



MALAYSIA

The Missing Middle

Barriers to Scaling Climate-focused MSMEs and the Role of Blended Finance

A report summarising findings from UNDP's Climate-focused MSME Survey

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Executive Summary

MALAYSIA'S transition to a low-carbon and climate-resilient economy requires substantial mobilisation of private capital. Although the country has developed a relatively advanced sustainable finance ecosystem, funding for smaller, innovative climate businesses still falls short of national climate investment needs. Climate-focused micro, small, and medium-sized enterprises (MSMEs), which play a critical role in delivering decentralised climate solutions, frequently face barriers when accessing financing.

This report presents findings from a survey of 100 climate-focused MSMEs in Malaysia, complemented by interviews and validation workshops with enterprises and investors. The study examines the availability of financing for climate-focused MSMEs, identifies demand- and supply-side constraints, and explores whether blended finance mechanisms could address persistent financing gaps.

The results indicate that climate-focused MSMEs in Malaysia operate within what is often described as the 'Missing Middle': enterprises that require growth capital between RM100,000 and RM3 million. Survey responses show that over half of respondents fall within this financing range, highlighting the importance of moderate-scale capital for business expansion, technology deployment, and market development.

Despite the availability of multiple MSME and green financing facilities in Malaysia, many enterprises report difficulty accessing these instruments in practice. Respondents report significant barriers in raising funds and navigating application processes. The most common challenges include perceived lack of available funding (39 percent), limited investor interest (33 percent), insufficient operating track records (32 percent), and a lack of information (25 percent). In addition, over half of respondents report lengthy approval times and stringent eligibility criteria, and 32.5 percent said they received insufficient feedback on unsuccessful applications.

Survey findings also highlight a strong preference among climate-focused MSMEs for non-debt financing instruments. Respondents prefer grants, equity impact funds, and incubation or accelerator programmes. Many enterprises maintain relatively low debt ratios and approach traditional loan structures with caution, particularly when those loans require fixed repayments, particularly where revenues are project-based, seasonal, or dependent on adoption rates. Validation workshops



Despite the availability of multiple MSME and green financing facilities in Malaysia, many enterprises report difficulty accessing these instruments in practice. Respondents report significant barriers in raising funds and navigating application processes.



further indicate that traditional lending frameworks often prioritise fixed-asset collateral and historical financial performance, criteria that may not fully capture the value of climate-focused business models.

At the same time, an exploratory survey of 22 financial institutions suggests that capital for sustainable investment exists, but investors deploy it selectively. Investors report challenges in identifying bankable climate projects, assessing unfamiliar technologies, and managing transaction costs linked to smaller-scale investments. These factors keep financing supply and enterprise demand misaligned, even when financial resources are available.

These findings suggest that Malaysia's climate-focused MSME financing landscape reflects challenges in alignment, risk assessment, and transaction efficiency, rather than a simple shortage of capital. Addressing these issues requires improving the fit between financial instruments and the operational realities of climate-focused MSMEs. Potential approaches include refining eligibility criteria, strengthening risk assessment frameworks for climate technologies, aggregating smaller projects to achieve investable scale, and expanding technical support for investment readiness.

Blended finance mechanisms that strategically combine public or concessional capital with private investment may help address specific participation

constraints. Carefully calibrated catalytic capital can reduce early-stage risk, support project preparation and aggregation, and signal commercial viability to private investors.

Ultimately, improving access to finance for climate-focused MSMEs will require coordinated action among policymakers, financial institutions, development partners, and enterprise support organisations. By refining instrument design, strengthening project preparation, project aggregation, improving risk clarity, and enhancing institutional coordination, Malaysia can mobilise capital more effectively toward climate-focused enterprises and accelerate progress toward a resilient and low-carbon economy.



1 Introduction

Malaysia's transition toward a low-carbon, climate-resilient economy requires significant mobilisation of private capital. Although the country has developed a relatively advanced and continually improving sustainable finance ecosystem, investment flows are insufficient to meet national climate financing needs. The current climate financing gap, compounded by increasing exposure to risks such as flooding, coexists with the needs to increase mitigation investments in sectors such as energy or infrastructure.

These pressures disproportionately affect MSMEs that provide climate mitigation and adaptation solutions. These enterprises cannot access economies of scale and continue to face persistent barriers to financing, despite their important role in employment and service provision. At the same time, they must manage rising compliance costs while trying to secure capital. Industry representatives and trade chambers report that limited government initiatives for assistance and capacity-building further intensify these challenges.

In early 2026, Malaysian media reported that the number of SMEs seeking capital far exceeded available funding, which constrained their ability to scale.¹ The SME Association of Malaysia emphasised that many SMEs had entered a “survival zone,” where regulatory burdens placed undue stress on companies that lack financial capacity and in-house expertise to meet technical demands. These groups have called for stronger policy support and more effective financing mechanisms.²

UNDP Malaysia plays an ecosystem-building role in strengthening climate-focused MSME financing through a range of complementary initiatives that connect enterprises, financial institutions, and policymakers.

Through platforms such as MyClimate FinHub, UNDP convenes climate businesses, financiers, technical experts, and intermediaries to improve investment readiness and unlock access to capital. Under the Climate Finance Network (CFN), initiatives such as the Climate Venture Scaler support growth-stage climate ventures

across Malaysia and the region by providing mentorship, investor matchmaking, and tailored technical assistance, particularly in renewable energy, circular economy, and adaptation-focused sectors.

In partnership with Bank Pembangunan Malaysia Berhad (BPMB), UNDP also supports the Climate Finance Innovation Lab (CFIL) by providing impact advisory services and operationalising the accelerator to build capacity for innovative capital structures, including blended finance approaches, to de-risk investments in climate and nature-based solutions. Complementing these efforts, the Climate Action for a Resilient Asia (CARA) programme provides technical assistance to financial institutions to mobilise adaptation finance and strengthen the issuance of sustainable instruments such as Green, Social, Sustainability, and Sustainability-Linked (GSS+) bonds, sustainability-linked bonds, and green sukuk. Together, these initiatives reflect UNDP's integrated approach to aligning policy, finance, and enterprise development in support of Malaysia's climate transition.

1.1 Study background

MSMEs contribute significantly to employment and economic activity in Malaysia. According to SME Corp, they account for 96.1%³ of the country's businesses and 39.5% of Gross Domestic Product (GDP).⁴

1 The Edge Malaysia (2026). *SMEs need more policy support amid rising pressures, says industry rep.* Available at: <https://theedgemalaysia.com/node/791861>

2 Malay Mail (2026). *Samenta: Malaysia's SMEs confront 'survival zone' under expanding compliance rules.* Available at: <https://www.malaymail.com/news/malaysia/2026/01/05/samenta-malaysias-smes-confront-survival-zone-under-expanding-compliance-rules/204318>

3 SME Corp (2024). *Profile of MSMEs in 2015-2024.* Available at: <https://smecorp.gov.my/index.php/en/policies/2020-02-11-08-01-24/profile-and-importance-to-the-economy>

4 Department of Statistics Malaysia (2025). *Micro, small and medium enterprises performance 2024.* Available at: https://www.dosm.gov.my/site/downloadrelease?id=micro-small-medium-enterprises-msmes-performance-2024&lang=English&admin_view=

Within this group, climate-focused MSMEs operate across sectors such as renewable energy, energy efficiency, circular economy solutions, climate-resilient services, and digital climate technologies. These sectors align directly with Malaysia’s climate commitments and development priorities. However, these companies often struggle to access appropriate financing, which constrains their growth and limits their potential impact.

Most climate-focused MSMEs fall within what stakeholders commonly describe as the “Missing Middle”. These enterprises are too large or complex to rely solely on microfinance and grants, but too small, risky, or unfamiliar for conventional commercial financing. This structural position limits their ability to scale, innovate, and contribute to national climate objectives.

UNDP Malaysia surveyed 100 climate-focused MSMEs to assess their financial position and funding requirements. The study’s primary purpose was to determine whether blended finance mechanisms, which combine concessional public or philanthropic capital with private investment, are necessary to address the financing constraints these businesses face.

