



MAPPING STUDY ON CAPACITY-BUILDING NEEDS OF MSMES TO ENGAGE IN CLIMATE ACTION IN THE SOUTHEAST ASIA REGION



United Nations
Framework Convention on
Climate Change



IGES
Regional Collaboration Centre – Bangkok
Promoting Climate Action in Asia and the Pacific



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1

Introduction

1.1 Context and objective of the study

Building on substantive research findings and feedback from stakeholders at various engagements, the capacity-building subdivision of the UNFCCC secretariat (Bonn) in collaboration with the UNFCCC/IGES Regional Collaboration Centre in Bangkok (RCC Bangkok) and the International Development Research Centre (IDRC) reached out to partners in order to collaborate with the objective of conducting complementary assessment to the mapping study conducted last year by Dada Bacudo & Rodney Lui. The mapping study aims to determine the type of capacity-building is required by private sector small and medium-sized enterprises (MSMEs) to help address the needs and gaps on climate action faced by countries in Asia.

This findings and recommendations from this assessment allow for greater understanding of actions already taken in those countries and provide an evidence-based grounding for the development of actionable strategies and approaches to enhance private sector participation in climate related capacity-building actions - aiming at the implementation of the Paris Agreement. Further, the recommendations shall promote greater

engagement by the private sector in national climate plans, such as National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) and increase collaborations with research organizations and academia to support capacity-building efforts towards low carbon and resilient development.

The mapping assessment should inform the development of future strategies to:

1. Improve private sector, particularly MSMEs', capacity to contribute to higher climate ambition and collective actions: enhancing resilience in collaboration with academic and research organizations, particularly through NDCs and NAPs and in close coordination and alignment with government-led climate actions and policies supporting decarbonization and enhanced climate resilience.
2. Harness potential platforms and other means to engage the private sector in capacity-building initiatives for climate action at different levels.
3. Develop specialist leaders who would engage the private sector in climate actions, with an emphasis on SME representatives.
4. Provide recommendations for enabling private sector engagement in the implementation of NDCs and NAPs.

5. Provide a brief overview of the state of play and trends on carbon pricing instruments and Emission Trading Schemes at both national and regional level.

1.2 Methodology and scope of the study

1.2.1 Review of the desk-based review and survey

A review and gap analysis of the available information on climate action capacity building needs and MSMEs in the Southeast Asia region was conducted. Findings include information on the MSMEs landscape in each country (numbers and sectors of activity) summarized in country profiles (Annex A), the state of play on carbon pricing mechanisms in the Southeast Asia region (section 2.3) and the existing climate change programmes or initiatives for the private sector/MSMEs in the Southeast region (section 3.2).

Following the outcomes of the desk-based review on the MSMEs situation with respect to climate action needs in Southeast Asia and the analysis of the survey results, the capacity building offerings should be structured around these three pillars:

- Knowledge on the existing financial opportunities to implement climate action measures;
- Climate change risks, opportunities and benefits from climate action;
- Climate policies, institutional and regulatory frameworks.

1.2.2 Capacity building gaps and recommendations

Recommendations were drafted based on the capacity building gaps that were identified in the survey and desk-based review. The recommendations are structured around five main building blocks for a forthcoming strategy to increase private sector climate action engagement and action in the Southeast Asian region as a whole and at the level of the individual countries.

2

Climate Change and the private sector in the Southeast Asia region: Background

2.1 Climate change and its impacts in the Southeast Asia region

Climate change ranked among Southeast Asia's top three security concerns in the annual State of Southeast Asia Survey 2020 conducted by the ASEAN Studies Centre at the ISEAS-Yusof Ishak Institute¹.

Climate change in Southeast Asia is expected to lead to significant variations in precipitation patterns, increased incidence of severe weather events, higher temperatures, and sea-level rise in many highly populated coastal regions. These changes will negatively impact agricultural yields, biodiversity, forest harvests, and availability of clean water².

Southeast Asia is projected to warm slightly less than the global average, sea levels are rising faster than elsewhere, and shorelines are retreating in coastal areas where 450 million people live. Rising waters are projected to cost Asia's major cities billions in damage this decade. Southeast Asian nations are projected to suffer among the

harsh effects of climate change, some countries have already started to put some carbon reduction strategies in place to mitigate the severity of the climate risks (section 2.3 on carbon pricing).

In the Southeast Asia region, a large proportion of economic activities are affected in some way by climate change. The region is highly vulnerable to climate change impacts due to a variety of factors including high levels of poverty in some countries, high dependency on climate-sensitive sectors for livelihoods, long coastlines, existence of multiple natural hazards³. The direct impacts and consequences are borne by the most vulnerable communities and economic sectors in Southeast Asia⁴. These are particularly relevant to MSMEs, which are hampered by their lack of access to capital, size and understanding and knowledge of physical climate risks and impacts⁵.

