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Nature-linked finance in Southeast Asia: implications and policy options for regulators, lenders and borrowers

Jose Luis Resendiz, Nicola Ranger, Johan Sulaeman and David Broadstock

Summary

This study examines sustainability-linked finance (SLF) as a tool for mobilising corporate finance for nature in Southeast Asia, addressing gaps in how nature-related risks and opportunities are incorporated into financial instruments. As businesses and their supply chains depend heavily on ecosystem services, they are increasingly exposed to the risks of nature degradation. Embedding SLF within a coherent transition finance framework would help businesses to transition, reducing impacts and dependencies on nature while managing emerging nature-related risks.

In Southeast Asia, the SLF market has grown rapidly to nearly US$20 billion, driven mainly by sustainability-linked loans. Using data from SLF deals and nature-related key performance indicators (KPIs), we combine market statistics, network analysis and an AI-assisted review of corporate reports to examine how nature-aligned finance is being mobilised. The findings highlight significant potential to scale such products, but also reveal a persistent gap between corporate disclosures, loan covenants and global standards, which may increase greenwashing and pricing inaccuracy risks, potentially undermining investor confidence and limiting capital flows to nature-positive projects.

To address these challenges, we recommend: a shared taxonomy of nature-related KPIs; modest fines or accelerated re-verification to align disclosures with performance targets; integrating nature within emerging transition finance frameworks; licensing sustainability coordinators; targeted fiscal and prudential incentives; and partial credit guarantees or concessional refinancing for taxonomy-aligned transactions.

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1. Introduction

Southeast Asia's economies sit at the epicentre of nature risk. Tropical forests, mangroves and river basins — which regulate water flows, store carbon, and support biodiversity — underpin food security and export revenues, yet unchecked deforestation, biodiversity loss and water scarcity threaten to cut regional gross domestic product (GDP) in South Asia by up to 6.5% in 2030, relative to a 2021 baseline (Johnson, 2021). Recent floods in Malaysia displaced 50,000 people (Ng, 2023), while Indonesia has lost 19% of its forest cover since 2001 (GFW, 2024), triggering billions of US dollars in damages and liability costs (CRED, 2024). These physical and transition risks elevate credible nature-linked finance from a niche instrument to a macro-stability necessity. This study draws on findings from Resendiz et al. (2025) to inform Southeast Asia's (and global) debate on aligning sustainability-linked finance (SLF) with credible nature-related targets.

SLF has emerged as the flagship vehicle for translating sustainability ambition into capital flows. Put simply, SLF links a borrower's interest margin to its progress against clear, verifiable environmental or social performance targets. Syndicated sustainability-linked loans (SLLs) grew five-fold between 2017 and 2021 to US$12.5 billion, and combined loans and bonds now approach US$20 billion, with average ticket sizes near US$377 million (Bloomberg, 2024). Singapore, Thailand and Indonesia dominate issuance, while Vietnam and Cambodia lag due to less developed capital–market infrastructure.

Many nature-related metrics do not appear in the contracts themselves, meaning that even if companies report them publicly, they are not always used as binding performance targets in their SLF agreements. We found that about 60% of the key performance indicators (KPIs) companies already disclose — mainly water-use and waste-management figures — are missing from the sustainability performance targets (SPTs) written into SLF deals, creating an instrumental gap, where reported metrics are not included as contractual performance targets. A further 30% of indicators endorsed by leading sustainability standards are absent from corporate disclosures altogether, resulting in a disclosure gap, where important metrics are not reported at all. Air quality, ecological impact and supply chain measures are the most frequently overlooked, largely because they are harder to quantify or lie beyond a firm's immediate control. Together, these two gaps may weaken the price signal in SLF and increase investors' and lenders' exposure to greenwashing.

The concentration of SLF deals among a few banks appears to coincide with weaker challenges to environmental targets. Syndication continues, but with fewer, less-connected lead banks, the arranger network has thinned and decision-making has become concentrated in just a handful of institutions. Network analysis reveals that banks occupying more central positions are more likely to structure SLF deals with greater combined instrumental and disclosure gaps. When fewer peers are involved, there may be less opportunity to challenge soft targets, which can coincide with incomplete nature metrics entering SPTs, diluting the pricing signal and incentive that are supposed to reward genuine environmental progress.