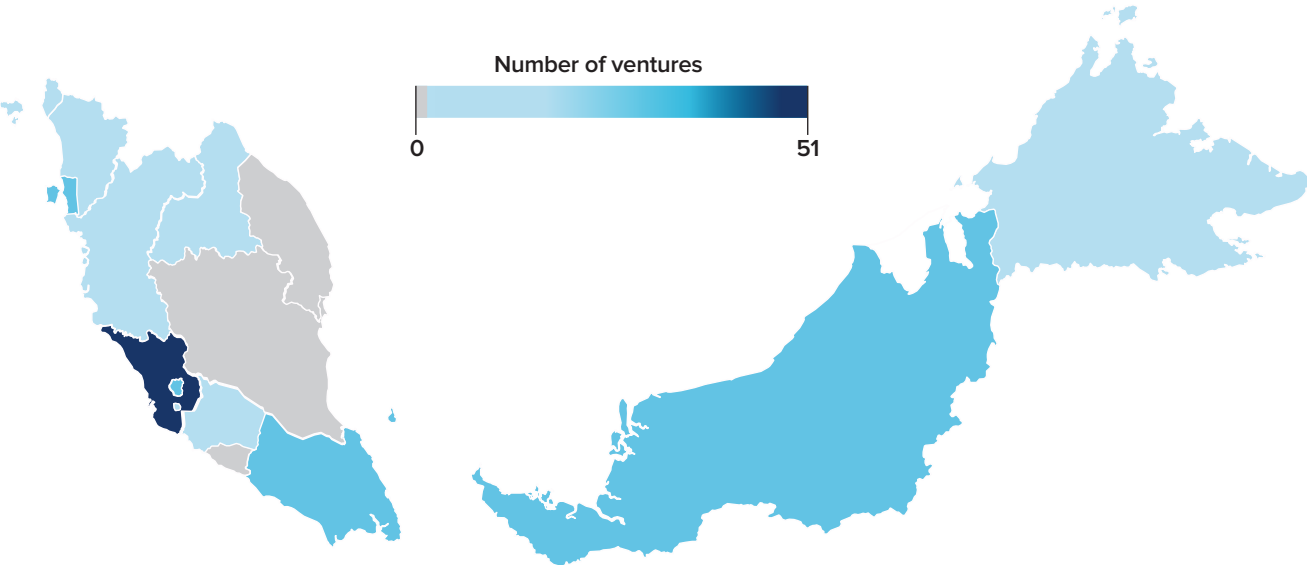
Through structured responses, the survey examined the funding sources MSMEs currently access, the most significant barriers they face when seeking capital, the gaps between financing supply and demand, and the types of funding instruments they prefer. This analysis uses data-driven insights to assess the need for innovative financing approaches that support the growth and scaling of climate-focused MSMEs, while maintaining a clear focus on financial and operational factors.

The study evaluates the availability of and access to finance for climate-focused MSMEs that contribute to climate action in Malaysia. It investigates market conditions affecting these enterprises, identifies demand- and supply-side financing constraints, and proposes recommendations to help close the financing gap.

For this report, the study defines climate-focused MSMEs as enterprises whose core products, services, or business models contribute directly to climate mitigation and/or adaptation outcomes. These include enterprises operating in renewable energy, energy efficiency, circular economy and waste management, sustainable agriculture, green infrastructure, climate-resilient services, and climate-related digital solutions.

FIGURE 1

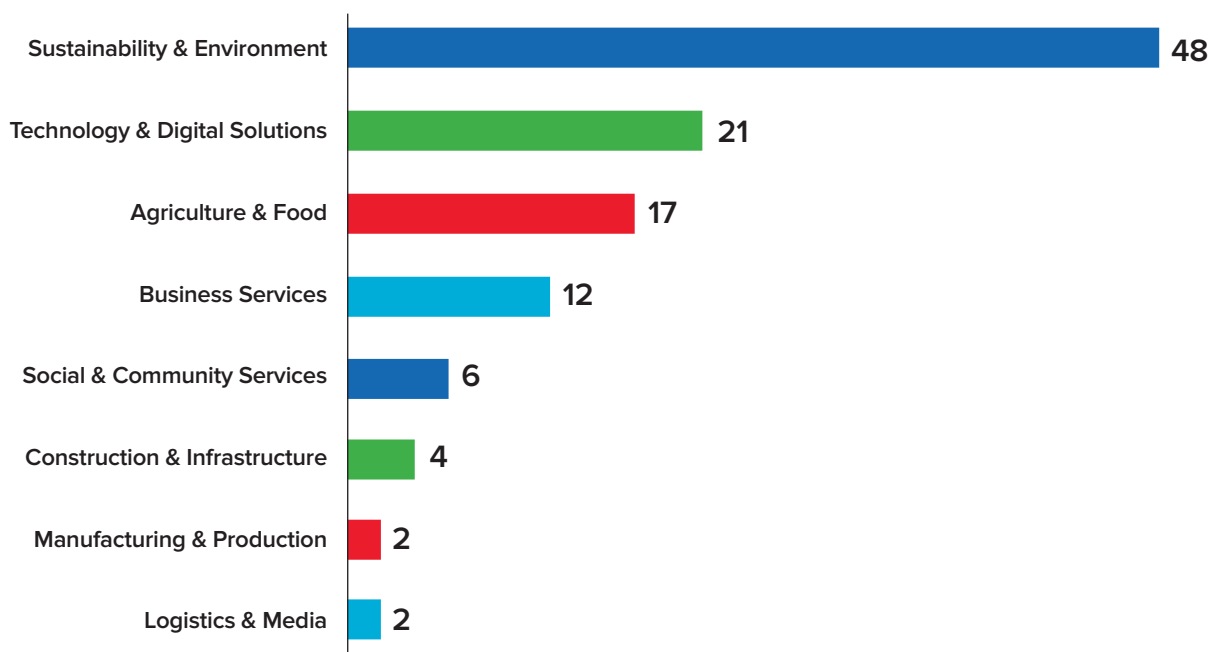
Location of climate MSMEs



Note: Number of climate-focused MSMEs by location: Johor = 5; Kedah = 1; Kelantan = 1; Kuala Lumpur = 24; Negeri Sembilan = 1; Perak = 2; Perlis = 2; Pulau Pinang = 6; Sabah = 1; Sarawak = 6; Selangor = 51

FIGURE 2

Climate-focused MSMEs by sector



The assessment draws on desk research, surveys, interviews, and stakeholder workshops. Stakeholder engagement plays a central role in the analytical process, enabling the study to capture demand- and supply-side perspectives on climate-focused MSME financing. Validation workshops focused on renewable energy, circular economy, and climate-related services test the findings, identify sector-specific nuances, and assess the practical relevance of proposed approaches.

The surveyed climate-focused MSMEs operate across diverse geographic contexts, including urban centres and less-served regions such as Sabah and Sarawak. Figure 1 illustrates the location of these MSMEs.

While the study engaged a broad range of stakeholders, it does not attempt to provide an exhaustive mapping of all climate-focused MSMEs or financing instruments in Malaysia. The survey identifies patterns in enterprise characteristics, financing needs, and constraints that may not be immediately visible. The findings, therefore, indicate structural patterns and constraints rather than represent the full market size or total investment demand. Figure 2 illustrates the number of climate-focused MSMEs by sector.

The study engaged climate-focused MSMEs across sectors that are critical to Malaysia's climate goals. The results show that although these businesses align their activities with national climate objectives, existing



**The Missing Middle:
Companies too small
for conventional
financing but too
large for grants or
micro-finance.**



financial instruments do not adequately meet their funding needs or reflect their risk profiles.

Most MSMEs examined in this assessment fall within early- and growth-stage categories. These enterprises have progressed beyond ideation but have not yet reached the scale or stability required for conventional financing. Survey responses indicate that many of these

businesses seek financing amounts that exceed typical microfinance thresholds but remain below the ticket sizes preferred by banks and institutional investors.

Many climate-focused MSMEs surveyed operate business models that require high upfront capital, involve longer payback periods, incur high feasibility study costs, and generate revenue streams that may fluctuate or depend on adoption rates, regulatory approvals, or behavioural change. These characteristics commonly appear in sectors such as renewable energy or circular economy infrastructure. As a result, these business models do not align with the shorter loan terms or collateral-based assessment methods that financial institutions typically apply, even when the enterprises demonstrate strong long-term commercial viability.

1.2 Malaysia's climate and sustainable finance landscape

Malaysia has established a relatively mature sustainable finance ecosystem compared to many peer economies, supported by well-developed capital markets and a range of policy and regulatory initiatives.⁵ Bank Negara Malaysia (BNM), the Securities Commission Malaysia (SC), and the Joint Committee on Climate Change (JC3) actively shape a dynamic regulatory framework and embed sustainability considerations into financial systems and capital markets. They have introduced measures such as sustainable and responsible investment (SRI) frameworks, classification systems such as the Climate Change and Principle-based Taxonomy, mandatory sustainability reporting for listed companies, and engagement with emerging nature-related disclosure frameworks, including the Taskforce on Nature-related Financial Disclosures (TNFD).

Malaysia has also positioned itself as a global leader in Islamic sustainable finance, particularly through issuing green and sustainability-linked sukuk. These developments have attracted international investors and expanded sustainability-linked capital market instruments.⁶

However, existing sustainable finance mechanisms mainly benefit larger corporations and projects with established track records. Financial institutions continue to allocate limited funding to smaller, decentralised, or innovative climate solutions, especially those led by MSMEs, relative to overall national climate investment needs. Investors face constraints such as limited



Despite a wide range of domestic funding instruments, many climate-focused MSMEs remain underfunded.



bankable project pipelines, high perceived and actual risks, information asymmetries, transaction costs, and limited capacity to structure investments at scale.

The domestic landscape includes diverse fiscal incentives, public financing mechanisms, and capital market instruments that are cornerstones of Malaysia's green finance architecture. The Malaysian Investment Development Authority (MIDA) and the Malaysian Green Technology and Climate Change Corporation (MGTC) administer fiscal incentives that encourage foreign and domestic investment in green technologies and services. For example, the Green Investment Tax Allowance (GITA) provides tax benefits to companies that purchase qualifying green technology assets or undertake projects such as waste recycling and recovery activities. The Green Income Tax Exemption (GITE) offers income tax exemptions to companies that supply qualifying green technology services, including green certification and renewable energy advisory services.