Climate-influenced disasters such as floods, extreme heat stress and droughts directly threaten and challenge economic activities by destroying services and products, disruption to supply chains and access to infrastructure. At the forefront of these

¹ Tang, S.M et. Al., The State of Southeast Asia: 2020 (Singapore: ISEAS-Yusof Ishak Institute, 2020)

² ADB (Climate Change in Southeast Asia Focused Actions on the Frontlines of Climate Change, 2020)

³ ASEAN Secretariat (ASEAN State of Climate Change Report, 2021)

⁴ Cameron, E., Arrighi, J., Monasso, F., Suarez, P., Jjemba, E., Illustrations, C. B., & Ryvola, R. (Companies and Climate Resilience: Mobilizing the power of the private sector to address climate risks Executive summary, 2019b)

⁵ Gandhi, S., & Gupta, A. (Extreme Weather Events and Climate Change Impact on Construction Small Medium Enterprises (SMEs): Imbibing Indigenous Responses for Sustainability of SMEs, 2014)

disasters are small businesses such as MSMEs that bear the direct burden of loss of goods and services, revenue, and income. In addition to the direct impact of climate impacts is the ability and capacity of MSMEs to be able to adapt and respond to climate change and effectively engage in climate action.

The following underlying factors are responsible for high climate change vulnerability in the ASEAN region.: (i) High level of extreme poverty in the region (ii) High dependency of national economies and societies on sectors that are directly affected by climate change, i.e. agriculture and other natural resources (iii) Pre-existing stress suffered by region due to disaster loss and damage including from droughts, typhoons and floods (iv) Regional and global integration with implications for the globalisation of local risks through global supply chains and transboundary rivers (v) Extensive coastline with numerous coastal cities and highly concentrated economic activities in coastal areas (vi) High propensity of migration within the region (vii) High deforestation in parts of ASEAN, with negative implications for local resilience and environmental feedback effects⁶

2.2 MSMEs in the southeast Asia region

The Southeast Asia region comprises of approximately 675 million people from the 10

member countries of the Association of Southeast Asian Nations (ASEAN): Brunei Darussalam, Cambodia, Laos PDR, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. These economies are among the fastest growing in the world and are strongly supported by Micro, Small and Medium Enterprises (MSMEs).

2.2.1 Role of MSMEs in the economy

MSMEs are the engines of growth in Southeast Asia, creating jobs for the masses, motivating the development of new products and services, spurring consumption growth, and playing a crucial role in promoting industry competition.

The International Finance Corporation (IFC) and SME Finance Forum estimate that over 100 million Micro, Small and Medium Enterprises (MSMEs) alone come from the East Asia/ Pacific region. The MSME sector is approximately 97-99% of the total number of enterprises in most of the ASEAN countries (OECD, 2018)

The sector contribution to the total share of employment across ASEAN was between 51.7% and 97.2% in 2014 (ASEAN, 2016). MSMEs are a strong driver for economic prosperity in many ASEAN member states. Due to the importance to the economy, MSMEs can also play a crucial role in addressing climate change in the region through the adoption of financial incentives, like carbon pricing to contribute significantly and more to global mitigation targets.

Country ⁷	Number of MSMEs	Jobs created	Share of MSMEs as % of all firms
Brunei (2017)	5900	66 100	97.2
Cambodia (2019)	460 000	1 200 000	90
Indonesia (2018)	64 194 000	116 978 600	99.9
Laos (2006)	114 200	N/A	90
Malaysia (2016)	907 100	N/A	98.5
Myanmar (2015)	114 200	N/A	N/A
Philippines (2018)	988 300	5 714 200	99.5
Singapore (2019)	271 800	2 520 000	99.5
Thailand (2018)	3 077 800	13 950 200	99.8
Vietnam (2019)	744 800	N/A	98

⁶ ASEAN Secretariat (ASEAN State of Climate Change Report, 2021)

⁷ ISEAS, The Missing (Small) Businesses of Southeast Asia, 2020

Looking at the country profiles provided in annex A below and the latest ASEAN State of Climate Change Report, the sectors where MSMEs are most active include wholesale and retail trade, manufacturing, services and agriculture. A detailed overview of the different sectors for each country is provided in annex A.

2.3 State of play: carbon pricing mechanisms in the Southeast Asia region

Pricing of greenhouse gases, including carbon, will be an indispensable tool in any climate change mitigation strategy. In this decisive decade, reaching climate mitigation targets means more and increased mitigation efforts should be made globally – including in Southeast Asia. Financial incentives, like carbon pricing and related regulations can assist and push the private sector to contribute significantly and more to global mitigation targets. Referring to section 2.2 above and reiterating that MSMEs in Southeast Asia accounted for an average 97.2% of all enterprises, 69.4% of the total workforce, and 41.1% of a country's GDP during 2010–2019⁸ shows that introducing CO₂-related regulations and incentivizing mitigation actions simply cannot neglect MSMEs due to their importance to the economies in the region.