Closing these gaps is urgent for regulators, lenders and corporate borrowers alike. Imminent reporting aligned with the Taskforce on Nature-related Financial Disclosures (TNFD), EU deforestation-free import rules and tougher climate risk stress tests will raise the cost of opaque financing structures.

"Sustainability-linked finance links a borrower's interest margin to its progress against clear, verifiable environmental or social performance targets."

Aligning SPTs with disclosed KPIs, accrediting sustainability coordinators and deploying targeted fiscal incentives may help safeguard market integrity and potentially unlock cheaper credit for firms that restore peatlands, cut water intensity or protect biodiversity.

Using data from 111 SLF deals and 273 corresponding nature-related KPIs, this study combines market statistics, network analysis and an AI-assisted review of corporate reports to reveal instances where the metrics companies disclose in their own annual reports differ from the performance targets embedded in their SLF contracts. The following sections discuss the importance of selecting the right nature-related KPIs, describe the landscape of the Southeast Asian SLF market, compare nature-related KPIs from corporate sustainability reports with those targeted in Southeast Asian SLF deals, identify shortfalls in Southeast Asia's nature-related metrics, and recommend policy options for the financial sector, regulators and ministries. The paper then sketches out a forward-looking research agenda by highlighting five unanswered questions that require focus in order to equip regulators, investors and issuers with the proof they need to scale up nature-positive finance across the region.

2. Targeting what matters: a nature positive approach

Selecting the right nature KPIs is the mechanism that transforms contractual clauses into ecological outcomes. In an SLF deal, interest rate step-ups or step-downs are triggered by SPTs; those SPTs, in turn, are derived from a narrower set of KPIs. When KPIs align closely with a borrower's material impacts and dependencies on nature, each basis point of pricing may help reward behaviour that protects ecosystems and mitigates risk. Conversely, weak or irrelevant KPIs can disrupt the link between financing and corporate practice, potentially allowing capital to flow without meaningful change, precisely the 'instrumental gap' that afflicts 60% of Southeast Asian deals today.

Materiality should be the first filter in KPI selection. Materiality refers to the relevance of a topic or risk to a company's financial performance, operations, or reputation. In sustainability reporting, it means focusing on issues that are both significant for the business and important to stakeholders. Resendiz et al. (2025) apply the Sustainability Accounting Standards Board's (SASB) industry-specific material topics — greenhouse gas emissions, water, waste, ecological impacts, supply chain management and others — to winnow thousands of possible metrics down to those that can plausibly influence enterprise value. Mapping those material KPIs against ENCORE's (Exploring Natural Capital Opportunities, Risks and Exposure) impact-and-dependency taxonomy further highlights where a firm both affects and relies on natural capital. This double lens ensures that SPTs push companies to address not only headline climate targets but also critical nature risks — such as soil health in agrifood or peatland integrity in palm oil supply chains — that standard carbon metrics ignore.

Outcome-based indicators amplify the pricing signal. Lenders and arrangers should prioritise KPIs that measure results (e.g. hectares of habitat restored, kilograms of nutrient runoff avoided) rather than policy inputs. The study shows that process-oriented ecological metrics are rarely written into SPTs precisely because they are harder to quantify, leaving air quality and biodiversity indicators sidelined. Yet outcome KPIs

"Selecting the right nature KPIs is the mechanism that transforms contractual clauses into ecological outcomes."

appear to correlate more closely with financial exposure. For instance, deals with robust water intensity targets have been 1.4 times more likely to receive margin discounts, suggesting financial markets value tangible ecological performance.

Alignment with disclosure frameworks closes the information loop. Classifying each KPI by TNFD categories — drivers of nature change, risks, opportunities and strategy — allows issuers to reuse the same data for annual reports, regulatory filings and SLF monitoring. This streamlines the reporting burden while enabling supervisors to audit whether the same KPI appears both in public disclosure and in the loan or bond covenant, a practice we recommend mandating for at least 50% of SPTs.

