timber claims; use ISO 20887 to substantiate design for disassembly; attach EPD or cradle-to-gate LCA for embodied carbon; use ISO 59014 for material recovery claims.
Performance data and metrics	**WBCSD CTI v4.0 and Enabling Solutions (2025):** Circular-flow metrics for buildings. **ISO 59020:2024:** Measuring circularity performance. **GlobalABC Reports (2024):** Embodied carbon benchmarks and whole-life-cycle assessment. **WRAP Guidance (2023):** Durability and material recovery benchmarking. **GRI Topic Standards:** Materials 301; Waste 306. **Ellen MacArthur Foundation:** Circular built environment playbook.	Build activity-level KPIs: material recovery rates, embodied carbon intensity, recycled/renewable content (%), DfD certification level, durability pass-rates and waste diversion rates. Cite the method (CTI/ISO 59020/WRAP/GRI) in the assessment.
Sectoral reports and implementation guides	**UNEP GlobalABC (2024):** Global Status Report; circular built environment playbook; whole-life-cycle carbon guidance. **UNEP/IRP (2020):** Material efficiency strategies. **Ellen MacArthur Foundation (2023):** Circular Built Environment Playbook. **WRAP (2023):** Design guide for durability and recyclability. **WEF and McKinsey (2025):** Circularity in the built environment—business model viability.	Reference UNEP GlobalABC to validate technical viability and benchmark design-for-disassembly and durability criteria. Use McKinsey/WEF reports to benchmark market readiness; use EMF frameworks to assess system-level circularity against incremental gains.
Environmental and safety assessment	**WHO/IARC:** Hazardous substance classifications (relevant for asbestos, lead, silica). **Stockholm Convention POPs screening:** PCBs, PFAS in demolition waste. **ISO testing standards:** ISO 45001. **REACH SVHC Candidate List:** Chemical hazard screening. **Pre-demolition audits:** Hazardous material identification (asbestos, lead, PCBs, PFAS).	Attach ISO 45001 (occupational health and safety management in demolition); lab reports for durability and chemical safety; document pre-demolition hazardous material audits.

Resource type	Description/Illustrative examples	Potential Step 2 uses
Safeguards and risk-based assessment	**OECD Due Diligence Guidance (2018):** Social and environmental risk for construction supply chains. **TNFD Sector Guidance (2024):** Nature-related dependencies in material extraction and construction. **SBTi/SBTN Guidance (2024):** Science-based targets for construction supply chains. **UNEP FI Interlinkages Mapping (2024e):** Environmental and social objectives. **UNGP Framework:** Human rights due diligence. **ILO Convention 167:** Safety and health in construction.	Use OECD guidance as the primary risk screening tool for Step 3; apply TNFD/SBTi to identify climate and nature risks; reference ILO conventions and UNGP to assess labour safeguards and community engagement; document mitigation strategies.
Operational and process documentation	**ISO/IEC 17025:** Laboratory competence and testing credibility. **ISAE 3000 (Revised):** External assurance for non-financial KPIs. **ISO 59004/59010:** Vocabulary, principles and business model guidance. **GRI Standards:** KPI definitions and performance disclosure. **ISO 14001:** Environmental management systems. **BIM standards:** ISO 19650; buildingSMART.	File technical specifications, bills of materials and design/disassembly drawings; cite test methods and ISO/IEC 17025 competence; consider ISAE 3000 assurance where KPIs underpin financing terms; use ISO 59010 to validate circular business model logic; document BIM integration where relevant.
Procurement-aligned documentation	**Global Framework for Action on Circular and Sustainable Public Procurement for the Built Environment (One Planet Network, 2024):** circular procurement criteria for the built environment. **Tender specifications and framework agreements:** recycled/reused content thresholds, embodied carbon limits, mandatory pre-demolition audit clauses, refurbishment-first or needs-based justification clauses for new construction. **Contract models:** design-build-maintain, performance-based and reuse-clause contracts. **MSME inclusion measures:** lot sizing, simplified bidding, dedicated MSME windows.	Use procurement documentation as Step 2 evidence of circular performance; integrate procurement-linked KPIs into financing covenants and reporting requirements; reference the Global Framework for Action to benchmark circular procurement criteria; recognize procurement inclusivity measures as evidence of MSME-enabling circular support.

Resource type	Description/Illustrative examples	Potential Step 2 uses
System integration documentation	**GS1 EPCIS 2.0:** Event-level traceability standard. **UNECE Recommendation 46:** Traceability and interoperability. **Open Supply Hub:** Facility ID mapping and supply chain transparency. **Material passports:** Madaster, BAMB, Concular, Upcyclea/Circuland, 2050 Materials **EU DPP and EPR Rules (2025):** Digital Product Passport and Extended Producer Responsibility. **Chain-of-custody documentation:** Verified material sourcing and reuse offtake agreements.	Document traceability coverage (EPCIS/UNECE), facility mapping and material offtake agreements; attach digital material passport records where integral; map DPP/EPR compliance relevant to the market; document secondary material offtake and quality certification for value recovery activities.
UNEP sector resources	**UNEP GlobalABC (2024):** Global Status Report and circular built environment guidance. **UNEP FI Impact Protocol (2025b):** Portfolio-level impact analysis and governance. **UNEP FI Sectors Mapping (2024c):** Mapping construction activities to impact areas. **UNEP FI Circular Solutions to Achieve Climate Targets in the Buildings and Construction Sector (2024d):** Linking circular solutions to climate transition plans.	Use UNEP GlobalABC to justify sector-level materiality; apply UNEP FI Impact Protocol for indicator selection and governance; reference Sectors Mapping to align activity classification; use UNEP FI sectoral guidance to integrate circular solutions into climate strategies and Scope 3 pathways.

Note on documentation quality: Where certificates are referenced, documentation such as material testing results, life cycle assessment data, pre-demolition audits, procurement documentation (tender specifications, life cycle performance clauses, framework agreements, design-build-maintain or performance-based contract terms and reuse clauses), or accredited laboratory reports is encouraged. Certificates may support initial screening but do not necessarily confirm circular outcomes on their own. Given the long asset lifespans characteristic of the built environment (typically 50 to 100 years), financial institutions are encouraged to consider both current performance documentation and forward-looking design documentation—including design for disassembly specifications, material passports and anticipated end-of-life recovery pathways—that substantiate circular outcomes over the building life cycle. In developing-country contexts, where more than 80% of construction may take place through informal channels, financial institutions are encouraged to adopt proportionate documentation approaches that balance rigour with accessibility for micro-, small and medium enterprises (MSMEs) and informal construction actors (UN-Habitat, 2024b).

Note on procurement-linked indicators: Where activities are financed within public procurement contexts, illustrative procurement-linked indicators may include recycled or reused content thresholds in tender specifications; mandatory pre-demolition audit requirements; embodied carbon limits in procurement specifications; and refurbishment-first or needs-based justification clauses for new

construction. Such indicators may for instance be integrated into financing covenants or reporting requirements tied to procurement contract compliance (see Table 2).

Where there is no mandatory framework, financial institutions can select their own set of circularity criteria, consisting of material, context-specific KPIs that are aligned with recognized frameworks, to assess whether an activity makes a substantial contribution to the circular economy. The following sections outline non-exhaustive, illustrative examples of criteria to assess circularity under each circular economy category, as well as resources that can be used to identify and select circularity criteria.

Circular design and production: Product, material and building design choices drive circular outcomes at the project and system level. Documentation may include how design and construction processes are being re-engineered to enable material recovery, close material loops and reduce dependence on virgin resource extraction, consistent with recognized frameworks such as ISO 20887, EN 15978 and the WorldGBC Circular Built Environment Playbook. Supporting documentation can include embodied carbon assessments and Environmental Product Declarations (EPDs) for key materials, design for disassembly specifications with reversible connections, material passports covering composition and end-of-life pathways, recycled and renewable content verification via chain-of-custody documentation (e.g. FSC/PEFC for timber, ResponsibleSteel for steel, CSC certification for concrete and aggregates, ASI Chain of Custody for aluminium and ISO 14021 or EN 15804-compliant EPDs for recycled content claims across other construction materials) and conformance with chemical management and hazardous substance screening standards. For modular and prefabricated systems, cross-project component reusability data, standardized connection specifications and factory production control records are particularly relevant. Financial institutions are encouraged to request whole-life-cycle carbon assessments (ISO 14040/44 or EN 15978) to ensure that circular material choices deliver genuine climate co-benefits.

Table 3: Example resources and indicators for circular design and production

Activity	Example KPI metrics	Additional information
Recycled and renewable material content	Percentage of building, civil engineering or infrastructure project material mass (by SKU or project level) that is recycled, renewable, or bio-based, supported by third-party chain-of-custody documentation (FSC/PEFC for timber, ResponsibleSteel for steel, CSC for concrete and aggregates, ASI for aluminium, ISO 14021 or EN 15804-compliant EPDs for other materials, or equivalent).	Documentation demonstrates substantiated material origin claims. **Risk if absent:** Misstated recycled/renewable content claims; chain-of-custody breaks; greenwashing exposure. **Reference examples:** FSC/PEFC certification standards; ResponsibleSteel; Concrete Sustainability Council (CSC) certification; Aluminium Stewardship Initiative (ASI) Chain of Custody; ISO 14021 (recycled content claims); ISO 14025 and EN 15804 (EPDs for construction products); GlobalABC material sourcing guidance. **Note:** When assessing certified sustainable timber as a renewable-material input, financial institutions are encouraged to consider the broader circular framing, including: (a) whether the timber displaces high-embodied-carbon virgin materials as part of a documented bio-based material strategy, (b) whether end-of-life recovery and reuse pathways have been specified via design for disassembly, or (c) whether urban-mined or reclaimed timber is incorporated. Reference standards include FSC/PEFC for sustainable forest management, ISO 20887 for design for disassembly and EN 15978 for whole-life carbon assessment.

Activity	Example KPI metrics	Additional information
Design for disassembly, adaptability and re-usability	Percentage of building materials or structural components designed for both disassembly and adaptability over the building life cycle, with reversible connections and documented disassembly pathways and design features supporting future reconfiguration or change of use (e.g. spatial flexibility, structural over-provisioning, standardized grids). May include DfD certification level (per ISO 20887) and anticipated end-of-life material recovery rate (%) from engineering specifications.	Documentation establishes verifiable disassembly pathways and anticipated recovery rates. **Risk if absent:** Premature lock-in of materials; high demolition waste; unverifiable circular claims. **Reference examples:** ISO 20887; GlobalABC DfD framework; BAMB Material Passport methodology; Ellen MacArthur Foundation circularity criteria.
Durability and long-life design (design-phase specification of components and materials with documented service-life performance)	Percentage of building materials or systems demonstrating durability per recognized standards (ISO 9227, ISO 12944, ISO 15686). May include expected service-life documentation (years) and maintenance-friendly design checklists.	Documentation verifies design life claims with independent test data. **Risk if absent:** Premature material failures; accelerated replacement cycles; unverifiable durability claims. **Reference examples:** ISO 9227; ISO 12944; ISO 15686; EN 15978; GlobalABC whole-life carbon and durability guidance. This indicator addresses durability and long-life design in the context of existing building renovations and retrofits, complementing the equivalent indicator in Table 2 (row 3) which addresses durability in new design and production.
Design for high-quality recyclability and material purity	Percentage of building materials that are mono-material design or pre-accepted by identified end-of-life recyclers (documented recycler specifications and quality standards). May include regional adaptation for different material sorting infrastructure.	Documentation confirms market-ready recyclability via recycler acceptance agreements and contamination thresholds. **Risk if absent:** Recyclable-in-theory only; down-cycling; stranded end-of-life inventory. **Reference examples:** ISO 20887; GlobalABC material circularity guidance; WRAP design for recyclability; EU Construction and Demolition Waste Protocol; EN 12620.

Activity	Example KPI metrics	Additional information
Chemicals management (inputs and process emissions)	Percentage of tier-1/tier-2 facilities with certified compliance to chemical management standards, hazardous substance inventory (SVHC screening per REACH) and wastewater/ emissions compliance documentation.	Documentation verifies absence of hazardous residues that block reuse or recycling pathways. **Risk if absent:** Hazardous residues blocking material reuse; environmental permit breaches; DNSH violations under EU Taxonomy. **Reference examples:** REACH SVHC Candidate List; ISO/IEC 17025; EU ESPR chemical restrictions.
Embodied carbon intensity and low-carbon material sourcing	Embodied carbon intensity (kg CO_2e/m²) via third-party LCA (ISO 14040/44 or EN 15978). Percentage of key materials (cement, steel, insulation, timber) sourced from low-carbon production pathways. May include cradle-to-gate EPD (ISO 14025) for material inputs.	Documentation quantifies carbon performance and supports climate co-benefit claims alongside circularity criteria. **Risk if absent:** Underestimated carbon footprint; greenwashing exposure; non-compliance with emerging building codes and taxonomy criteria. **Reference examples:** ISO 14040/44 (2026a,b); EN 15978; ISO 14025; ISO 21930; ECO-Platform/IBU-EPD databases; WBCSD CTI for buildings; GlobalABC whole-life carbon guidance; EU Taxonomy technical screening criteria. **Note:** Embodied carbon intensity and recycled or renewable material content (Table 2, row 1) are complementary but distinct indicators. A material can be virgin and low-carbon (e.g. low-carbon cement, geopolymer concrete) or recycled but high-carbon (e.g. recycled steel produced via coal-fired electric arc furnace). Both indicators are tracked separately to capture the full circular and decarbonization profile of an activity.

Activity	Example KPI metrics	Additional information
Modular and prefabricated design systems (factory-produced systems designed for disassembly and multi-cycle reuse)	Percentage of building components prefabricated off-site with documented integration of circular design principles—including modular design standards, standardized connections, design for disassembly and adaptability (DfDA), cross-project reusability tracking and lean or zero-waste manufacturing practices. Modular and prefabricated construction is recognized as a circular activity only where these circular design and manufacturing principles are demonstrably embedded; modular construction without such integration does not in itself constitute a circular activity. May include factory production control documentation and on-site waste diversion rates (% by mass).	Documentation demonstrates modularity enabling material recovery and reuse across multiple project cycles. **Risk if absent:** Single-use design increasing demolition waste; design lock-in reducing material recovery options. **Reference examples:** ISO 19650; buildingSMART and IFC standards; ISO 21723:2019; WBCSD CTI for buildings; GlobalABC modular construction guidance.
On-site waste minimization and construction phase circularity	Percentage of construction waste diverted from landfill via waste audits and segregation records. May include on-site material recovery rates (formwork reuse, scaffold recovery) and waste per functional unit (kg waste/m²).	Documentation demonstrates actual waste diversion and supports avoided disposal cost claims. **Risk if absent:** High landfill rates; regulatory non-compliance with C&D waste directives and EPR schemes. **Reference examples:** ISO 14001; EU Construction and Demolition Waste Protocol; WRAP construction waste guidance; WBCSD CTI for buildings; GlobalABC waste minimization standards.

Circular use: Activities extending buildings and component lifespans and optimizing utilization deliver displacement of new construction and measurable efficiency gains for building owners, occupants and communities. Documentation typically includes structural assessment reports demonstrating building lifespan extension, Energy Performance Certificates (EPCs) or equivalent energy audits verifying operational improvements through deep renovation, life cycle assessments comparing refurbishment against demolition-and-new-build baselines and occupancy or utilization data indicating higher space efficiency relative to conventional single-use models. For adaptive reuse and change-of-use conversions, architectural and engineering design specifications, heritage and planning compliance documentation and LCA evidence quantifying avoided embodied carbon are

particularly relevant. Maintenance and repair service contracts emphasizing preventive maintenance and component-level repair over replacement, with documented service-life extension outcomes, are also relevant under this category.

Interaction with EU Taxonomy renovation criteria: Under the EU Taxonomy, building renovation typically qualifies as a substantial contribution to climate change mitigation where it achieves at least a 30% reduction in primary energy demand, verified by an Energy Performance Certificate. These guidelines treat circularity as a distinct and complementary objective: a renovation may qualify as a circular solution under Step 2 based on documented material recovery, reuse, embodied carbon reduction and lifespan extension, without necessarily meeting the 30% energy threshold—and conversely, a renovation meeting the 30% threshold but lacking material circularity may qualify as a circular opportunity rather than a circular solution. Financial institutions reporting under the EU Taxonomy are encouraged to apply both assessments in parallel, recognizing that the same renovation activity may contribute to multiple sustainable finance objectives. Financial institutions that have incorporated circularity into their climate strategy and action plan are encouraged to consider whether both thresholds apply to activities they classify and report as contributing to their climate and circularity targets.

Table 4: Example resources and indicators for circular use

Activity	Example KPI metrics	Additional information
Building refurbishment and deep renovation	Percentage of existing building floor area refurbished or deep-retrofitted. Energy performance improvement (kWh/m²/year) via EPC or equivalent. Extension of building lifespan (years) via structural assessment reports. Material reuse rate during renovation (% by mass or value) via selective demolition audits. **Note:** An EPC alone is not sufficient to classify a renovation as a circular solution. Energy performance improvements are recommended to be accompanied by material-side circular interventions—such as material recovery, reuse, embodied carbon reduction, or design for adaptability—to qualify under Circular Use. Where only energy improvements are documented, the activity can be classified as a circular opportunity pending documentation of material circularity outcomes. See the "Whole-lifecycle assessment for retrofit and renovation" note in Step 1 for further detail.	Documentation quantifies avoided embodied carbon and verified energy performance gains from refurbishment over new build. **Risk if absent:** Unverified refurbishment claims; premature building abandonment; missed material recovery opportunities. **Reference examples:** ISO 15686; EN 15978; EU Energy Performance of Buildings Directive; GlobalABC renovation roadmaps; WRAP guidance on renovation and deconstruction; ASHRAE energy audit standards.

