



Protasius Isyudanto
Partner



Lidwina Pradipta Putri
Associate - Sustainability

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Southeast Asia Climate Technology Spotlight :

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In a glance

For European and East Asian businesses, Southeast Asia's climate technology sector offers **a region rich in feedstock and natural carbon sink potential**, backed by fast-maturing carbon markets, yet **still missing the proven carbon removal and capture technology** that net-zero targets now demand.

Executive summary:

Southeast Asia's climate technology market is maturing, but its capital and its carbon potential sit in different places. Private green investment reached 8 billion US dollar in 2024, yet **it flows mostly to renewable power, while the region's vast natural carbon sinks and abundant biomass remain underused** and the carbon removal sector stays thinly funded. Eight ASEAN states now target net zero, which requires not only cutting emissions but removing carbon and the market infrastructure to reward removal is finally arriving, which includes the ASEAN Common Carbon Framework, national registries and Article 6 of Paris Agreement that let regional credits reach international buyers. **This gap is the opportunity.**

The region holds the raw material. What it lacks is proven technology, credible verification and patient capital. European firms bring certification and compliance credibility built on the EU ETS and CRCF, while East Asian firms bring deployment-ready technology and manufacturing proximity. **For entrants to the region in this sector, build the supply base in Indonesia where the material is largest and Article 6 trading is now enabled and route the output through Singapore as Asia-Pacific's carbon trading hub, and reach the net-zero buyers who already exist abroad.**

Why Southeast Asia, why now

Southeast Asia is among the world's most climate-exposed regions and its coal-heavy growth keeps emissions rising, yet it holds a major share of the world's natural carbon sinks. In 2026, the carbon-market infrastructure to turn that potential into revenue arrived. The ASEAN Common Carbon Framework is harmonising credit standards, national registries are launching and Article 6 of Paris Agreement are opening the door for Southeast Asian credits to reach international buyers. The region is shifting from holding carbon potential to being able to sell it and the technology to unlock it is more on demand than ever.