MGTC has managed the Green Technology Financing Scheme (GTFS) 5.0 for over a decade, providing government guarantees of between 60 and 80% on green component costs financed by participating financial institutions. The scheme targets sectors such as energy, manufacturing, transport, buildings, waste, and water, and offers financing tenures of up to ten years. The government also introduced the Further Tax Deduction for Carbon Projects (FTC) to support Malaysia's voluntary

⁵ Bank Negara Malaysia (2021). *Annual report 2020: Towards a greener financial system*.

⁶ The World Bank (2019). *Case study: Helping Malaysia develop the green sukuk market : facilitating sustainable financing*.

carbon market, allowing companies to claim additional deductions of up to RM300,000 for measurement, reporting and verification (MRV) activities, and carbon project development.

In addition, several development financial institutions and commercial banks have launched targeted sustainability financing schemes. These initiatives include the MADANI Sustainability Micro Financing scheme by Bank Simpanan Nasional (BSN), which offers concessional financing of up to RM100,000;⁷ the National Energy Transition Facility managed by Malaysia Debt Ventures with a RM300 million approvals target and financing tenures of up to ten years;^{8,9} the Environmental Sustainability Fund by SME Bank (RM100 million)¹⁰; the RM2 billion Low Carbon Transition Facility (LCTF) administered by BNM; and the RM1 billion ESG Financing Portfolio Guarantee scheme managed by Credit Guarantee Corporation Malaysia in collaboration with 18 banks. Collectively, these instruments reflect broad efforts to channel capital toward sustainable and climate-aligned activities across enterprises of different sizes.

Malaysia has also strengthened its position in Islamic sustainable finance. The Securities Commission's Sustainable and Responsible Investment (SRI) Sukuk Framework, introduced in 2014, has supported RM27.3 billion in outstanding SRI issuances as of August 2024.¹¹ Malaysia now accounts for approximately one quarter of the total Association of Southeast Asian Nations (ASEAN) Green, Social, and Sustainability bond and sukuk issuance. The country continues to innovate, introducing the Labuan International Business and Financial Centre's Climate Sukuk framework in 2025¹² and announcing a planned RM1 billion Biodiversity Sukuk in Budget 2024.¹³

Overall, Malaysia has developed a sophisticated and evolving green finance ecosystem. However, structural constraints still limit effective capital mobilisation and deployment. The government has yet to implement a formal climate budget tagging framework, which creates uncertainty around public climate expenditure. Gaps in climate-related data hinder risk assessment and

investment decisions. Institutional readiness remains uneven, and global trends and domestic governance structures continue to shape access to international climate finance.

Although these initiatives have helped improve access to finance, many surveyed stakeholders report limited uptake due to concerns about financial viability, insufficient de-risking, and complex administrative processes. The core challenge does not lie in the absence of policy instruments but in how policymakers calibrate, simplify, and align them with the financing needs of climate-focused MSMEs, especially those operating in emerging or non-traditional sectors.



7 Bank Simpanan Nasional (2026). *BSN Micro Madani Lestari*. Available at: <https://www.bsn.com.my/BusinessBanking/Products/MadaniLestari-i?lang=en>

8 The Edge (2025). *Malaysia Debt Ventures aims to dish out RM300m for energy transition projects*. Available at: <https://theedgemalaysia.com/node/770078>

9 Malaysia Debt Ventures (n.d.). *National Energy Transition Facility*. Available at: <https://www.mdv.com.my/v3/netf/>

10 SME Bank (2024). *SME Bank unveils Sustainability Roadmap 2.0, targets RM10 billion in sustainable financing by 2030*. Available at: <https://www.smebank.com.my/w/sustainability-roadmap-2.0>

11 Bank Negara Malaysia (2024). *Welcoming remarks by Deputy Governor Adnan Zaylani Mohamad Zahid at IFMC-MLC Roundtable on Green Sukuk 2024*.

12, 13 Ministry of Finance (2023). *Govt to pioneer biodiversity issuance of up to RM1 Bln—PM Anwar*. Available at: <https://www.mof.gov.my/portal/en/news/press-citations/govt-to-pioneer-biodiversity-issuance-of-up-to-rm1-bln-pm-anwar>

2 Core findings

MSMEs report challenges that extend beyond enterprises with weak business fundamentals. Even firms with established operations, identifiable revenue streams, and clear climate value propositions face these barriers. Validation discussions across renewable energy, circular economy, and climate-related sectors confirm that financing gaps do not affect a single industry; they persist systematically across diverse climate-related activities.

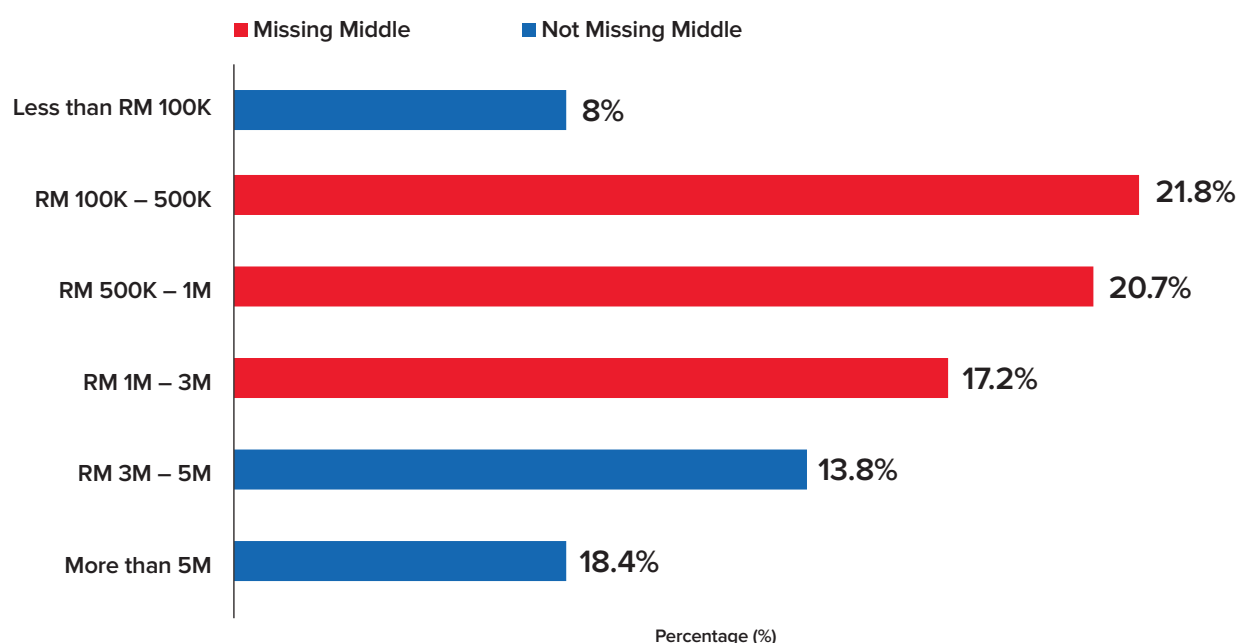
2.1 Funding constraints and the “missing middle”

Malaysia’s climate-focused MSMEs face financing constraints that reflect broader global patterns and challenges.¹⁴ The International Finance Corporation estimates that 65 million firms, representing 40% of formal MSMEs in developing countries, have an unmet financing need of US\$5.2 trillion annually. More recent data suggests this gap has expanded to US\$5.7 trillion

across emerging markets and developing economies.¹⁵ This global context underscores the urgency of addressing Malaysia’s MSME financing gaps, particularly in the climate sector, where sustainable business development remains essential for achieving the nation’s environmental and economic goals. Given this multi-trillion-dollar global financing gap, Malaysia cannot afford to leave its climate MSMEs—key drivers of the green transition—financially underserved. Figure 3 illustrates the funding range distribution of the missing middle enterprises.

FIGURE 3

Funding range distribution by missing middle status

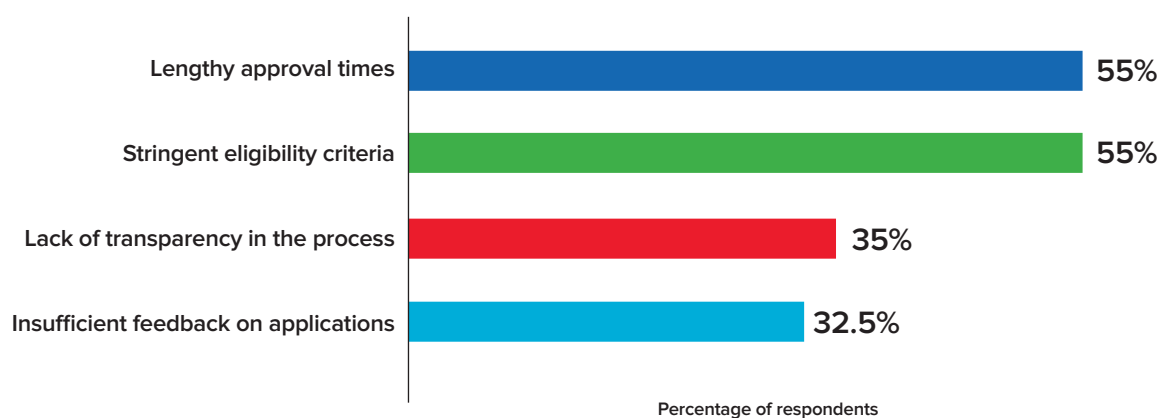


14 World Bank Group (2017). *What's happening in the missing middle?: Lessons from financing SMEs*.

15 IFC-World Bank (2025). *March 2025 MSME Finance Gap Report*.

FIGURE 4

Challenges during the finance application



Note: Respondents could select multiple challenges.

