Best Practices for Climate Investments in Private Equity

Developing a Sustainability Management Framework for Emerging Asia
Asia is at the forefront of both the climate crisis and the solution. With more than 60% of the global population emitting about half of the world’s greenhouse gas (GHG) emissions, the region is uniquely positioned to dictate the pace and direction of global climate progress. A swift transition to low-carbon solutions in Asia is not just vital for the environment but also stands as the cornerstone of equitable and inclusive growth.

It also presents forward-minded investors with a significant opportunity to invest in and help shape the future we want and need. This is especially true for private equity investors, where closer proximity and greater investor alignment with management can increase investors’ opportunities to influence and affect positive climate and broader sustainable development outcomes.

Transformative climate action requires a symphony of actors – including the dynamism and resources of the private sector – working in concert to create solutions at scale and speed. In particular, the convergence of development goals and investment strategies has the power to catalyse systemic change. This publication stems from a collaboration between Fullerton Fund Management (Fullerton) and the United Nations Development Program (UNDP) to explore approaches to increase the potential of private equity investment to accelerate Asia’s transition to a carbon-neutral future.

UNDP plays a pivotal role in supporting countries to achieve the Sustainable Development Goals (SDGs), and in this decisive decade for climate action, its mandate aligns with Asia’s energy transition and decarbonisation goals – striving to unleash the continent’s full economic and sustainable potential. As an investor based in Asia, Fullerton acknowledges the potential contribution of the private sector in Asia’s transition to a carbon-neutral future. It also recognises the need to share experiences and insights to spur more collective and systemic action and serves as an example of how investors can align profit with purpose.

This publication draws upon Fullerton’s experiences in establishing its own Asia-focused decarbonisation fund. It shares insights, including from working with UNDP to refine its impact thesis and investment decision framework throughout the private equity investment lifecycle, using UNDP’s SDG Impact Standards for Private Equity as a reference point. By highlighting the iterative process of embedding sustainability into the core of investment strategies, including the need for a more holistic, systemic and systematic approach that looks beyond GHG emissions, this publication seeks to inspire action and cultivate a community of practice dedicated to the vision of a sustainable future.
Executive Summary

• Environmental and social issues become more material over time. These sustainability issues can manifest consequences to influence investment value, especially for long horizon investments such as private equity.

• Optimising decarbonisation outcomes require consideration of the sustainability context. Climate action can potentially be a co-benefit from/to topics such as health, resource (food, water, energy) security, or livelihoods.

• Especially where corporate sustainability disclosures are poor (e.g. in emerging Asia), a framework is needed to guide the investment-decision making process to systematically consider sustainability issues.

• Fullerton Fund Management has worked with UNDP to develop a Sustainability Management Framework for private equity climate investing using the SDG Impact Standards as a foundation.
<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>A Sustainability Management Framework for Climate Investors&lt;br&gt;Application of the SDG Impact Standards to Climate Investing: Strategy, Management Approach, Transparency, Governance Practices</td>
</tr>
<tr>
<td>10</td>
<td>The Sustainability and Decarbonisation Context in Emerging Asia&lt;br&gt;Overview of emissions, policies, related sustainability impacts and corporate climate-related disclosures</td>
</tr>
<tr>
<td>17</td>
<td>Illustrative Due Diligence Case Study</td>
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<tr>
<td>31</td>
<td>Disclosures and Governance Practices</td>
</tr>
</tbody>
</table>

All sources in this whitepaper are listed under the References section.
A Sustainability Management Framework for Climate Investors
A Framework Can Guide Climate Investors to Manage Sustainability Risks Proactively

Leveraging the **SDG Impact Standards for Private Equity Funds**\(^1\), the Framework guides investment funds to consider the following areas for sustainable investment decision-making:

- **Strategy**
  - Consider relevant sustainability context to formulate investment strategy

- **Management Approach**
  - Integrate sustainability considerations into the fund’s operations

- **Transparency**
  - Disclosing sustainability integration and performance

- **Governance**
  - Governance practices to strengthen commitment to sustainability

Source: Adapted from The SDG Impact Standards for Private Equity

The Framework targets to standardise elements of the decision-making process, but not the objectives for each investor. Each investor must determine:

- its own climate ambitions, and materiality relating to sustainability factors
- sustainability guardrails to fulfill the “Do No Significant Harm" principle, and operate within the relevant regulatory and policy boundaries, which with respect to sustainability related issues are shifting.

Depending on the investor’s own commitments, structures and available resources, investment practices to integrate sustainability considerations are likely to differ for each investor. Investors may adopt varying practices to reflect their sustainability investment thesis and risk appetite. This whitepaper shares non-prescriptive examples to visualise how these elements may look like.
Key Questions and Actions for Climate Investors

The SDG Impact Standards provide a decision-making framework for investors to consider the relevant sustainability aspects to optimise decarbonisation:

### Strategy

- Which sustainability outcomes are most relevant to the fund?
- Has the fund set itself portfolio level goals to guide its investment decision-making?