Carbon pricing can take the form of various instruments such as carbon tax, emissions permitting, emissions trading systems, carbon offsetting requirements, carbon crediting mechanisms, results-based finance and shadow carbon pricing. There have been increases in the number of companies implementing or planning the introduction of an internal carbon price across all regions. In absolute terms, the largest number of companies adopting an internal carbon price is in Asia (see above on the importance of MSMEs in the region), followed by Europe.

2.3.1 Overview of current key carbon pricing initiatives and mechanisms

There is a rising interest in carbon pricing mechanisms in the Asia and Pacific region. Some carbon pricing initiatives are already under consideration in Indonesia, Thailand and Viet Nam. The potential offsets generated in the

region may offer \$10 billion in economic activity annually by 2030⁹.

The Asian Development Bank (ADB) has established and implemented the Article 6 Support Facility ("the Support Facility"). The Support Facility provides capacity-building and technical support to developing member countries (DMCs) to help them to identify, develop and test mitigation actions under the framework of Article 6 of the Paris Agreement, including carbon markets mechanisms¹⁰.

The Ministry of the Environment of Japan launched the JCM Global Partnership in July 2020 with the aim of facilitating multilateral partnerships among the JCM partner countries and relevant stakeholders that are involved in the JCM implementation or interested in market mechanisms under the Paris Agreement.

The Ministry of the Environment of Japan also implemented virtual activities to promote awareness of Article 6 and transparency, such as transparency mutual learning program and Asian Transparency Workshop. Twenty-six projects have been selected in countries such as Thailand (8), Vietnam (7), or Indonesia (4). Most of them are renewable energy projects, including solar, hydro, geothermal, and biomass, although there also some others that are linked to the energy efficiency and waste management sectors¹¹.

The Partnership for Market Readiness (PMR) supports countries' efforts to establish post-2020 mitigation scenarios and identify packages of effective and cost-efficient policies—including carbon pricing instruments—to achieve climate change mitigation.

In Thailand, the PMR supports the design of an Energy Performance Certificate scheme and prepares infrastructure such as a database and MRV system. PMR activities also include an ETS study and the preparation of the Low Carbon City Program and Fund (a domestic market mechanism to reduce energy consumption and greenhouse gas (GHG) emissions)¹².

In Vietnam, the PMR support includes, strengthening capacity for carbon pricing approaches to mitigation, including through the

8 ADB (Asia Small and Medium-Sized Enterprise Monitor 2020. Volume I-Country and Regional Reviews, 2020)

9 Bain & Company, Microsoft, and Temasek (Southeast Asia's Green Economy 2021 Report: Opportunities on the Road to Net Zero, 2021)

10 ADB - Regional: Establishing a Support Facility for Article 6 of the Paris Agreement

11 WB (State and Trends of, Carbon Pricing 2022)

12 International Partnership on Mitigation and MRV (Low Carbon City (LCC) Programme in Thailand, 2017)

use of Market Based Instruments (MBI), in the steel and solid waste sectors. PMR funding in Indonesia is used to explore possible suitable carbon pricing or market-based instruments to achieve mitigation as well as to design an MRV framework in the power and pulp and paper sectors.

Some countries in Southeast Asia have already started to implement carbon trading schemes to create carbon pricing instruments to incentivize companies to reduce their GHG emissions or penalize emitters.

To help achieve this emissions reduction target, the Government of Indonesia is in the process of drafting a more progressive emissions reduction scheme under a draft Presidential Regulation on Instruments of Carbon Economic Value for NDC (Carbon Economic Value Bill). The proposed scheme would regulate the carbon trade, provide payments based on performance in reducing greenhouse gas emissions, and impose a levy on carbon emissions, the bill should be enacted by the end of 2021¹³.

Vietnam's rapid economic growth and its increasing energy demand have led to an exponential increase in GHG emissions, leaving the country with the second highest air pollution levels in Southeast Asia in 2019. To meet its development and climate change goals, the new domestic carbon emission trading scheme enabled by Vietnam's revised Law on Environmental Protection aimed to create a carbon pricing instrument that will penalize emitters of GHG emissions based on the principle of "polluter pays." A trading scheme will be created through which production facilities, localities, and countries seeking to reduce their contribution of GHG emissions could buy credits to offset their actual GHG emissions¹⁴.

A new Singapore-based global exchange for high-quality carbon credits should be launched by the end of the year 2021. It is expected to go live by the end of 2021 and will have two platforms catered to the needs of buyers and sellers of carbon credits. The project marketplace enables the purchase of high-quality carbon credits directly from specific projects. It allows a broader range of companies to participate in the voluntary carbon market¹⁵.