Among the 87 respondents who answered the “Climate Funding Needed for Growth” question, most demand falls within the RM100,000 to RM3 million range. The largest share (21.8%) requires between RM100,000 and RM500,000, followed by 20.7% seeking RM500,000 to RM1 million and 17.2% requiring RM1million to RM3 million.

The clustering within the RM100,000 to RM3 million “missing middle” range accounts for 59.7% of the sample and signals a clear need for moderate funding to support growth, including investments in new technologies and market expansion. This financing gap hinders Malaysia’s ability to grow its climate economy because these businesses are key to driving sustainable innovation and creating jobs. Limited access to capital restricts their capacity to scale and innovate. A workshop participant described the situation as follows:

“It’s a lender’s/funder’s market; they choose to entertain whom they want and ignore the rest. For financial institutions, they’re more focused on avoiding NPLs [non-performing loans] and not big into impact lending. For VCs [venture capitalists], they’d rather choose safe investments in areas they’re familiar with. So, the whole thing goes around and around, with occasional funds poured in here and there but nobody knows who’s getting them. Accountability would be a good step forward.”

Among the 40 respondents who reported barriers to finance applications, 55% cited inability to meet basic requirements such as collateral or a strong track record. Many also faced heavy documentations demands and lengthy approval processes, often lasting three to six months. In addition, 35% cited a lack of transparency in the application process, while 32.5% noted insufficient feedback on submitted applications. These barriers have hindered business growth, with 68% indicating moderate to high difficulty in securing capital.

Furthermore, 47% reported ineligibility for many schemes due to having relatively fewer than four years of operational history. Lenders also perceive many climate-related ventures as higher risk, contributing to rejection rates between 38 and 40%.

These results concentrate heavily within the missing middle, with 92.5% of respondents to the finance application question reporting climate funding needs between RM100,000 and RM3 million. Figure 4 summarizes the challenges these businesses face during the finance application process.

Although the market offers a range of financing packages and MSME-focused instruments, including products targeting the RM100,000 to RM3 million tier, some enterprises face difficulty accessing these funding windows without adequate technical assistance. They often need support with documentation, financial structuring, risk profiling, and meeting collateral or track record requirements.¹⁶

¹⁶ This study does not capture detailed data on the proportion of MSMEs within this range that already access finance successfully. Researchers should conduct further analysis to determine the scale and nature of any residual financing gaps and to inform the design of future targeted instruments or programmes.

Malaysian climate MSMEs report an average funding need of approximately RM2.2 million, indicating that they require substantial capital to scale climate solutions, adopt green technologies, and contribute meaningfully to national sustainability targets and the commitment to net-zero emissions by 2050.

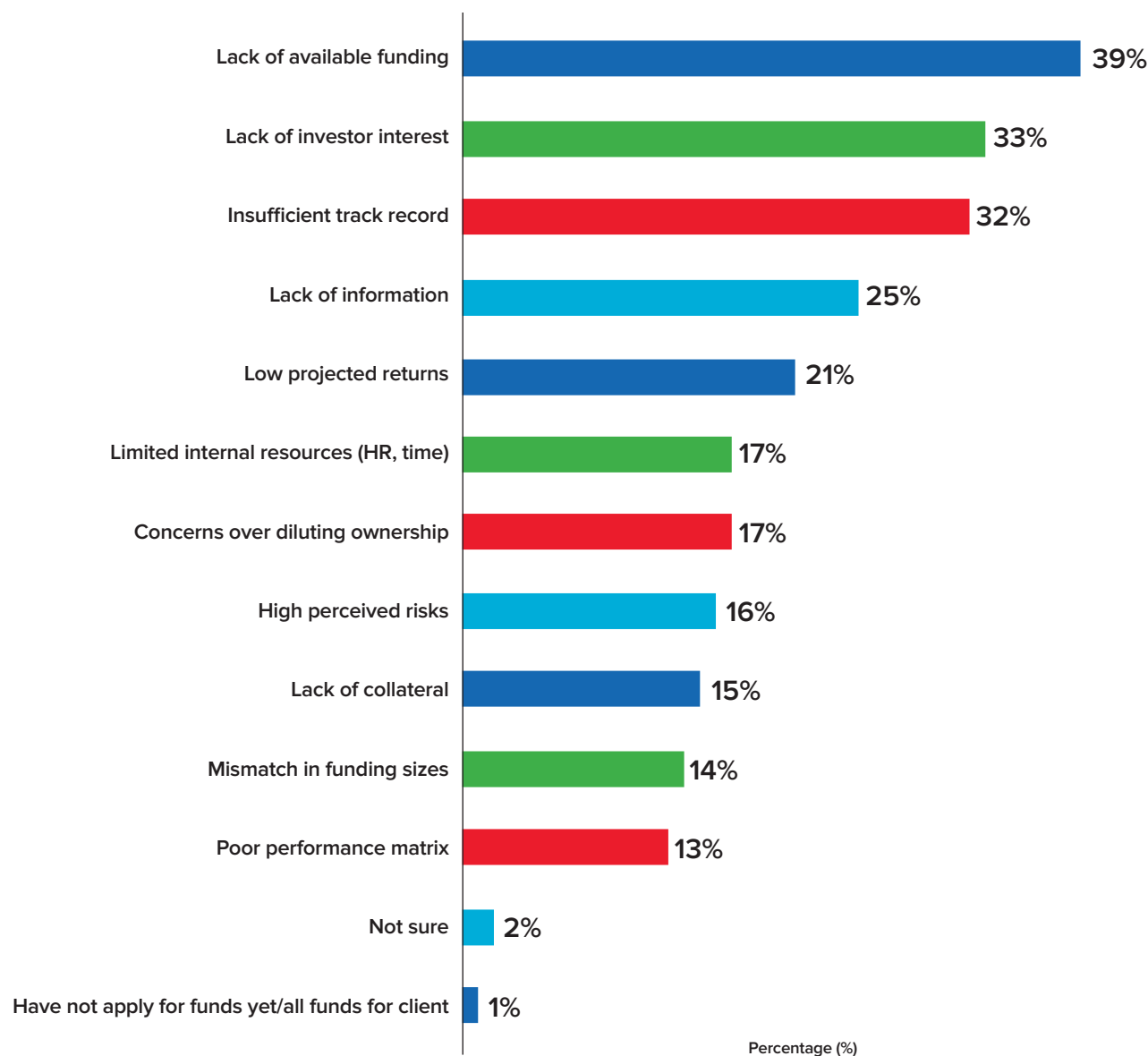
At the upper end of the distribution, 13.8% report needing RM3 million to RM5 million, while only 8% require less than RM100,000, often for pilot projects or small-scale upgrades. Although microfinance options exist for this niche, researchers need to explore barriers to access. Meanwhile, 18.4% of respondents seek more

than RM5 million, reflecting ambitions to pursue larger-scale projects.

The distribution reveals that nearly half of Malaysia's climate-focused MSMEs seek growth capital within ranges already addressed by existing national and commercial sustainability financing instruments. However, survey responses and validation workshop discussions suggest that many enterprises still encounter difficulties accessing these instruments in practice. Participants highlight challenges related to application processes, documentation requirements, and navigating traditional banking channels. These findings suggest that while

FIGURE 5

Barrier to raising funds



foundational schemes exist, stakeholders must improve deployment, accessibility, and support mechanisms to ensure that financing reaches the critical middle tier of climate businesses.

Validation workshop participants also note that smaller enterprises often struggle to navigate financing programmes, highlighting how application processes are often fragmented across different institutions with unclear guidance on eligibility and documentation requirements. For MSMEs with limited administrative capacity, these complexities can significantly increase the time and effort required to secure financing.

The survey also reveals how respondents perceive funding availability in the sector. Using a scale from 1 (limited) to 5 (abundant), approximately 47% rate availability at 2 or below, indicating a constrained environment. About 34% rated availability as 3 (moderate), and 13% assigned ratings of 4 or 5. These perceptions align with funding needs: MSMEs that report lower availability also express higher unmet demand, with 78% of them seeking over RM500,000. A workshop participant described these challenges as follows:

“Many SMEs, especially early-stage and social enterprises, struggle with collateral and limited track records. On top of that, documentation burden and approval time-lines of plus three to six months can kill momentum and cash flow. A more risk-based approach, simplified paperwork, and faster SLAs [service-level agreements] would help.”

The survey identified four major obstacles to raising funds among MSMEs. A lack of available funding emerges as the most pressing issue, reported by 39% of respondents. Limited investor interest follows closely at 33%, while 32% cite insufficient track records, both of which highlight the difficulties that newer or smaller enterprises face in attracting capital. Rounding out the top four, 25% of participants report a lack of information, underscoring the need for clearer guidance and more accessible resources. Together, these barriers reveal persistent structural and informational gaps that continue to restrict MSMEs’ ability to secure investment. Figure 5 summarises the barriers to raising funds.