Activity	Example KPI metrics	Additional information
Adaptive reuse and change-of-use conversions	Number of buildings adaptively reused, with architectural and engineering design specifications. Reduction in embodied carbon versus new-build baseline, quantified via LCA (ISO 14040/44 or EN 15978).	Documentation confirms verified end-use conversion and quantifies embodied carbon avoidance relative to a new-build baseline. **Risk if absent:** Speculative adaptive reuse claims; embodied carbon avoidance overstated without LCA. **Reference examples:** EN 15978; ISO 14040/44; ICOMOS Adaptive Reuse best practice guides; New European Bauhaus longevity guidelines; GlobalABC adaptive reuse frameworks; UNESCO heritage building guidance.
Buildings and space utilization optimization	Building utilization rate (occupancy as a percentage of total capacity) tracked via monitoring systems. Avoided new construction quantified by comparing floor area or embodied carbon to a new-build baseline. **Note:** Utilization-rate indicators can be calibrated to building type, occupancy patterns and contextual norms (e.g. residential versus commercial, regional or cultural occupancy expectations, tenant turnover). Financial institutions are encouraged to use baseline-relative improvements rather than absolute thresholds, supported by pre- and post-intervention occupancy data.	Documentation substantiates actual utilization gains and avoids construction rather than theoretical projections. **Risk if absent:** Shared-use models not verified against actual occupancy; avoided new-construction baselines speculative. **Reference examples:** WBCSD CTI for buildings; Ellen MacArthur Foundation shared economy frameworks; GlobalABC flexible design and space optimization guidance.
Maintenance, repair and refurbishment service models (including for building equipment and services—HVAC, electrical, lifts, plumbing)	Percentage of buildings or portfolio with documented maintenance, repair and refurbishment contracts emphasizing preventive maintenance, component-level repair and refurbishment of building equipment and services (HVAC, electrical, lifts, plumbing) over full replacement. Service-life extension rates (years of additional life) and verified spare parts availability documented.	Documentation formalizes maintenance pathways and extends service life, reducing embodied carbon from premature replacements. **Risk if absent:** Premature system failures; replacement culture replacing repair; spare parts unavailability stranding buildings. **Reference examples:** ISO 14001; ISO 15686; GlobalABC maintenance and repair guidance; Ellen MacArthur Foundation product-as-a-service models.

Activity	Example KPI metrics	Additional information
Flexible and modular interior design (reconfigurable layouts and fit-out that extend the useful life of existing space without structural intervention)	Percentage of building interiors designed with flexible, reconfigurable systems (modular partitions, standardized mechanical, electrical and plumbing (MEP) routing) enabling future reconfigurations without structural changes. Documentation via BIM models (ISO 19650) and design specifications showing anticipated reuse across multiple use-change cycles.	Documentation confirms adaptability features with anticipated multi-cycle reuse scenarios. **Risk if absent:** Repeated deep renovations generating unnecessary waste; design lock-in limiting future adaptation. **Reference examples:** ISO 19650; buildingSMART and IFC standards; GlobalABC flexible design guidance; New European Bauhaus design for longevity. As with modular construction (Table 2, row 7), flexible and modular interior design is recognized as a circular activity only where it integrates circular design principles—including standardized connections enabling reconfiguration and reuse, design for disassembly, durable component selection and lean or zero-waste manufacturing.
Extended use through avoided new construction	Quantified avoided embodied carbon (kg CO_2e) from extending existing building lifespan versus demolition and new-build baseline. Material stock preservation (tonnes of materials retained in use). Documentation via LCA comparison (ISO 14040/44, EN 15978) and new-construction baseline scenario analysis.	Documentation quantifies material stock preservation and carbon avoidance with credible baseline comparisons. **Risk if absent:** Embodied carbon avoidance unquantified; avoided new construction not substantiated against market demand. **Reference examples:** EN 15978; ISO 14040/44; GlobalABC whole-life carbon assessment guidance; UNEP Circular Economy Supplement. **Note:** This indicator addresses lifespan extension within the same use case (continued operation of an existing building beyond its initially anticipated life). Row 2 (Adaptive reuse and change-of-use conversions) addresses change-of-use repurposing (e.g. office to residential conversion). Both contribute to avoided new construction.

Circular value recovery: Activities that recover value from construction and demolition waste streams through selective deconstruction, material salvage, mechanical and chemical recycling, urban

mining, or secondary material market development, with documented recovery rates, material quality verification and confirmed end-market demand. Documentation typically includes pre-demolition material inventories and audits identifying recoverable components and hazardous substances (asbestos, lead, PCBs, PFAS), deconstruction records demonstrating recovery rates (% by mass or value), laboratory analysis confirming that secondary materials meet recognized quality standards (EN 12620 for recycled concrete aggregates, EN 10149 for recycled steel) and offtake agreements or secondary material sales records covering substantial portions of recovered volumes. Hazardous material management is particularly critical in the buildings and construction sector given the legacy of hazardous substances in existing building stock; pre-demolition audits, remediation protocols and worker safety measures consistent with ILO Convention 167 and ISO 45001 are encouraged as integral components of value recovery documentation.

Table 5: Example resources and indicators for circular value recovery

Activity	Example KPI metrics	Additional information
Material recovery and waste diversion from deconstruction and demolition	Percentage of C&D waste diverted from landfill (% by mass) via waste audits and disposal tracking. Material recovery rate from deconstruction and demolition (% by mass or value) via deconstruction audit reports. Quantity of materials prepared for reuse versus recycling (tonnes per project).	Documentation demonstrates actual recovery rates rather than projected or theoretical figures. **Risk if absent:** Waste diversion claims unsubstantiated; down-cycling of high-value materials; regulatory non-compliance under emerging EU EPR directives. **Reference examples:** ISO 14001; EU Construction and Demolition Waste Protocol; WRAP deconstruction guidance; GlobalABC material circularity metrics; EN 15978; UNEP Guidelines for Management of Construction and Demolition Waste.
High-value material recovery and reuse through deconstruction	Percentage of structural or high-value materials recovered (steel, timber, masonry, MEP systems, façade elements) via pre-demolition inventory and recovery planning. Reusable material quality verified through material testing and grading reports. End markets documented through buyer agreements and offtake commitments.	Documentation verifies market acceptance and quality standards for high-value recovered materials before and after recovery. **Risk if absent:** High-value materials unnecessarily down-cycled; reuse claims unverified; stranded inventory with no identified end-market. **Reference examples:** BAMB Material Passport methodology; ISO 20887; Madaster, BAMB, Concular, Circuland; GlobalABC material recovery guidance; Ellen MacArthur Foundation urban mining frameworks.

Activity	Example KPI metrics	Additional information
Urban mining operations	Mass of materials recovered for reuse (tonnes per demolition project) via urban mining feasibility studies and material audits. Percentage of recovered materials successfully integrated into end-use construction applications—either via secondary markets with documented offtake, or via documented internal closed-loop reuse within the client's own portfolio (e.g. demolition material reused in subsequent construction projects by the same entity). Economic value recovery compared to virgin material cost baselines via cost-benefit analysis.	Documentation substantiates viability of urban mining through confirmed end-use acceptance—either via external secondary market integration or internal closed-loop reuse—and economic performance. Both pathways constitute legitimate circular value recovery, provided traceability and material quality assurance are documented. **Risk if absent:** Urban mining viability unsubstantiated; recovered materials stockpiled or downgraded to waste; circular contribution claims not credible. **Reference examples:** UNEP urban mining guidance; Madaster, Concular, Circuland, BAMB platforms; Ellen MacArthur Foundation material recovery frameworks; WRAP material valuation guidance; GlobalABC material recovery economics.
Construction and demolition waste sorting and grading	Percentage of incoming C&D waste sorted into material streams (concrete, steel, timber, masonry, hazardous waste) via facility operational data. Quality of secondary materials produced (purity, contamination rates) per industry standards (EN 12620, EN 10149).	Documentation verifies sorting quality and secondary material market demand for claimed output volumes. **Risk if absent:** Material sorting quality not verified; secondary materials failing specifications; contamination unacceptable for reuse pathways. **Reference examples:** ISO 14001; EU Construction and Demolition Waste Protocol; EN 12620; EN 10149; ASEAN Circular Economy Monitoring Framework.

Activity	Example KPI metrics	Additional information
Recycling infrastructure and secondary material production	Throughput capacity (tonnes/year) via facility operational records and actual production data. Quality certification of secondary materials (grade specifications, purity, contamination limits) via third-party testing (ISO/IEC 17025). Market demand confirmed through offtake agreements, buyer specifications and pricing relative to virgin alternatives.	Documentation confirms operational capacity, material quality and confirmed end-market demand for secondary outputs. **Risk if absent:** Infrastructure capacity overstated; secondary material quality below market specifications; no confirmed offtake agreements; greenwashing risk. **Reference examples:** ISO 14001; ISO/IEC 17025; EN 12620; EN 10149; WRAP; GlobalABC material recovery and recycling standards. **Note:** Digital and online material exchange marketplaces, exchange platforms and decision-support software are addressed under the circular support category as enabling infrastructure, distinct from the physical recycling and secondary material production infrastructure addressed in this row.
Material traceability and chain-of-custody for recovered materials	Percentage of recovered materials with documented chain-of-custody (CoC) tracking from source through sorting, processing, to end-use. May include digital material passport data or equivalent traceability systems (GS1 EPCIS/UNECE Rec 46) enabling verification of material origin, quality and end-market.	Documentation enables end-to-end verification and supports compliance with emerging digital product passport and EPR regulations. **Risk if absent:** Material origin unverified; contamination risk undetected; regulatory compliance gaps under EPR and Digital Product Passport regulations. **Reference examples:** GS1 EPCIS 2.0; UNECE Recommendation 46; Madaster, BAMB, Concular, Circuland passports; ISO 14001; GlobalABC material traceability guidance; EU Digital Product Passport framework.

Activity	Example KPI metrics	Additional information
Hazardous material management during deconstruction	Percentage of buildings subject to pre-demolition hazardous material audits (asbestos, lead, PCBs, PFAS) per recognized protocols. Quantity of hazardous materials identified, safely removed and properly disposed (tonnes or volume) via audit reports and waste management documentation. Worker safety measures and regulatory compliance verified through occupational health and safety records (ISO 45001 or equivalent).	Documentation verifies safe handling and removal to prevent contamination of secondary material streams and protect worker health. **Risk if absent:** Hazardous materials contaminating secondary material streams; worker exposure to toxic substances; regulatory violations; secondary market rejection. **Reference examples:** ISO 45001; ILO Convention 167; REACH SVHC Candidate List; pre-demolition audit protocols (ISO 22262, parts 1–3, for asbestos); GlobalABC hazardous material management guidance.

Circular support: Financial institutions are encouraged to assess whether digital platforms, assessment services, data infrastructure and other enabling tools facilitate circular economy outcomes for buildings and construction value chain actors. Relevant documentation typically includes system integration specifications and interoperability testing illustrating connectivity with major BIM platforms, material passport systems and construction management tools; calibration records and audit reports regarding data accuracy and reliability; and adoption metrics such as active project coverage, geographic reach and usage intensity. Case studies documenting circular outcomes enabled for other value chain participants—such as material recovery improvements, embodied carbon reductions, or design for disassembly implementation rates—are particularly valuable. Digital material passport platforms may demonstrate material composition coverage, alignment with emerging digital product passport requirements and interoperability with open standards such as GS1 EPCIS 2.0 and UNECE Recommendation 46, underpinned by robust data governance and alignment with ESRS E5 and ISO 22057.

Note on data infrastructure activities: Activities focused on circular data infrastructure—including EPD generation, LCA services and BIM-based circularity tracking platforms—can be assessed against whether they are linked to documented performance targets (e.g. embodied carbon intensity reduction trajectories, recycled content thresholds, or material recovery rate commitments). Where no such linkage exists, these activities are typically classified as circular opportunities rather than circular solutions, with client engagement encouraged to establish clear transition pathways before reclassification.

Where circular support activities operate within public procurement systems, financial institutions are encouraged to recognize procurement inclusivity measures—such as lot sizing, simplified bidding requirements, dedicated MSME windows and capacity-building for circular tender participation—as evidence that financing supports procurement systems actively enabling MSME participation in circular value chains.

Table 6: Example resources and indicators for circular support

Activity	Example KPI metrics	Additional information
Digital material passports and traceability platforms	Number of buildings with material passports covering material composition, quantities and end-of-life pathways. Data completeness (% of SKUs or components with tier-level traceability). Degree of alignment with EU Digital Product Passport requirements.	Documentation demonstrates that material data is accessible, standardized and aligned with emerging regulatory requirements. **Risk if absent:** Inability to substantiate material origin; barriers to EPR and Digital Product Passport participation; greenwashing due to unverifiable data. **Reference examples:** BAMB Material Passport methodology; ISO 22057; GS1 EPCIS 2.0; UNECE Recommendation 46; Madaster, Concular, Circuland passports; EU Ecodesign for Sustainable Products Regulation.
Design for disassembly (DfD) assessment and verification services	Number of projects assessed or supported for DfD implementation via audit reports and project portfolios. Evidence of technical feasibility and economic viability of disassembly pathways via feasibility studies and cost-benefit analyses. Assessment of supply-chain readiness for reuse (availability of reuse-grade receiving facilities and secondary markets) via infrastructure mapping.	Documentation demonstrates tested disassembly pathways and viable secondary markets rather than theoretical DfD claims. **Risk if absent:** DfD claims theoretical with no tested pathways; high-value materials demolished and down-cycled; reuse markets underdeveloped. **Reference examples:** ISO 20887; GlobalABC DfD guidance; BAMB toolkit; Arup DfD methodologies; regional circular economy monitoring frameworks.
Environmental product declarations (EPD) and LCA data infrastructure	Number and share of key products with third-party verified EPDs accessible through recognized databases. Coverage of critical building material categories (cement, steel, insulation, timber, glazing, finishes) with LCA or EPD data.	Documentation confirms supply-chain coverage and accessibility of embodied carbon data for credible circular design decisions. **Risk if absent:** Embodied carbon performance cannot be robustly quantified; risk of overstated climate and circular benefits; misalignment with taxonomy criteria and building codes. **Reference examples:** ISO 14025; ISO 14040/44; EN 15978; ISO 21930; ECO-Platform and IBU EPD databases; GRI 301.

Activity	Example KPI metrics	Additional information
Building information modelling (BIM) integration for circular planning	Percentage of projects using BIM with material tracking or circularity features enabled (material libraries with recyclability attributes, disassembly sequencing). Degree of integration of circular economy data into BIM workflows, including end-of-life scenarios and material passports linked to model elements. Evidence of interoperability with digital material passports and traceability systems via system-integration specifications.	Documentation demonstrates BIM is used as an active circular planning tool rather than solely for design coordination. **Risk if absent:** BIM potential as circular planning tool unrealized; material data fragmented; higher costs for circular value recovery. **Reference examples:** ISO 19650; buildingSMART and IFC standards; ISO 22057; GS1 EPCIS-based data-exchange standards.
Circular performance analytics, reporting and support services	Number of clients or projects supported with circular performance assessments (material flow analyses, circularity indices, portfolio-level baselines). Availability of standardized circular KPIs aligned with recognized frameworks and evidence of integration into financing decisions.	Documentation demonstrates systematic measurement and communication of circular performance, enabling portfolio-level aggregation. **Risk if absent:** Circular activities not systematically measured; limited ability to link circular performance to financing terms or impact strategies. **Reference examples:** ISO 59020; WBCSD CTI for buildings; UNEP FI Impact Protocol; ESRS E5; GRI; ASEAN circular economy monitoring frameworks.

Outcomes of Step 2

Based on the selected circularity criteria, financial institutions will be able to assess whether activities already make a substantial contribution to the circular economy or have the potential to do so, thereby classifying them into one of two outcomes:

Circular solutions: Activities that meet all criteria defined by the financial institution for substantial contribution and demonstrate circular performance. These activities proceed directly to Step 3 for interlinkages assessment.

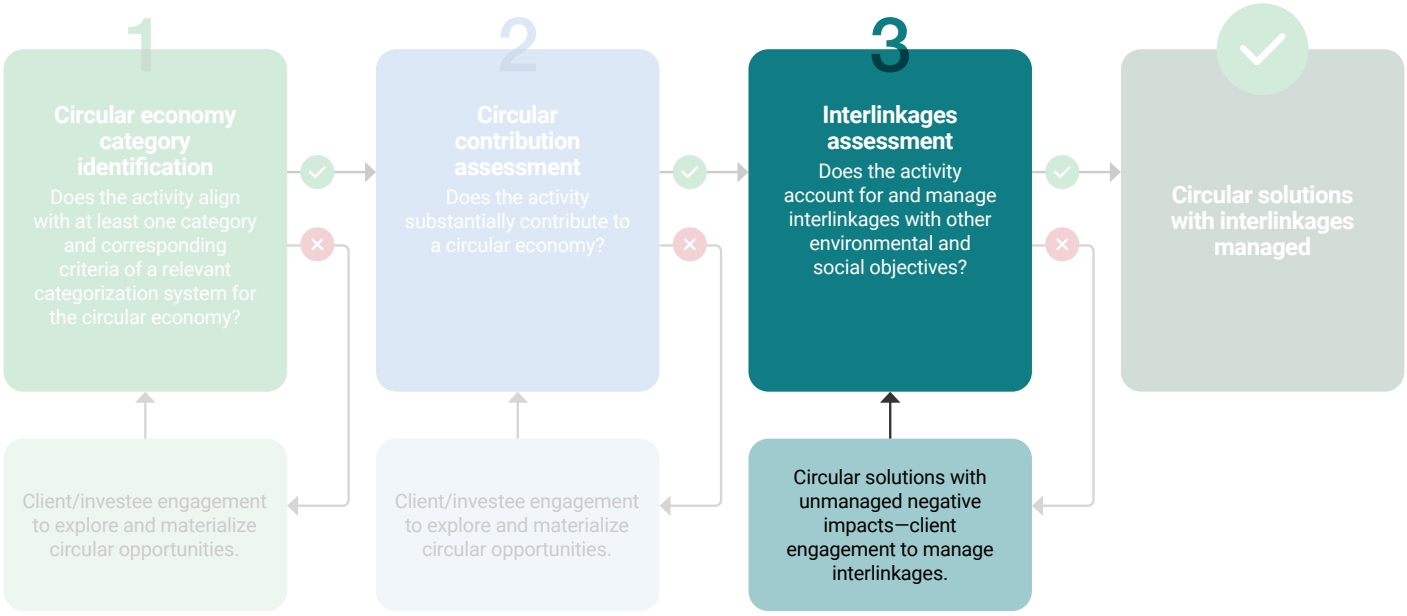
Circular opportunities: Activities that demonstrate circular potential but do not yet meet all circularity criteria required by the financial institutions may need client engagement pathways. This outcome may include innovation-stage solutions illustrating clear circular potential but awaiting commercial-scale validation. For such activities, financial institutions are encouraged to:

1. Develop comprehensive documentation packages for substantial contribution assessment.
2. Understand transition plans their clients could define, with quantified circularity targets.