Verification and dynamic adjustment entrench behavioural change. Because SLF spreads are typically fixed at origination, KPI trajectories must be independently assured to avoid gaming. We find that some highly connected 'super-coordinator' banks arrange deals that have wider disclosure gaps, suggesting network reach does not always align with KPI quality. Accrediting sustainability coordinators to certify KPI baselines and allowing margin ratchets (adjustments to the loan's interest rate based on performance) to reset if targets are recalibrated to new scientific benchmarks keeps incentives fresh over multi-year tenors, or loan durations.

When these links hold, SLF mobilises capital towards nature-positive opportunities. Corporates that hit ambitious, material KPIs can unlock cheaper credit, freeing cash for investments in regenerative agriculture or circular economy infrastructure. Investors gain a transparent risk–return profile aligned with incoming TNFD reporting and EU deforestation-free regulations, while ecosystems benefit from measurable reductions in pollution and habitat loss. In short, choosing the right KPI at the outset is the fulcrum on which the entire theory of change balances — turning SLF from a branding exercise into a genuine lever for ecological resilience.

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3. Southeast Asia's SLF market landscape

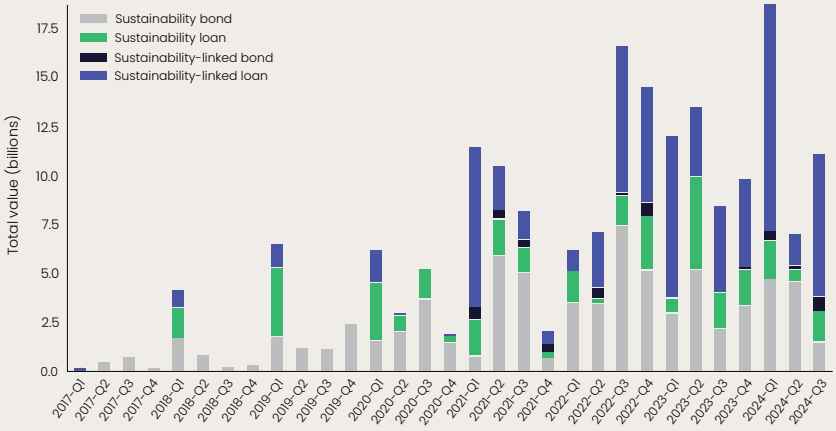
Sustainability-linked loans now dominate Southeast Asia's sustainable finance market. Panel A of Figure 1 shows a steep, step-wise rise in quarterly SLL volume from 2017 to 2024, peaking at about US$11.4 billion in 2024-Q1; sustainability-linked bonds (SLBs), by contrast, remain intermittent and seldom top US$1.3 billion per quarter (peak in 2021-Q4). (Bloomberg, 2024). The average SLL deal size is roughly three times larger than that of an SLB, confirming lenders' preference for loan structures when pricing nature-related performance.

Issuance is highly concentrated in three markets, yet momentum is spreading. Panel B of Figure 1 maps cumulative SLL and SLB flows: Thailand (US$7.4 billion, 36%) and Indonesia (US$7.2 billion, 35%) absorb more than 70% of regional volume. Malaysia and Singapore follow with US$3 billion and US$2.1 billion, while Vietnam and the Philippines register nascent pipelines (Bloomberg, 2024). The emergence of smaller issuers in 2024 suggests that capacity-building and local-currency frameworks are beginning to lower entry barriers.