Participants in the validation workshops further observe that traditional lending assessments often prioritise fixed-asset collateral and historical financial performance. These criteria fail to capture the viability or future revenue potential of many climate-focused MSMEs operating service-based or technology-enabled business models. Workshop participants also note that uncertainty



Most of the bank do offer guides, or input from their officers. However, we need a couple of interactions to let them know what we have and what we lack. More thorough explanations are needed.



around financing availability can influence business planning. Some enterprises limit experimentation or delay expansion plans until they secure financing commitments, suggesting that financing uncertainty may indirectly slow the scaling of climate solutions.

However, respondents overwhelmingly indicate their readiness to pursue climate financing, with 78% stating they would apply if barriers were mitigated.

MSMEs also expressed strong demand for structured guidance during the funding application process, including proposal coaching, eligibility checks, and clearer guidance on available instruments. A workshop participant explained:

“Most of the bank do offer guides, or input from their officers. However, we need a couple of interactions to let them know what we have and what we lack. More thorough explanations are needed.”

Another participant added:

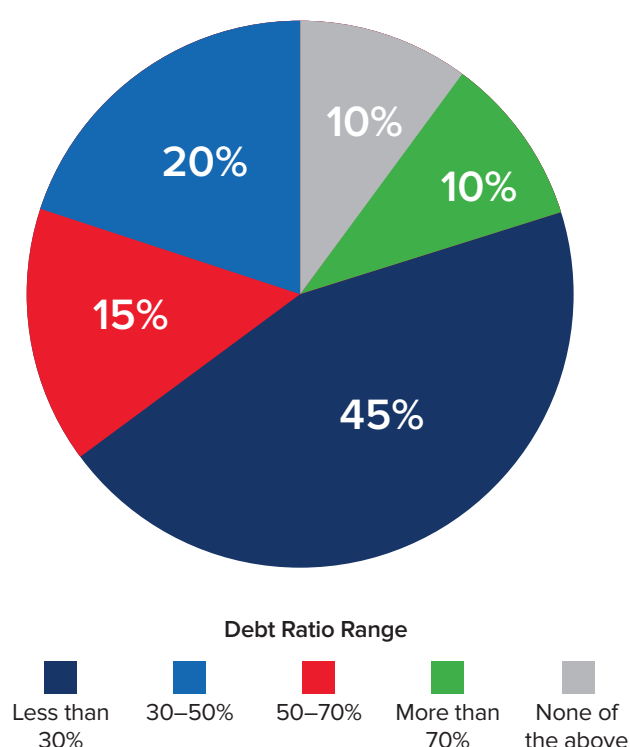
“Many sound promising, but there’s no clear-cut path on how to get there.”

2.2 Debt aversion and preference for grants

The survey data reveal a clear preference for funding instruments, with respondents showing a strong inclination toward non-debt instruments (approximately 60.7% of all preferences in a multi-select response, compared to 43% for debt-based options). Grants rank highest at 18.9%, followed by non-debt equity-impact funds at 13.4%. Non-debt incubation and accelerator programs rank third at 10.3%, while non-debt public-private partnerships (PPP) follow at 9.7%. Rounding out the top five is non-debt crowdfunding at 8.1%. Figure 6 illustrates the distribution of the debt ratio among climate SMEs.

FIGURE 6

Distribution of debt ratio among climate SMEs



About 45% of MSMEs maintain debt ratios below 30%, indicating low reliance on borrowed capital. Only 10% report debt ratios above 70%. MSMEs adopt this conservative position strategically in response to financing barriers, with 7% citing a lack of collateral and 10% identifying high perceived investment risks as the reasons for maintaining low debt levels. A workshop participant explained:

“We get asked for things like fixed assets collateral (we’re mainly digital), three years of audited financials (many micro-SMEs only have management accounts, or are newly incorporated), large historical contracts as “proof” (but our work is project-based, milestone-based, or via partners like agencies), and projections that assume stable monthly revenue (but training and grants are tranche-based and seasonal).”

This trend is consistent with broader observations by BNM, which notes that MSMEs face higher borrowing costs and stricter collateral requirements than larger corporations, making debt a less attractive option.¹⁷

Climate-focused MSME respondents reflect broader patterns observed across developing economies, where enterprises in high-growth sectors prefer equity or grant-based financing to avoid cash flow constraints and collateral requirements associated with traditional debt.¹⁸

This preference becomes particularly pronounced in innovative “green” projects,¹⁹ which traditional lenders may perceive as higher risk due to unfamiliarity with climate technologies and business models.

Another participant notes:

“My answer to the investors and lenders is always the same: if we’re already profitable, we won’t need to engage with them.”

Moreover, another workshop participant notes that:

“Catalytic funding (in the form of grants) is required to gain traction before being eligible for most funding requirements. If we’re profitable, we can just take a loan from a bank.”

¹⁷ Bank Negara Malaysia (2017). *Staff insights: Access to financing for SMEs*. Available at: <https://www.bnm.gov.my/documents/20124/826874/Access+to+SMEs+Financing.pdf>

¹⁸ Nguyen, H. T., Nguyen, H. M., Troege, M., and Nguyen, A. T. H. (2021). Debt aversion, education, and credit self-rationing in SMEs. *Small Business Economics*, 57(3), pp. 1125–1143. <https://www.jstor.org/stable/48695506>

¹⁹ McKinsey Quarterly (2024). *A different high-growth story: The unique challenges of climate tech*. Available at: <https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/a-different-high-growth-story-the-unique-challenges-of-climate-tech>

FIGURE 7

Top five preferred funding instruments

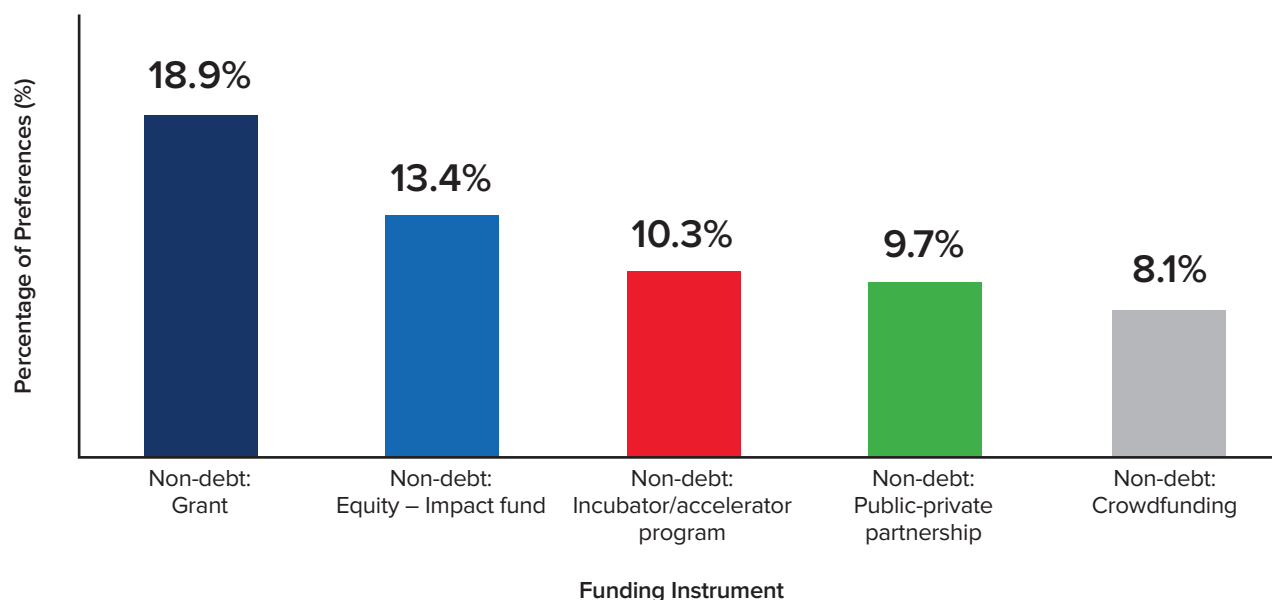


TABLE 1

Sectoral appeal of funding instruments

INSTRUMENT	SECTORAL APPEAL
Grants	Non-repayable structure, ideal for early-stage liquidity risk
Equity impact funds	Scalable growth without debt burden
Incubation or accelerator programmes	Address multiple barriers simultaneously by providing not just capital but also technical assistance, market access, and credibility that can unlock follow-on financing.
Public–private partnership	Favoured for collaborative infrastructure support in high-demand sectors like sustainable agriculture.

Figure 7 illustrates the top five preferred funding instruments, while Table 1 summarises their sectoral appeal.