3. Address identified documentation gaps, scale-up requirements or performance thresholds.
4. Implement monitoring and reporting systems to track progress toward circular solutions status.

This will help financial institutions to define how to best support their clients in increasing circularity of their activities. Financial institutions can support circular opportunities through technical assistance, blended finance mechanisms and tailored or phased financing, supporting the transition toward circular solution classification.

Step 3: Interlinkages assessment



Purpose: Step 3 assesses interlinkages between circular buildings and construction activities and other environmental and social objectives. The assessment comprises three components: (a) DNSH screening across environmental objectives; (b) social objectives assessment, confirming alignment with minimum social safeguards; and (c) co-benefits identification, capturing positive potential interlinkages across environmental and social objectives. Annex 3 presents detailed environmental and social material impacts specific to buildings and construction activities, supporting this assessment. Beyond avoiding negative impacts, circular solutions often generate substantial co-benefits across climate, nature, pollution and social dimensions, such as reduced embodied carbon, conserved natural resources, improved occupant health and safety and positive outcomes for construction workers and communities.

Interlinkages assessment

Step 3 applies the established interlinkages assessment methodology, widely adopted by financial institutions globally and embedded in multiple sustainable finance taxonomies. Given the buildings and construction sector's material impact profile across environmental (climate, resource depletion, biodiversity, water, pollution, waste) and social (worker safety, community displacement, occupant health) dimensions, this assessment prioritizes interlinkages most relevant to construction-specific impacts.

Relationship to institutional safeguard frameworks: Step 3 is designed as a proportionate interlinkages check, not as a replacement for or duplication of existing environmental and social safeguard frameworks used by financial institutions. Financial institutions operating with established

E&S frameworks—such as IFC Performance Standards, the EIB Group Environmental and Social Standards Framework (ESSF), MDB environmental and social frameworks, or national equivalents—can apply Step 3 as a focused cross-check to confirm that circular economy classification is consistent with existing E&S frameworks. For institutions without such frameworks, Step 3 provides a structured minimum baseline for assessing interlinkages. In both cases, the purpose is the same: to ensure that activities classified as circular solutions do not cause unmanaged significant harm to other environmental or social objectives. The depth of assessment is recommended to be proportionate to the activity's risk profile, scale and context.

Climate mitigation and adaptation: Financial institutions may reference Science-Based Targets (SBTi) frameworks to ensure circular buildings and construction interventions align with climate transition pathways. The SBTi Buildings Sector Science-Based Target Setting Guidance recognizes that circular strategies—design for disassembly, material reuse and whole-life carbon optimization—are critical to achieving the 1.5°C pathway. Where corporate clients have committed to SBTi-validated targets (Scope 1, 2 and 3 emissions), financial institutions are encouraged to screen financed circular activities to confirm they support, rather than undermine, these commitments (UNEP FI, 2025d). For climate adaptation, a physical climate risk assessment (PCRA) is typically the first step in resilience-linked design, informing how circular interventions can reduce exposure and vulnerability across the value chain. Sector-specific guidance includes UNEP's *Practical Guide to Climate-resilient Buildings and Communities* (UNEP, 2021) and the Dutch Green Building Council *Framework for Climate Adaptive Building* (DGBC, 2024).

Circular economy activities can generate positive climate co-benefits (e.g. material reuse reducing energy-intensive virgin production, design for longevity extending building lifespans) or potential negative impacts if not designed appropriately (e.g. energy-intensive recycling processes, transport emissions from long-distance material recovery). Table 7 proposes screening questions for climate change mitigation and adaptation.

Nature (biodiversity and ecosystems): For activities with material impacts on land use, freshwater, or biodiversity (such as quarrying, demolition site remediation, or material sourcing), financial institutions may additionally consider alignment with the Global Biodiversity Framework (GBF) and nature-based targets. The Taskforce on Nature-related Financial Disclosures (TNFD) LEAP approach and Science Based Targets Network (SBTN) framework provide methodologies for assessing dependencies and impacts on land, freshwater and biodiversity.

Circular economy activities can generate positive nature co-benefits (e.g. reduced virgin aggregate extraction preserving landscapes and habitats, brownfield remediation restoring urban biodiversity) or potential negative impacts (e.g. contaminated material reuse affecting soil or water quality, demolition waste storage displacing habitats). Table 7 proposes screening questions for biodiversity and ecosystem protection.

Pollution prevention and control: Environmental safeguards related to pollution encompass responsible chemicals and hazardous materials management at both policy and operational levels: alignment with the GBF target 7 on pollution and the Global Framework on Chemicals (GFC) targets (see Box 5) for life-cycle-based policy commitments and adherence to operational controls on hazardous substances in building materials and construction processes. Additional safeguards include mitigation of construction and demolition waste pollution, dust and particulate emissions and water contamination from site run-off.

Circular economy activities can generate positive pollution co-benefits (e.g. reduced virgin material extraction limiting associated emissions, closed-loop material flows reducing landfill leachate) or

potential negative impacts (e.g. hazardous substance release during demolition or material recovery, contaminated recycled aggregate affecting soil or groundwater). Table 7 proposes screening questions for pollution prevention and control.

Financial institutions are encouraged to apply a tiered approach to hazardous-substance screening, aligned with the Global Framework on Chemicals: substances requiring strict exclusion or controlled removal (e.g. asbestos, polychlorinated biphenyls (PCBs), lead-based paints); substances requiring active management (e.g. per- and polyfluoroalkyl substances (PFAS), hexabromocyclododecane (HBCD), certain phthalates); and substances under regulatory or scientific review (e.g. microplastics from construction materials, novel flame retardants). See also UNEP FI *Circular Solutions to Achieve Climate Targets in the Buildings and Construction sector* (2024d).

Box 5: The Global Framework on Chemicals and hazardous substances in the buildings and construction sector

Adopted at the fifth International Conference on Chemicals Management (ICCM5) in Bonn, Germany (September 2023), the *Global Framework on Chemicals* (GFC) provides comprehensive guidance for preventing adverse impacts from chemicals and waste across their life cycle. Structured around five strategic objectives and twenty-eight targets, the GFC establishes a global reference point for chemical safety and life cycle stewardship. Target D3 calls on the private sector (including financial institutions) to integrate sound chemicals and waste management into finance approaches, reinforcing the role of capital flows in mitigating chemical risks (UNEP, 2023a).

The GFC articulates a shared vision of "a planet free of harm from chemicals and waste" and sets out principles for safe chemical use across key value chains, including buildings and construction. While non-binding, it encourages national implementation through enabling legislation by 2030 and supports transitions to circular economy models that reduce chemical pollution across product life cycles.

For the buildings and construction sector, hazardous substance management is a core circular economy safeguard. Legacy building stock contains multiple categories of hazardous materials—including asbestos, lead-based paint, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS) and volatile organic compounds (VOCs)—that must be identified, safely managed and excluded from circular material flows. Pre-demolition audits, material passports and hazardous substance registries are essential tools for ensuring recovered materials are safe for reuse and recycling.

The EU Construction Products Regulation (CPR) revision, REACH Regulation and national hazardous waste frameworks provide regulatory reference points for financial institutions screening construction-related circular activities.

Financial institutions are encouraged to screen buildings and construction activities for hazardous substance management as a core pollution safeguard, and to request documented pre-demolition audits, hazardous material inventories and compliance with applicable regulations as a condition for circular economy classification. Circular economy activities that extend building lifespans, enable safe material recovery and substitute hazardous inputs with safer alternatives directly support GFC objectives and reduce long-term environmental liability for financial institutions.

Social objectives assessment: Financial institutions are encouraged to assess whether buildings and construction activities are aligned with social objectives, demonstrating conformance with international labour and human rights standards including safe working conditions, reasonable working hours, living wages, non-discrimination and effective grievance mechanisms across all supply chains (from material extraction through construction, renovation, demolition and material recovery).

For activities affecting building occupants, residents and surrounding communities—including refurbishment, retrofit, adaptive reuse, deconstruction and upstream material extraction—financial institutions are encouraged to assess alignment with the right to adequate housing, drawing on the seven elements defined in CESCR General Comment No. 4 (1991): security of tenure, availability of services, materials, facilities and infrastructure, affordability, habitability, accessibility, location and cultural adequacy. Robust anti-displacement safeguards should be applied, addressing both direct displacement (e.g. eviction) and indirect displacement (e.g. green or climate gentrification driven by retrofit-induced rent increases). These safeguards are particularly important in contexts where formal land tenure frameworks are weak or absent, such as informal settlements or areas governed by customary tenure systems.

Financial institutions are encouraged to integrate circularity screening with human rights and labour due diligence using frameworks such as the ILO Safety and Health in Construction Convention (C167) and the UN Guiding Principles on Business and Human Rights. The UNEP FI *Human Rights Toolkit* (2025d) identifies salient human rights risks in the buildings and construction sector and its value chains and provides due diligence guidance for financial institutions engaging with clients on labour standards, occupational safety and community impacts.

Circular economy activities can generate positive social co-benefits (e.g. local employment in repair, renovation and material recovery operations; skills development in circular construction techniques; community regeneration through adaptive reuse) or potential negative impacts (e.g. unsafe working conditions in demolition and material recovery, informal labour exploitation, community displacement from large-scale redevelopment). Table 7 provides screening questions for labour rights and community rights.

Consumer and occupant health and safety: Buildings and construction activities have a distinctive social dimension: the long-term health, safety and well-being of building occupants and end users. Financial institutions are encouraged to assess whether circular activities maintain or enhance indoor environmental quality, structural safety and material health throughout the building life cycle. Relevant safeguards include compliance with building codes and fire safety regulations, indoor air quality standards and material health certifications (e.g. Cradle to Cradle Certified, Health Product Declaration). This is particularly material for activities involving reused or recycled materials, where quality assurance and hazardous substance screening (see Box 5) are essential to safeguard occupant health.

Assessment process

Step 3 assesses interlinkages by applying structured illustrative screening questions from Table 7 across environmental and social objectives. For environmental objectives, the assessment applies DNSH principles to avoid burden shifting: a “No” or partial response to a screening question, or evidence from supporting documentation that the activity falls below thresholds in referenced source frameworks (e.g. EU Taxonomy DNSH criteria, IFC Performance Standards, ASEAN Taxonomy V3), indicates a potential negative impact requiring management or mitigation. For social objectives, the assessment confirms alignment with minimum social safeguards. Sector-specific resources for each objective are detailed in Table 7. Responses to screening questions can be supported by permits, audit

reports, environmental impact assessments, pre-demolition audit records, material passports and third-party certifications.

Financial institutions are encouraged to evaluate the magnitude and likelihood of identified impacts using a two-dimensional assessment, considering both the potential magnitude of harm (e.g. irreversible contamination, structural safety failure) or benefit and probability of occurrence. Impact classification can be aligned with taxonomy frameworks.

Table 7 presents an illustrative interlinkages screening matrix enabling financial institutions to systematically assess whether buildings and construction activities: (a) cause significant harm to other environmental objectives (DNSH screening); (b) meet minimum social safeguards (social objectives assessment); or (c) generate positive co-benefits across environmental and social objectives. Detailed illustrative construction-specific material impact topics are provided in Annex 3.

Table 7: Interlinkages assessment with other environmental and social objectives for circular economy activities in the buildings and construction sector (non-exhaustive)

Environmental objective	Illustrative screening criteria questions and examples	Examples of source frameworks
Climate mitigation	**Question:** Does the activity avoid material increases in whole-life carbon emissions, including embodied carbon and is it consistent with a 1.5°C pathway where applicable? **Illustrative examples:** Whole-life carbon assessments (EN 15978); material reuse plans reducing embodied carbon; renewable energy in construction processes; SBTi-aligned emission reduction targets with timelines	SBTi Buildings Sector guidance; EN 15978 whole-life carbon assessment; CRREM (Carbon Risk Real Estate Monitor) decarbonization pathways for real estate (CRREM, 2024); ASEAN Taxonomy V3 Section 3.1 (ASEAN Taxonomy Board, 2024); EU Taxonomy DNSH climate criteria (European Union, 2020).
Climate adaptation	**Question:** Has the activity implemented physical climate risk assessment and adaptation measures appropriate to the buildings and construction context? **Illustrative examples:** Physical climate risk assessment (PCRA) documentation; climate-resilient design specifications (flood-resistant foundations, heat-adaptive building envelopes, passive design strategies—e.g. passive cooling and ventilation, thermal mass, passive solar gain—to maintain habitability under extreme weather); passive design strategies leveraging thermal mass of existing or reused structures for efficient cooling; documented adaptation of construction practices to changing climate conditions; alignment with National Adaptation Plans (NAPs) where applicable (see Box 6).	UNEP FI Practical Guidance on Implementing Adaptation and Resilience for Banks (UNEP FI, 2025c); UNEP FI Adaptation and Resilience Impact Measurement Toolkit (UNEP FI, 2025f); TNFD LEAP methodology; ASEAN Taxonomy adaptation criteria (ASEAN Taxonomy Board, 2024); GlobalABC Climate Action Roadmap Toolkit (GlobalABC, 2024a); SBTi buildings sector climate adaptation guidance.

Environmental objective	Illustrative screening criteria questions and examples	Examples of source frameworks
Water and marine resources	**Question:** Are water quality protection and conservation management plans developed and implemented to prevent over-abstraction and pollution from construction activities? **Illustrative examples:** Water management plans for construction sites; discharge quality monitoring; sediment and run-off control measures; water recycling systems for on-site processes.	Alliance for Water Stewardship (AWS) International Water Stewardship Standard; ASEAN Taxonomy V3 Annex 2 Section 4.3 Water and marine resources (ASEAN Taxonomy Board, 2024); IFC Performance Standard 3 Resource Efficiency (IFC, 2012); EU Taxonomy water criteria (European Union, 2020).
Biodiversity and ecosystems	**Question:** Have biodiversity management plans been developed and implemented for potentially affected areas, including demolition sites and material sourcing locations? **Illustrative examples:** Biodiversity management action plans; ecological impact assessments for demolition and construction sites; brownfield remediation and habitat restoration plans; stakeholder consultation records; geospatial land-use assessments.	ASEAN Taxonomy V3 Annex 2 Section 4.7 Biodiversity (ASEAN Taxonomy Board, 2024); TNFD LEAP approach; ENCORE database for construction material dependencies; IFC Performance Standard 6 Biodiversity Conservation (IFC, 2012); EU Taxonomy biodiversity criteria (European Union, 2020).
Pollution prevention and control	**Question:** Can the activity demonstrate that the operation does not cause significant harm through pollutant emissions to air, water, or soil, including from hazardous substances in building materials? **Illustrative examples:** Pre-demolition audit reports with hazardous material inventories; asbestos and lead management plans; dust and particulate emission controls; construction waste management plans; leachate and run-off monitoring.	Global Framework on Chemicals (UNEP, 2023a); Stockholm Convention on Persistent Organic Pollutants; Rotterdam Convention; Basel Convention; ASEAN Taxonomy V3 Annex 2 Section 4.5 (ASEAN Taxonomy Board, 2024); EU Taxonomy pollution criteria (European Union, 2020); WHO Global Air Quality Guidelines (2021); national hazardous waste regulations.

Environmental objective	Illustrative screening criteria questions and examples	Examples of source frameworks
Social objectives assessment		
Decent work and occupational health	**Questions:** Are occupational health and safety management systems implemented in accordance with ISO 45001 and ILO Convention 167? What type of health and safety training is provided? How frequently and to whom? Does the company have a modern slavery policy or similar policy on the prohibition of forced labour? Does the company carry out background checks on agencies, labour providers or subcontractors, or include relevant clauses in contracts? **Illustrative examples:** Health and safety management system documentation; training records on hazardous material handling, demolition safety and equipment operation; incident logs and investigation protocols; worker consultation and representation mechanisms.	ILO Declaration on Fundamental Principles and Rights at Work (core labour standards) (ILO, 1998); ILO Convention 167 Safety and Health in Construction (ILO, 1988); ISO 45001 Occupational Health and Safety (ISO, 2018b); GRI 403:2018 Occupational Health and Safety (GRI, 2018); UN Guiding Principles on Business and Human Rights (UN, 2011); EU Taxonomy minimum social safeguards, Art. 18 (European Union, 2020); UNEP FI Human Rights Toolkit (UNEP FI, 2025d).
Adequate living standards and well-being	**Questions:** Do circular economy activities maintain or improve participant income levels compared to baseline? Are support mechanisms in place for workers transitioning to circular construction practices? Does the activity respect the right to adequate housing (CESCR GC No. 4), including security of tenure, affordability, habitability, accessibility and cultural adequacy? Are anti-displacement safeguards in place addressing both direct and indirect displacement (including green/climate gentrification), particularly in contexts of weak or customary land tenure? **Illustrative examples:** Living wage assessments; contracts showing fair payment terms; transitional support programmes (retraining, skills certification); worker satisfaction surveys.	ILO Decent Work framework (ILO, 1999); UN Guiding Principles on Business and Human Rights (UN, 2011); ISEAL Living Income and Living Wage benchmarks; ESRS S1 workforce well-being (European Commission, 2023b).

Environmental objective	Illustrative screening criteria questions and examples	Examples of source frameworks
Inclusive and sustainable communities	**Questions:** Are community relations managed in accordance with UN *Guiding Principles on Business and Human Rights*? Are there regulations in respect of resettlement, land access and compulsory acquisition and are these aligned with international standards? **Illustrative examples:** Community consultation records; FPIC agreements; displacement risk assessments and mitigation plans; grievance mechanism documentation; benefit-sharing arrangements.	UN Guiding Principles on Business and Human Rights (UN, 2011); IFC Performance Standard 5 Land Acquisition and Involuntary Resettlement (IFC, 2012); IFC Performance Standard 7 Indigenous Peoples (IFC, 2012); ILO Convention 169 Indigenous and Tribal Peoples (ILO, 1989); ESRS S3 affected communities (European Commission, 2023b).
Consumer and occupant health and safety	**Questions:** Does the activity maintain or enhance building occupant health, safety and well-being through material health assurance, indoor environmental quality and structural integrity? **Illustrative examples:** Material health certifications for reused/recycled building products; indoor air quality testing; structural integrity assessments for buildings incorporating reclaimed materials; fire safety compliance documentation; post-occupancy evaluations.	WHO Indoor Air Quality Guidelines; national building codes and occupant safety regulations; Cradle to Cradle Certified material health standards; WELL Building Standard health and well-being criteria; EU Construction Products Regulation (CPR) essential requirements; ESRS S4 consumers and end users (European Commission, 2023b).