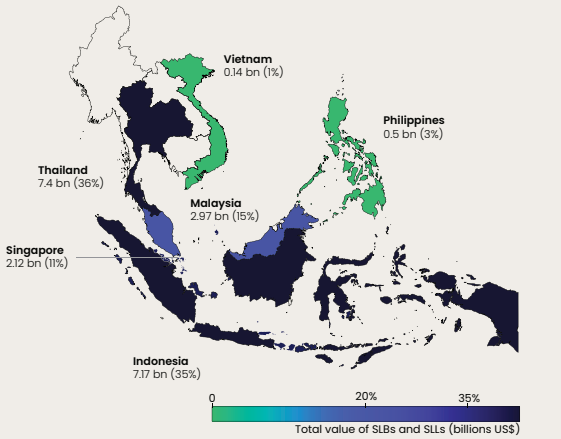
Infrastructure captures the greatest share of capital. Combined bond-and-loan data place infrastructure at 35% of aggregate SLF value — roughly US$7 billion — reflecting urgent demand for resilient transport,

Figure 1. Sustainable finance market in Southeast Asia (2017–24)

Panel A: Quarterly evolution of sustainable financing instruments



Panel B: Geographic distribution of sustainability-linked finance



Note: Sustainability-linked bonds (SLBs) and loans (SLLs) are financing tools earmarked for environmental and social impact projects, with the use of proceeds directed exclusively to initiatives like renewable energy or social infrastructure. These labels include green bonds, green loans, social bonds, and sustainability bonds, with green bonds and loans prominently funding climate and environmental efforts.

Source: Authors' analysis based on Environmental Finance (2024) and Bloomberg (2024)

energy and water assets (Bloomberg, 2024). Food and beverages (15%) and financial services (12%) compete for second place, indicating that corporate supply chains and green lending products are early adopters of sustainability-linked structures. Extractives, resource transformation and renewables together account for just under one-third, signalling room to adopt and tighten nature KPIs in high-impact sectors.

Rapid but inconsistent growth highlights an underlying fragility amid macroeconomic turbulence. Based on Bloomberg (2024) SLF market information, year-on-year data record a near US$2 billion SLB surge in 2021 followed by a slump through 2023 as inflation and higher policy rates dampened appetite. A modest rebound in early 2024 hints at resilience, but the 'boom–bust' pattern reinforces calls for clearer regulatory signals — especially credible KPI taxonomies — to stabilise investor expectations.

Our analysis of the SLF market's network structure, which looks at how connected each bank is to others arranging deals, highlights a paradox between influence and the spread of information. Figure 2 ranks the 15 most active lead arrangers based on eigenvector centrality — a measure of how influential a bank is based on its connections within the network (represented by dots) — and their transaction volumes (shown by bars). Japanese and Association of Southeast Asian Nations (ASEAN) banks such as Sumitomo Mitsui Banking Corporation (SMBC), Commerce International Merchant Bankers (CIMB), and Oversea-Chinese Banking Corporation (OCBC) dominate the top rankings, each handling more than US$2.5 billion in SLF. However, the overall network density, which reflects how interconnected the participants are, has significantly decreased from 0.67 in 2017 to 0.05 in 2023. This suggests a rapid fragmentation as many new lenders enter the market.

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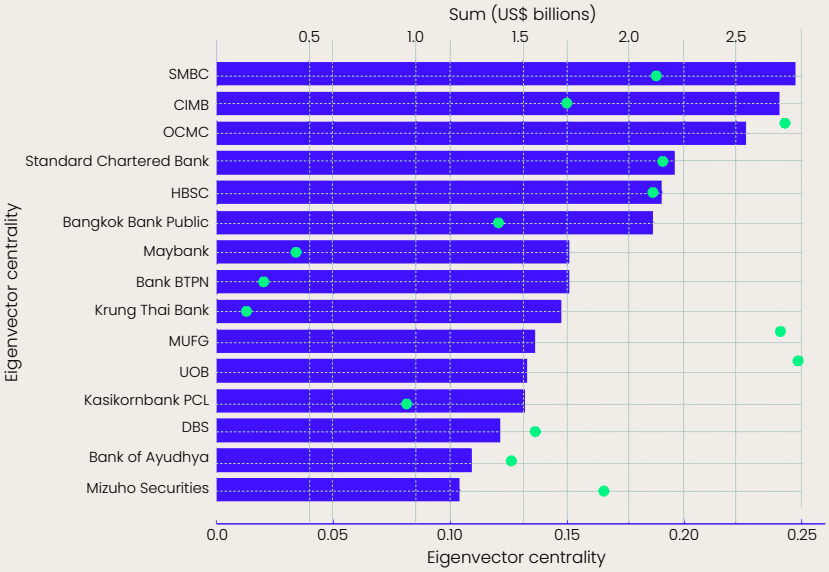
4. Corporate reports versus SLF targets

This section compares nature-related KPIs from corporate sustainability reports with those targeted in Southeast Asian SLF deals. KPIs are grouped by industry-specific topics set by the SASB and aligned with the TNFD framework, laying the groundwork for the subsequent gap analysis.