### Key Context

- Decarbonisation gap and financing needs
- Enabling policies
- Related sustainability impacts
- Poor corporate sustainability disclosures

### Management Approach

- How is sustainability managed in investment practices, e.g. internal toolkits?
- How are investees supported to improve their sustainability management practices?

**Recommended actions**

- Develop initial screening criteria
- Develop impact thesis
- Assess decarbonisation & sustainability performance
- Develop operating procedures for consistency

### Transparency

- What disclosures are useful for investment decisions?
- How is investor assisting investees to meet reporting requirements?

**Recommended actions**

- Disclosure of relevant information for stakeholders, including metrics

### Governance

- What policies and accountability mechanisms are present to strengthen performance?

**Recommended actions**

- Strengthen governance practices on sustainability & decarbonisation performance
Interoperability with Existing Sustainability-Related Principles and Standards

Existing standards can be integrated under the SDG Impact Standards for alignment to the broader investment community. Each investor’s sustainability commitments and targets drive the choice of standards adopted. We share some examples below:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Management Approach</th>
<th>Transparency</th>
<th>Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Do No Significant Harm principle, as defined by respective taxonomy</td>
<td>• Impact Management Project’s shared norms</td>
<td>• Carbon accounting standards: GHG Protocol; PCAF Standards; ISO 14064</td>
<td>• ILPA Private Equity Principles</td>
</tr>
<tr>
<td>• UN Global Compact Principles</td>
<td>• Frameworks offering materiality analysis, such as SASB and GRI</td>
<td>• Climate-related disclosures: TCFD*</td>
<td>• Confidence-building measures as described by the PRI</td>
</tr>
<tr>
<td>• Operating Principles for Impact Management</td>
<td>• Frameworks for engaging with stakeholders and valuing what matters, such as SVI*</td>
<td>• Sustainability-related disclosures: IRIS+ metrics; GRI; IFRS SDS; SDGs*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Private Markets Decarbonisation Roadmap</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sectoral Net Zero/ Decarbonisation Pathways</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SBTi Guidance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CA100+ Net Zero Benchmark and indicators</td>
<td></td>
</tr>
</tbody>
</table>

Cross-cutting Frameworks: IFC Sustainability Framework, ADB’s Environmental and Social Framework

Each investor’s sustainability commitments and targets drive the choice of standards adopted.

* SVI: Social Value International; TCFD: Task Force on Climate-Related Financial Disclosures; IFRS SDS: IFRS Sustainability Disclosure Standards; SDG: Sustainable Development Goals
Consideration of Sustainability Impacts is Important for Private Equity Investors

Private Equity is particularly exposed to sustainability risks due to its relatively longer holding periods and lower liquidity.

Private Equity has a relatively longer investment horizon and lower liquidity than most other asset classes. Consequently, sustainability-related risks and opportunities have more time for manifestation during the holding period and to impact valuations (via premiums/discounts, or cash flows) at investment exit.

- Risks include climate-related physical and transition risks (e.g. stranded assets and disruption of supply chains). Adverse weather events, and consequent supply chain disruptions, may become more frequent.

Private Equity investors have more influence over investments via shareholding and board directorships and have more levers to create change. They may be expected to ensure high ESG standards and may also be seen accountable for greenwashing claims made by investees.

- Safeguards to proactively identify, avoid, mitigate and minimise adverse sustainability impacts systematically should be part of due diligence

Given this exposure, climate investors should consider how their investment holding periods and return expectations align with their intended sustainability contributions

- The conventional 10-year, 2/20 fund structure may not cater well to the range of decarbonisation solutions. Investors may need to consider a blend of patient (longer holding periods) or catalytic (reduced financial expectations) capital with co-investing partners, to scale decarbonisation expeditiously.
The Sustainability and Decarbonisation Context in Emerging Asia
According to the Intergovernmental Panel on Climate Change (IPCC), crossing the 1.5°C threshold risks unleashing far more severe climate change impacts, including more frequent and severe droughts, heatwaves and rainfall. At the present rate, global temperatures would reach 1.5°C around 2040. Global temperature is currently rising by 0.2°C (±0.1°C) per decade, and human-induced warming reached 1°C above pre-industrial levels around 2017.

To Address Global Warming*, Asia Must Be at the Center of the Conversation

<table>
<thead>
<tr>
<th>Climate Risks and Opportunities</th>
<th>Carbon Intensive Economies</th>
<th>Vulnerability to Climate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia emits about half of the world’s global GHGs, but also houses around half of the global renewable power installed capacity. Asia-based solutions and investments will be crucial.</td>
<td>Manufacturing (including exports for overseas consumption), energy, and transportation account for &gt;40% of Asia’s GDP. Regional GHG emissions per capita is about half that of developed markets, and GHG emissions are likely climb higher.</td>
<td>Asia is more vulnerable to climate change risks because of its natural resource dependence, agriculture sectors, and densely populated areas.</td>
</tr>
</tbody>
</table>