1 Southeast Asia

Climate Tech Sectoral Structure

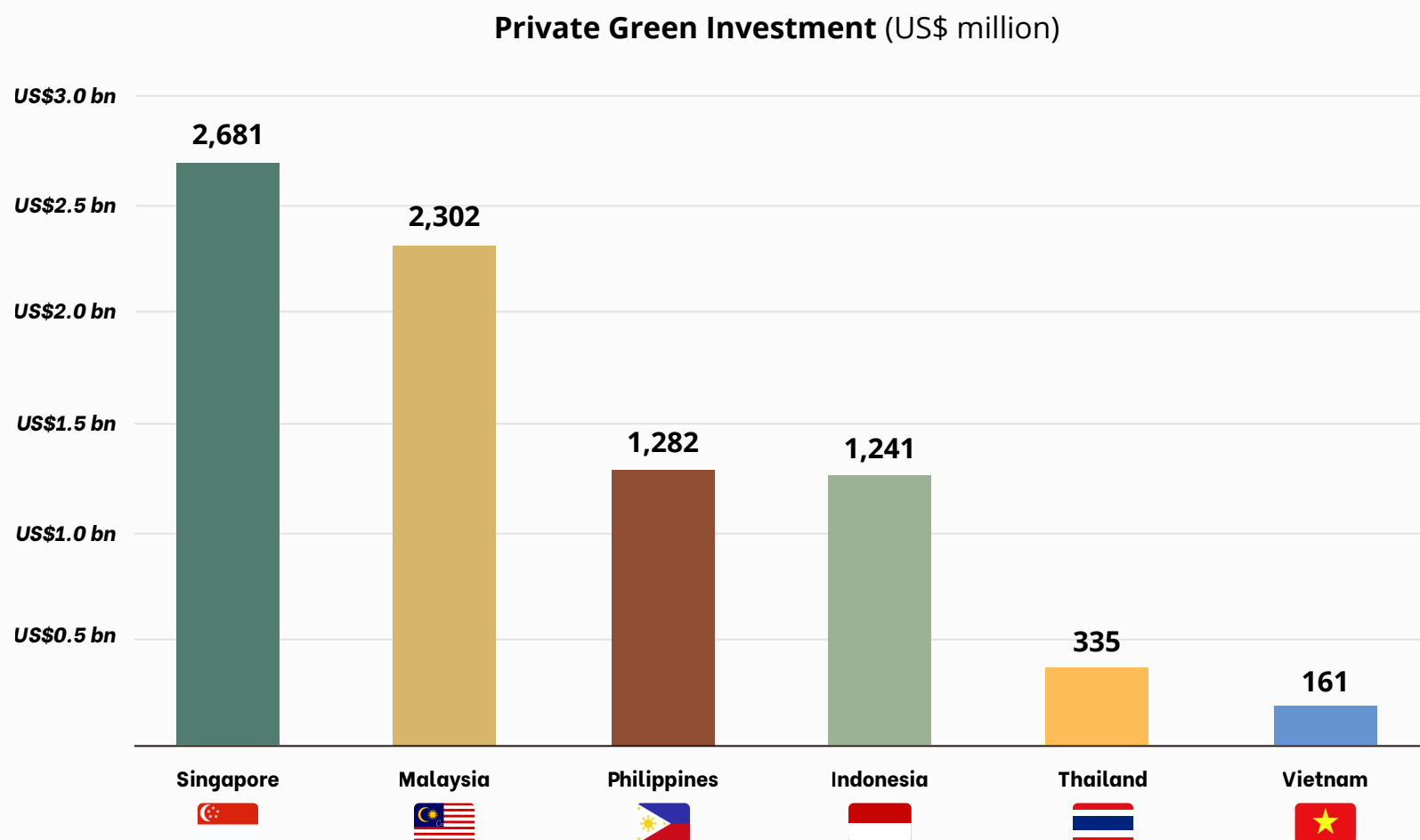


Figure 1: Private green investment in ASEAN-6 countries in 2024 (in US\$ million)

Southeast Asia's high climate vulnerability and emission-heavy growth make the region an ideal market for climate technology to cut and remove carbon. At the same time, the region holds a crucial piece of the global solution, which is its massive natural carbon sinks, a potential that climate technology can unlock through scalable nature-based solutions. Driven by emerging national carbon markets, expanding climate financing and regional net-zero commitments, private green investment in Southeast Asia reached US\$8 billion in 2024, representing a 43% year-on-year (yoy) increase from 2023.

However, comparing private green investments with nature-based carbon offset potential reveals a significant geographic disconnect. Capital is heavily concentrated in financial hubs like Singapore (accumulating US\$2.68 billion in capital), while the vast majority of carbon sink capacity sits in land-rich countries like Indonesia (201 megatonne CO₂e/year).

1 Southeast Asia

Climate Tech Sectoral Structure

Nature-based Solutions Carbon Offset Projected
Supply by 2030 in Southeast Asia
(Mt CO₂e/year)