Figure 2. Top 15 financial institutions in Southeast Asia's SLF market: relationship between transaction volume and network centrality



Note: Eigenvector centrality (dots) reflects each institution's network importance based on both direct connections and the influence of connected nodes (see Resendiz et al., 2025, Appendix A for details). Transaction volume in US$ billions (bars) represents the aggregated total debt facilitated by each institution across all deals in which they served as sustainability coordinators or lead arrangers. For the bank acronyms shown in this figure, full names are: Sumitomo Mitsui Banking Corporation (SMBC); Commerce International Merchant Bankers (CIMB); Oversea-Chinese Banking Corporation (OCBC); Hongkong and Shanghai Banking Corporation (HSBC); Bank Tabungan Pensiunan Nasional (Bank BTPN); Mitsubishi UFJ Financial Group (MUFG); United Overseas Bank (UOB); DBS Bank Ltd (DBS).

Source: Authors' calculations using Bloomberg (2024)

Water-use KPIs make up the largest share of company disclosures, while pollution-related and ecosystem-related metrics are much less common. Of the 273 nature-related indicators pulled from issuers' reports, 35% track resource use for water, whereas just 2% cover water pollution, and none touch ecosystem health. Waste-related KPIs also focus mainly on hazardous-waste management, with little attention to soil quality or to environmental impacts across the full life cycle of products and processes (see Figure 3).

Companies prioritise today's tangible threats — physical disruptions and reputational harm — over tomorrow's regulatory or liability challenges. Nearly half of all risk-oriented KPIs fall into the physical risk bucket (e.g. flood exposure) or brand risk narratives; fewer than 10% address market, policy or liability risks, explaining why disclosures often fail to anticipate future tightening of nature rules.

Opportunity KPIs are narrow and efficiency-centric. Two-thirds of nature-related indicators target cost savings from water or waste efficiency, whereas only 3% reference new sustainable finance products and a mere 5% link to investment or value chain strategy. The result is a policy-heavy, growth-light reporting profile that underplays promising nature-positive revenue streams.

Supply chain transparency remains the blind spot. Across all TNFD categories, supply chain-related and ecosystem-related KPIs together account for less than 10% of disclosures, despite the region's deep integration into global agrifood and manufacturing networks where upstream impacts are material.

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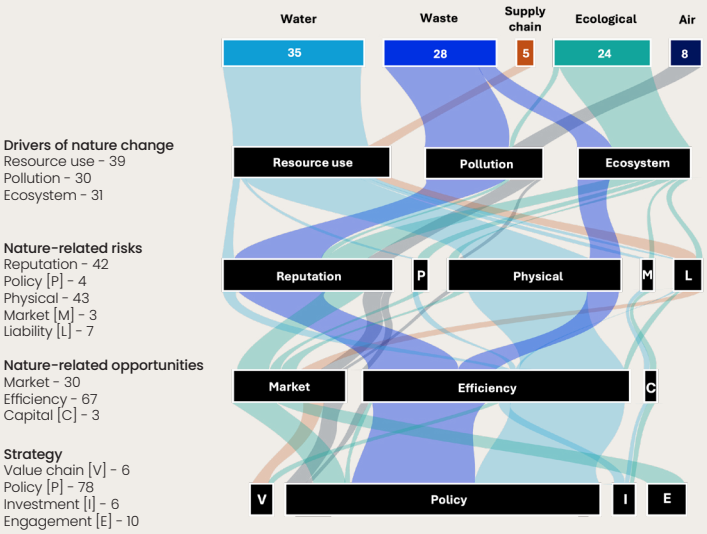
Figure 3. Distribution of nature-related KPIs disclosed in corporate reports from Southeast Asian SLF market participants across TNFD and SASB categories (%), 2018-Q1 to 2024-Q3