The Commercial Case for Climate Investing in Asia

<table>
<thead>
<tr>
<th>Growing Markets</th>
<th>Decarbonisation Commitments</th>
<th>Sustainable Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>The addressable market size for green businesses in Asia will reach over $4trn by 20302. Further, 58% of the jobs required to service those opportunities will be situated in Asia, creating as many as 232 million roles for the region6.</td>
<td>Around $53.5trn of investments between 2020-2060 is required to meet the net-zero targets already announced7. A strong participation from both the public and private sectors is required to meet this figure and to adopt green technologies affordably and equitably.</td>
<td>A low-carbon growth trajectory is part of a sustainable development agenda, which helps to drive broader economic development and to support a more conducive investment climate in Asia.</td>
</tr>
</tbody>
</table>
Investors Should Consider How Policies Affect the Viability of Their Investments

Policies influence financing and capital costs, value chain competitiveness and wider green ecosystem growth. Green regulations are often implemented to boost green industrial competitiveness, and to support broader goals of energy security and decreasing power cost e.g. renewable energy. Below are some common policies:

<table>
<thead>
<tr>
<th>Examples of Policy type</th>
<th>Incorporate climate transition risk &amp; opportunities</th>
<th>De-risking green opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities</td>
<td>• Renewable energy auction</td>
<td>• Targeted feed-in tariffs</td>
</tr>
<tr>
<td>Fiscal</td>
<td>• Carbon pricing</td>
<td>• Tax incentives</td>
</tr>
<tr>
<td></td>
<td>• Fossil Fuel subsidy phaseout</td>
<td>• (Taxonomy-based) green finance subsidies</td>
</tr>
<tr>
<td>Industrial</td>
<td>• Updated local requirements, e.g. on emission standards</td>
<td>• Sectoral subsidies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Targeted R&amp;D</td>
</tr>
<tr>
<td>Real estate</td>
<td>• Renewable energy requirement</td>
<td>• Incentive schemes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Green bond issuances</td>
</tr>
<tr>
<td>Trade</td>
<td>• Carbon border adjustments</td>
<td>• Green export finance</td>
</tr>
<tr>
<td>Transport</td>
<td>• ICE vehicle phaseout</td>
<td>• EV incentives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sustainable fuel mandates</td>
</tr>
</tbody>
</table>

Source: Adapted from Climate Bonds Initiative

Investors can also contribute to dialogue with policymakers to reduce policy fragmentation, which can facilitate public-private blended finance solutions or improved fiscal benefits for green investments or enterprises.
Understanding the Alignment of a Fund’s Investment Strategy to National Goals and Policies

Selected policy examples in Asian countries: China, India and Indonesia are among the top ten global GHG emitters and making up 35% of global GHG emissions collectively:

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>India</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions per GDP</td>
<td>837</td>
<td>1,187</td>
<td>1,394</td>
</tr>
<tr>
<td>(tCO2e/million $GDP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference: US = 253.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions per Capita</td>
<td>8.7</td>
<td>2.3</td>
<td>5.4</td>
</tr>
<tr>
<td>(tCO2e/person)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference: US = 15.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climate Pledge²</td>
<td>• Carbon neutrality by 2060 and emissions peak in 2030</td>
<td></td>
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<tr>
<td></td>
<td>• Reduce carbon intensity of GDP by 65% between 2005-2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Net zero emissions by 2070</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reduce emissions intensity of GDP by 45% between 2005-2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Emission reduction target of 29% (unconditional) and up to 43% (conditional) versus business-as-usual for 2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examples of related targets</td>
<td>• 1,200 GW of installed wind and solar capacity by 2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 500 GW of renewable energy capacity by 2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 5M MMT of Green Hydrogen per annum by 2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Conditional: Total on-grid power sector emissions peaking by 2030; renewable energy comprises &gt;34% of all power generation by 2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Action Plans⁴</td>
<td>• Action Plan for Carbon Dioxide Peaking before 2030</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• National Action Plan on Climate Change with National Missions on Solar Power, Energy Efficiency, Sustainable Agriculture etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• JETP Indonesia Comprehensive Investment and Policy Plan: 5 investment focus areas, to support coal phase out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examples of market mechanisms and policies</td>
<td>• National carbon emission trading market</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Carbon Emissions Reduction Facility - green loans from the Central Bank</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Production linked incentives to selected solar PV module manufacturers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Renewable Purchase Obligation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Subsidies for biodiesel and credit support for related development</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Fullerton research, sources included in Reference section
An active investment approach is more likely to optimise sustainability and investment outcomes than a passive, sector-tracking approach:

- Climate investing can generate positive co-benefits to other sustainability topics, and vice versa. There may be opportunity to optimise other impacts while supporting decarbonisation. This may also increase pipeline opportunities and co-investing partners.

- Understanding impact interlinkages can also identify roadblocks and risks to a faster transition, even if other impact outcomes are not explicitly part of investment mandates. E.g. Disregarding just transition could result in displaced workers and project resistance.