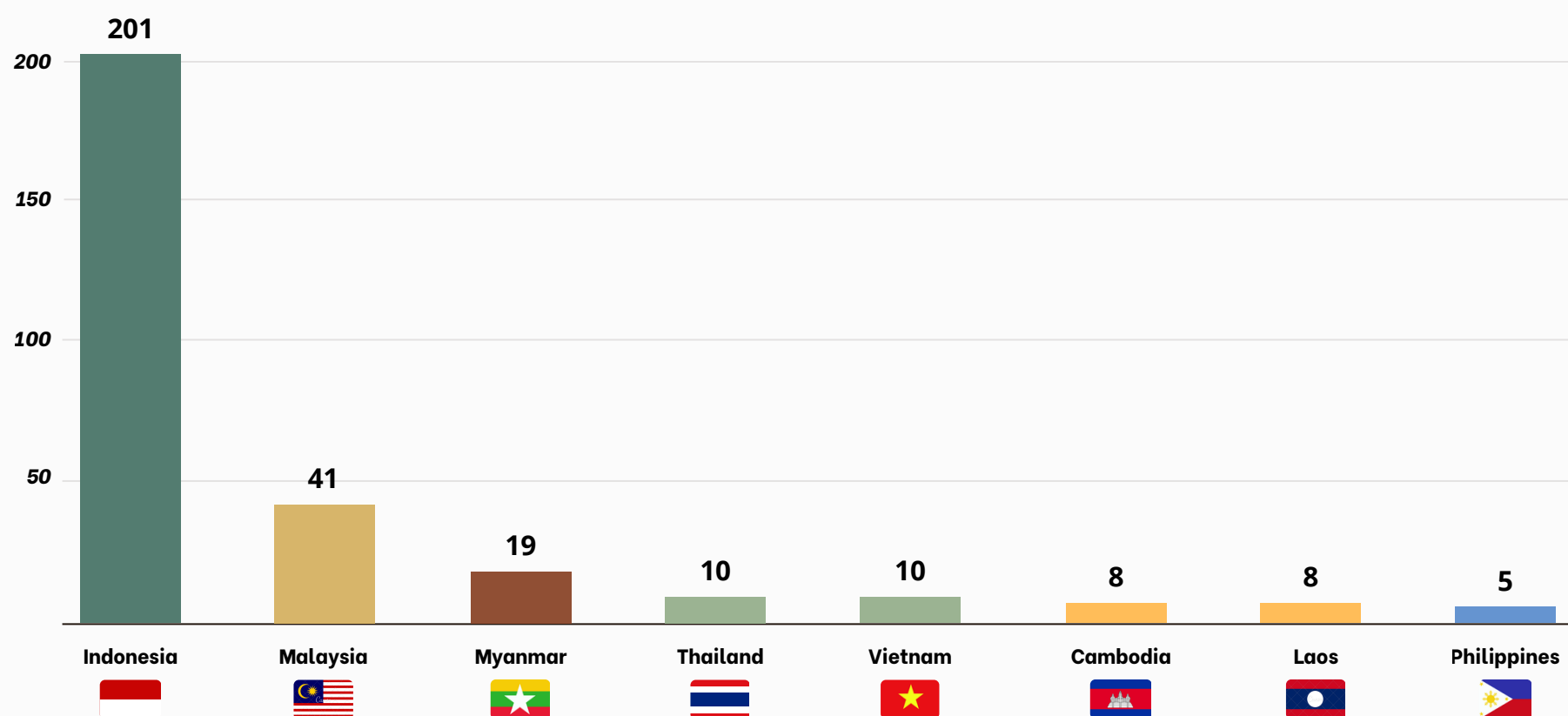


Figure 2: Nature-based solutions carbon offset projected supply by 2030 in Southeast Asia (in Mt CO₂e/year)

In 2024, eight countries in Southeast Asia target net-zero, which requires not only emission reduction but also carbon removal. Yet green capital overwhelmingly favours renewable power like solar, wind, and green hydrogen, which accounts for nearly two-thirds of total investment to prevent new emissions, while funding for climate projects in the agricultural and nature domains actually declined. This creates a striking paradox: **despite holding vast natural carbon sinks and abundant biomass feedstocks, the region's nature-based solutions (NbS) tech ecosystem remains in its nascent stages and underfunded.**

Implications for new entrants

Rather than competing in saturated power markets, experienced entrants can capture early market share by deploying mature technologies that unlock the region's vast nature-based feedstocks.

Recent catalysts

The [ASEAN Common Carbon Framework](#) is entering implementation, harmonising credit standards regionally, with national policies following (Indonesia's SRUK and Malaysia's carbon market policy). [Article 6 of Paris Agreements](#) bilateral agreements connect regional credits to international buyers, giving projects a legal route from local asset to revenue.