Note on evidence proportionality—hazardous material assessment: The underlying requirement to identify and manage hazardous material risk (asbestos, lead, PCBs, PFAS and other substances of concern) applies across all contexts. The acceptable form of evidence, however, may be adapted proportionately where jurisdiction-specific pre-demolition audit requirements or formal hazardous material inventory systems are absent. In such contexts, financial institutions may accept alternative evidence commensurate with the risk profile—including targeted sampling records, nationally recognized expert assessment, documented screening against known substance lists (e.g. REACH SVHC Candidate List, Stockholm Convention POPs schedule, WHO/IARC hazardous substance classifications), or site inspection records. Financial institutions are encouraged to use client engagement to support voluntary adoption by their clients of international best-practice audit standards (e.g. ISO 20887, EN 17210) over time. This proportionality note does not lower the substantive threshold for hazardous material risk management; it recognizes the diversity of regulatory and technical infrastructure across markets.

Box 6: Cross-cutting climate adaptation and resilience

Circular economy activities in buildings and construction can generate material climate adaptation and resilience co-benefits by reducing exposure and vulnerability to physical climate risks. Buildings and infrastructure are exposed to escalating physical climate hazards including extreme heat, flooding, storm damage and wildfire. Without adaptation action, unavoidable global damages are projected to reach approximately US$ 204 billion per year over 2025–2034, with the built environment and infrastructure among the sectors most exposed (GlobalABC, 2024b, citing OECD, 2009). The physical climate risk equation (Hazard × Exposure × Vulnerability) provides the analytical framework for understanding how circular interventions reduce each component:

- **Supply chain resilience through reduced virgin material dependency:** Closed-loop material flows (material reuse, recycled aggregate, reclaimed structural elements) reduce exposure to climate-vulnerable virgin material supply chains—including energy-intensive cement and steel production subject to carbon pricing and aggregate sourcing from increasingly regulated extraction sites. Diversified material sourcing through urban mining and regional material banks reduces vulnerability to single-source supply disruptions and trade restrictions that intensify during climate-related geopolitical stress.
- **Operational resilience through building lifespan extension and deep retrofit:** Climate-resilient circular design (design for adaptability enabling buildings to respond to changing climate conditions, modular systems allowing rapid post-disaster repair, durable materials extending asset lifespans under climate stress) builds operational resilience. Passive design strategies integrated with circular principles (natural ventilation reducing cooling dependency, thermal mass from reclaimed materials, green roofs using recycled substrates) reduce both operational carbon and climate vulnerability simultaneously.
- **Asset and portfolio resilience:** Climate-resilient design of circular building infrastructure protects asset value and operational continuity under physical climate stress. Diversified building portfolios incorporating adaptive reuse, modular construction and material recovery systems reduce vulnerability to correlated asset losses that create systemic portfolio risks for financial institutions. Material passports and building renovation passports facilitate rapid post-disaster assessment and reconstruction, reducing recovery times and associated financial losses. Landscape-level circular approaches (e.g. district-scale material banks, regional demolition waste exchange networks) distribute climate risk across multiple actors and geographies, enhancing system-level resilience.
- **Nature-related resilience:** Circular economy practices that reduce demand for virgin material extraction (urban mining, material reuse, recycled aggregate) decrease pressure on natural landscapes and ecosystems, building nature-based adaptive capacity. This addresses the interconnection between nature-related and climate-related risks identified in UNEP FI's *Practical Guidance on Implementing Adaptation and Resilience for Banks* (2025c), including biodiversity loss from quarrying and extraction, habitat fragmentation from infrastructure development and urban heat island effects that compound climate vulnerability.

Measuring climate adaptation and resilience outcomes of circular buildings and construction activities can be structured using the UNEP FI Adaptation and Resilience Impact Measurement Toolkit (2025f), which provides practice indicators (institutional capabilities) and results indicators (real-economy outcomes) across the impact pathway.

For buildings and construction activities, illustrative indicators include outputs such as buildings designed to climate-resilient specifications and percentage of materials sourced through circular supply chains; outcomes such as operational downtime during climate events, post-disaster recovery times and asset value retention under climate stress; and impacts such as reduced economic losses from weather-related building damage and maintained occupant safety during extreme weather.

Financial institutions are encouraged to reference the UNEP FI Practical Guidance on Implementing Adaptation and Resilience for Banks (2025c) for comprehensive methodologies on physical climate risk assessment, resilience-outcome measurement and design of adaptation-and-resilience-linked financial products.

Outcomes of Step 3

Following interlinkages assessment, circular solutions from Step 2 are classified into one of two outcomes:

Circular solutions with interlinkages managed: Activities with potential co-benefits identified across climate, nature, pollution, or social dimensions or with negative impacts in other sustainability topics that are appropriately managed or mitigated. No unmanaged significant negative impacts across environmental DNSH criteria and social objectives.

Circular solutions with unmanaged negative impacts: Activities meeting all circularity criteria but with identified negative impacts on other environmental or social objectives that are not yet managed or mitigated, for which client engagement is encouraged to manage interlinkages.

This graduated approach ensures financing decisions align with circular economy objectives, broader environmental objectives and social objectives, while capturing co-benefits to maximize positive impacts and supporting clients in managing interlinkages effectively.

Using the assessment outcomes

Upon completion of the three-step assessment, financial institutions will have determined two key outputs: (a) circular solutions with interlinkages managed across other environmental objectives (DNSH) and social objectives (minimum safeguards verified), or (b) circular solutions with unmanaged negative impacts, for which client engagement support is encouraged to mitigate impacts. These outputs support multiple applications across institutional functions, from transaction structuring to portfolio-level integration complementing UNEP FI's broader circular economy guidance suite.

The activity-level classifications produced by these guidelines feed directly into the portfolio baselines and target-setting processes described in UNEP FI's *Guidance on Resource Efficiency and Circular Economy Target Setting* (2023a). For institutions implementing the *Circular Economy as an Enabler for Responsible Banking guidance* (UNEP FI, 2024b), these outcomes provide the detailed activity-level analysis that informs broader circular economy integration into sustainability strategies and action plans across governance, operations and stakeholder engagement.

The sections below illustrate how to use assessment outcomes at two levels: (1) structuring transactions and engaging clients and (2) aggregating exposures for portfolio management, target-setting and reporting aligned with UNEP FI guidance and regional sustainable finance frameworks.

1. Transaction and client-level applications

Assessment outcomes can enable financial institutions to engage clients and structure financing based on classification status and circular potential. In financing terms, the two outcomes serve distinct functions: circular solutions (with interlinkages managed) are eligible for full circular economy finance allocation under Box 7 and may anchor green or sustainable finance instruments, sustainability-linked products and dedicated facilities—recognizing and rewarding current circular performance. Circular opportunities are not eligible for full allocation but represent priority candidates for transition financing, technical assistance and structured client engagement, with clear pathways to upgrade to circular solutions status upon documented achievement of agreed milestones—actively mobilizing finance toward circular transition.

For circular solutions, financial institutions can structure financing with direct circularity linkages:

- **Sustainability-linked instruments (SLL, SLB):** Financial institutions can use Step 2 KPIs (e.g. material recovery rates from deconstruction, recycled and reclaimed content percentages, embodied carbon intensity reduction, design for disassembly compliance scores, building lifespan extension metrics) as sustainability performance targets (SPTs) with pricing adjustments, covenant structures, or reporting obligations tied to achievement. The Loan Market Association *Sustainability-Linked Loan Principles* (LMA, 2023b) and ICMA's *Sustainability-Linked Bond Principles* (2024) provide structuring guidance.

- **Use-of-proceeds financing:** Financial institutions can use ring-fenced proceeds for specific circular activities (e.g. selective deconstruction and material recovery infrastructure, deep retrofit and adaptive reuse programmes, modular and design-for-disassembly construction, digital material passport and traceability platforms, secondary material processing and quality verification facilities) with traceability documentation and periodic reporting. The Loan Market Association *Green Loan Principles* (2023a) and ICMA *Green Bond Principles* (2025) support documentation standards.

- **Product development:** Financial institutions can embed circularity KPIs into lending policies, investment mandates, stewardship frameworks and client engagement strategies. Examples include requiring Step 3 interlinkages assessment outcomes in buildings and construction sector portfolios, using Step 2 metrics for ESG ratings, or structuring revolving facilities conditional on maintaining circular classification.

- **Sustainable procurement criteria:** Financial institutions financing public or large private clients are encouraged to consider how procurement clauses in financed projects can embed circularity. This may include incorporating weighted sustainability criteria into tender evaluation (for example, some multilateral development banks, including ADB from 2026, are introducing sustainability weighting in procurement evaluation), setting recycled-content thresholds, or including design-for-disassembly requirements in works contracts. The UNEP Sustainable Public Procurement programme and ISO 20400:2017 Sustainable Procurement provide implementation guidance.

- **Environmental and social safeguard requirements:** Where financial institutions apply environmental and social safeguard frameworks (e.g. IFC Performance Standards, ADB Safeguard Policy Statement (2009), Equator Principles), circular economy clauses can be embedded as project-specific covenants—for example, requirements for on-site waste segregation, recovery and

reuse during the construction phase, pre-demolition audits, hazardous-substance management plans and end-of-life material recovery commitments.

For circular opportunities, financial institutions can support client progression toward circular solutions through structured pathways:

- **Transition financing:** Financial institutions can structure financing in tranches, or unlock facility increases when clients meet specific circularity milestones (e.g. reaching documented material recovery thresholds from deconstruction operations, implementing pre-demolition hazardous material audit protocols, obtaining third-party verification for recycled aggregate quality, or completing material passport coverage for building portfolios). Time-bound transition plans (e.g. 12–24 months) enable clients to transition from circular opportunities to circular solutions status with clear performance expectations.

- **Technical assistance:** Financial institutions can pair financing with capacity-building support to address documentation gaps, performance improvements, or safeguards strengthening. Examples include funding for pre-demolition audit methodology development, ISO 45001 occupational health and safety management system implementation for deconstruction operations, EN 15978 life cycle assessment capability building, material passport system deployment, supply chain traceability for recovered construction materials, or hazardous substance screening and remediation protocol development.

- **Blended finance structures:** Commercial terms for initial circular opportunities tranches can be combined with concessional or catalytic capital for early-stage innovations, de-risking progression to circular solutions. Examples include grants for design-for-disassembly research and pilot projects, subordinated debt for scaling secondary material processing infrastructure, first-loss capital for urban mining and material recovery ventures, or credit enhancement through guarantees for circular retrofit programmes in developing markets.

- **Policy-based lending (sovereign instruments):** For multilateral development banks and development finance institutions financing sovereign clients, policy-based loans (PBLs) can support governments to develop national laws, regulations, standards and institutional capacity that enable circular construction at scale. Precedents include large-scale PBLs on plastics and waste management, such as ADB's US$ 500 million policy-based loan to Indonesia in 2024 to strengthen the National Action Plan for Handling Marine Debris (ADB, 2024). Equivalent instruments could support the development of national construction and demolition waste regulations, embodied-carbon building codes, sustainable public procurement laws and Extended Producer Responsibility schemes for construction materials.

- **Client engagement:** Clear pathways can be established to support clients in realizing circular opportunities across their activities and value chains, with the goal of upgrading to circular solutions status upon documented achievement of the transition plan. Financial institutions can use Steps 1–3 assessment results to identify specific circularity gaps and co-develop improvement strategies with clients. Where clients participate in or rely on public procurement pipelines (notably public-sector buildings, infrastructure and social housing), financial institutions are encouraged to track procurement-linked indicators within financed projects—for example, uptake of circular criteria in tenders, MSME participation in circular value chains and replication of circular specifications across awarding authorities—drawing on the Global Framework for Action on Circular and Sustainable Public Procurement for the Built Environment (One Planet Network, 2024) as a reference.

2. Portfolio and institutional applications

Assessment outcomes can enable aggregation of activity-level classifications into portfolio-level insights for target-setting, climate, nature, pollution and social action integration and regulatory reporting.

2.1 For target setting and portfolio management

Recognizing that benchmark availability for circular economy performance varies by region, building typology and life cycle scope (e.g. EN 15978 modules A1–C4 inclusion), financial institutions setting science-based circularity targets—for example, in sustainability-linked loans (SLLs) or bonds (SLBs)—are encouraged to draw on UNEP FI's *Guidance on Resource Efficiency and Circular Economy Target Setting* (2023a) for ambition-setting principles, complemented by region- and typology-specific benchmarks where available (e.g. national EPC baselines, sector embodied carbon benchmarks under Level(s), or ECESP and Circular Buildings Coalition reference values). Where robust benchmarks are not yet available, financial institutions are encouraged to set transparent baseline-and-improvement KPIs and to commit to revising targets as benchmarks mature:

- **Establish baselines:** Determine the proportion of portfolio exposure classified as circular versus screened negatively or with circular potential. This baseline reflects the distribution of exposures across circular solutions and circular opportunities that are directed to inform client engagement.
- **Set targets:** Define SMART targets for increasing circular economy exposure (e.g. "Increase buildings and construction circular economy financing from X% to Y% by 2030") or for transitioning circular opportunities to circular solutions status.
- **Track progress:** Monitor portfolio composition over time and report against commitments to stakeholders, investors and regulators. Financial institutions can use Step 2 and Step 3 outcome data to monitor both volume and quality of circular exposure, including interlinkages assessment outcomes. At portfolio level, financial institutions are encouraged to track exposure to refurbishment, retrofit and adaptive-reuse activities relative to new-build construction, recognizing that avoiding unnecessary new construction (the "build less" principle) is itself a circular economy outcome. Where clients operate within public procurement systems, evidence of needs-based justification for new builds and refurbishment-first policies in tender documentation can support this differentiation.

2.2 For climate, nature, pollution and social integration

The classification outcomes can help integrate circular economy metrics into financial institutions' climate, nature, pollution and social strategies and action plans. For climate-related integration, Step 3 outcomes on climate mitigation and adaptation co-benefits and risks can inform climate-related financial disclosures under ISSB standards (IFRS S1 and S2) and support climate transition planning. This is particularly relevant given that the buildings and construction sector contributes approximately 37% of global energy-related CO emissions (UNEP, 2024a) and the significance of embodied carbon in material choices and end-of-life pathways. For pollution dimensions, interlinkages outcomes support the identification and management of hazardous substance risks across the full buildings and construction value chain—including hazardous materials in active construction processes, recovered or recycled materials re-entering the supply chain and legacy substances in the existing building stock—in alignment with UNEP FI *Circular Solutions to Achieve Climate Targets in the Buildings and Construction sector* (2024d) and the Global Framework on Chemicals targets. For social dimensions, outcomes can inform worker safety management (particularly relevant given construction's high occupational hazard profile), community impact assessment and occupant health and safety

verification. For nature-related disclosures and target-setting, financial institutions can use Step 3 interlinkages outcomes to support TNFD disclosure requirements, nature-related target-setting to align with the Global Biodiversity Framework and integration into nature action plans.

2.3 For reporting and disclosure

The assessment outcomes can support reporting under ESRS E5 (Resource Use and Circular Economy), GRI 301 (Materials), Circular Transition Indicators (CTI) and other disclosure standards and enable consistent documentation across institutional functions:

- **Regulatory disclosure:** Report circular economy exposure under sustainable finance taxonomies (EU Taxonomy, ASEAN Taxonomy, Singapore-Asia Taxonomy, Brazil Sustainable Taxonomy, or regional equivalents) with activity-level detail supporting classification and reporting.
- **Risk and compliance:** Evaluate environmental DNSH screening and social objectives assessment outcomes (Step 3) to support due diligence processes, risk assessment, regulatory compliance and responsible banking commitments.
- **Portfolio strategy and stewardship:** Use aggregated circular economy finance percentages to inform sectoral allocation decisions, client engagement prioritization and stewardship strategies. Track transitions from circular opportunities to circular solutions to monitor portfolio quality improvement.
- **Investor and stakeholder reporting:** Disclose circular economy exposure volumes, composition by circular economy category and activity type, performance against targets and safeguards outcomes through annual impact reports, sustainability disclosures (ESRS, GRI, ISSB) and investor communications.

Box 7: Determining the circular economy finance percentage

The circular economy finance percentage quantifies the proportion of financing directly supporting circular outcomes. Financial institutions can determine this percentage using the following approaches, consistent with IFC *Harmonized Circular Economy Finance Guidelines* (2025):

- **Project finance and earmarked facilities:** Financial institutions may allocate 100% of proceeds if all are dedicated to circular solutions. Where proceeds finance multiple activities, proportional allocation based on capital distribution is recommended.
- **General corporate purpose financing:** Financial institutions may calculate the percentage of total revenues or total assets derived from or dedicated to circular solutions. The chosen methodology is recommended to be applied consistently across the loan tenor.
- **Multi-component transactions:** Financial institutions are encouraged to apply the proportional allocation determined in Step 1, documenting which components qualify as circular solutions.

Documentation may include the allocation methodology (project, revenue, or asset-based), calculation basis (numerator/denominator) and monitoring approach for verifying continued alignment over the life of the financing. For activities classified as circular solutions with mismanaged interlinkages, the circular economy finance percentage may be subject to adjustment or achievement of agreed transition plan.

Note on eligibility versus allocation: The eligibility of a building activity as a circular solution under Step 2 is determined by whether it meets the circularity criteria stipulated by the financier (informed by the recognized frameworks and indicators referenced in this chapter and Table 2). The proportion of the financed CAPEX that is recognized as circular economy finance is then determined under Box 7, using project, revenue or asset-based allocation methodologies. Where a building activity incorporates a discrete circular component (e.g. a defined share of low-carbon or recycled materials, a refurbishment scope within a wider new-build CAPEX), financial institutions are encouraged to apply proportional allocation based on capital distribution rather than treating the full CAPEX as circular by default. A whole-building LCA may strengthen the evidence base for eligibility and allocation but is not in itself required by these guidelines; financial institutions are encouraged to calibrate documentation to the activity's context, scale and the available regional benchmarks.