Regulatory pressures for corporates to disclose and manage negative impacts are growing, and investors may be required to demonstrate how their investments avoid significant harm to other environmental objectives (DNSH principle), and meet minimum social safeguards (e.g. ASEAN1, EU2 taxonomy).

Investors can increase additionality and resilience of their climate investments with an active approach to managing sustainability.

Potential co-benefits of climate action include better health (e.g. a shift away from fossil fuel combustion reducing co-emitted air pollutants), energy security (e.g. higher share of renewables & storage), biodiversity (e.g. nature solutions), improved agricultural yield (e.g. regenerative agriculture and improved agricultural management practices).
Corporate Emissions Performance and Disclosures are Lagging in Asia

- **Higher Emissions**: Compared to global peers, companies operating in Emerging Asia* are materially more carbon intensive.
- Comparing to existing practices of global peers can identify potential immediate opportunities for decarbonisation.

How can investors interpret and communicate the decarbonisation performance in their companies?

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**Figure: Emerging Asia’s Corporate Carbon Intensities versus global peers for selected high-emitting subindustries**

<table>
<thead>
<tr>
<th>Subindustry</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indpt Power Producers</td>
<td>+35%</td>
</tr>
<tr>
<td>Construction Materials</td>
<td>+25%</td>
</tr>
<tr>
<td>Steel</td>
<td>+90%</td>
</tr>
<tr>
<td>Electric Utilities</td>
<td>+125%</td>
</tr>
<tr>
<td>Marine Transportation</td>
<td>+35%</td>
</tr>
</tbody>
</table>

Source: Fullerton calculations, based on Trucost carbon database

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* “Emerging Asia” generally refers to China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam in the context of this whitepaper. **For selected subindustries within top 10 high emitting, units are in tCO2e/ $M USD Revenues. Figures for the five subindustries range from 1600 to 8100 in tCO2e/ $M USD Revenues. Based on Fullerton’s calculations derived from Trucost carbon database.*
**Poor corporate disclosures**: Asia’s private equity companies have relatively lower ESG transparency. There is a significant gap between what companies are reporting in their environmental, social and governance (ESG) disclosures and what investors expect:

How can investors assess the sustainability practices of companies without full disclosures?

**Figure: Preqin Average ESG Transparency Metric (% of ESG Core Data disclosed by corporates), 2021**

<table>
<thead>
<tr>
<th>Region</th>
<th>0%</th>
<th>5%</th>
<th>10%</th>
<th>15%</th>
<th>20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin America</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Preqin Pro
Illustrative Due Diligence Case Study

Case Study: WMC Ltd.
Waste Management Company based in Southeast Asia

WMC Ltd. is a waste management company based in Southeast Asia, providing a suite of waste collection, treatment and industrial cleaning services, looking to adopt advanced waste management technologies to further reduce its environmental footprint.

Disclaimer: This is for illustration purpose only and does not represent Fullerton’s current view of a security or constitute any recommendation.
Applying Screens for Initial Deal Pipeline Selection

- Prior to assessing corporate information, fit-for-purpose screens can be adopted to prioritize aligned opportunities, and to focus due diligence resources.
- Investors’ sustainability commitments, strategy, and available due diligence resources influence the scope of screening criteria.

Positive Screening

- Identify business activities with high likelihood of decarbonisation.
- Potential references include relevant green taxonomies and decarbonisation enablers for high GHG emitting sectors.
- Post screening, further criteria such as minimum required decarbonisation potential and net zero alignment can be applied.

Negative Screening

- Seeks to avoid companies with worst sustainability profiles.
- Potential references include exclusion based on business activities (e.g. IFC Exclusion List) and norms-based exclusions (e.g. UNGC Principles).
- Post screening, further criteria such as baseline DNSH* requirements on environmental and social topics can be applied.

Illustrative Example: Evaluating WMC Ltd. for a decarbonisation fund

- **Positive Screen**: Taxonomy: WMC could be considered relevant under the ASEAN Taxonomy** (EO4, EO1). Sector: Waste management is a material GHG contributor (c. 5% globally) with potential to contribute a 10 to 15% reduction in global GHG emissions.
- **Negative Screen**: WMC’s business activities are not part of established exclusion list or known controversies based on initial desktop research and external news aggregators.

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* DNSH: Do No Significant Harm  
** As of March 2023
Developing Initial Impact Thesis / Theory Of Change

How exactly are the portfolio companies and investors expected to contribute to decarbonisation? Identifying potential contribution pathways ahead of investment evaluations can instill confidence and discipline in the investment process.

**Illustrative Impact Thesis:** By investing in WMC, Investor facilitates WMC’s expansion to markets with low penetration of waste management services and where competitors are more carbon-intensive. WMC’s activities directly prevent open waste dumping and burning, help to avoid emissions through waste-to-energy and co-processing, and improve resource efficiency and sanitation in the long-run.