2 The European Angle

Europe brings established carbon-market experience to Southeast Asia, with its certification standards and regulations. The EU Emissions Trading System (ETS) has operated since 2005, and the Carbon Removal and Carbon Farming Framework (CRCF) was adopted in 2024, setting the standards for durable removal which is the kind of market infrastructure that Southeast Asia is now building. European development agencies have already worked across ASEAN on carbon rules and green finance. **That groundwork opens the door for European companies to bring the technology and problem-solving the region's carbon sector still lacks.**

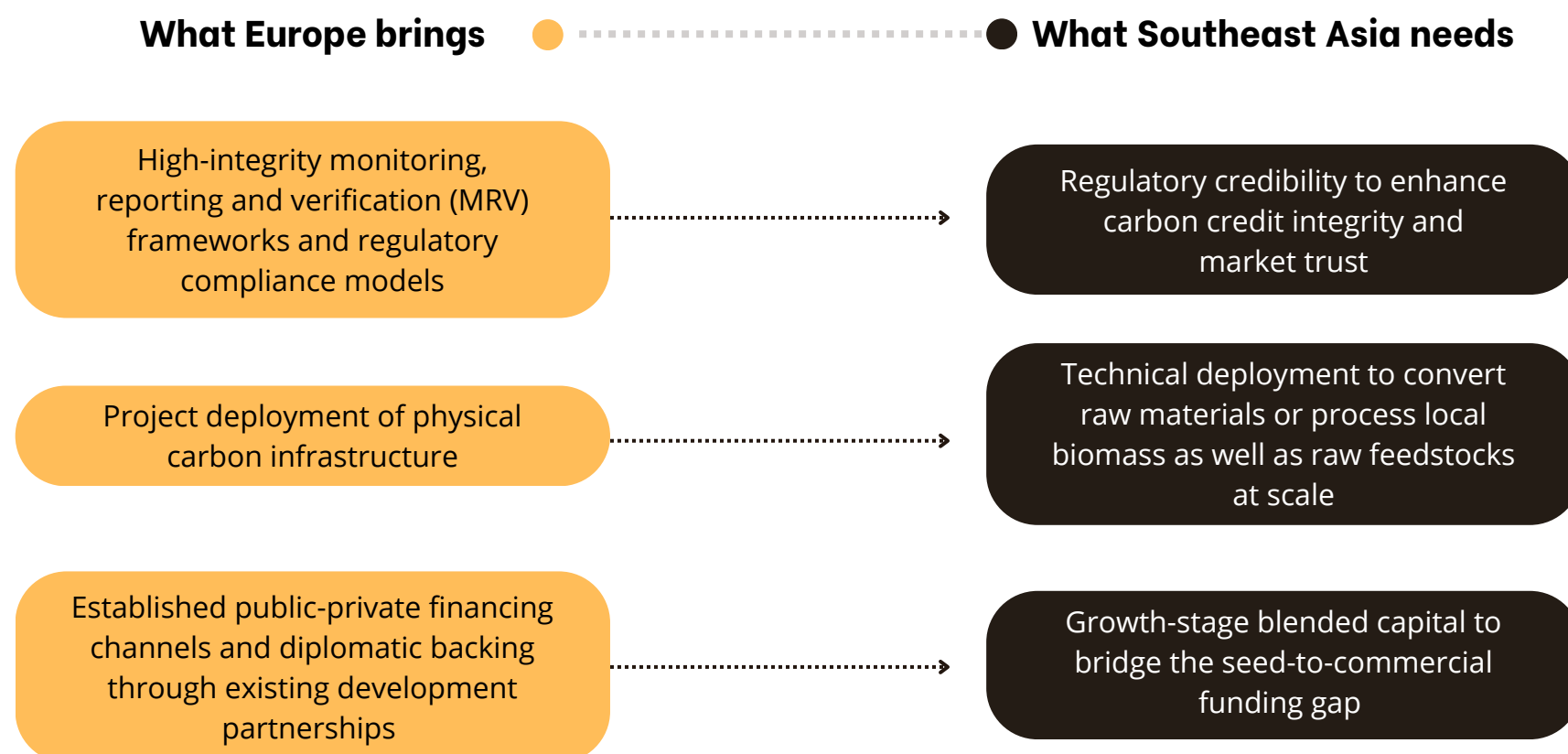


Figure 3: European capability mapping against Southeast Asia's needs

Implications for European entrants

Europe's strengths map directly onto the region's gaps: MRV and compliance credibility answer the trust deficit, project experience answers the deployment gap and access to blended finance bridges the funding gap local startups cannot cross. The European entrant's advantage is not the technology alone, it is arriving already certified, fundable and trusted by the institutions that shape the region's carbon rules.

3 The East Asian Angle

East Asia brings deployment-ready climate hardware and proximity to Southeast Asia.

Companies from China, Hong Kong, Japan and South Korea commercialise technology through engineering ecosystems the region has not yet built and proving it in larger markets first. East Asian public finance is also arriving at scale. For instance, the US\$221 million Green Climate Fund/Korean Development Bank Climate Technopreneurship Programme funds incubation and acceleration platforms to improve the local ecosystem for climate technology in Cambodia, Indonesia, Laos, Philippines and Vietnam. **For East Asian companies, Southeast Asia is a commercially promising region, with their long-standing economic cooperation, close proximity and cultural familiarity make entry a natural extension rather than a leap.**