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Annexes



Annex 1: Illustrative list of circular economy activities for the buildings and construction sector

This annex provides an illustrative, non-exhaustive list of activities eligible for circular economy financing in the buildings and construction sector. The activities are organized according to the four circular economy categories defined in Step 1: Circular design and production, circular use, circular value recovery and circular support.

Financial institutions can use this list to identify potential circular opportunities during origination or portfolio screening. While these examples represent common circular interventions, other activities may also qualify if they demonstrably contribute to circular outcomes in line with the methodology provided in chapter 3.

Note on NACE and ISIC codes

These guidelines apply to the buildings and construction sector as defined by NACE Rev.2 Section F, ISIC Rev.4 Section F (construction), encompassing construction of buildings (NACE F.41, ISIC Division 41), civil engineering—including transport, energy, water and other physical infrastructure (NACE F.42, ISIC Division 42)—and specialized construction activities (NACE F.43, ISIC Division 43). The methodology and the four circular economy categories—circular design and production, circular use, circular value recovery and circular support—apply across all three sub-sectors. The activity examples and indicators are most fully developed for buildings (residential, commercial, institutional and mixed-use) and the upstream construction-materials value chain that supplies them. The same methodology is applicable to civil engineering and transport infrastructure projects (e.g. roads, bridges, utilities, energy and water networks), particularly for material-side circularity such as recycled aggregate use, design for deconstruction and high-value material recovery; infrastructure-specific indicators, benchmarks and value-chain configurations may require contextual adaptation. Manufacturing of building materials (NACE Section C), waste management and materials recovery for construction and demolition materials (NACE Section E) and enabling digital and professional services (NACE Sections J and M) are addressed where they are integral to the buildings and construction value chain, consistent with the multi-section extraction approach set out in Annex 2.

The activities listed in this annex often represent construction practices, integrated building systems, or emerging business models that may not correspond to a single, distinct industrial classification code. Where a unique NACE or ISIC code does not exist, activities are mapped to the closest available industrial classification (e.g. building construction, specialized construction, manufacturing, or services). Some activities may legitimately span multiple codes (e.g. selective deconstruction may be classified under demolition, waste treatment, or both). Financial institutions are encouraged to select the classification code(s) that most accurately reflect the primary economic activity and revenue stream of the financed entity, consistent with their internal portfolio tagging and regulatory reporting

requirements. The codes provided are illustrative and intended to support interoperability with existing taxonomies and data systems.

Table 8: Indicative list of circular economy activities by category—buildings and construction sector

Circular category	Aligned activity	NACE Rev.2	ISIC Rev.4
Circular design and production	Low-carbon cement production (e.g. blended cements, geopolymers, clinker-reduced formulations).	23.51	2394
	Recycled steel or aluminium manufacturing for structural and façade applications.	24.10 / 24.42	2410 / 2420
	Production of recycled concrete aggregates for new concrete, sub-base and roadbase.	23.61 / 38.32	2395 / 3830
	Bio-based insulation materials (e.g. cork, hemp, flax, straw, mycelium-based panels).	16.29 / 23.99	1629 / 2399
	Timber products from certified, responsibly managed forests (e.g. FSC, PEFC-certified sawnwood, CLT, glulam).	16.10 / 16.23	1610 / 1622
	Prefabricated and modular building components designed for disassembly and reuse.	41.20 / 22.23	4100 / 2220
	Low-carbon or recycled-content roofing materials (e.g. recycled asphalt shingles, high-recycled metal roofing).	23.99 / 24.33	2399 / 2431
	Green or living roof systems and bio-based waterproofing solutions.	43.99 / 81.30	4390 / 8130
	Recycled plastic lumber and composite products for decking, landscaping and non-structural components.	22.21 / 22.29	2220
	Clay bricks and blocks with recycled content or other waste-derived inputs.	23.32	2392
	Zero-waste or near-zero-waste construction projects with on-site segregation and recovery of materials.	41.20 / 43.99	4100 / 4390
	Design-for-disassembly (DfD) architectural and engineering services embedded in project design briefs.	71.11 / 71.12	7110
	Digital design tools that integrate circular-economy logic and material-efficiency optimization into building design workflows.	62.01	6201
	Whole-life-carbon assessment and embodied-carbon reduction services for buildings and infrastructure assets.	71.12 / 71.20	7110 / 7120
	Research and development of novel circular building materials (e.g. mycelium-based, algae-derived and high-recycled-content composites).	72.19	7210

Circular category	Aligned activity	NACE Rev.2	ISIC Rev.4
Circular use	Building refurbishment and deep-energy retrofit programmes that extend building lifespan.	41.20 / 43.22	4100 / 4322
	Adaptive reuse and change-of-use conversions of heritage or under-utilized buildings.	41.20	4100
	Long-term maintenance and repair service contracts that prioritize repair and component replacement over full system renewal.	43.21 / 43.29	4321 / 4329
	Flexible workspace and modular interior design enabling repeated reconfiguration without major strip-outs.	43.32 / 43.39	4330
	Shared-use models that increase utilization of existing floor area (subject to habitability and anti-overcrowding standards).	68.20	6820
	Renovation projects that retain structural elements and selectively replace only failed or obsolete components.	41.20 / 43.99	4100 / 4390
	Life cycle extension services and upgrade planning for existing assets, including phased refurbishment roadmaps.	71.12	7110
	Reverse-logistics and take-back programmes for building components and materials in use (e.g. ceilings, carpets, façade elements).	52.10 / 38.11	5210 / 3811

Circular category	Aligned activity	NACE Rev.2	ISIC Rev.4
Circular value recovery	Selective deconstruction and demolition services with pre-demolition audits and material-recovery plans.	43.11	4311
	Urban-mining and salvage operations recovering high-value components and materials from existing buildings.	43.11 / 38.32	4311 / 3830
	C&D waste sorting and grading facilities that produce reusable and recyclable material streams.	38.32	3830
	Concrete-recycling facilities producing recycled aggregates for structural or non-structural applications.	38.32 / 23.61	3830 / 2395
	Asphalt and road-pavement milling and recycling into new pavement layers.	42.11 / 38.32	4210 / 3830
	Metal recovery and recycling operations targeting reinforcement steel, structural steel, aluminium and other metals from C&D flows.	38.32 / 24.10	3830 / 2410
	Wood and timber recovery and remanufacturing from demolition sites (e.g. reclaimed beams, flooring, panels).	38.32 / 16.10	3830 / 1610
	Insulation and packaging-waste recovery and recycling (e.g. expanded polystyrene/extruded polystyrene (EPS/XPS), mineral wool where feasible).	38.32	3830
	Plastics and composite-material recovery from construction and demolition waste.	38.32	3830
	Gypsum and drywall recycling and remanufacturing into new boards.	38.32 / 23.62	3830 / 2395
	Flat-glass recovery and recycling from windows, façades and internal partitions.	38.32 / 23.11	3830 / 2310
	Reverse-logistics and collection systems for construction-material returns, offcuts and surplus products.	52.10 / 38.11	5210 / 3811
	Secondary-material trading platforms and marketplaces for reclaimed construction materials.	46.77 / 63.11	4669 / 6311
	Physical or digital material banks and inventory systems for recovered building components.	52.10 / 63.11	5210 / 6311

Circular category	Aligned activity	NACE Rev.2	ISIC Rev.4
Circular support	Digital material-passport platforms for buildings (e.g. asset-level inventories such as Madaster, BAMB, Concular, Circuland).	62.01 / 63.11	6201 / 6311
	Building Information Modelling (BIM) solutions configured with material tracking, circularity attributes and end-of-life data.	62.01	6201
	Design-for-disassembly (DfD) audits and feasibility studies supporting project design and planning.	71.12 / 74.90	7110 / 7490
	Environmental Product Declaration (EPD) compilation, verification and data-hosting services for construction products.	71.20	7120
	Life cycle assessment (LCA) and embodied-carbon calculation software and advisory services for buildings and materials.	62.01 / 74.90	6201 / 7490
	Construction-waste-management planning and monitoring services for project sites and portfolios.	74.90 / 38.11	7490 / 3811
	Demolition audits and deconstruction-planning services, including hazardous-material identification.	71.20 / 74.90	7120 / 7490
	Traceability and supply-chain-transparency systems for construction materials (e.g. chain-of-custody and origin tracking).	62.01 / 63.11	6201 / 6311
	Circular-economy performance-assessment and reporting services (e.g. ISO 59020-aligned metrics, WBCSD CTI for buildings).	71.20 / 74.90	7120 / 7490
	Worker training and certification programmes in circular construction, deconstruction and recycling disciplines.	85.59	8549
	Extended Producer Responsibility (EPR) scheme infrastructure and coordination services for construction materials and products.	82.92 / 63.11	8292 / 6311

Source: Compiled from UNEP (2024a), WorldGBC (2023), Circular Buildings Coalition (2024), IFC (2025), WBCSD CTI v4.0 (2025), WEF and McKinsey (2025), European Circular Economy Stakeholder Platform (2025) and Nordic Council of Ministers (2024). Digital material passport and traceability activities informed by European Commission (2024a) and ISO 59000 series (2024a).

Annex 2: Portfolio screening guidelines for circular buildings and construction activities (NACE Rev.2, ISIC Rev.4)

This portfolio screening guide supports financial institutions in systematically identifying, mapping and monitoring the buildings and construction sector exposures aligned with the circular economy. The purpose is to enable systematic identification of circular economy exposures across existing loan books using standardized industry classification codes.

Where to use this annex

- Mapping buildings and construction sector exposures in existing portfolios
- Setting institutional circularity targets
- Portfolio strategy and stewardship activities
- Risk and compliance screening at scale
- Conducting large-scale portfolio reviews (100+ exposures)

Portfolio screening

Phase 1: Extract NACE or ISIC codes from the loan book

Most financial institutions maintain NACE, ISIC, or equivalent industry classification codes (e.g. NAICS, ANZSIC, NIC) in their core banking systems as part of standard client data fields. Extract codes at division, group, or class level for all construction-related holdings. Extract NACE/ISIC codes for all construction-related holdings in the loan book.

Implementation tip: For non-EU users, map to national codes using official UNSD and Eurostat correspondence tables. For procurement and trade analytics, use CPV/UNSPSC and HS/CN crosswalks. The buildings and construction sector codes span multiple NACE sections—principally Section F (construction), Section C (manufacturing of building materials), Section E (waste management and materials recovery) and Sections J and M (digital and professional services)—so a multi-section extraction is typically required.

Phase 2: Match codes to circular activities

Cross-reference extracted codes against Tables 9–12 to identify likely circular economy activities:

- **Table 9:** Circular design and production activities
- **Table 10:** Circular use activities
- **Table 11:** Circular value recovery activities
- **Table 12:** Circular support activities

Supplement NACE/ISIC codes with revenue descriptors and product-specific keywords (e.g. “recycled aggregate”, “CLT”, “deconstruction”, “material passport”) to surface nuanced activities, particularly within multi-activity entities.

Phase 3: Assign primary circular economy categories

Backfill identified exposures to one of four circular economy categories using Tables 9–12:

- Circular design and production
- Circular use
- Circular value recovery
- Circular support

Clear mapping pathway: NACE/ISIC code to activity (tables 9–12) to category

Phase 4: Estimate exposure and coverage

Calculate aggregate portfolio volume by category. Apply proportional exposure calculation for multi-activity entities where businesses span multiple codes or categories. Use revenue data or financing allocation as a proportional basis where available.

Phase 5: Flag exposures for detailed review

Code-based screening identifies potential exposures but requires transaction-level validation for use-of-proceeds structuring or substantial contribution verification. Where further data is needed, refer flagged cases to the client assessment pathway (chapter 3, Step 1) for detailed assessment.

Additional classification subtleties for portfolio users

Building materials manufacturers versus construction firms

Use secondary codes and revenue descriptors to distinguish entities primarily engaged in manufacturing circular building materials (NACE divisions 16, 22, 23, 24) from those primarily engaged in construction and installation (NACE divisions 41–43). A single entity may span both—for example, a prefabricated modular builder with in-house manufacturing—requiring proportional allocation based on revenue or financing use.

Waste management and materials recovery differentiation

- Entities primarily engaged in C&D waste collection and transport: classify under NACE 38.11/ISIC 3811.
- Entities primarily engaged in materials recovery and sorting: classify under NACE 38.32/ISIC 3830.
- Entities primarily engaged in waste treatment and disposal (including waste-to-energy): classify under NACE 38.21/ISIC 3821, with 35.11 added as secondary code where energy recovery is material.

This distinction supports precise mapping of upstream collection, midstream sorting and downstream recycling activities within C&D waste value chains.

Digital and professional services

Construction-adjacent digital platforms (material passports, BIM, LCA software) and professional advisory services (DfD audits, EPD compilation, circularity assessment) fall under NACE divisions 62, 63, 71 and 74. Keyword triangulation is essential to avoid false positives, as these codes are not sector-specific.

Limitations of portfolio screening

- Code-based screening identifies potential exposures but does not replace transaction-level circular economy contribution assessment.
- Multi-activity entities may require supplemental revenue data for accurate proportional allocation.
- Industry codes capture primary economic activity but may not reflect all circular activities within diversified operations.
- For transaction structuring, use-of-proceeds verification, or substantial contribution assessment, use the client assessment pathway (chapter 3, Step 1).

Reference tables

The following tables provide non-exhaustive NACE Rev.2 and ISIC Rev.4 mappings for all 49 circular construction economy activities identified in the guidelines. Portfolio search keyword examples are included to support targeted screening.

Note: NACE and ISIC codes are illustrative and provided to help users locate construction activities in common statistical classifications. Users are encouraged to map to national and sectoral systems (e.g. NAICS 2022, ANZSIC, CNAE Brazil, NIC 2008 India, JSIC Japan) and to product/trade/procurement systems (e.g. HS 2022, EU CN 2025, CPA/CPC, CPV, UNSPSC) where useful for origination, trade analytics, EPR, or procurement screening.

Table 9: Circular design and production activities mapped to NACE Rev. 2, ISIC Rev. 4 and portfolio keywords

Circular activity	NACE Rev.2	ISIC Rev.4	Portfolio search keywords
Low-carbon cement production (blended cements, geopolymers, clinker substitutes)	C23.51, C23.52	2394	low-carbon cement; blended cement; slag cement; fly-ash cement; geopolymer; clinker substitute
Recycled steel or aluminium manufacturing for construction applications	C24.10, C24.20, C24.31	2410, 2420, 2431	electric-arc furnace steel; recycled rebar; recycled structural steel; secondary aluminium billets; low-carbon steel
Recycled concrete aggregate production for new concrete or roadbase	C23.63, E38.32	2399, 3830	recycled concrete aggregate; RCA plant; crushed concrete; secondary aggregates; CDW aggregate
Bio-based insulation materials (cork, hemp, flax, straw, mycelium, etc.)	C16.10, C23.99	1610, 2399	bio-based insulation; hemp insulation; cork boards; straw panels; mycelium panels
Timber products from certified sustainable forests (FSC, PEFC)	C16.21, C16.23	1621, 1623	FSC timber; PEFC timber; engineered wood; CLT; glulam; certified lumber
Prefabricated modular building components and systems designed for disassembly	C16.23, C25.11, F41.20	1623, 2511, 4100	modular building; prefabricated modules; off-site construction; DfD modular systems
Low-carbon or recycled-content roofing materials	C23.99, C25.11	2399, 2511	recycled roofing; metal roofing with recycled content; green roofing products
Green or living roof systems and bio-based waterproofing	F43.99, C23.99	4390, 2399	green roof system; living roof; bio-based waterproofing; roof garden
Recycled plastic lumber and composite materials for construction	C22.23, C22.29	2220, 2229	recycled plastic lumber; WPC decking; composite boards; plastic-wood composites
Clay bricks and building blocks with recycled content or waste-derived inputs	C23.32	2392	recycled-content bricks; waste-derived bricks; low-carbon masonry
Zero-waste or near-zero-waste construction projects with on-site recovery	F41.20, F43.39	4100, 4330	zero-waste construction; near-zero-waste site; on-site waste segregation
Design-for-disassembly (DfD) architectural and engineering services	M71.11, M71.12	7110	design for disassembly; reversible connections; DfD consultancy; adaptive design
Digital design tools integrating circular economy and material efficiency	J62.01	6201	circular design software; LCA plugin; material efficiency optimization; design SaaS
Whole-life-cycle carbon assessment and embodied-carbon reduction services	M71.12 M74.90	7110, 7490	WLC assessment; embodied carbon modelling; EN 15978 consultancy

Circular activity	NACE Rev.2	ISIC Rev.4	Portfolio search keywords
R&D for novel circular building materials (e.g. mycelium-based, algae-derived, recycled composites)	M72.19	7219	novel building materials; mycelium R&D; algae facade panels; advanced composites

Circular use

Table 10: Circular use activities mapped to NACE Rev. 2, ISIC Rev. 4 and portfolio keywords

Circular activity	NACE Rev.2	ISIC Rev.4	Portfolio search keywords
Building refurbishment and deep-energy retrofits extending building lifespan	F41.20, F43.39	4100, 4329	deep retrofit; energy renovation; building refurbishment; envelope upgrade
Adaptive reuse and change-of-use conversions of heritage or under-utilized buildings	F41.20, L68.10	4100, 6810	adaptive reuse; conversion project; heritage refurbishment; brownfield redevelopment
Long-term maintenance and repair service contracts emphasizing durability	F43.29, N81.10	4329, 8110	long-term maintenance contract; repair service agreement; O&M services
Flexible workspace and modular interior design enabling future adaptation	M74.10, F43.32	7410, 4330	flexible office design; modular interior; demountable partitions; fit-out for adaptability
Shared-use and co-working models maximizing building utilization	N77.39, N82.99, L68.20	7730, 8299, 6820	co-working space; shared office; flexible workspace operator; space-as-a-service
Building renovation using retained structure and selective replacement	F41.20, F43.11	4100, 4311	structural reuse; partial demolition; selective renovation; retained frame
Life cycle extension services and upgrade planning for existing assets	M71.12, N70.22	7110, 7020	asset life extension plan; building upgrade roadmap; strategic CAPEX planning
Reverse-logistics and take-back programmes for building components and materials in use	F43.99, E38.11	4390, 3811	take-back scheme; product returns from sites; reverse logistics construction