**Potential Investor Value-add**

- Value-creation: Providing capital and strategic expertise & technical support for regional expansion and on sustainability issues
- Potential synergies: With other portfolio companies providing emissions reduction solutions
- Directing focus to high growth, high impact markets

*While a discussion on an investment fund’s theory of change is outside the scope of this paper, we note that the synergies between an investment fund’s and portfolio companies’ theories of change should be considered. For example, an investment fund could have certain expertise and ecosystem resources which facilitates specific impact amplification of portfolio companies.*
Climate investors can use existing tools available as a starting basis to understand the possible sustainability impacts of a climate investment.

The SDG Climate Action Nexus tool (SCAN-tool), developed by the NewClimate Institute, is a tool climate investors can use to identify initial positive and negative alignment between Climate Action and other SDGs.

- What are the other sustainable outcomes affected by the intended decarbonisation outcomes?

**Example: SDG Climate Action Nexus (SCAN) tool**

**SCAN tool: How does climate action in each sector link to other SDGs?**

<table>
<thead>
<tr>
<th>Examples of SDGs and sectors:</th>
<th>Electricity</th>
<th>Transport</th>
<th>Waste</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero Hunger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good Health and Well-being</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender Equality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean Water and Sanitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decent work and Economic Growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced inequalities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Gonzales-Zuñiga et al., 2018. For illustrative purposes only.
There are also existing research available to understand the potential sustainability impacts of business activities.

The *UNEP FI Sector Mappings* consider the positive and negative impacts of business sectors and activities, as per the impact areas of the *UNEP FI Impact Radar*.

- Are the identified business activities within the investment strategy aligned with specific sustainability outcomes?

*Example: UNEP FI Sector Impact Map*

<table>
<thead>
<tr>
<th>Example of activity</th>
<th>Selected UNEP FI Impact Radar topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment and disposal of non-hazardous waste</td>
<td>Health &amp; Safety</td>
</tr>
</tbody>
</table>

- Only positive links
- More positive links
- Both +/- links or no link
- More negative links
- Only negative links

Source: Adapted from UNEP FI Sector Impact Map (Feb 2023) \(^2\). For illustrative purposes only.
Decarbonisation Due Diligence: Points Of Reference for Assessing Companies’ Impact and Potential

Evaluating corporate climate performance

Peer and industry comparison

• Determine the relevant scope of GHG emissions (scope 1, 2, 3) for reduction measures, and review:
  • Historical performance and Future Projections
  • Peer comparisons, including versus global data
  • Comparison against net zero scenarios, e.g. IEA NZE
  • Comparison against national targets, where available

• Where relevant, quantifying Avoided Emissions

Example: Carbon intensity pathway comparisons

<table>
<thead>
<tr>
<th>Sector</th>
<th>Scenario</th>
<th>2030 requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>IEA SDS</td>
<td>115 kg CO₂/ MWh</td>
</tr>
<tr>
<td>Cement</td>
<td>IEA NZE</td>
<td>0.45 tCO₂/ t cement</td>
</tr>
<tr>
<td>Iron &amp; Steel</td>
<td>IEA NZE</td>
<td>1.0 tCO₂e/ t crude steel</td>
</tr>
</tbody>
</table>

Science-based practice indicators

• Identify key technologies which enables abatement esp. for high-emitting industries. These are typically published by scientific bodies (e.g. IEA) and industry bodies.

• Increasingly, sector-specific asset eligibility criteria are also available to provide guidance on how net zero alignment at the asset or activity level
  • E.g. Climate Bonds Sector Criteria

Examples of waste facility requirements’ from Climate Bonds Sector Criteria **

<table>
<thead>
<tr>
<th>Activity: Assets</th>
<th>Examples of Eligibility Criteria</th>
</tr>
</thead>
</table>
| Energy from Waste: Facilities which produce power by the thermal processing of residual waste | • Plant efficiency >= 25%; AND
  • Bottom ash recovery; AND
  • >= 90% recovery of metal from ash; AND
  • Average carbon intensity of electricity and/or heat over the life of the plant <= waste management allowance;
  • and the capacity of the plant does not exceed the calculated residual waste at any time in the plant’s life |

* For the Waste Management Industry, while the IPCC has not forecast what changes need to be made globally in waste management to achieve a 2°C global warming target, we note that majority of emissions from the waste sector comes from open dumping and uncontrolled landfill GHG emissions.(3)

** Criteria truncated from original text for illustrative purpose.
**Decarbonisation Due Diligence: Assessing Companies’ Decarbonisation Impact and Potential**

**Evaluating corporate climate performance**

**Peer and industry comparison**

- Investors may further create normalised measures to compare across pipeline/ portfolio companies, for example:
  - Estimated decarbonisation potential, based on relevant emissions scope
  - Estimated decarbonisation cost, versus required investment

---

### Estm. decarbonisation cost

*Pre-investment*

- $ required per tCO2 reduced (est.)