2.3.2 Challenges, gaps and needs with regard to an impactful involvement of MSMEs in carbon pricing and use of related incentive mechanisms

Due to the importance of MSMEs to the economies in Southeast Asia they have to play a crucial role in addressing climate change in the region. First, bearing in mind the required pace of emission reductions and at the necessary scale, (all) companies, including MSMEs, urgently need to reduce carbon emissions both in their direct operations (Scope 1) and their indirect upstream and downstream activities (Scope 2 & 3 emissions), including in their supply chains. Not only will adapted operations and upstream and downstream activities lead to reducing emissions, but will also help to adapt and increase resilience, if done right and with the right strategy behind it. Second, Material risk to cash flow and growth caused by increasing operating costs, limiting resource availability, causing shifts in demand, disrupting supply chains, which in turn introduces new challenges to a fragile and vulnerable enterprise system, can be addressed at the same time. Third, climate-proofing the business and business plans nowadays and going forwards does not only helps both reducing emissions and increasing resilience of a business, but increasingly supports meeting sustainability demands of clients, retains market access and enhances the competitive edge, therefore increasing or ensuring continued profitability of the business¹⁶.

However, and in particular due to their size and related resource constraints MSMEs face larger challenges than bigger companies and corporates when climate-proofing their businesses on the basis of related emission reductions (and adaption) strategies – looking beyond the rim of the plate, beyond its direct operations and beyond the next quarter or year (see also Sections 3 & 4 below). Thus reducing emissions on their own a lot and fast in their own small(er) operations, including next to Scope 1 Scope 2 and 3 emissions, will be very difficult or hardly or not possible at the required pace and scale.

These limitations, i.e., size and resource constraints, aside from the lack of related knowledge about countermeasures and strategies (see also Sections 3 & 4 below) will also limit the

13 SSEK (Putting a Price on Emissions: Indonesian Government Plans to Impose Carbon Tax, 2021)

14 WB (Carbon Pricing Aids Vietnam's Efforts Towards Decarbonization, 2021)

15 Sustainable Future (A new global carbon exchange will be launched in Singapore this year, 2021)

16 See also Small and Medium-Sized Enterprises are Crucial for Climate Action in South-East Asia, Article / 21 Jul, 2021 at <https://unfccc.int/news/small-and-medium-sized-enterprises-are-crucial-for-climate-action-in-south-east-asia>

extent to what MSMEs will be able to benefit from related financial incentives offered via the abovementioned carbon pricing and trading instruments. Next to the issue of size to create a critical mass of reductions, whilst small tax reductions or exemptions may still materialize and be helpful (e.g., in the case of Indonesia), the additional GHG accounting, tracking and reporting standards and protocols will be another big hurdle for many MSMEs. Therefore, and at the same time, the chance of benefitting from carbon trading and offsetting opportunities lies within the supply chains and the scope 2 and 3 emissions when seen as and dealt with as part of larger supply and demand systems with bigger players involved, whilst the public sector and other players can facilitate such processes from a regulatory, financial and technical assistance point of view (see Section 5 below).

2.4 Impact of climate change on MSMEs & benefits of engaging in climate action

2.4.1 Impacts of climate change on MSMEs

Climate change may impact MSMEs in several ways, and thus require different sets of reactions to the changing conditions, depending on the economic sector the SME is active in. In general, natural disasters, drought and other extreme natural phenomena can significantly disrupt business operations, reduce commercial activity and increase cost of production. Examples of economic impacts include higher insurance rates, loss of business, loss of tourism revenue, reduced resources and the costs of infrastructure rehabilitation.

When it comes to climate change risks and impacts, a survey conducted by a Swiss insurance company (Zurich Insurance) on MSMEs fear impact of climate change on their business, which polled 2,600 executives and managers at MSMEs in 13 countries companies globally, found out that Asia Pacific MSMEs are most worried about business interruptions¹⁷. MSMEs are more concerned about the impact climate change could have on the business continuity (i.e. the fear of business interruptions) rather than material damage. Over a third (34%) of MSMEs in Asia Pacific also

reported droughts and heat as likely to have the biggest potential impact on their businesses. As a matter of fact, increased global warming has been associated with substantial changes in heatwave characteristics over Southeast Asia, with more frequent heatwaves, longer heatwave duration, and higher extreme temperatures¹⁸. Flooding is also a prominent issue that is currently affecting many regions in Southeast Asia, in particular Cambodia, Thailand, Vietnam, Laos, the Philippines, and areas surrounding the Mekong River¹⁹.