Circular value recovery

Table 11: Circular value recovery activities mapped to NACE Rev. 2, ISIC Rev. 4 and portfolio keywords

Circular activity	NACE Rev.2	ISIC Rev.4	Portfolio search keywords
Selective deconstruction and demolition services with material-recovery planning	F43.11	4311	selective demolition; deconstruction contractor; soft-strip; recovery plan
Urban mining and salvage operations recovering high-value materials	F43.11, E39.00	4311, 3900	urban mining; building strip-out; architectural salvage; component harvesting
C&D waste sorting and grading for reuse or recycling	E38.32	3830	CDW sorting; construction MRF; grading station; preparation for reuse
Concrete recycling facilities producing recycled aggregates	E38.32, C23.63	3830, 2399	concrete crusher; recycled aggregate plant; RCA facility
Asphalt and road pavement recycling	F42.11, C23.99	4211, 2399	asphalt recycling; RAP plant; road milling reuse
Metal recovery and recycling from construction waste	E38.32, C24.10	3830, 2410	scrap metal recovery; rebar recycling; ferrous/non-ferrous sorting
Wood/timber recovery and remanufacturing from demolition sites	E38.32, C16.10	3830, 1610	reclaimed timber; remanufactured wood; deconstruction lumber
Insulation and packaging waste recovery and recycling	E38.32, C22.29, C23.99	3830, 2229, 2399	insulation recycling; EPS/XPS recovery; packaging take-back
Plastics and composite material recovery from C&D waste	E38.32, C22.29	3830, 2229	plastics recovery; PVC/PE/PP recycling; composite panel recycling
Gypsum/drywall recycling and remanufacturing	E38.32, C23.52	3830, 2394	gypsum recycling; plasterboard recycling; drywall plant
Glass recovery and recycling from construction waste	E38.32, C23.11	3830, 2311	flat-glass recycling; window glass recovery; cullet production
Reverse logistics and collection systems for construction material returns	H52.29, E38.11	5229, 3811	reverse logistics; collection network; returns consolidation for materials
Secondary material trading and marketplace platforms for construction	G46.77, J63.12	4669, 6312	reclaimed materials marketplace; online materials exchange; B2B reuse platform
Material banks and inventory systems for recovered building components	J62.01, J63.11	6201, 6311	material bank; component inventory; digital stock of reclaimed elements

Circular support

Table 12: Circular support activities mapped to NACE Rev. 2, ISIC Rev. 4 and portfolio keywords

Circular activity	NACE Rev.2	ISIC Rev.4	Portfolio search keywords
Digital material passport platforms for buildings	J62.01, J63.11	6201, 6311	material passport; building passport; DPP platform; asset-level traceability
BIM integration with circular-economy and material-tracking features	J62.01, M71.12	6201, 7110	BIM with material tagging; circular BIM; IFC material attributes
Design-for-disassembly (DfD) audits and feasibility studies	M71.12	7110	DfD audit; deconstruction feasibility; reversibility assessment
Environmental Product Declaration (EPD) documentation and transparency services	M71.20, J63.11	7120, 6311	EPD compilation; product footprint; EPD database services
LCA and embodied-carbon calculation software and services	J62.01, M71.12	6201, 7110	LCA software; embodied-carbon tool; EN 15978 modelling
Construction-waste-management planning and monitoring services	M71.12, N82.99	7110, 8299	construction waste plan; CDW monitoring; site-waste consultancy
Demolition audit and deconstruction planning services	M71.12, F43.11	7110, 4311	pre-demolition audit; resource audit; deconstruction planning
Traceability and supply-chain transparency systems for construction materials	J62.01, J63.11	6201, 6311	supply-chain traceability; chain-of-custody software; GS1/EPCIS integration
Circular-economy performance assessment and reporting services (per ISO 59020, WBCSD CTI)	M71.12, M74.90	7110, 7490	circularity assessment; CTI buildings; ISO 59020 analytics
Worker training and certification in circular construction, deconstruction and recycling	P85.59	8549	circular construction training; deconstruction skills academy; recycling workforce training
EPR scheme infrastructure and coordination for construction materials	E38.11, J63.11	3811, 6311	producer responsibility organization; CDW EPR operator; compliance data platform

Note: These codes are sector agnostic. Keyword triangulation is essential to avoid false positives.

Annex 3: Environmental and social material impacts for the buildings and construction sector

The buildings and construction sector's environmental and social impact profile, as mapped in the UNEP FI Impact Radar (Figure 1), identifies prominent negative impacts including modern slavery, natural disasters, health and safety, wages, ethnic and racial equality, other vulnerable groups, climate stability, soil, species, habitat, resource intensity and waste, alongside prominent positive impacts: housing and infrastructure.

Table 13 provides a science-based mapping of two material environmental and social topics per activity for the buildings and construction sector circular economy activities identified in Step 1. For each of the 49 activities listed in Annex 1, the Table identifies the two most material impact topics—drawn from environmental objectives (climate, water, biodiversity, pollution) and social objectives (decent work and OHS, adequate standard of living, inclusive communities, consumer and occupant health and safety)—that warrant priority screening during the Step 3 interlinkages assessment.

Each cell provides: (1) the impact topic label, (2) a screening guidance statement describing what to assess and which tools, standards, or methods to reference and (3) source references.

The topics listed are illustrative and non-exhaustive. Financial institutions are encouraged to apply place-based screening proportionate to the activity and geography and to consult the full Step 3 methodology in chapter 3, including the environmental objectives and social objectives listed in Table 7. The illustrative assessment example in Annex 4 illustrates how these material topics are applied in practice within the three-step assessment.

Table 13: Science-based mapping of primary material environmental and social topics for the buildings and construction sector circular economy activities identified in Step 1

Aligned activity	Material impact topic 1	Material impact topic 2
Circular design and production		
Low-carbon cement production (e.g. blended cements, geopolymers, clinker-reduced formulations)	**Climate:** Calcination and grinding remain major emissions sources even with clinker reduction. Screen for Scope 1–2 GHG inventory; documented clinker-to-cement ratio; comparative LCA demonstrating net embodied carbon reduction (EN 15978; SBTi, 2024; WorldGBC, 2019).	**Pollution:** Chemical and particulate kiln emissions (NO_2, SO_2, heavy metals) from alternative fuels and raw materials. Screen for air emissions monitoring; compliance with emission limit values; management of waste-derived inputs (UNEP, 2023a; WHO, 2021; European Commission, 2024b).
Recycled steel or aluminium manufacturing for structural and façade applications	**Climate:** EAF steel and secondary aluminium are energy-intensive; carbon benefit depends on electricity source. Screen for energy source documentation; Scope 1–2 emissions per tonne; comparative LCA against primary production routes (EN 15978; SBTi, 2024; ISO 14040/44).	**Pollution:** Heavy metal contamination from mixed scrap; fume emissions from smelting; hazardous waste from slag and dross. Screen for scrap quality controls; air emissions monitoring; hazardous waste management per Basel Convention (Basel Convention, 1989; UNEP, 2023a; European Commission, 2024a).
Production of recycled concrete aggregates for new concrete, sub-base and roadbase	**Climate:** Energy use in crushing, screening and processing of recycled aggregates. Screen for energy source documentation; comparative LCA against virgin aggregate extraction; documented transport distances (EN 15978; ISO 14040/44; SBTi, 2024).	**Water:** Wet processing requires significant water inputs and generates contaminated effluent. Screen for water consumption records; closed-loop water recycling system; effluent quality monitoring against basin-level discharge standards (SBTN, 2024; IFC, 2012; UNEP, 2024a).
Bio-based insulation materials (e.g. cork, hemp, flax, straw, mycelium-based panels)	**Biodiversity:** Land-use change, monoculture cultivation and habitat conversion for bio-based feedstock. Screen for certified sustainable sourcing; TNFD LEAP land-use screening; chain-of-custody traceability (TNFD, 2024; SBTN, 2024; ENCORE, 2025).	**Pollution:** Pesticides, fungicides, or chemical binders in production; off-gassing from novel binder chemistries. Screen for chemical inventory; restricted substance compliance; indoor air quality testing of finished products (WHO, 2024; UNEP, 2023a; C2C, 2024).

Aligned activity	Material impact topic 1	Material impact topic 2
Timber products from certified, responsibly managed forests (e.g. FSC, PEFC-certified sawnwood, CLT, glulam)	**Biodiversity:** Deforestation, illegal logging, or conversion of high-conservation-value forests even within certified supply chains. Screen for valid FSC or PEFC chain-of-custody certification; annual audit reports; TNFD LEAP biodiversity screening of sourcing regions (TNFD, 2024; FSC/PEFC; ENCORE, 2025).	**Pollution:** Chemical treatment of timber (preservatives, adhesives, fire retardants) may introduce hazardous substances. Screen for chemical inventory; formaldehyde emission limit compliance; material health documentation for adhesives in engineered wood products (WHO, 2024; UNEP, 2023a; C2C, 2024).
Prefabricated and modular building components designed for disassembly and reuse	**Climate:** Embodied carbon of prefabricated components, including factory energy and transport to site. Screen for whole-life carbon assessment (EN 15978); recycled or reclaimed material content; comparative LCA against conventional construction demonstrating net carbon benefit (SBTi, 2024; WorldGBC, 2019; ISO 14040/44).	**Social:** OHS risks in factory and on-site assembly (heavy lifting, crane operations, repetitive tasks). Screen for OHS management system (ISO 45001); worker training records; incident tracking per ILO Convention 167 (ILO Convention 167; ISO 45001; GRI 403:2018).
Low-carbon or recycled-content roofing materials (e.g. recycled asphalt shingles, high-recycled metal roofing)	**Climate:** Uncertain net carbon benefit from asphalt and metal recycling depending on recycled content share and process efficiency. Screen for recycled content percentage; energy source records; comparative LCA against virgin roofing alternatives (EN 15978; ISO 14040/44; SBTi, 2024).	**Pollution:** VOC emissions from asphalt recycling; heavy metal leaching from recycled metal coatings. Screen for air emissions monitoring; leachate testing; compliance with construction product emission limits (WHO, 2021; European Commission, 2024a; UNEP, 2023a).
Green or living roof systems and bio-based waterproofing solutions	**Water:** Irrigation requirements for living roofs may increase water consumption in water-stressed regions. Screen for basin-level water-risk assessment (WRI Aqueduct; WWF Water Risk Filter); irrigation management strategy; rainwater harvesting integration (SBTN, 2024; IFC, 2012; UNEP, 2024a).	**Biodiversity:** Invasive species risk from plant selection and substrate sourcing. Screen for species selection against national invasive species registers; ecological assessment; preference for native or locally adapted species (TNFD, 2024; SBTN, 2024; ENCORE, 2025).

Aligned activity	Material impact topic 1	Material impact topic 2
Recycled plastic lumber and composite products for decking, landscaping and non-structural components	**Pollution:** Microplastic shedding and chemical leaching during weathering and end-of-life. Screen for leachate testing; UV degradation assessment; compliance with environmental quality standards for plastic products in outdoor applications (UNEP, 2023a; Stockholm Convention, 2001; European Commission, 2024a).	**Climate:** Energy-intensive extrusion and moulding. Screen for energy source documentation; recycled content verification; comparative LCA against virgin plastic and alternative materials demonstrating net environmental benefit (ISO 14040/44; EN 15978; SBTi, 2024).
Clay bricks and blocks with recycled content or other waste-derived inputs	**Climate:** High-temperature kiln firing remains energy-intensive regardless of recycled content. Screen for kiln energy source; Scope 1–2 emissions per unit; comparative LCA against conventional bricks (EN 15978; SBTi, 2024; ISO 14040/44).	**Pollution:** Heavy metal and chemical contaminant release during firing of waste-derived inputs. Screen for feedstock contaminant testing; air emissions monitoring; leachate testing of finished products (UNEP, 2023a; European Commission, 2024a; WHO, 2021).
Zero-waste or near-zero-waste construction projects with on-site segregation and recovery of materials	**Pollution:** Inadequate hazardous waste segregation causing cross-contamination of recovered material streams. Screen for on-site waste management plan with hazardous material protocols; segregation procedures; compliance with waste classification regulations (UNEP, 2023a; Basel Convention, 1989; WorldGBC, 2023).	**Social:** OHS risks for on-site sorting workers (dust, sharp objects, hazardous materials). Screen for OHS management system; PPE provision; worker training records; incident reporting per ILO Convention 167 (ILO Convention 167; ISO 45001; GRI 403:2018).
Design-for-disassembly (DfD) architectural and engineering services embedded in project design briefs	**Climate:** DfD specifications may increase material use or embodied carbon if connections and structural redundancy are not optimized. Screen for whole-life carbon assessment (EN 15978) demonstrating no net increase; ISO 20887 alignment (ISO 20887; SBTi, 2024; WorldGBC, 2019).	**Social:** Digital exclusion for MSMEs lacking capacity for DfD specifications, BIM-based detailing, or material passport requirements. Screen for inclusivity strategy addressing MSME access to DfD tools and training (ILO, 1999; European Commission, 2023b; WorldGBC, 2023).

Aligned activity	Material impact topic 1	Material impact topic 2
Digital design tools that integrate circular-economy logic and material-efficiency optimization into building design workflows	**Climate:** Digital tool hosting may generate significant energy consumption without commensurate material savings. Screen for evidence of material-efficiency gains; comparative assessment of tool energy footprint against demonstrated embodied carbon reductions (SBTi, 2024; ISO 14040/44; WorldGBC, 2019).	**Social:** Digital exclusion for MSMEs in developing economies lacking connectivity, digital literacy, or capital for software adoption. Screen for inclusivity strategy covering affordability, multilingual access, training and open-data interoperability (ILO, 1999; European Commission, 2023b; UN, 2011).
Research and development of novel circular building materials (e.g. mycelium-based, algae-derived and high-recycled-content composites)	**Pollution:** Chemical safety risk from novel pre-commercial formulations with unknown off-gassing, leaching, or degradation pathways. Screen for risk assessment under applicable chemical safety frameworks (REACH; equivalents); GFC target D3 alignment (UNEP, 2023a; European Commission, 2024; Stockholm Convention, 2001).	**Social:** Occupant health risk from novel materials with limited long-term performance data in inhabited buildings. Screen for material health documentation; durability testing; indoor air quality assessment; building product safety compliance (WHO, 2024; C2C, 2024; European Commission, 2024a).
Circular use		
Building refurbishment and deep-energy retrofit programmes that extend building lifespan	**Climate:** Retrofit energy gains may be offset by embodied carbon of new materials installed. Screen for whole-life carbon assessment (EN 15978) covering operational and embodied carbon; net life cycle carbon reduction over documented assessment period (SBTi, 2024; WorldGBC, 2019; UNEP, 2024a).	**Social:** Occupant health risk from renovation activities (dust, noise, hazardous substance disturbance) and reduced indoor air quality in sealed envelopes. Screen for occupant communication protocols; indoor air quality testing post-retrofit (WHO guidelines); pre-works hazardous material survey (WHO, 2024; ILO Convention 167; European Commission, 2023b).

Aligned activity	Material impact topic 1	Material impact topic 2
Adaptive reuse and change-of-use conversions of heritage or under-utilized buildings	**Social:** Community displacement and gentrification through conversion of affordable or culturally significant buildings. Screen for community consultation; anti-displacement measures; affordable housing commitments; FPIC principles where culturally significant sites are affected (UN, 2011; IFC, 2012; European Commission, 2023b).	**Pollution:** Legacy hazardous substances (asbestos, lead paint, PCBs) disturbed during conversion of older buildings. Screen for pre-works hazardous material survey; remediation plan; waste disposal records per applicable regulations (UNEP, 2023a; Stockholm Convention, 2001; Basel Convention, 1989).
Long-term maintenance and repair service contracts that prioritize repair and component replacement over full system renewal	**Climate:** Frequent component replacements may generate cumulative embodied carbon exceeding less-frequent full system renewal. Screen for life cycle comparison of repair-versus-replace scenarios using whole-life carbon assessment (EN 15978; ISO 15686; SBTi, 2024).	**Social:** OHS risks for maintenance workers in occupied buildings (working at height, electrical hazards, legacy material exposure). Screen for OHS management system; worker training; PPE provision (ILO Convention 167; ISO 45001; GRI 403:2018).
Flexible workspace and modular interior design enabling repeated reconfiguration without major strip-outs	**Pollution:** Modular interior systems with high chemical content (adhesives, coatings, composite panels) generating VOC emissions during reconfiguration. Screen for material health documentation; indoor air quality testing during and after reconfiguration; compliance with VOC emission limits (WHO, 2024; UNEP, 2023a; C2C, 2024).	**Climate:** Frequent reconfiguration cycles may increase cumulative material consumption and embodied carbon. Screen for material reuse rates across reconfiguration cycles; whole-life carbon assessment demonstrating net benefit over conventional fit-out-and-strip approaches (EN 15978; ISO 14040/44; WorldGBC, 2023).
Shared-use and co-working models that increase utilization of existing floor area	**Social:** Exclusion of MSMEs and low-income users through pricing, contractual requirements, or digital access barriers. Screen for inclusive access strategy with tiered pricing; MSME-appropriate terms; accessibility provisions (ILO, 1999; European Commission, 2023b; UN, 2011).	**Social:** Occupant health and well-being risk from increased occupancy density (indoor air quality, noise, inadequate sanitation). Screen for indoor air quality monitoring; ventilation adequacy assessment; compliance with building occupancy and health standards (WHO, 2024; European Commission, 2023b; European Commission, 2024b).