Panel A: Percentage of KPIs disclosed in corporate reports across TNFD categories and subcategories



Panel B: Percentage of KPIs disclosed in corporate reports across TNFD and SASB categories

	Water	Waste	Supply Chain	Ecological	Air
Resources Use	88.3	0.0	11.7	0.0	0.0
Pollution	2.2	66.7	0.0	4.4	26.7
Ecosystem	0.0	27.1	0.0	72.9	0.0
Reputation	7.7	46.2	0.0	30.8	15.4
Policy	16.7	0.0	0.0	83.3	0.0
Physical	66.7	19.7	0.0	10.6	3.0
Market	60.0	0.0	0.0	40.0	0.0
Liability	9.1	0.0	63.6	27.3	0.0
Market	0.0	0.0	0.0	67.4	17.4
Efficiency	50.0	42.2	0.0	3.9	3.9
Capital	60.0	0.0	0.0	40.0	0.0
Value Chain	0.0	0.0	77.8	22.2	0.0
Policy	39.2	35.8	0.0	15.0	10.0
Investment	77.8	0.0	0.0	22.2	0.0
Engagement	0.0	0.0	0.0	100.0	0.0

Note: This figure presents the percentage distribution of nature-related KPIs disclosed in corporate reports across TNFD categories and subcategories in corporate disclosures, based on an analysis of 273 KPIs extracted from corporate reports of market participants in the Southeast Asian SLF market from 2018-Q1 to 2024-Q3. Panel A uses a Sankey diagram to show the allocation of KPIs from specific nature themes (water, waste, supply chain, ecological, air) across drivers of nature change, nature-related risks, nature-related opportunities, and strategic components. Labels on the left indicate TNFD categories and subcategories, with values showing the percentage of KPIs at each stage. Some subcategories are represented by initials (e.g. P for Policy, M for Market). Panel B presents a heatmap showing the percentage of KPIs in each subcategory across nature themes, with darker colours indicating a higher proportion of KPIs within each theme.

Source: Authors' dataset of KPIs extracted from corporate reports

SLF magnifies existing reporting biases. In Southeast Asia, SLF covenants gravitate to carbon and energy metrics — US$12.5 billion tied to greenhouse gas cuts and US$6.9 billion to efficiency — because data are plentiful, standards clear and investors attentive. Water (US$1.8 billion) and waste (US$2.5 billion) targets, lacking strong price signals, lag far behind, while biodiversity, air quality and supply chain KPIs, which are even harder to quantify and monitor, scarcely feature.

5. Blind spots in nature metrics

Companies in Southeast Asia face two main shortfalls in their nature-related metrics. First, an instrumental gap arises when a KPI appears in a company's sustainability report yet never becomes a performance target in its SLF. Second, a disclosure gap occurs when KPIs that industry standards such as SASB deem important are missing from the sustainability report altogether. Figure 4 groups nature-related KPIs into three sets: those actually used as SPTs in SLF deals, those that are reported in annual reports but not used (instrumental gap), and those absent from both reports and deals (disclosure gap).

Figure 4 makes the 'missing-metrics' problem tangible — most nature KPIs sit outside the incentive structure of SLF. Barely 10% of the nature-related KPIs companies disclose are written into SLF covenants — the other 90% remain outside the incentive structure. Across 273 observations, only 26 KPIs become SPTs, while 228 appear in corporate reports but never in loan covenants (the instrumental gap) and another 83 that SASB flags as material vanish from disclosure altogether (the disclosure gap). Ecological, water and waste dominate the instrumental gap, suggesting lenders could multiply current nature SPTs almost seven-fold simply by converting already-reported metrics into contractual targets.