2.4.2 Benefits of engaging in climate action

While engaging in climate action can help MSMEs understand the risks of a changing climate and increase their resilience, climate action can open the door to additional benefits and business opportunities. There are many reasons to why MSMEs should prepare for climate change and assess climate risks and opportunities. Making businesses resilient to future climate change and impacts is beneficial. On the one hand actively improving resource efficiency, such as reducing water, paper or energy use can lead to cost-savings, on the other hand it is essential to be able to react to risks and threats from future changes that could endanger the entire business model. The benefits of engaging in climate action are described below.

Positive environmental impacts

When implementing the right mitigation, energy and resources efficiency measures, MSMEs can reduce their environmental footprint and GHG emissions therefore contributing to the global climate mitigation targets.

Increased resilience

Adopting the appropriate adaptation measures will help MSMEs lower their vulnerability to climate change risks, avoid job losses and declining economic growth. Adaptation measures can also help avoid business interruptions and direct physical impacts such as damages to buildings, locations or machines.

Improving production processes, profitability and market competitiveness

Addressing climate also makes good business sense. Setting greenhouse gas targets can help MSMEs save money, generally through the implementation of energy and resources efficiency which in turn can lead to reduced production

¹⁷ Media release, Zurich, November 03, 2016, Four out of five SMEs fear impact of climate change on their business | Zurich Insurance

¹⁸ Zizhen Dong et al. (Heatwaves in Southeast Asia and Their Changes in a Warmer World, 2021)

¹⁹ Jacqueline Torti (Floods in Southeast Asia: A health priority, 2012)

costs and enhanced product sales, making them more competitive.

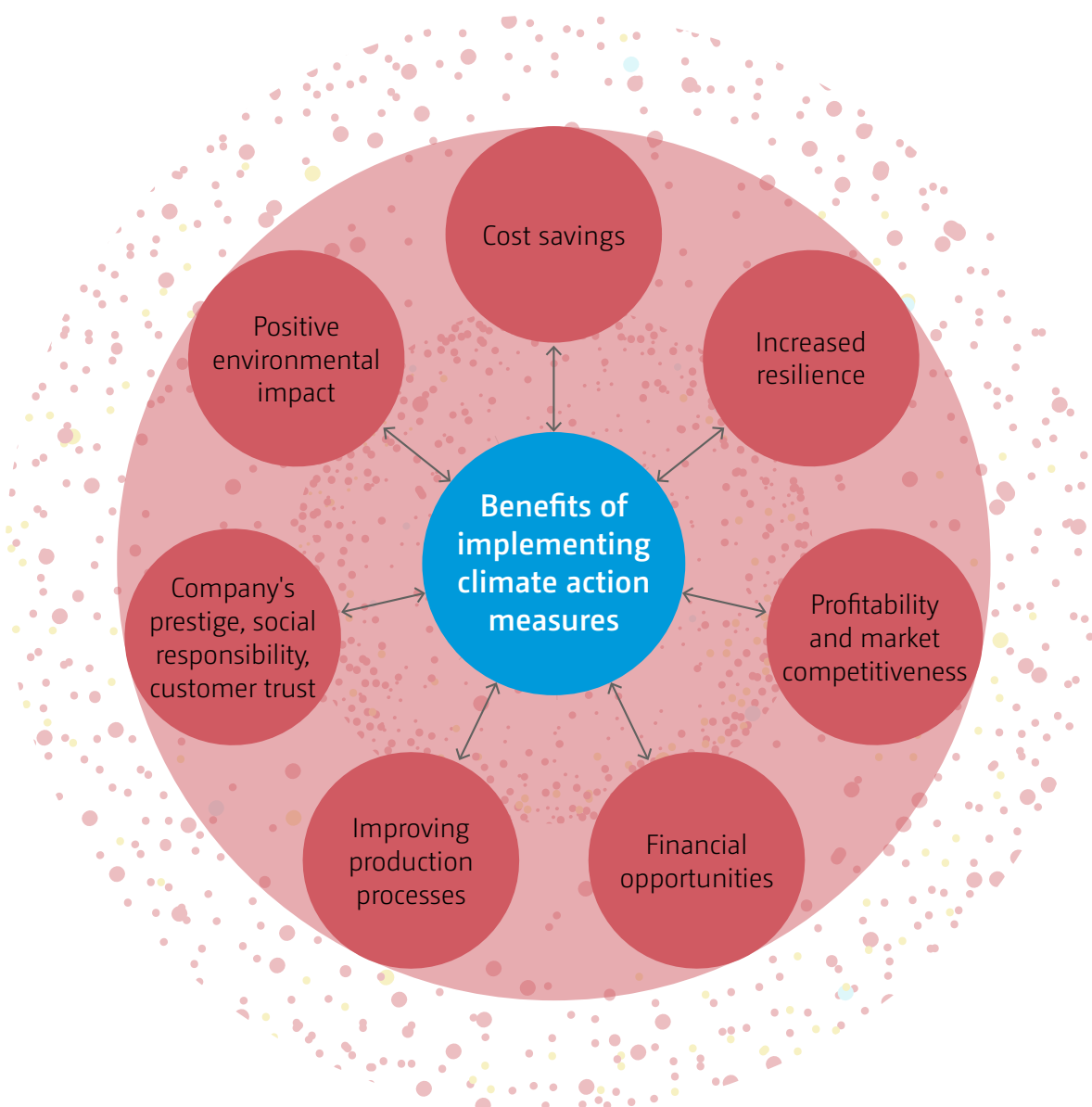
Company's prestige, social responsibility, customer trust