Aligned activity	Material impact topic 1	Material impact topic 2
Renovation projects that retain structural elements and selectively replace only failed or obsolete components	**Climate:** Retained high-embodied-carbon elements may forego performance improvements from modern alternatives. Screen for whole-life carbon assessment comparing retention-and-upgrade against selective demolition-and-rebuild scenarios (EN 15978; SBTi, 2024; ISO 14040/44).	**Pollution:** Hazardous substances (asbestos, lead, PCBs) in retained structural elements disturbed during selective replacement. Screen for pre-works hazardous material survey; containment protocols; hazardous waste management plan (UNEP, 2023a; Stockholm Convention, 2001; Basel Convention, 1989).
Life cycle extension services and upgrade planning for existing assets, including phased refurbishment roadmaps	**Climate:** Phased refurbishment may extend asset life without improving energy performance, locking in operational carbon. Screen for phased refurbishment roadmap integrating operational and embodied carbon reduction targets; alignment with SBTi Buildings Sector Guidance (SBTi, 2024; EN 15978; WorldGBC, 2019).	**Social:** Prolonged disruption to occupants and communities from phased works. Screen for occupant and community engagement plan; phasing strategy minimizing disruption; grievance mechanisms (UN, 2011; European Commission, 2023b; IFC, 2012).
Reverse-logistics and take-back programmes for building components and materials in use (e.g. ceilings, carpets, façade elements)	**Pollution:** Legacy hazardous substance contamination in returned components (flame retardants, PFAS, lead coatings). Screen for incoming material screening; hazardous substance testing; segregation of contaminated materials (UNEP, 2023a; Stockholm Convention, 2001; Basel Convention, 1989).	**Climate:** GHG emissions from collection, consolidation and redistribution transport. Screen for comparative LCA demonstrating net environmental benefit across documented return cycles; logistics optimization strategy (ISO 14040/44; SBTi, 2024; WorldGBC, 2023).
Circular value recovery		
Selective deconstruction and demolition services with pre-demolition audits and material-recovery plans	**Pollution:** Release of legacy hazardous substances (asbestos, lead, PCBs, PFAS) and contamination of recovered material streams through inadequate segregation. Screen for pre-demolition hazardous material audit; remediation and containment protocols; waste classification records (UNEP, 2023a; Stockholm Convention, 2001; Basel Convention, 1989).	**Social:** OHS risks for deconstruction workers (hazardous substance exposure, working at height, structural collapse, heavy machinery). Screen for OHS management system (ISO 45001); role-specific hazardous material handling training; health surveillance; incident tracking (ILO Convention 167; ISO 45001; GRI 403:2018).

Aligned activity	Material impact topic 1	Material impact topic 2
Urban-mining and salvage operations recovering high-value components and materials from existing buildings	**Pollution:** Hazardous substance contamination in salvaged components (lead paint, asbestos, PCB-laden sealants) entering secondary markets. Screen for material testing and decontamination protocols; chain-of-custody traceability; compliance with hazardous substance regulations (UNEP, 2023a; Stockholm Convention, 2001; Global Alliance to Eliminate Lead Paint, 2024).	**Social:** OHS risks from structural instability, manual handling and hazardous material exposure during salvage. Screen for structural assessment prior to salvage; OHS management system; worker training records; PPE provision (ILO Convention 167; ISO 45001; GRI 403:2018).
C&D waste sorting and grading facilities that produce reusable and recyclable material streams	**Pollution:** Dust, particulates and volatile emissions from mechanical sorting; cross-contamination from inadequate hazardous substance screening. Screen for air quality monitoring; dust suppression systems; incoming material screening; compliance with air emission limits (WHO, 2021; UNEP, 2023a; European Commission, 2024a).	**Social:** OHS risks for sorting workers (dust inhalation, noise, repetitive strain, hazardous material contact). Screen for OHS management system; workplace air quality monitoring; hearing conservation; health surveillance per ILO standards (ILO Convention 167; ISO 45001; GRI 403:2018).
Concrete-recycling facilities producing recycled aggregates for structural or non-structural applications	**Water:** Wet processing requires significant water inputs and generates alkaline-fines effluent. Screen for water consumption records; closed-loop water recycling documentation; effluent quality monitoring against discharge standards (SBTN, 2024; IFC, 2012; UNEP, 2024a).	**Climate:** Energy consumption from crushing, screening and grading. Screen for energy source documentation; Scope 1–2 emissions per tonne; comparative LCA against virgin aggregate extraction (EN 15978; ISO 14040/44; SBTi, 2024).
Asphalt and road-pavement milling and recycling into new pavement layers	**Climate:** Energy consumption from milling, heating and re-laying, particularly for hot-mix processes. Screen for energy source documentation; recycled asphalt content percentage; comparative LCA against virgin asphalt demonstrating net carbon benefit (EN 15978; ISO 14040/44; SBTi, 2024).	**Pollution:** VOC and PAH emissions from heating reclaimed asphalt; bitumen fume exposure during processing. Screen for air emissions monitoring; compliance with occupational exposure limits for bitumen fumes; PAH content testing of reclaimed feedstock (WHO, 2021; UNEP, 2023a; ILO Convention 167).

Aligned activity	Material impact topic 1	Material impact topic 2
Metal recovery and recycling operations targeting reinforcement steel, structural steel, aluminium and other metals from C&D flows	**Climate:** Energy-intensive smelting and reprocessing, particularly for aluminium. Screen for energy source documentation; Scope 1–2 emissions per tonne; comparative LCA against primary metal production (EN 15978; ISO 14040/44; SBTi, 2024).	**Social:** OHS risks from heavy machinery, hot metal handling, fume exposure and noise in recovery and smelting facilities. Screen for OHS management system; fume extraction and ventilation records; hearing conservation; worker health surveillance (ILO Convention 167; ISO 45001; GRI 403:2018).
Wood and timber recovery and remanufacturing from demolition sites (e.g. reclaimed beams, flooring, panels)	**Pollution:** Hazardous substance contamination in reclaimed timber (lead paint, creosote, CCA, preservatives). Screen for timber testing and decontamination protocols; segregation of treated timber; restrictions on treated wood reuse (UNEP, 2023a; Stockholm Convention, 2001; Global Alliance to Eliminate Lead Paint, 2024).	**Biodiversity:** Insufficient reclaimed timber supply may drive compensatory demand for virgin timber from unsustainable sources. Screen for chain-of-custody documentation confirming reclaimed origin; FSC or PEFC certification where virgin timber supplements supply (TNFD, 2024; FSC/PEFC; ENCORE, 2025).
Insulation and packaging-waste recovery and recycling (e.g. EPS/XPS, mineral wool where feasible)	**Pollution:** Legacy flame retardants (HBCD, TCEP) and blowing agents in recovered insulation; fibre release from mineral wool. Screen for incoming material hazardous substance screening; Stockholm Convention compliance; worker exposure monitoring for respirable fibres (Stockholm Convention, 2001; UNEP, 2023a; WHO, 2021).	**Social:** OHS risks from respirable fibre exposure, chemical handling in EPS/XPS recycling and dust inhalation. Screen for workplace air quality monitoring; respiratory protection protocols; health surveillance per ILO standards (ILO Convention 167; ISO 45001; GRI 403:2018).
Plastics and composite-material recovery from construction and demolition waste	**Pollution:** Microplastic generation, chemical contamination (PFAS, phthalates, heavy metal stabilizers) and VOC emissions from thermal processing of mixed plastics. Screen for feedstock quality controls; output contaminant testing; air emissions monitoring (UNEP, 2023a; Stockholm Convention, 2001; European Commission, 2024a).	**Climate:** Energy-intensive sorting and reprocessing of mixed construction plastics; uncertain net carbon benefit for contaminated feedstock. Screen for energy source documentation; recycled output quality verification; comparative LCA against virgin plastic alternatives (ISO 14040/44; EN 15978; SBTi, 2024).

Aligned activity	Material impact topic 1	Material impact topic 2
Gypsum and drywall recycling and remanufacturing into new boards	**Water:** H_2S generation from gypsum waste in contact with organic matter; water contamination from processing effluent. Screen for waste segregation preventing organic contamination; effluent quality monitoring; compliance with water discharge standards (SBTN, 2024; UNEP, 2024a; IFC, 2012).	**Pollution:** Heavy metal and contaminant concentration from mixed drywall feedstock; potential asbestos in pre-1990s boards. Screen for incoming material screening; hazardous substance testing; output quality controls for recycled gypsum products (UNEP, 2023a; Stockholm Convention, 2001; European Commission, 2024a).
Flat-glass recovery and recycling from windows, façades and internal partitions	**Climate:** Energy-intensive cullet processing and remelt operations. Screen for energy source documentation; cullet quality rates; comparative LCA against virgin flat-glass production (EN 15978; ISO 14040/44; SBTi, 2024).	**Social:** OHS risks from manual glass handling, cutting injuries and exposure to coatings and interlayer materials. Screen for OHS management system; cut-resistant PPE provision; worker training records; incident tracking (ILO Convention 167; ISO 45001; GRI 403:2018).
Reverse-logistics and collection systems for construction-material returns, offcuts and surplus products	**Climate:** GHG emissions from collection, consolidation and redistribution transport. Screen for logistics optimization strategy; transport emissions tracking; comparative LCA demonstrating that reverse-logistics emissions do not offset material recovery benefits (ISO 14040/44; SBTi, 2024; WorldGBC, 2023).	**Pollution:** Hazardous substance contamination in returned materials modified, treated, or exposed to site conditions. Screen for incoming material screening protocols; hazardous substance testing; segregation procedures for contaminated materials (UNEP, 2023a; Basel Convention, 1989; European Commission, 2024a).
Secondary-material trading platforms and marketplaces for reclaimed construction materials	**Social:** Digital exclusion for MSMEs and informal sector actors lacking digital infrastructure, connectivity, or literacy. Screen for inclusivity strategy covering MSME access; multilingual interface; low-bandwidth functionality; alternative non-digital participation mechanisms (ILO, 1999; European Commission, 2023b; UN, 2011).	**Pollution:** Hazardous substance propagation through secondary markets if traded materials are inadequately screened. Screen for platform-level material quality and hazardous substance verification requirements; testing standards for listed materials; material provenance traceability (UNEP, 2023a; Stockholm Convention, 2001; Basel Convention, 1989).

Aligned activity	Material impact topic 1	Material impact topic 2
Physical or digital material banks and inventory systems for recovered building components	**Social:** Digital exclusion for MSMEs and smaller contractors unable to access or contribute to digital inventory systems. Screen for inclusivity provisions; open-data interoperability; MSME participation support (ILO, 1999; European Commission, 2023b; Madaster, 2024).	**Pollution:** Material banks circulating components with unknown hazardous substance content. Screen for mandatory material health documentation requirements; hazardous substance testing protocols; data fields for chemical composition and treatment history (UNEP, 2023a; BAMB, 2020; C2C, 2024).
Circular support		
Digital material-passport platforms for buildings (e.g. asset-level inventories such as Madaster, BAMB, Concular, Circuland)	**Social:** Digital exclusion for MSMEs and construction firms in developing economies lacking digital literacy, connectivity, or resources to implement material passport systems. Screen for inclusivity strategy; open-data standards; multilingual interfaces; MSME access provisions (ILO, 1999; European Commission, 2023b; Madaster, 2024).	**Pollution:** Incomplete or inaccurate passport data on hazardous substance content creating false assurance about material health. Screen for mandatory hazardous substance data fields; third-party verification requirements; alignment with applicable chemical safety frameworks (UNEP, 2023a; BAMB, 2020; European Commission, 2024b).
Building Information Modelling (BIM) solutions configured with material tracking, circularity attributes and end-of-life data	**Social:** Digital exclusion for MSMEs and smaller practitioners lacking BIM capability, software licences, or trained personnel. Screen for open-format data exchange (ISO 19650); training access; interoperability with lower-cost tools (ISO 19650; ILO, 1999; European Commission, 2023b).	**Climate:** Unreliable BIM-integrated circularity data based on generic datasets leading to inaccurate embodied carbon and end-of-life planning. Screen for data quality requirements; documented data sources and update frequencies; alignment with EN 15978 and ISO 22057 (EN 15978; ISO 22057; SBTi, 2024).
Design-for-disassembly (DfD) audits and feasibility studies supporting project design and planning	**Climate:** DfD feasibility studies may not adequately assess whole-life carbon implications of disassembly-ready designs. Screen for integration of whole-life carbon assessment (EN 15978) within DfD feasibility methodology demonstrating net carbon benefit over conventional design (ISO 20887; SBTi, 2024; WorldGBC, 2019).	**Social:** DfD audit recommendations imposing disproportionate compliance burdens on MSMEs. Screen for consideration of MSME capacity and cost implications in DfD recommendations; practical implementation guidance for smaller firms (ILO, 1999; European Commission, 2023b; WorldGBC, 2023).

Aligned activity	Material impact topic 1	Material impact topic 2
Environmental Product Declaration (EPD) compilation, verification and data-hosting services for construction products	**Pollution:** EPDs may not adequately disclose hazardous substance content, focusing on carbon and energy metrics. Screen for EPD scope including toxicity indicators and declared substance lists; ISO 14025 and ISO 21930 compliance; material health transparency (ISO 14025; ISO 21930; UNEP, 2023a).	**Social:** Cost and complexity barriers excluding MSMEs from EPD compilation and limiting market access. Screen for MSME support mechanisms; sector-level EPD programmes reducing individual compliance burden; affordability of verification services (ILO, 1999; European Commission, 2023b; European Commission, 2024b).
Life cycle assessment (LCA) and embodied-carbon calculation software and advisory services for buildings and materials	**Climate:** Inconsistent methodological choices (system boundaries, allocation rules, data sources) producing non-comparable LCA results. Screen for compliance with ISO 14040/44 and EN 15978; documented data quality assessment; transparent reporting of assumptions and limitations (ISO 14040/44; EN 15978; SBTi, 2024).	**Social:** Digital exclusion for MSMEs lacking technical capacity or resources to commission LCA. Screen for MSME access provisions; simplified assessment tools for smaller projects; training and capacity-building programmes (ILO, 1999; European Commission, 2023b; WorldGBC, 2023).
Construction-waste-management planning and monitoring services for project sites and portfolios	**Pollution:** Inadequate implementation leading to improper disposal, illegal dumping, or cross-contamination. Screen for waste management plan with diversion targets; waste tracking by type and destination; waste regulation compliance (UNEP, 2023a; Basel Convention, 1989; WorldGBC, 2023).	**Social:** OHS risks for waste management workers (hazardous material exposure, manual handling injuries, inadequate PPE). Screen for OHS protocols for waste handling; worker training records; health surveillance per ILO standards (ILO Convention 167; ISO 45001; GRI 403:2018).
Demolition audits and deconstruction-planning services, including hazardous-material identification	**Pollution:** Audits failing to identify concealed hazardous substances (asbestos, PCBs in sealants, PFAS in membranes). Screen for comprehensive pre-demolition survey methodology; qualified assessor credentials; national hazardous material survey standards (UNEP, 2023a; Stockholm Convention, 2001; Global Alliance to Eliminate Lead Paint, 2024).	**Social:** Audit findings not effectively communicated to deconstruction workers, leading to inadequate hazard awareness. Screen for communication protocols ensuring audit findings inform site-specific risk assessments, worker briefings and PPE selection (ILO Convention 167; ISO 45001; GRI 403:2018).

Aligned activity	Material impact topic 1	Material impact topic 2
Traceability and supply-chain-transparency systems for construction materials (e.g. chain-of-custody and origin tracking)	**Social:** Digital exclusion for MSMEs and suppliers in developing economies unable to meet data entry, reporting, or certification requirements. Screen for inclusivity measures; phased implementation support for smaller suppliers; interoperability with existing business systems (ILO, 1999; European Commission, 2023b; UN, 2011).	**Biodiversity:** Traceability systems insufficiently granular to detect biodiversity-damaging sourcing (illegal logging, destructive quarrying). Screen for integration of origin-level environmental data; forest certification status; extraction site assessments; alignment with TNFD disclosure recommendations (TNFD, 2024; FSC/PEFC; ENCORE, 2025).
Circular-economy performance-assessment and reporting services (e.g. ISO 59020-aligned metrics, WBCSD CTI for buildings)	**Climate:** Circularity metrics not capturing climate outcomes, potentially classifying activities as circular despite net-negative carbon performance. Screen for whole-life carbon metrics alongside circularity indicators; EN 15978 and SBTi alignment (ISO 59020; WBCSD, 2025; SBTi, 2024).	**Social:** Reporting frameworks imposing disproportionate data collection and compliance burdens on MSMEs. Screen for tiered reporting requirements proportionate to organization size; simplified indicators for smaller firms; capacity-building support (European Commission, 2023a; ILO, 1999; WBCSD, 2025).
Worker training and certification programmes in circular construction, deconstruction and recycling disciplines	**Social:** Training programmes not reaching informal sector workers, migrant workers, or women, reinforcing existing workforce inequalities. Screen for inclusive recruitment strategy; multilingual training delivery; gender-responsive programme design; accessibility for informal sector participants (ILO Convention 167; ILO, 1999; European Commission, 2023b).	**Pollution:** Training programmes not adequately covering hazardous substance identification, handling and protection during deconstruction and recycling. Screen for curriculum content covering legacy hazardous substance management (asbestos, lead, PCBs, PFAS); practical PPE training; competency assessment (UNEP, 2023a; Stockholm Convention, 2001; ISO 45001).
Extended Producer Responsibility (EPR) scheme infrastructure and coordination services for construction materials and products	**Pollution:** EPR schemes failing to address hazardous substance management in returned products (asbestos, PFAS, heavy metals). Screen for hazardous substance screening in EPR scheme design; end-of-life material management protocols; waste regulation compliance (UNEP, 2023a; Basel Convention, 1989; Stockholm Convention, 2001).	**Social:** EPR compliance costs disproportionately borne by MSMEs, creating market access barriers. Screen for MSME support mechanisms within EPR scheme design; graduated fee structures; collective compliance options; technical assistance provisions (ILO, 1999; European Commission, 2023b; European Commission, 2024b).

Annex 4: Illustrative assessment example: recycled concrete aggregate production (circular design and production)

This annex presents a hypothetical illustrative example demonstrating how a financial institution might apply the three-step assessment methodology described in chapter 3. The example is intended to show how the steps connect in sequence and what types of information and considerations may arise at each stage. It does not prescribe specific outcomes, thresholds, or documentation requirements. Financial institutions would adapt the assessment to the specific context, scale and geography of each activity.

Activity description

A mid-sized construction materials company operates a recycled concrete aggregate (RCA) production facility adjacent to its conventional aggregate quarry. The facility sources concrete waste from selective demolition contractors and construction and demolition (C&D) waste sorting facilities, processes approximately 60,000 tonnes of concrete waste per year through jaw crushing, screening, magnetic separation (to recover rebar steel) and washing and produces graded recycled aggregates meeting EN 12620 for concrete applications and national specifications for road sub-base. The company holds third-party quality certification for its RCA products and maintains documented offtake agreements with ready-mix concrete producers and road construction contractors. The company has applied for a term loan to expand crushing capacity and install a closed-loop water recycling system.