### Actual decarbonisation

*Post-investment*

- tCO2 reduced per $ invested

---

**Science-based practice indicators**

- Investors can also set the criteria to categorise investment opportunities based on net zero alignment e.g. “Aligned”, “Transitioning”, “Not Aligned”, referencing ASEAN and Singapore-Asia Taxonomy etc.
- Investors may set additional requirements for companies with “Transitioning” status.

---

**Illustrative example: Net Zero Alignment status**

<table>
<thead>
<tr>
<th>What is the status of company’s net zero alignment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aligned</td>
</tr>
</tbody>
</table>
Sustainability Due Diligence: Determining Materiality

Investors need to define sustainability topics which are material to their investments, to focus due diligence efforts. Each investor has to determine the material sustainability topics for their climate investments. Existing standards can provide an initial guidance on material topic identification (more on next page):

**Financial Materiality**

Considers sustainability data which affects the assessments of investee’s financial performance and enterprise value, and therefore influence investment decisions\(^1\)

Example: SASB/ ISSB Standards

**Impact Materiality**

Considers sustainability data relating to investee’s impact on the economy, environment and multiple stakeholders, such as investors, employees, customers, suppliers and local communities\(^2\)

Example: GRI Standards

**Double Materiality**

In practice, material topics will differ for each investor based on their commitments, resourcing, and intended outcomes, thus investors would have to consider the following:

- An impact materiality-centric approach promotes interdependent impacts but requires wider stakeholder and topic engagement/assessment.
- A financial materiality-centric approach is more proximal to conventional financial evaluation, with better availability of pre-determined materiality maps.
  - However, a narrow definition focusing on financial (instead of double) materiality may not comply with more progressive regulations requiring commitment to Do No Significant Harm as described under taxonomies for sustainable finance, nor capture emerging sustainability related risks and opportunities.
  - Sustainability related dependencies and impacts are increasingly interconnected and filtering out information too early in the process may contribute to future underperformance.

Private Equity investment horizons are much longer than listed equities - materiality concerns must take a longer-term view.
References Highlight

Identifying Material Topics

There are multiple materiality frameworks and reporting standards based on them. Below, we highlight two widely used standards:

1. **SASB Standards:** The SASB standards define material topics by each industry, with the goal to address the sustainability topics that are reasonably likely to have material impacts on the financial condition or operating performance of companies in an industry.

<table>
<thead>
<tr>
<th>Selected Industries and risk areas</th>
<th>Waste Mgmt.</th>
<th>Biofuels</th>
<th>Forestry Mgmt.</th>
<th>Fuel Cells &amp; Ind. Batteries</th>
<th>Software &amp; IT Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water &amp; Wastewater Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecological Impacts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Rights &amp; Community Relations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Security</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee Health &amp; Safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Design &amp; Lifecycle Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials Sourcing &amp; Efficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Impacts of Climate Change</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from SASB Materiality Map; risk exposures in red

Source: Adapted from SASB Materiality Finder¹

Does the investor’s view of materiality match its sustainability ambitions, investment mandate and the DNSH Principle?
2. **GRI Standards:** GRI provides guidance for companies to determine its own material topics*, based on its sustainability context, stakeholders and business relationships.

* GRI has published sector standards to identify likely material topics for selected sectors and is in the process of developing further sector standards as of Jan 2024. iStock.com/asbe

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If the portfolio company has yet to complete such an assessment, what information and resources can the investor draw upon to identify material topics expeditiously?
Sustainability Due Diligence: Assessing Sustainability Risks and Opportunities

- An assessment of sustainability performance situate material environmental and social aspects across the corporate operating model
- Once the material environment and social (E&S) topics are identified, they are situated within specific business activities, policies and procedures, for sustainability management assessment:
• Investors can consider how various positive and negative E&S aspects flow through the business model i.e. an ecosystem approach, within corporate control and influence:

Within WMC’s influence

Within WMC’s control

Energy use Waste streams

WMC Operational Activities Products/ Outputs

Examples of indicators:

- **Non-GHG air pollutants**
  Emissions of NOx, SOx, VOCs, HAPs

- **Toxic Materials**
  % and volume treated/ released

- **Safety**
  Fatality, Injury and Incident rates

- **Transport**
  Volume of fuel used

- **Community impact**
  Facilities near populated areas

- Volume of waste incinerated (t)
- Energy recovered (GJ, %)
- Volume of materials recycled (t)
- E-waste collected (t)

Downstream energy, material use, carbon emissions

For illustrative purposes only.

• Investors can further benchmark collected data, and potentially consider reporting via impact weighted accounting and SDGs. Investors should also assess the company’s culture and how sustainability is reinforced and integrated through the company’s structure and incentive mechanisms.
Management Approach

Fund Operational Procedures, Templates, and Toolkits

To ensure consistency of sustainability assessments, investors can develop their own operational procedures, templates, and toolkits. Investors can reference external standards and devise internal toolkits facilitate consistent and efficient decision-making.