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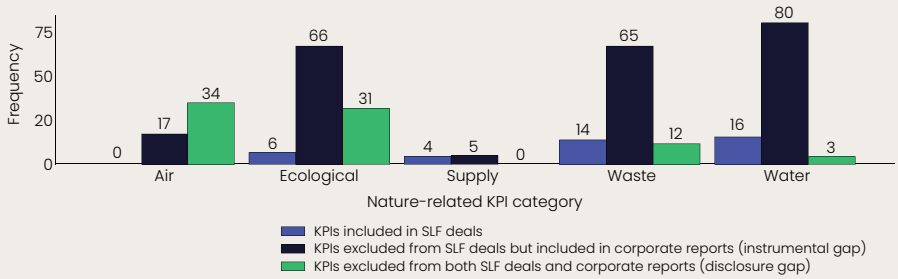
Air quality and ecological impacts remain the least reported and least used in SLF agreements. No issuer has written an air quality SPT, and fewer than one in ten ecological KPIs migrate from reports to deals. For air, one reason is incomplete materiality mapping — the process of deciding which environmental or social issues are the most important for a company to act on and report. For instance, SASB exempts real estate and many service sectors, leaving issuers with little guidance. For ecology, the stumbling block is 'process bias' — companies track biodiversity assessments and conservation activities, but SLF structures demand outcome-based targets, such as hectares restored, which remain rare.

Figure 4. Nature-related KPIs included and excluded from SLF deals and corporate reports, 2018-Q1 to 2024-Q3



Source: Authors' dataset of KPIs extracted from corporate reports

Our gap-index analysis shows that the weakest coverage lies in metrics tracking a firm's impact on nature. Using ENCORE (UNEP-WCMC, 2021), we scored each deal from 0 to 1, where 1 means every relevant KPI is covered. Of 110 Southeast Asian loans, 74 scored 0.01 or less for nature-impact KPIs such as pollution and habitat loss, and 70 scored just as poorly for dependency KPIs like water or raw-material use. Only a handful topped 0.50, underscoring how little these instruments capture nature-related risk.

Network reach does not guarantee instrument and disclosure quality. When deal-level gap scores are matched to lead arranger centrality, closeness emerges as the only statistically significant correlate ($r = 0.35$, $p = 0.03$). In other words, banks that sit a few steps away from every other node in the SLF market network are more likely to under-specify nature KPIs — perhaps because rapid deal flow trumps due diligence depth. Other measures of connectedness — such as how many direct links a bank has, how often it sits on the main routes between others, or how well-connected its partners are — show no clear link to instrument and disclosure quality, proving that sheer reach is no guarantee of thorough design or transparent reporting.

6. Recommendations: a policy agenda of carrots, sticks and credible metrics

Create one agreed list of nature-related metrics for the region so reporting is consistent. To improve consistency across the region, the ASEAN Capital Markets Forum (ACMF) could spearhead the development of a shared taxonomy — an agreed list or classification — of nature-related KPIs. Developing a shared taxonomy would help turn today's patchwork of water- and waste-focused indicators into a balanced suite of outcome-based metrics; it could draw on the TNFD LEAP (locate, evaluate, assess, prepare) approach, ENCORE materiality thresholds and

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SASB sector guidance. In this regard, the ACMF might wish to consider a coordinating role, encouraging sector-specific KPIs (e.g. hectares of peatland restored in the palm oil industry) and offering indicative tables that link each KPI to potential margin ratchet ranges, adjustments to the loan's interest rate depending on whether targets are met. A phased implementation, underpinned by targeted capacity-building for regulators in lower-income member states, could keep compliance costs manageable while steadily enhancing transparency.

Make sure that at least half of performance targets match what companies already report. Financial sector supervisors could strengthen alignment between disclosed metrics and SPTs, specific goals in SLF agreements that can adjust the interest rate. One option would be a '50% rule', whereby at least half of the SPTs in any SLB or SLL would be drawn directly from metrics already reported in annual or sustainability reports. Supervisors might underpin the rule with light-touch yet credible measures — such as modest administrative fines or accelerated re-verification — mirroring the graded approach used in the EU Green Bond Regulation (European Parliament, 2023). As data systems mature and third-party assurance becomes more economical, the threshold could be raised incrementally.