When engaging in climate action, trying to improve their environmental impacts and meeting the international environmental standards, MSMEs can become more competitive and attractive to potential investors and customers.

Financial opportunities

Financial opportunities arising from engaging in climate mitigation and adaptation activities like the trading of carbon credits that not only help MSMEs meet their mitigation goals for reducing greenhouse-gas emissions but also generate revenue. In addition to that, there is also a global growing market for climate action products and services that MSMEs could also profit from²⁰.

Figure 1 - Benefits of implementing climate action measures



20 Umwelt Bundesamt (Economic opportunities of climate action, 2019)

3

Results of the desk-based review

3.1 Climate action capacity building gaps and needs in the Southeast Asia region

There are several reasons and hindering factors preventing or making it difficult for SMEs to engage in climate action activities or investing in climate resilience. The available literature on SMEs and climate change in the Southeast Asia region is quite limited, however some studies have shown the following:

Capacity-building needs on the existing financial opportunities to implement climate action measures²¹

In addition to the lack of financial means, SMEs are **lacking knowledge on how to access alternative types of financial instruments for adaptation and mitigation measures** for a variety of reasons. Several MSMEs, given their size, limited financial resources and human capacity usually have to choose between implementing climate action measures and their profit margins. There is a lack of financial means for MSMEs to invest in or prioritize climate action measured. As a matter of fact, some investments that are required for climate change risk management can have relatively large upfront costs and relatively long payback times as well as other uncertainties that could deter SMEs from investing in climate change risk management. However, the OECD Southeast Asia Regional Programme

has identified that SMEs in Southeast Asia are seeking to improve their performance in this area, despite the perceived added cost²². (Section 5 on recommendations provides an overview of the existing institutional initiatives in some of the South Asian countries).

Capacity-building needs on the technical aspects of climate change risk assessment and the implementation of climate action measures

There is a need to support SMEs in assessing the risk on their assets and supply chain due to increasing climate risk as well as supporting them in undertaking actions to reduce the risk through structural and nonstructural measures²³. Moreover, adopting new business processes to green the supply chain, developing innovative products or services, and new technologies that are climate friendly and resilient require technical skills and expertise **that most SMEs often lack**. Unfortunately, a perceived lack of technical expertise in implementing adaptation solutions can also hinder external investors from investing in SMEs without climate risk management plans.

Capacity-building needs on the identification and evaluation of cost-effective adaptation and mitigation measures²⁴

MSMEs need support to better assess and prioritize available adaptation measures and options. Especially with regard to adaptation as there is no standard “menu” of measures from which

21 UNDP (Engaging the private sector, 2018)

22 OECD/ERIA (SME Policy Index: ASEAN 2018: Boosting Competitiveness and Inclusive Growth, OECD,2018) In OECD. OECD.

23 ADB - Ashok Lavasa (Mainstreaming Climate Finance Solutions into SMEs, 2021)

24 UNFCCC, What do adaptation to climate change and climate resilience mean?

enterprises can choose, there is no ‘one-size-fits-all-solution’. MSMEs would benefit from guidance on how to develop specific tools or adaptation measures that are tailored to their businesses.

Capacity building needs on the existing climate policies that support SMEs transition towards climate-friendly measures or adaptive solutions²⁵

Some of the sectors where SMEs are active might be regulated by present or future climate policies, e.g., by carbon taxes, energy efficiency standards or other cost-intensive measures. A sound understanding of the relevant climate policies, laws and regulations is crucial to pro-actively engage with potential new requirements. In parallel to that, governments also need to create or strengthen the wider enabling environment that could support MSMEs in building resilience through the provision of climate risk data, incentives for investing in resilience, and enabling environment to promote carbon pricing initiatives.

3.2 Climate action programmes and initiatives for the private sector and MSMEs in the South Asian region

A number of activities have been initiated in the region to support the private sector in general and /or MSMEs, to better understand climate change impacts and prepare their businesses to them. Initiatives like the **ASEAN Catalytic Green Finance Facility** can help develop investment programs that aim to gear investments towards the greening of MSMEs in Southeast Asia or trainings on how to access the existing financial opportunities that could be relevant to MSMEs. Whereas global initiatives like the **SME Climate Hub** provide the necessary technical knowledge to implement climate action measures such as tools, methodologies and step-by-step approaches on how SMEs can reduce their GHG emissions and implement climate mitigation

measures. Other global initiatives include the TÜV initiative and Global Compact (See below).