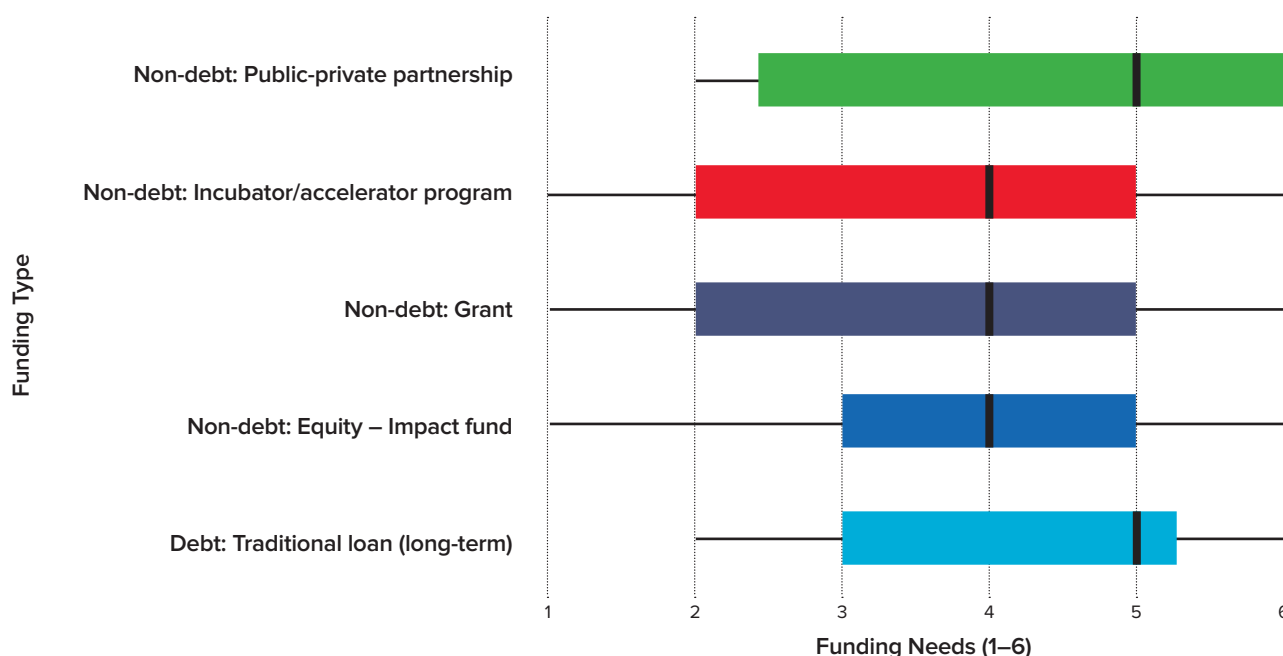
Aligning funding supply with MSME preferences presents untapped potential. The dominance of grants and equity-impact funds, coupled with 38% of MSMEs requiring RM500,000 to RM3 million for expansion, particularly in waste management (30%) and the circular economy (28%), points to opportunities to deploy targeted financing vehicles. During workshops, respondents noted that concessional or grant components of approximately 10–20% could unlock commercial investment, particularly by absorbing early-stage losses.

A workshop participant explained:

“We do not avoid loans completely. But we avoid debt structures that assume fixed monthly repayments while our revenue is project-based, tranche-based, or seasonal. That’s why we often prefer grants, guarantees, or milestone-based funding—or even facilities where repayment timing matches delivery cycles.”

FIGURE 8

Funding needs by the top five preferred instruments



Note: Funding needs are categorised on a scale of 1 to 6, representing financing ranges from less than RM 100K (1) to more than RM 5M (6).

Complementing this, moderate interest in debt instruments such as traditional long-term loans and green loans invites banks to innovate MSME-tailored products incorporating subsidised rates, which 25% of respondents identified as a preferred support structure. Figure 8 illustrates the funding needs based on the top five preferred instruments.

Traditional loans rank as the second leading debt-based preference (chosen by 13% of MSMEs) and correspond to the highest median funding need. However, this stringent eligibility criterion constrains this demand. Traditional lenders often perceive innovative green projects as higher risk, especially because many climate technologies and business models lack long operational track records, making traditional credit assessment models less applicable.

Validation discussions across renewable energy, circular economy, and climate care sectors confirm that these financing gaps remain systemic rather than industry specific. They affect a wide range of climate-related activities that offer high potential impact but lack access to suitable capital. Participants also highlight a mismatch between the impact-oriented nature of their activities and the financial assessment criteria applied by

lenders and investors. Traditional credit and investment models often prioritise stable recurring revenue and short-term profitability, which do not fully capture the value proposition of emerging climate solutions. As one participant noted:

“Many of the criteria listed by lenders, investors, and grant providers seem to match what most of us do . . . but when we apply, we get rejected or receive no response.”

2.3 Investor perspectives on sustainable investments

Malaysian green investment reveals a persistent tension: investors hold substantial capital but deploy relatively little.²⁰ A survey of 22 Malaysian institutions (50% private VC/PE firms, 9.1% government-linked entities, 40% financial providers) highlights a gap between available resources and actual investment activity. Only 30% of these institutions completed deals in the past two years, executing approximately 35 to 45 transactions and deploying RM110 to 140 million annually.

20 Findings reflect patterns observed within the surveyed institutions (n = 20). Given the modest sample size, readers should interpret the results as indicative rather than statistically generalisable.

Deal patterns point to certain investor preferences. Investors predominantly use equity, which accounts for 42.9% of active deals across three private firms. They also favour larger ticket sizes, with 57.1% exceeding RM5 million and a median of RM750,000, and they typically commit capital over longer horizons. These patterns suggest that investors favour high-conviction, patient capital strategies. Although capital is available, structural preferences and execution constraints appear to limit its deployment, even as global green bonds raised over US\$1 trillion in 2025.

Investor instrument preferences further clarify this measured deployment pattern. Overall, 50% of institutions prefer non-debt options such as equity and impact funds, with this share rising to 42.9% among active investors. At the same time, 62.8% show interest in debt instruments such as green loans and sukuk, particularly among larger institutions. In contrast, guarantees attract minimal interest, only at 5%. Figure 9 presents Malaysia's green investment institutions' top five preferred government supports and policies.

Investors allocate capital across sectors in ways that broadly align with national priorities. They direct 45% of investments toward renewable energy, followed

by circular economy (22.7%), energy efficiency (27.3%), and waste management (22.7%). These allocations mirror international patterns where renewables recently captured around 40% of green financing. Investor interest in agriculture (27.3%) and microfinance (20%) also signals potential diversification avenues, although execution challenges may currently constrain these areas.

Return expectations indicate a relatively mature market. About 72.7% of institutions target traditional market-rate returns, while 18.2% accept concessional rates for impact-oriented investments. Institutions actively manage risk through governance upgrades (50%), yet they remain cautious due to concerns about physical and transition risks (27.3%), liquidity (36%), and regulatory uncertainty (50%).

Respondents consistently identify barriers to capital deployment. A majority (64%) cite a lack of bankable projects as the primary constraint, while others point to data shortages (55%), various risk factors (27.3%), and limited diversity of financial instruments (40%). These pipeline constraints may reduce deal flow and skew investment toward more established sectors. During validation workshops, banks, development finance institutions, and enterprises consistently report difficulties in assessing