One common practice in this process is the tiering of pipeline companies for risk-based due diligence on environmental and social issues. Investors may wish to align to tiering systems as described under the IFC E&S categorisation\(^1\) to existing disclosure templates questionnaires (e.g. Integrated Disclosure Project\(^2\)):

Illustrative Example of a Sustainability Risk Tiering

<table>
<thead>
<tr>
<th>Risk Tier</th>
<th>Description: Likelihood of adverse sustainability impact</th>
<th>Due diligence intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Minimal</td>
<td>Low</td>
</tr>
<tr>
<td>B</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>C</td>
<td>Material</td>
<td>High</td>
</tr>
</tbody>
</table>

For illustrative purposes only.

What are the sustainability impacts (positive and negative) relevant to the investor to consider for tiering?

In developing their own procedures, investors would have to take positions on the following:

- What is the threshold for passing Sustainability Assessments? Do they meet the local DNSH principle?
- How can the procedures be designed to be appropriate to the level of resources available in-house and externally?
- When are external verifications required?

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Management Approach

Example of a Sustainability and Decarbonisation Assessment Summary Flowchart

Pipeline Universe

Initial Screening

Evaluate impact thesis

What is the status of company’s net zero alignment?

Aligned  Transitioning  Not Aligned

Sustainability Due Diligence and Tiering: Does the company cause significant negative sustainability impact that cannot be sufficiently mitigated?

Yes  No

If appropriate, does the validation/verification process confirm due diligence findings?

Yes  No

Investment Decision

Yes

Portfolio: Sustainability Performance Management

For illustrative purposes only.

Considerations:

- How do investors define the eligibility criteria for decarbonisation?
- What is the investor’s tolerance and mitigation of sustainability risks, including absent direct data in their respective contexts?
- Are there any additional positive synergistic impacts to be considered in comparing two otherwise similar investment opportunities?
Disclosures and Governance Practices
Disclosure Considerations for Investors

Disclosures and reporting enhances feedback, progress, and informed decisions.

To increase accountability, investors can make disclosures on:

**Public Policies and Disclosure**
- Specific commitments to sustainability principles and responsible investment
- How the decision-making process integrates sustainability
- How investors mitigate the risks of not achieving sustainability impacts

**Legal and Offering Documentation**
- Sufficient and relevant information to enable potential investees, limited partners and stakeholders to make informed decisions about investors’ sustainability expectations/goals and practices
- Key decision-making criteria, targets and reporting requirements in legal documentations

**Periodic Reporting**
- Portfolio and company-specific level topic based on frameworks/standards such as SDGs, IRIS+ or GRI, against performance targets
- Reporting should build upon existing internal management systems, and not conducted separately

Additional measures to increase stakeholders’ confidence include:

1. **Ensuring quality and completeness of disclosures and ensure they do not inadvertently overclaim or selectively disclose**
2. **Protocols to ensure clarity of external communications on sustainability topics**
3. **Additional external verifications relating to quality of data and adherence to defined processes**
Disclosures: Portfolio and Company-level Decarbonisation Metrics

In deciding which metrics to report on, fund managers should consider stakeholders’ need in their disclosures. For example:

| Regulators may require disclosures on certain sustainability information E.g. Principal Adverse Impact (PAI) disclosure requirements under EU’s Sustainable Finance Disclosures Regulation (SFDR) | Limited Partners (co-)investors may have specific requirements due to their investment mandates | Investors may want to conduct their own benchmarking against peer groups, and use the information as a basis to manage sustainability performance and conduct training to portfolio companies | Portfolio companies and benefit from understanding how they perform against other portfolio companies |

Specifically, on decarbonisation, investors can report the carbon emissions of portfolio companies, their financed emissions, maturity of climate strategy, revenue and taxonomy alignments etc.

The communication of sustainability risks and opportunities encourages greater governance both for the investor and the investee companies on sustainability performance and encourages progress tracking and target setting across the business and investment value chain.
Examples of Portfolio and Company-level Decarbonisation Disclosures

1. Carbon Emissions and Reduction reporting

Reporting the GHG emissions and associated reduction over time (for relevant scopes) against the initial projections, historical performance and peer group performance can help investors understand the additionality of climate investments.

*Illustrative example of a portfolio company emissions tracking*

Investors should ensure that measurement practices are aligned with established standards such as GHG Protocol\(^1\) or ISO 14064-1\(^2\).

Verification (of historical data) and validation (of forward-looking assumptions) should be conducted in line with each investor’s materiality threshold*.  

\* For a detailed discussion on materiality thresholds, readers can refer to section 5.1.7. of ISO 14064-3 for more information
2. Maturity of Climate Strategy

Carbon-related disclosures and strategies remain poor in most emerging markets, especially if not required by regulation. Investors can monitor their portfolio progress by creating an internal tiering system based on their own needs for internal and external communication.