The ASEAN Catalytic Green Finance Facility²⁶

The ACGF is an innovative finance facility dedicated to accelerating green infrastructure investments in Southeast Asia. The ACGF focuses on projects that promote renewable energy, energy efficiency, green urban transport, water supply and sanitation, waste management, and climate-resilient agriculture. In addition to project preparation and financing support, the ACGF provides training to strengthen the regulatory environment and build the institutional capacity of ASEAN governments to increase green infrastructure investments.

The ASEAN Centre for Energy²⁷

The ASEAN Center for Energy is a think tank and knowledge hub for energy sustainability that works to facilitate international and regional cooperation for improved energy efficiency management across Southeast Asia.

Energy Efficiency and Carbon Footprint project²⁸

In partnership with German Investment & Development Corporation (DEG), TÜV SÜD initiated a year-long programme called ‘Energy Efficiency and Carbon Footprint project’ that taught SMEs how to audit, benchmark and reduce their businesses’ energy consumption with minimal disruptions.

SWITCH Asia²⁹

A flagship project by the European Union provides capacity building support directly to SMEs through Sustainable Consumption and Production tools available per country. The SWITCH Asia project has significant investments in SME capacity building support mechanisms and can be an important partner for future activities supporting climate action.

25 ADB - Ashok Lavasa (Mainstreaming Climate Finance Solutions into SMEs, 2021)

26 ACGF - ADB (Asean Catalytic Green Finance Facility 2019–2020 : Accelerating Green Finance in Southeast Asia, 2021)

27 ASEAN Center for Energy (Training & Certification)

28 TÜV SÜD Indonesia (Energy Efficiency For SMEs, 2018)

29 SWITCH-Asia ([About Us](#) > [SWITCH-Asia](#) | [SWITCH-Asia](#))

The SME Climate Hub³⁰

The SME Climate Hub is a recent flagship initiative aimed at helping small and medium-sized enterprises reduce carbon emissions and increase their competitiveness through adopting innovative green solutions. The SME Climate Hub offers a list of tools to help SMEs measure their GHG emissions, develop a climate strategy, and reduce their emissions as well as the emissions in their value chain.

The UN Global Compact³¹

The UN Global Compact is a principle-based framework to encourage businesses worldwide to adopt sustainable and socially responsible policies, and to report on their implementation. The programme has two objectives: (1) to mainstream the ten principles in business activities around the world and (2) to catalyse actions in support of broader UN goals, such as the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs)

³⁰ SMEs Climate

³¹ UN Global Compact

4

Results of the survey and interviews

The results stem from a survey that has been conducted by Dada Bacudo & Rodney Lui as part of the initial mapping study.

Who participated in the survey? Background on respondents

Geographies. Countries that participated included

the Philippines, Vietnam, Singapore, Myanmar, Cambodia, Malaysia, Indonesia, Thailand and Taiwan. The results were analyzed and structured around three main pillars in order to identify the areas where capacity building-/trainings are mostly needed. Most of the respondents were based in the Philippine.

4.1 SMEs and climate action: where do SMEs in Southeast Asia stand?

Benefits of learning or having access to information on climate action opportunities

Participants were asked to describe what could be the potential benefits of receiving capacity

building in climate action. The majority of the respondents considered learning more about the existing funding opportunities as the major benefit (47%), followed by the environmental benefits (20%) and the costs savings opportunities (19%) and the potential new business opportunities (12%) that SMEs could engage in. The results are summarized in the figure below.

Figure 2 - Potential benefits of climate action capacity building

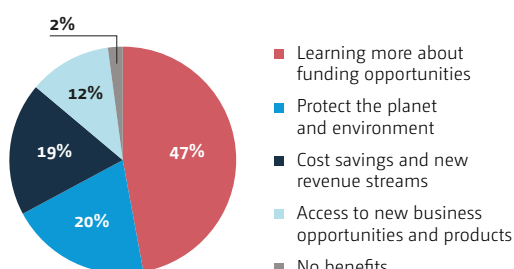
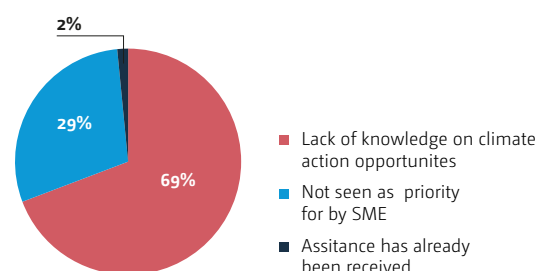


Figure 3 - Barriers to receiving Climate Change Support



Existing barriers hindering SMEs from engaging in climate action opportunities

SMEs who took part in the survey were also asked to identify what are the current barriers and challenges hindering them from engaging in climate action. The lack of knowledge on the existing climate action opportunities ranks first (69%) followed by 29% of the respondents not seeing climate action as a priority.