FIGURE 9

The top five preferred government supports and policies

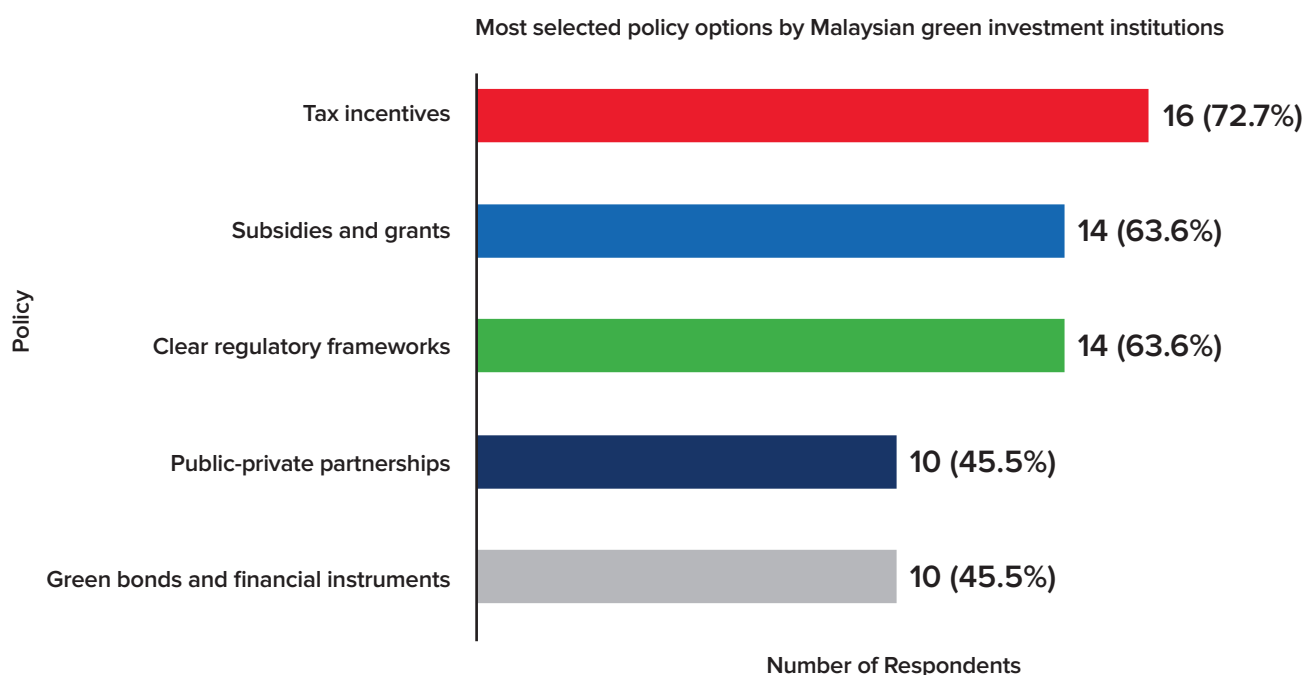
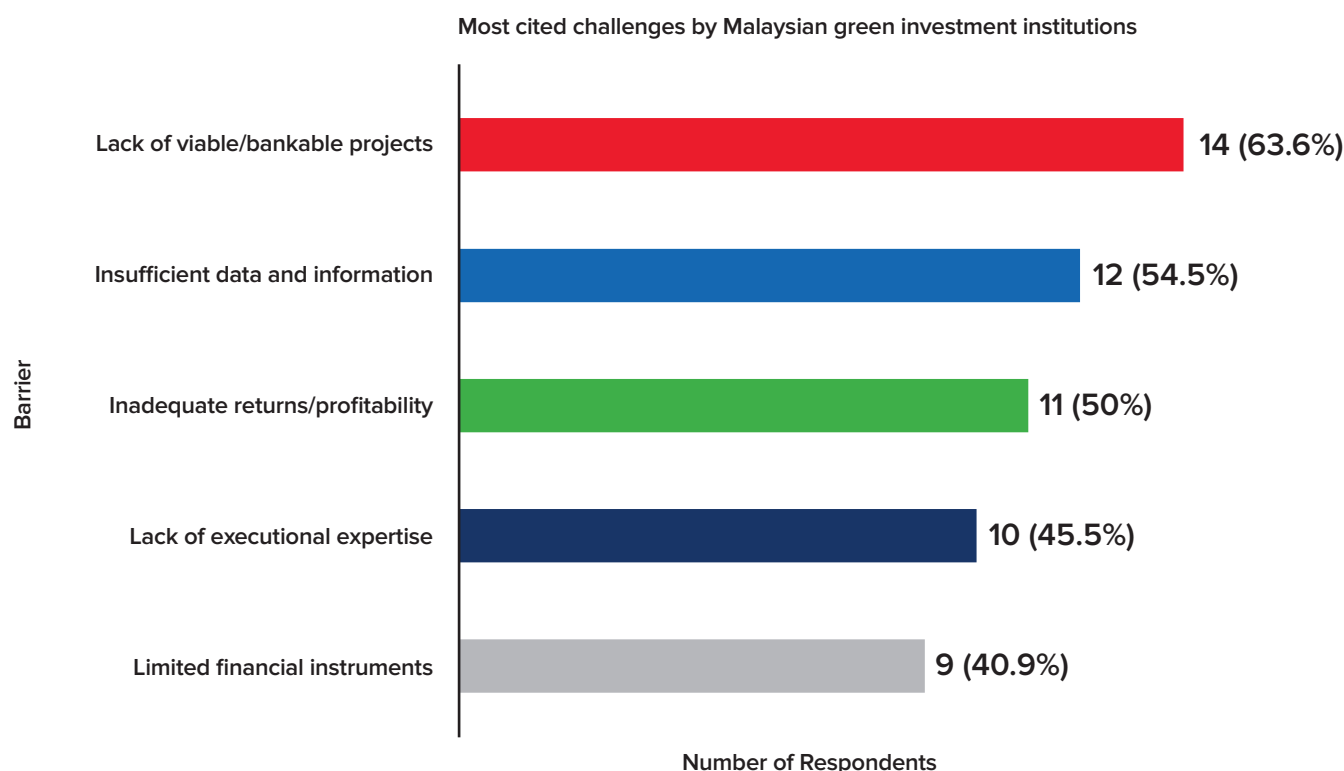


FIGURE 10

Top five barriers to climate financing



technology risk, accessing early-stage risk capital, and financing emerging climate-care models. Figure 10 illustrates the top five barriers to climate financing.

At the same workshops, financial institutions and banks emphasise the need for clearer risk frameworks and technical guidance. They propose tools such as a “de-risking manual” to support more effective credit assessment.

Policy priorities highlight potential catalysts for unlocking capital. Investors express the strongest support for tax incentives (73%), followed by subsidies (63.6%), regulatory clarity (63.3%), green bond development (45%), and public–private partnerships (40%). These preferences suggest that fiscal de-risking mechanisms could activate capital flows and enable Malaysia to participate more actively in global green finance markets.

Blended finance shows mixed uptake. While 55% of institutions understand these structures, only 22.7% currently use catalytic capital. Yet 82.4% express

openness to mechanisms such as de-risking grants, indicating that targeted interventions could close this readiness gap.

Looking ahead, 63.3% of institutions plan to increase green allocations, particularly in renewables (50%) and agriculture (40%). Therefore, current investment levels may not fully reflect underlying demand.

To address these challenges, policymakers and stakeholders could strengthen project pipelines through improved data and preparation, expand fiscal incentives to reduce early-stage risks, and enhance regulatory clarity to support more effective capital deployment.

3 Rationale for blended finance in the climate-focused MSME context

The findings of this study do not point to a lack of enterprise activity, ambition, or climate relevance among Malaysian climate-focused MSMEs. Instead the findings reveal a misalignment between MSME needs and the way financial institutions design and deploy financing instruments. These challenges correspond closely to the constraints that blended finance mechanisms aim to address. Blended finance can improve risk-return alignment by absorbing specific risks while preserving incentives for private capital engagement.

Practitioners define blended finance as the strategic use of public or philanthropic capital to mobilise private investment into projects that would otherwise struggle to attract commercial financing due to perceived or actual risk gaps. These projects often include climate-related activities that lack immediate bankability under standard market conditions.²¹

Stakeholders typically apply blended finance in scenarios where risks are real but temporary, and where early-stage uncertainty, rather than long-term unviability, discourages private capital.²² In the Malaysian climate-focused MSME context, many observed barriers stem from early-stage and mid-scale challenges, including limited track records, unfamiliar business models, and fragmented project pipelines, rather than from a lack of demand or commercial potential.

3.1 Instrument design recommendations

Policymakers and financial institutions must consider several principles and parameters when designing climate-focused MSME blended finance instruments. These considerations help them structure targeted interventions that better align financing supply with MSME needs.

3.1.1 Address the missing middle

This study shows that current financing instruments do not adequately match the scale, structure, and operating realities of climate-focused MSMEs. This “missing middle” reflects a structural shortcoming. Existing MSME and green finance instruments often impose eligibility criteria such as minimum loan sizes, collateral requirements, and track record expectations that exclude climate-focused

CASE STUDY 1

Indonesia Tropical Landscapes Finance Facility (TLFF)

This multi-tranche loan facility blends development finance with private capital to support sustainable agriculture and landscape restoration. Its inaugural US\$95 million sustainability bond successfully financed sustainable rubber production in Jambi and East Kalimantan, and the borrower fully repaid it in August 2022. The project planted over 23,000 hectares of rubber, created roughly 4,000 jobs, and set aside more than 54,000 hectares for conservation.

Implications: A mix of loans, grants, and partial credit guarantees can dramatically crowd in private capital for projects that would otherwise struggle to secure funding.

21 World Bank Public-Private Partnership Resource Center (2024). *Blended finance*.

22 International Climate Initiative (2024). *Blended finance – a powerful tool to scale up private climate and biodiversity finance*. Available at: <https://www.international-climate-initiative.com/NEWS2829-1>

MSMEs in early or intermediate stages of growth. Financial institutions typically derive these criteria from standard lending frameworks rather than tailoring them to climate-specific business models, which tend to involve higher upfront capital expenditure, longer payback periods, and flexible revenue profiles.²³

To close this gap, stakeholders must design blended finance instruments that fit MSME needs. They must calibrate ticket sizes, repayment structures, and eligibility criteria to ensure that instruments reach their intended targets. This approach does not require lowering credit standards or expanding subsidies; instead, it requires aligning financial instruments with actual MSME financing profiles. For example, institutions could introduce standardised loan products or portfolio-based approaches that allow them to assess and finance multiple MSME projects, thereby reducing transaction costs.

CASE STUDY 2

The Ukraine Crop Receipts Project

The International Finance Corporation (IFC), in partnership with the Swiss State Secretariat for Economic Affairs, led regulatory reforms that enabled Ukraine's agricultural SMEs to access bank financing. The project introduced crop receipts as a financing mechanism, which allowed farmers to secure loans without traditional collateral. The IFC later strengthened the legal framework by establishing a title-to-goods system, which enabled farmers to use future crops as collateral. The Ukraine Agriculture Capital Markets Development Project further reduced transaction costs and expanded access across farming sizes, while modernising crop receipt use for primary processing and livestock. By the end of the project, stakeholders had facilitated over US\$1.1 billion.

Implications: This case shows how capacity building and regulatory reform can jointly expand financial access and stimulate investment.²⁴

Stakeholders may also need to align repayment structures with MSME cash-flow realities. For example, enterprises engaged in renewable energy deployment or climate-resilient services often face higher upfront capital costs and generate revenue gradually. Financing instruments that incorporate longer tenors, grace periods, or performance-linked repayment schedules better reflect these dynamics than short-term, amortising loans designed for conventional working capital.