**Example of Tiering on Maturity of Climate Strategy**

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier A</td>
<td>Science-based targets, and delivering on targets</td>
</tr>
<tr>
<td>Tier B</td>
<td>Quantitative near-term GHG reduction targets set for scope 1 and scope 2</td>
</tr>
<tr>
<td>Tier C</td>
<td>Scope 1 and 2 emissions reported with strategy and commitment to reduce GHG</td>
</tr>
<tr>
<td>Tier D</td>
<td>No or incomplete S1 and S2 GHG emissions disclosures</td>
</tr>
</tbody>
</table>

For illustrative purposes only.

An example of related disclosures is the Private Markets Decarbonisation Roadmap\(^1\) developed by Bain.
3. Alignment to Taxonomy

Various jurisdictions have released taxonomies on sustainable finance, with a goal of channelling more financial capital toward eligible activities. Investors should consider tracking this alignment, and how the alignment status affect their decision-making process, given the implications on companies’ (future) investability.

Illustrative example of portfolio and company alignment to Taxonomy**:

<table>
<thead>
<tr>
<th>Company A: 60% of portfolio</th>
<th>Company B: 40% of portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Activity 1</td>
<td>Revenue Activity 1</td>
</tr>
<tr>
<td>75% Net Zero Aligned</td>
<td>50% Net Zero Aligned</td>
</tr>
<tr>
<td>25% Transitioning</td>
<td>25% Transitioning</td>
</tr>
<tr>
<td>50% Net Zero Aligned</td>
<td>25% Not Aligned</td>
</tr>
<tr>
<td>25% Transitioning</td>
<td>25% Not Aligned</td>
</tr>
<tr>
<td>10% Not Aligned</td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from the Singapore-Asia Taxonomy for Sustainable Finance 4. For illustrative purposes only.

** For illustrative purposes, the terms used have been rephrased from the original terminology used in the Singapore-Asia Taxonomy for Sustainable Finance

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Governance Practices Can Strengthen Persistence Of Sustainability Performance

Fund governance practices can ensure internal checks and balances are in place to minimise greenwashing and other sustainability risks. Considerations at each level:

- **Board Committee / Executive Leadership / Advisory Board**
  - Firm level’s sustainability approach, and commitments and policies for human rights and other responsible business and impact management policies, and consequences for breaches

- **Fund-Specific Mandate**
  - Fund level sustainability mandate, outlining portfolio strategy/goals, relevant material sustainable development issues and stakeholders

- **Investment Committee**
  - **Partners**
    - Operational procedures, templates and toolkits ensuring sustainability integration into investment decision-making and sustainability performance management
    - Operational roles, accountability and oversight mechanisms
    - Impact and sustainable development related disclosures and external reporting
    - Sufficient resourcing with required capabilities, including internal training for upskilling
    - Investors can support portfolio companies in building governance practices
  - **Sustainability Expertise**

- **Deal Team**
Concluding Remarks

The maturity of the climate strategies and related sustainability disclosures of corporates in developing Asia vary widely and tend to be lower. Consequently, the risks of underperforming decarbonisation targets and/or the misrepresentation of decarbonisation claims (whether intended or not) are higher.

As described in this whitepaper, a deliberate decision-making framework can help climate investors to evaluate the relevant sustainability aspects required to optimise decarbonisation.

With reference to the SDG Impact Standards for Private Equity Funds, the framework outlines how climate investors may align their strategy, management, transparency and governance practices to reach their decarbonisation goals in line with their existing investment processes and performance management.

Through the framework, climate investors can conduct a critical evaluation of the various possible investment practices and decide on the unique set of practices which aligns best to their investment mandates and stakeholders’ requirements.
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Considering Sustainability Impacts Interdependent with Climate Action Can Optimise Outcomes


Corporate Emissions Performance and Disclosures are Lagging in Asia


Applying Screens for Initial Deal Pipeline Selection


References Highlight: Identifying Long-term Outcomes and Impact Interlinkages Under the Theory of Change


Decarbonisation Due Diligence: Points Of Reference for Assessing Companies' Impact and Potential


All sources are accessed on 25 Jan 2024
References


Decarbonisation Due Diligence: Assessing Companies’ Decarbonisation Impact and Potential


Sustainability Due Diligence: Determining Materiality


References Highlight: Identifying Material Topics


Fund Operational Procedures, Templates, and Toolkits


2. ESG Integrated Disclosure Project, 2023. ESG IDP Template. Available at: https://www.esgidp.org/

Examples of Portfolio and Company-level Decarbonisation Disclosures


All sources are accessed on 25 Jan 2024
About UNDP

As the United Nations lead agency on international development, UNDP works in 170 countries and territories to eradicate poverty and reduce inequality. UNDP helps countries to develop policies, leadership skills, partnering abilities, institutional capabilities, and to build resilience to achieve the Sustainable Development Goals. UNDP’s work is concentrated in three focus areas; sustainable development, democratic governance and peace building, and climate and disaster resilience.

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The UNDP Sustainable Finance Hub brings together UNDP’s financial expertise to harness public and private capital for the Sustainable Development Goals (SDGs)- supporting governments, investors and businesses in reaching climate, social impact and sustainability targets. Its work drives systemic change towards a sustainable financial architecture that benefits people and the planet.

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