Step 1—Circular economy category identification

The financial institution begins by applying the quick screening questions from Table 1 to determine whether the activity demonstrates circular characteristics and to identify the primary circular economy category. The activity is assessed against the circular design and production category, as the facility produces recycled construction materials that substitute virgin aggregate in new concrete, sub-base and roadbase applications. The screening questions for this category are applied as follows.

Table 14: Circular economy category quick screening—illustrative application for recycled concrete aggregate production

Table 1 quick screening question	Illustrative case answer
Question 1: Does the activity redesign building materials, components, or construction processes to enable circular outcomes (material recovery, reuse, or recyclability)?	The facility converts demolition concrete waste into graded recycled aggregates that re-enter the construction value chain as inputs for new concrete, sub-base and roadbase. By transforming end-of-life concrete into a production-ready secondary material, the activity enables circular material flows within the buildings and construction sector. The answer to this question is yes.
Question 2: Is there documented evidence of reduced virgin material use, substitution with recycled or renewable inputs, or design for future recovery?	The company provides production records showing that the recycled aggregates displace virgin aggregate extracted from its adjacent quarry and from external suppliers. Sales documentation and offtake agreements confirm that the recycled aggregates are used by ready-mix concrete producers and road construction contractors as direct substitutes for virgin crushed rock. The answer to this question is yes.
Question 3: Are production processes or material specifications designed to maintain material quality and enable high-value circular pathways?	The facility operates a documented production process—jaw crushing, multi-stage screening, magnetic separation and washing—that produces graded recycled aggregates meeting EN 12620 (aggregates for concrete) and applicable national road sub-base specifications. Third-party quality certification and periodic laboratory testing confirm that material properties (particle size distribution, water absorption, chloride content and alkali-silica reactivity) meet the requirements for structural and non-structural concrete applications. The answer to this question is yes.
Question 4: Are performance outcomes captured or available (e.g. recycled content, embodied carbon reduction, material quality certification)?	The company maintains production volume records, material testing results referenced against EN 12620, third-party quality certification and documented offtake agreements. The institution also notes that the company has conducted a preliminary embodied carbon comparison between its recycled aggregates and virgin aggregate production, referenced against EN 15978 and ISO 14040/44 methodologies. The answer to this question is yes.

All four screening questions are answered affirmatively. The activity is assigned to the **circular design and production** category and proceeds to Step 2.

Cross-reference with Annex 1. The activity corresponds to "Production of recycled concrete aggregates for new concrete, sub-base and roadbase" in the indicative list of circular economy activities (Annex 1, circular design and production category, activity 3). The corresponding NACE codes are 23.61 (Manufacture of concrete products for construction purposes) and 38.32 (Recovery of sorted materials). The corresponding ISIC codes are 2395 and 3830.

Step 2—Circular contribution assessment

In Step 2, the financial institution assesses whether the activity illustrates a substantial contribution to circular outcomes. Drawing on the example indicators and documentation sources outlined in Tables 2 and 3, the institution identifies relevant circularity criteria proportionate to the activity's context and scale. The following information is gathered during the assessment. The indicators selected below are illustrative; financial institutions are encouraged to select criteria proportionate to the activity's context.

Table 15: Circular contribution assessment—illustrative documentation for recycled concrete aggregate production

Assessment area	Illustrative findings
Recycled content and material quality	The financial institution requests documentation on the facility's recycled aggregate output quality and the proportion of recycled content in end-use applications. The company provides laboratory test results for its graded RCA products, covering particle size distribution, water absorption, density, chloride content and alkali-silica reactivity, referenced against EN 12620 specifications. The institution reviews the company's third-party quality certification, which confirms that RCA products meet the requirements for use in concrete applications in accordance with EN 206. The institution considers the reported material properties in the context of available industry references, including the WBCSD Circular Transition Indicators (CTI v4.0) framework for measuring material circularity flows and notes that established quality standards for recycled concrete aggregates exist across multiple jurisdictions (see Table 3, recycled and renewable material content indicators; ISO 59020:2024).
Chain-of-custody and traceability	The company provides documentation tracing the origin of its concrete waste feedstock, including contracts with selective demolition contractors and C&D waste sorting facilities. The institution reviews the traceability system used to link incoming waste consignments to specific demolition projects and outgoing RCA products to customer deliveries. The financial institution notes whether the traceability documentation is sufficient to support recycled content claims in downstream applications and whether the company has been subject to any non-conformance findings in recent third-party audits (see Table 2, regulatory and certification resources; Basel Convention, 1989).
Feedstock sourcing and contamination management	The financial institution reviews documentation on feedstock sourcing, including the company's acceptance criteria for incoming concrete waste and procedures for managing contamination. The company provides its standard operating procedure for incoming material inspection, which includes visual inspection, density checks and screening for hazardous substances (asbestos, lead-based paint residues and other contaminants). The institution considers whether rejected or non-compliant fractions are tracked, segregated and disposed of in accordance with applicable waste management regulations and whether the company's pre-acceptance testing is proportionate to the risk profile of its feedstock sources (see Table 3, chemicals management indicators; UNEP, 2023a).

Assessment area	Illustrative findings
Secondary market integration or internal closed-loop recovery	The financial institution reviews evidence that the recycled aggregates are integrated into established construction material supply chains. The company provides offtake agreements with ready-mix concrete producers and road construction contractors, confirming that RCA products are purchased as direct substitutes for virgin aggregate at defined quality specifications. The institution also reviews sales records covering the previous 12 months, noting the proportion of output directed to concrete applications (higher-value circular pathway) versus sub-base and fill applications. The institution considers this market integration evidence in the context of the buildings and construction sector's secondary material demand and notes that confirmed end-market acceptance is a key indicator of circular contribution (see Table 3, recycled and renewable material content indicators).

Step 2—Assessment outcome

Based on the information gathered, the financial institution determines whether the activity meets the circularity criteria sufficient for classification as a circular solution, or whether it is classified as a circular opportunity requiring further client engagement.

In this illustrative example, the financial institution determines that the documented material quality certification against EN 12620, third-party quality assurance, chain-of-custody traceability from demolition source to end-use, contamination management procedures and confirmed offtake agreements with concrete producers and road contractors are sufficient to classify the activity as a circular solution. The institution notes that the activity's circularity performance could be further quantified using established measurement frameworks such as the WBCSD Circular Transition Indicators (CTI v4.0) or ISO 59020:2024 and records this as an area for potential future monitoring. The activity proceeds to Step 3.

Note: Had the financial institution identified gaps—for example, if chain-of-custody documentation were incomplete, if the recycled aggregates lacked confirmed construction end markets, if contamination management procedures were not documented, or if material quality testing did not reference recognized standards—the activity might instead be classified as a circular opportunity. In that case, the institution would engage the client to establish a milestone-based pathway toward addressing the identified gaps before reclassification.

Step 3—Interlinkages assessment

In Step 3, the financial institution assesses interlinkages between the activity and other environmental and social objectives, comprising: (a) environmental DNSH screening, (b) social objectives assessment (aligned with minimum safeguards) and (c) co-benefits identification. The assessment draws on the buildings and construction sector impact profile (chapter 1), Table 7 and the environmental and social material impact mapping for this activity in Annex 3.

Consistent with the buildings and construction sector impact profile presented in chapter 1 (Figure 1), the financial institution notes that recycled concrete aggregate production directly addresses two circular economy impact drivers identified in the Impact Radar: resource intensity (by substituting

virgin aggregate with secondary material derived from demolition waste) and waste (by diverting concrete waste from landfill and enabling its return to the construction value chain). Acting on resource intensity can generate strong positive interlinkages with climate stability and waste reduction and moderate positive interlinkages with natural disaster resilience, health and safety, energy, employment, sector diversity, waterbodies, air quality, soil, species and habitat. Acting on waste can generate strong positive interlinkages with climate stability, waterbodies, air quality, soil, species, habitat, resource intensity, health and safety, water, food and healthcare and sanitation and moderate positive interlinkages with employment and sector diversity. Both pathways carry a moderate negative interlinkage with flourishing MSMEs. These interlinkages guide the institution's screening across environmental objectives (DNSH), social objectives (minimum safeguards) and co-benefits.

Annex 3 identifies the following material environmental topics for recycled concrete aggregate production: climate (energy consumption in crushing, screening and processing) and water (dust suppression and wet processing water use). In line with UNEP FI's *Practical Guidance on Implementing Adaptation and Resilience for Banks* (UNEP FI, 2025c), the institution treats this assessment as part of its wider climate risk and resilience analysis for the buildings and construction sector portfolio, noting how circular economy activities can reduce exposure to physical and transition risks over time. The financial institution uses these as the starting point for screening, while also considering the remaining environmental and social objectives.

Table 16: Interlinkages assessment—illustrative DNSH screening, social objectives assessment and co-benefits identification for recycled concrete aggregate production

Environmental objectives and social objectives	Assessment
Climate mitigation	The financial institution reviews the facility's energy consumption data and electricity sourcing. The company provides metered energy intensity data (kWh per tonne of RCA output) for the crushing, screening, magnetic separation and washing processes and documentation of its electricity supply contract showing the grid mix for the facility's location. The institution considers whether the recycled aggregate production process, when compared to virgin aggregate extraction (quarrying, blasting, crushing and transport), is likely to deliver a net reduction in greenhouse gas emissions. The company provides a preliminary embodied carbon comparison referenced against EN 15978 and ISO 14040/44, indicating lower embodied carbon per tonne for RCA relative to virgin crushed rock, though the institution notes that a full comparative life cycle assessment covering Scope 1, 2 and 3 emissions has not been completed and records this as a potential area for future documentation. Based on the available energy data and the inherent lower energy intensity of recycled aggregate production relative to virgin extraction and processing, the institution does not identify significant harm to climate mitigation at this stage.

Environmental objectives and social objectives	Assessment
Climate adaptation	The financial institution considers whether the activity contributes to or undermines climate adaptation and resilience. By sourcing demolition concrete waste as feedstock rather than relying on virgin aggregate from quarries subject to environmental permitting constraints and resource depletion, the activity diversifies the company's material supply chain. The institution notes that secondary material sourcing through local demolition waste reduces exposure to climate-related supply chain disruptions (such as flood damage to quarry access roads or drought-related water restrictions on quarrying operations) and records associated adaptation co-benefits below. The activity is not identified as causing significant harm to climate adaptation.
Water and marine resources	Annex 3 flags water use as a material environmental topic for recycled concrete aggregate production. The financial institution reviews the facility's water consumption data, effluent discharge permits and compliance records. The company operates a wash plant for dust suppression and aggregate cleaning that uses water in the processing circuit. The company provides documentation of its existing water management system, including water consumption records, a valid environmental permit with effluent quality monitoring requirements and details of the proposed closed-loop water recycling system that forms part of the financing request. The institution notes that the installation of the closed-loop water recycling system is expected to significantly reduce net water consumption and eliminate process effluent discharge. No significant harm to water and marine resources is identified and the institution records the water recycling investment as a positive environmental feature of the financing.
Biodiversity and ecosystems	The financial institution considers whether the facility's operations or feedstock sourcing present risks to biodiversity. Given that the facility is located adjacent to an existing quarry site in an established industrial area, processes demolition waste rather than extracting virgin materials from new sites and does not involve land-use change or expansion into undeveloped areas, the institution does not identify significant harm to biodiversity at this stage. The institution notes that the activity's displacement of virgin aggregate extraction may reduce pressure on quarrying and associated habitat disturbance and documents this as a potential co-benefit below.

Environmental objectives and social objectives	Assessment
Pollution prevention and control	The financial institution reviews the facility's dust and particulate management practices, noise management and hazardous substance screening procedures. The company provides documentation of its dust suppression systems (water sprays on crushing and screening equipment, enclosed conveyors), noise monitoring records and the pre-acceptance screening protocol for incoming concrete waste (visual inspection, density checks and testing for asbestos, lead and other contaminants). The institution also reviews waste management documentation for rejected or non-compliant material fractions, confirming that contaminated materials are segregated and disposed of through licensed hazardous waste contractors in accordance with applicable national regulations and the Basel Convention (1989). No significant harm is identified, though the institution notes that ongoing monitoring of feedstock contamination management is advisable as the facility expands its crushing capacity and potentially diversifies its feedstock sources.
Social objectives assessment	
Decent work and occupational health and safety	The financial institution assesses alignment with social objectives (minimum safeguards). The company provides documentation on its employment practices, including contracts for its operational workforce, health and safety training records covering crushing and screening operations, dust exposure management, heavy machinery operation and manual handling of waste materials. The company operates a documented occupational health and safety management system aligned with ISO 45001, including incident tracking, corrective action protocols and worker health surveillance for dust exposure. The facility operates in a jurisdiction with established labour protections and is subject to regular inspections. The institution reviews alignment with the OECD Guidelines for Multinational Enterprises (2011) and the UN Guiding Principles on Business and Human Rights, noting that the company has a documented grievance mechanism and supplier code of conduct covering its demolition waste suppliers. No significant social safeguard concerns are identified.
Adequate standard of living and inclusive communities	The financial institution considers whether the activity supports or undermines living standards and community well-being. The facility provides formal employment in processing operations and contributes to local economic activity through its supply chain relationships with demolition contractors, C&D waste sorters and construction material customers. The institution notes that the facility's operations do not involve community displacement, land acquisition, or adverse impacts on neighbouring residential areas beyond those already managed under the existing quarry site's environmental permit. The institution records local employment and economic activity as a positive social outcome alongside the minimum social safeguards assessment.

Environmental objectives and social objectives	Assessment
Consumer and occupant health and safety	The financial institution considers whether the recycled aggregates produced by the facility meet health and safety standards for use in construction applications. The company provides material quality test results referenced against EN 12620 and EN 206, confirming that the recycled aggregates meet the specifications required for use in concrete for structural and non-structural applications. The institution reviews documentation confirming that RCA products have been screened for hazardous substances and that material properties (including chloride content and alkali-silica reactivity) are within the limits specified by relevant construction codes. No significant harm to consumer and occupant health and safety is identified and the institution notes that third-party quality certification provides additional assurance that the recycled aggregates are fit for purpose in occupied buildings and infrastructure.

Identification of co-benefits

The co-benefits are documented using the sustainability topics and sub-topics of UNEP FI's *Impact Radar* as a reference point, ensuring that climate stability, resource intensity and other impact topics relevant to the buildings and construction sector are considered systematically. The financial institution documents the following potential co-benefits:

- **Climate mitigation:** Production of recycled concrete aggregates is expected to have lower embodied carbon compared to virgin aggregate extraction and processing, though the magnitude depends on energy sources, transport distances and system boundaries. The institution notes that a full comparative life cycle assessment (EN 15978; ISO 14040/44) would strengthen this claim and records this as an area for potential future engagement with the client.

- **Resource intensity reduction:** The activity directly reduces resource intensity by substituting virgin aggregate with recycled material derived from demolition waste, decreasing demand for quarrying and associated environmental pressures across the upstream construction material supply chain. At a processing volume of approximately 60,000 tonnes per year, the facility displaces a material volume of virgin aggregate extraction.

- **Waste reduction:** The facility diverts concrete waste from landfill, contributing to construction and demolition waste reduction objectives. Given that C&D waste represents more than two billion tonnes globally per year (UNEP, 2024a), activities that return concrete waste to productive use in construction applications contribute to waste reduction at sector scale.

- **Reduced extraction pressure and nature co-benefits:** By displacing virgin aggregate quarrying, the activity reduces demand for new extraction sites and associated habitat disturbance, landscape disruption, noise, dust and transport impacts. The institution notes this as a positive nature co-benefit, consistent with TNFD (2024) guidance on reduced dependency on extractive natural resources.

- **Employment and local economic activity:** The facility provides formal employment in processing operations and supports a local supply chain connecting demolition contractors, C&D waste sorters and construction material customers. The institution notes this as a positive social outcome alongside the minimum social safeguards assessment.

Step 3—Assessment outcome

Circular solution with co-benefits. Based on the interlinkages assessment, the financial institution classifies the activity as a circular solution with co-benefits. No significant negative impacts on other environmental objectives were identified, social objectives were verified (minimum safeguards met) and potential co-benefits were documented across climate mitigation, resource intensity reduction, waste reduction, reduced extraction pressure and employment dimensions.

The institution records the assessment in its internal systems and uses the classification outcome to inform its circular economy finance strategy for the buildings and construction sector portfolio. The activity is classified as circular economy finance-aligned exposure. This classification contributes to the institution's objective of increasing financing directed toward circular solutions, identifying circular opportunities within its client base and progressively shifting its construction portfolio composition from linear to circular business models (UNEP FI, 2023a). The classification also supports the institution in engaging the client on potential enhancements, such as completing a full comparative life cycle assessment, transitioning to renewable energy sources for crushing and processing operations, expanding the proportion of output directed to higher-value concrete applications, or extending chain-of-custody traceability to downstream concrete production, that could further strengthen the activity's co-benefits profile and circular performance over time. Documented co-benefits and interlinkages outcomes can additionally inform regulatory and voluntary reporting (for example under ESRS E5—Resource use and circular economy) and contribute to broader climate, nature and pollution strategies, including those aligned with the WorldGBC *Circular Built Environment Playbook* (WorldGBC, 2023) and UNEP's *Global Status Report for Buildings and Construction* (UNEP, 2024a).

Summary of illustrative assessment

Step 1 outcome: Circular design and production—all four screening questions answered affirmatively.

Step 2 outcome: Circular solution—documented material quality certification (EN 12620), third-party quality assurance, chain-of-custody traceability, contamination management procedures and confirmed construction end markets.

Step 3 outcome: Circular solution with co-benefits—no significant harm identified across environmental objectives and social objectives verified (minimum safeguards met); co-benefits documented across climate mitigation, resource intensity reduction, waste reduction, reduced extraction pressure and employment.

Note: This example is illustrative and does not represent a specific company or transaction. The information presented is hypothetical and intended solely to illustrate the application of the assessment methodology. Financial institutions are encouraged to adapt the assessment to the specific circumstances of each activity, including the regulatory context, available documentation and proportionality considerations outlined in chapter 2. Where this example records a positive finding (e.g. "no significant harm identified"), this reflects the hypothetical documentation provided in the scenario; actual assessments would depend on the evidence available in each case.

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