Eligibility calibration is also central to instrument fit. Financing approaches could place greater emphasis on project viability, contracted revenues, operational efficiency, and demonstrated technical performance, rather than relying predominantly on fixed-asset collateral or long operating histories. This shift is particularly relevant for service-based or technology-enabled climate-focused MSMEs, where traditional balance sheets and conventional metrics do not easily capture value creation.

3.1.2 Risk mispricing and transaction dynamics

The study also highlights that limited engagement between climate-focused MSMEs and financial institutions creates challenges in risk identification, rather than reflecting simple risk aversion. Financial institutions struggle to assess unfamiliar technologies, service-based business models, and decentralised project structures using existing appraisal tools.²⁵ For example, decentralised projects (such as those in waste management) may involve many counterparties, whereas energy projects may generate value through performance or savings rather than asset ownership. Conventional frameworks make these projects difficult to assess, and when institutions cannot quantify or benchmark risks, they exclude them more frequently.

Transaction costs further compound this barrier. For MSMEs, the fixed costs of due diligence, structuring, and monitoring often outweigh the commercial returns of individual transactions, particularly when deal sizes remain small or dispersed. As a result, institutions screen out viable projects, not because they lack strong fundamentals, but because current institutional frameworks process them inefficiently. During validation

23 Organisation for Economic Co-operation and Development (2025). *DAC blended finance guidance*.

24 Organisation for Economic Co-operation and Development (2025). *IFC and SECO's implementation of crop receipts in Ukraine to improve access to finance for agri-SMEs*. Available at: https://www.oecd.org/en/publications/blended-finance-case-studies_2fb90b9a-en/ifc-and-seco-s-implementation-of-crop-receipts-in-ukraine-to-improve-access-to-finance-for-agri-smes-docx_42605aa0-en.html

25 UK Centre for Greening Finance and Investment (2023). *Discussion paper: The challenge of climate risk modelling in financial institutions—overview, critique and guidance*.

workshops, participants proposed aggregating smaller projects to achieve an investable scale.

Improving risk pricing and transaction efficiency is as important as expanding willingness to take on risk. This insight implies that financing design should prioritise both objectives equally. In practical terms, this may involve supporting the aggregation of smaller projects into portfolios with diversified risk profiles, which reduces per-transaction costs and enables portfolio-level assessment.

Standardised documentation, simplified appraisal templates, and the use of specialised intermediaries with sectoral expertise could also help bridge information gaps between climate-focused MSMEs and financial institutions.²⁶ In addition, institutions can improve information flows by establishing clearer performance benchmarks or shared technical standards, enabling consistent risk assessment without sacrificing financial risk standards.

3.1.3 Catalytic and concessional capital with a shelf life

Survey results strongly indicate that concessional or catalytic capital can address specific constraints that climate-focused MSMEs face, particularly those related to early-stage uncertainty, risk, and market entry barriers. Stakeholders should design blended finance instruments as targeted and temporary tools rather than as permanent substitutes for commercial finance, with the clear intention to crowd in, not crowd out, investments.²⁷

Financing conditions influence realised investment as well as how organisations frame and pursue their growth plans. Carefully deployed concessional capital may help unlock latent demand, support demonstration effects that signal viability to commercial banks and investors, and gradually reduce perceived risk. At the same time, stakeholders must ensure proportionality: they should calibrate concessional capital to address identifiable market failures and taper it as risks become better understood and managed.²⁸

Concessional resources should align with clearly identified participation constraints and mobilise commercial finance rather than replace it over the long term. This approach includes implementing mechanisms

CASE STUDY 3

The Innovative Finance Facility for Climate in Asia and the Pacific (IF-CAP)

The Asian Development Bank (ADB) leads IF-CAP as a strategic initiative that mobilises finance at scale to support climate action in developing member countries. Eight donor countries provide joint unfunded guarantees for US\$2.5 billion, which enables the ADB to release US\$11.25 billion in new climate finance under its ordinary capital resources terms and conditions. In addition, ADB contributes US\$1 billion in concessional finance to support projects backed by the IF-CAP guarantee, bringing the total program value to US\$12.25 billion.

Implications: This example shows how bilateral donors can collaborate by pooling limited development cooperation budgets to unlock substantial investment in sustainable climate projects. Other multilateral or regional development banks can replicate this model.

such as exit pathways or phased reductions. Stakeholders must plan and time blended finance interventions carefully to maximise effectiveness while avoiding the crowding out of private capital or the creation of long-term dependency.²⁹



26 Organisation for Economic Co-operation and Development (2021). *Making blended finance work for sustainable development: The role of risk transfer mechanisms*.

27 Columbia Center on Sustainable Investment (2025). *From promise to performance: Reforming blended finance for scale*.

28 ODI Global (2025). *Concessional but catalytic? Insights on DFT blended concessional finance practice*.

29 World Bank (2025). *Technical note for the International Financial Architecture Working Group of the G20: The role of blended finance in an evolving global context*.

4 Conclusion

The UNDP study indicates that questions of alignment, not a lack of capital, characterise Malaysia's climate-focused MSME financing landscape. Over the past decade, Malaysia has built a relatively advanced and evolving sustainable finance ecosystem. Commercial banks, development financial institutions, and capital market actors have introduced targeted facilities, guarantee schemes, tax incentives, and climate-linked instruments that span the Missing Middle and beyond. These initiatives work in tandem with guiding frameworks and other enabling measures, and domestic climate finance architecture continues to expand.

However, the presence of instruments does not automatically ensure effective access. Survey responses and validation discussions outline persistent challenges related to eligibility thresholds, documentation requirements, risk assessment methodologies, transaction costs, and gaps in project preparation. In many cases, existing appraisal frameworks exclude enterprises because they do not align with climate-oriented business models, which often involve higher upfront capital expenditure, longer payback periods, or service-based revenue streams.

These findings indicate that structural factors drive the challenges. Therefore, the key question shifts from how to increase the overall supply of MSME finance to how to improve differentiation and instrument fit. Stakeholders must better identify, assess, and match commercially viable but higher-risk projects with appropriate financing pathways.

Addressing this issue requires refining screening processes, clarifying risk segmentation, and improving coordination between financial institutions and climate-focused agencies.

In this context, stakeholders should treat catalytic mechanisms as tools that improve precision and enable access, rather than as broad subsidies. Blended finance structures, innovation labs, and targeted guarantee enhancements may play a role in ameliorating participation constraints, particularly where early-stage uncertainty or unfamiliar technologies delay commercial engagement. As noted earlier, stakeholders should keep these interventions proportionate, time-bound, and designed to crowd in private capital rather than replace it.

These considerations become particularly relevant in light of Malaysia's Nationally Determined Contributions (NDC 3.0), finalised in October 2025. Delivering on

national mitigation and adaptation targets will require mobilisation beyond large-scale infrastructure finance. MSME-led solutions across renewable energy, circular economy, waste management, climate services, and adaptation form an integral component of implementation capacity. As a result, the ability of climate-focused MSMEs to scale directly affects Malaysia's capacity to translate policy commitments into measurable outcomes.

Improving the position of MSMEs also allows Malaysia to enhance its role in international and market-based climate finance. As multilateral funding evolves, increased strategic alignment between domestic project pipelines and institutional mandates or frameworks will bolster the nation's ability to leverage external instruments. Policymakers can further strengthen the use of concessional debt, guarantees, and blended instruments by improving coordination among climate-related agencies, development entities with access to vertical funds, and the Ministry of Finance, while maintaining fiscal discipline.

Adaptation finance would benefit from clearer operational guidance. Developing practical screening criteria, whether through the JC3 taxonomy or complementary frameworks, can reduce ambiguity for financial institutions when assessing resilience-building investments.

Finally, improving climate data represents a key enabling reform. Transparency, availability, and clarity of data underpin financing effectiveness. More granular and forward-looking datasets, particularly on physical climate risks, vulnerability assessments, and adaptation cost benchmarks, can enhance risk pricing, improve investor confidence, and support the development of viable adaptation project pipelines. Consolidated and interoperable data systems, supported by technological

tools such as artificial intelligence (AI)-enabled analytics and satellite imagery, can further strengthen public and private decision-making.

Overall, the findings underscore the importance of strengthening coordination between capital and climate-focused enterprises. Stakeholders can achieve this by refining instrument design, strengthening project preparation, enhancing risk clarity, and improving institutional coordination. With these adjustments, Malaysia's evolving financial architecture can more effectively support the scaling of climate-focused MSMEs and advance economic resilience and national climate objectives.

UNDP Malaysia invites collaboration with diverse ecosystem players to accelerate the climate finance agenda. Our efforts include convening public and private stakeholders, developing project pipelines, and providing technical assistance and impact advisory. As an accredited agency to vertical funds, UNDP is uniquely positioned to offer derisking mechanisms, feasibility financing, and concessional grants to climate solutions nationwide. Leveraging our deep expertise in nature and climate, we also inform policies and enhance climate financing frameworks, including screening criteria for financial structures. To collaborate with UNDP across these areas, please reach out to partnerships.my@undp.org.



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Notes

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