License and monitor the experts who set SLF targets. Regional financial regulators could establish a licensing regime for sustainability coordinators, the banks or advisers who help set and verify the environmental and social targets in SLF deals. Financial institutions acting as lead arrangers — and advising on KPI selection and target-setting in SLF — might obtain a regional licence awarded on the basis of proven expertise in TNFD-aligned metrics, robust conflict-of-interest safeguards and independent data-assurance practices. The model could mirror the EU's oversight of second-party opinion providers (European Parliament, 2023) while reflecting ASEAN's bank-centred landscape: licences renewed every three years, random deal audits and public disclosure of quality scores. Such a framework would link market influence to verifiable diligence standards, addressing the network finding that highly connected arrangers often support deals with the widest KPI gaps.

Reduce lending risks for nature-positive projects. Ministries of Finance may wish to deploy targeted fiscal and prudential incentives in tandem, attracting private capital towards high-integrity SLF. Ministries of Finance might explore options such as tax relief for retail investors — similar to the Netherlands' Green Funds scheme — or tax credit coupons linked to verified KPI milestones, thereby reducing coupon spreads on nature-linked bonds. Central banks could reinforce these incentives through partial credit guarantees, where they take some of the repayment risk, or concessional refinancing windows that offer cheaper capital for loans meeting the agreed taxonomy. An ASEAN sustainable finance taskforce may wish to coordinate these efforts to ensure cross-border consistency, minimise subsidy arbitrage and deepen secondary-market liquidity.

"Financial sector supervisors could strengthen alignment between disclosed metrics and sustainability performance targets."

7. Forward-looking research agenda

Turning our findings into actionable policy demands a sharper picture of how SLF performs on the ground across Southeast Asia. Table 1 sketches out a forward-looking research agenda built around five unanswered questions — from pricing and real-world ecological impact to cross-border rules, equity market reactions and the resilience dividend of nature-based solutions. Addressing these issues will equip regulators, investors and issuers with the empirical proof they need to scale up high-integrity, nature-positive finance across the region.

Table 1. Unanswered questions: a research agenda for nature-linked finance

Focus	Key question	Why it matters
Pricing effect	How much do nature-aligned SPTs move loan or bond spreads, and does the incentive persist over multi-year tenors?	Quantifying the pricing signal and incentive tells regulators and arrangers whether current margin ratchets are sufficiently large — and long-lived — to change borrower behaviour.
Real-world outcomes	Do borrowers hitting nature SPTs deliver measurable ecological benefits (e.g. reduced nutrient runoff, habitat restoration) relative to peers?	Linking financial targets to on-the-ground results assures that SLF is more than green branding and helps refine KPIs that truly move the needle.
Cross-border alignment	Does divergence among national taxonomies create arbitrage opportunities or deter investors in multi-jurisdiction deals?	Mapping regulatory friction helps ASEAN policymakers calibrate harmonisation efforts and avoid market fragmentation.
Equity market spillovers	Does issuing a sustainability-linked debt/loan affect a firm's share price, cost of equity or investor mix relative to peers?	Evidence of an equity-side signal would show whether SLF issuance reassures — or concerns — shareholders, shaping capital-structure choices and the broader appeal of the instrument.
Nature-based resilience	When SLF includes KPIs tied to nature-based solutions — such as mangrove restoration, watershed management or urban green buffers — do firms experience smaller future physical-risk losses and faster recovery after extreme events, and is this resilience reflected in financing terms?	Demonstrating that nature-based adaptation both strengthens real-world resilience and earns a market reward would build the case for embedding ecosystem KPIs into adaptation finance, especially critical in hazard-prone ASEAN economies.

"Turning our findings into actionable policy demands a sharper picture of how SLF performs on the ground across Southeast Asia."

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About the authors

José Luis Reséndiz is a Doctoral Researcher at the Smith School of Enterprise and the Environment, University of Oxford.

Nicola Ranger is Executive Director of Earth Capital Nexus and Professor in Practice at the Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science.

Johan Sulaeman is Director of the Sustainable and Green Finance Institute (SGFIN) and Dean's Chair Professor of Finance at the NUS Business School.

David Broadstock is Senior Research Fellow and Energy Transition Research Lead at SGFIN.

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