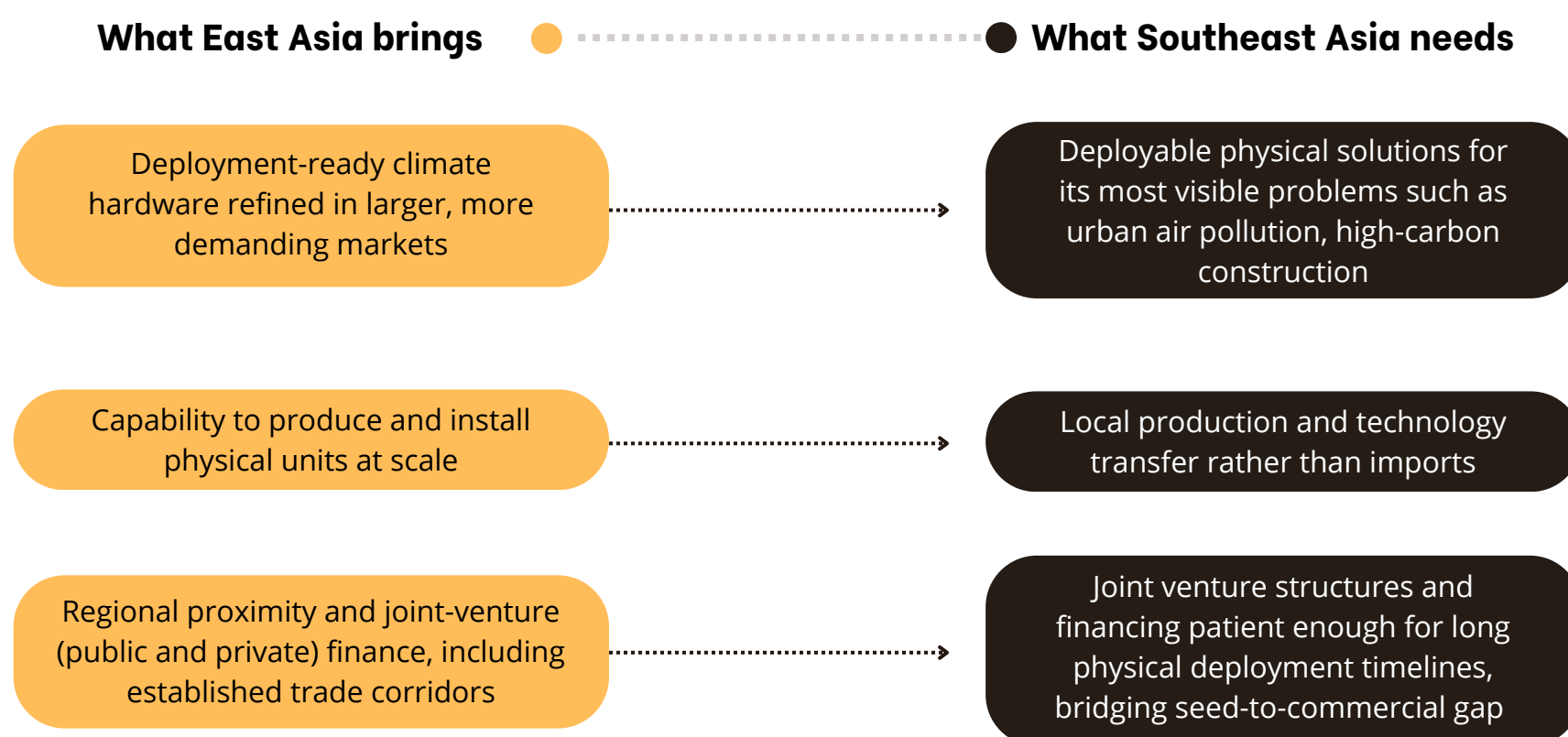


Figure 4: East Asia capability mapping against Southeast Asia's needs

Implications for East Asian entrants

If Europe's advantage is certification and compliance, East Asia's is production and proximity. Proven production at scale answers the region's most immediate and potentially profitable problems, and East Asian manufacturing capability makes it possible to produce locally rather than import. The East Asian entrant's advantage is speed to ground, with technology that works, produced nearby, deployed into demand that is already apparent.

4 Southeast Asia Climate Tech Supply Base and Marketplace

Entry conditions for climate tech are generally open across Southeast Asia, with most markets permitting majority or full foreign ownership in manufacturing and services while governments actively enable climate investment. **The challenge lies in identifying where each part of the operation belongs: where to produce, and where to sell.** Producing carbon output means securing land, sourcing feedstock and navigating emerging carbon-market rules, which favours the country with the material. Selling it means reaching buyers who already exist, which favours the country with the market.

The comparison below illustrates the entry reality for each role.

Indonesia

- Second-largest source of net land-use carbon globally
- Largest residue and biomass volumes in SEA; massive algal diversity (325+ species)
- New carbon exchange: IDX Carbon opened international trading in 2025, but thin volumes and low prices
- Land tenure often fragmented
- Evolving regulations ([PR 110/2025](#)), central-government carbon governance still consolidating

Singapore

- Self-positioning as Asia-Pacific's carbon trading hub, with voluntary carbon markets at its core
- Highest concentration of carbon service providers in Southeast Asia (>150)
- Singapore Carbon Market Alliance provides access to high-quality credits under Article 6
- Largest private green investment in ASEAN-6 (US\$2.68B, 33% of the total)
- Strong public support: >90% of residents aware of climate change, ~80% accept added costs for a low-carbon transition

Implications for new entrants

This produces a two-country model. Indonesia is the supply base with the region's largest biomass volumes and carbon sink potential. Meanwhile, Singapore is the marketplace, as it aims to be Asia-Pacific's carbon trading hub and where credible demand already sits. Produce in Indonesia through partnership and route the output to buyers through Singapore's established market.

5 Southeast Asia Climate Tech Sector Risks

For projects in climate tech, specifically related to carbon management, the dominant risks are structural rather than technological. It will be in the implementation or execution, not in the method itself. Three main risks exist across the region: 1) the absence of trustworthy local partners, 2) the immaturity of regulation and carbon markets and 3) the financing gap before project revenue exists.

Lack of local partners

Foreign entrants need a trusted local partner to navigate land access, permits and business norms that are hard to manage from offices abroad. Feedstock and demand can exist while entry is still stuck due to the lack of a trustworthy local partner, making partnership the practical prerequisite for everything else.

Regulatory immaturity (in both directions)

Heavy regulation and the absence of it could be a risk in and of itself. Lack of rigid rules create ambiguity over what qualifies, what is permitted and how credits are recognised. Southeast Asia's carbon frameworks are emerging and shifting, so the regulatory target might move as projects develop.

Project finance before revenue

Carbon-removal revenue arrives only after biomass is stored and independently verified. Combined with the region's not-so-demanding regulations, early-stage capital market, this timing gap is a structural risk for capital-intensive physical projects, not a question of demand.

Implications for European entrants

Europe's compliance and MRV credibility directly answer the regulatory-ambiguity risk and its blended-finance access eases the upfront-capital gap. The unmet need is the local partner, which is the one thing European provenance cannot supply from a distance and the first priority on entry.

Implications for East Asian entrants

Proximity is East Asia's advantage: closer partners, familiar business norms and the existing country or regional partnerships directly de-risk both the partner and finance gaps. Regulatory immaturity remains the shared challenge, best met by entering markets with clearer rules first.

6 Southeast Asia Climate Tech Market Entry Recommendations

Establish the carbon production supply chain in Indonesia and set Singapore as the main market. Beyond its raw endowment, Indonesia is the second-largest source of net land-use carbon globally. Article 6 of Paris Agreement trading is now formally enabled, letting Indonesian credits count toward foreign buyers' climate targets. Singapore turns that supply into revenue, with its concentration of carbon service providers and bilateral agreements giving the output a credible route to international buyers. Sell internationally through Singapore, deploy products where need is visible and treat the local partner as the first hire.

Sub-segment

Engineered Carbon removal, capture and utilisation

Regional supply base

Indonesia

Regional marketplace

Singapore

Five concrete moves follow:

1 Secure a local partner

This is not a task deferred until after setup, since this is a precondition before expanding the market, which will be useful for land access, permits and navigation. In guarded markets, structure as a joint-venture where a local party holds required control.

2 Establish production in Indonesia through partnership

Build the supply base where the material is largest: the region's biggest residue volumes and carbon sink potential, as well as Article 6 trading now enabled. Enter through a local partner for land access and expect to work with rules that are still consolidating.

3 Route sales through Singapore, not thin local demand

Domestic Southeast Asia carbon prices are low, so the viable model produces in-region and sells in Singapore or internationally through the country to reach corporate net-zero buyers among European and East Asian firms with Southeast Asia supply chains.

4 Underwrite the upfront-capital gap deliberately

Because carbon revenue arrives only after storage and verification, prepare for a cost-first timeline: secure buyer commitments early and access blended or purpose-built finance.

5 Lead with regulatory credibility and clean sourcing

Turn compliance into the selling point regulators and partners would be convinced to buy: rigorous MRV, deforestation-free traceability, durable-removal certification. In a market whose biggest reputational risk is credit integrity, provable quality is the competitive edge.

Work with Kala Advisory

This spotlight is the free sector read. **Your entry strategy needs a sharper one.**
Kala Advisory produces two things for businesses moving into Southeast Asia:

a Custom market reports

A sector-by-sector entry playbook built around your target market and industry, with market sizing, the entrant angle, the regulatory and compliance reality, and concrete, costed recommendations on where and when to enter.

A commissioned report is tailored to your sector, your risk appetite and your timeline.

b Advisory and entry support

Direct guidance on establishing in Southeast Asia: entity structuring, regulatory and tax navigation, partner and counterparty diligence, and on-the-ground market entry, drawing on a regional network of in-country analysts.

If this issue raised a question specific to your business, that is exactly where an engagement begins.

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Methodology and sources

Scope: A sector spotlight on Southeast Asian climate technology for European and East Asian entrants. Market sizing uses private green investment and nature-based carbon offset supply data; ownership, land and carbon-market rules are summarised at a directional level and are orientation, not legal advice. Figures blend the latest available vintages and are current to 2026.

Method: Three lenses are combined: sector momentum, entrant fit and entry feasibility; to identify a base market and a scale market. Risk assessment is qualitative, weighting the three risks most specific to a capital-intensive carbon sector.

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