4.2 Climate change action knowledge and awareness

SMEs technical knowledge gap on climate action

Respondents were asked to identify if there is need to acquire new technical skills to deal with climate change. The majority of the respondents (79%) reported needing new technical skills to address climate change challenges their businesses are facing and the existing climate mitigation opportunities.

Figure 4 - Does your business need new skills to deal with climate change?

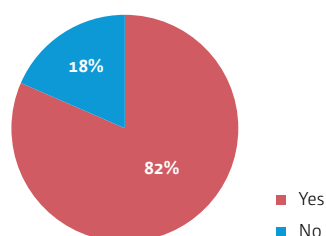
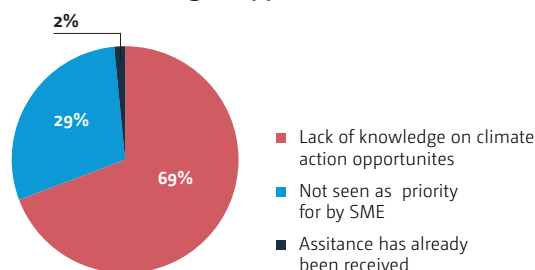


Figure 6 - Barriers to receiving Climate Change Support



More precisely, most of the respondents were only moderately aware of the risks and impacts climate change could have on their businesses including their understanding of what a business continuity management plan is and why it is important

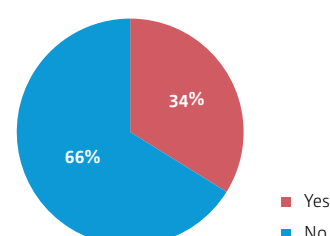
SMEs knowledge of existing in-country training programs related to climate change

The majority of the respondents (66%) reported not being aware of any programmes or trainings that help SMEs manage or cope with effects of climate change while 34% of the SMEs reported being aware of that. No questions were asked on whether these 34% have already taking part in those trainings or not.

Climate change risks and knowledge of exiting national climate change plans and policies

This section gives an overview of the survey results on how well are SMEs prepared to cope with future possible climate change risks and the impact it might have on their businesses as well as their understating or awareness of the existing national climate change plans and policies. On average, most of the respondents are only moderately aware of the aspects listed above. Only few SMEs have a good understanding of the impacts climate change might have on their businesses.

Figure 5 - Do you know any training programs in your country, that help SMEs manage climate change ?



when considering climate change adaption. One average, most of the respondents were only moderately aware of the existing national climate change policies and adaptation plans.

4.3 Summary of survey results, comparison and integration with desk review

The results of the desk-based review and survey have shown that SMEs capacity building needs in the Southeast Asia region can be structured around the following **three pillars**:

Trainings on climate change risks, opportunities and benefits

The desk-based review highlighted the limited knowledge of SMEs on the existing tools and methodologies to assess the risk climate change might have on their businesses or supply chain and the possible measures to cope with that. In addition to that, SMEs seems to have limited knowledge on the financial opportunities arising from engaging in climate mitigation such as the trading of carbon credits units. The results of the survey backed the latter since 79% of the respondent reported needing further or new skills to deal with climate change.

Moreover, when respondents were asked to rate their knowledge on the impacts climate change might have on their businesses in general and their business continuity, the majority reported being moderately to slightly aware of the risks and impacts of climate change. Only very few SMEs have a good understating of what a business-continuity plan is, demonstrating the limited understanding of the economic and social impacts disasters can have on their business. The survey could not however, clarify whether these SMEs have already a business continuity plan in place.

When asked about the benefits of receiving capacity building training in climate action and what the hindering factors have been, so far, the majority of SMEs reported a lack of knowledge on climate action opportunities whereas the remaining did not see climate action as a priority.

Most of the respondents were only moderately aware of the existing national climate change policies and adaptation plans. Moreover, the desk-based review also highlighted the limited knowledge of SMEs on the existing business-relevant climate policies and regulatory frameworks, if and as applicable, such as carbon taxes or energy efficiency standards.

Key takeaways:

- Low awareness on the information about the

risk of damage that climate change might have on SMEs;

- Little knowledge on climate and disaster resilience and the options for adaptation;
- Little knowledge on the financial opportunities arising from engaging in climate mitigation opportunities;
- Little knowledge on existing national climate change policies and adaptation plans.

Capacity building gap:

- Knowledge about the different measures SMEs can take to make business operations more resilient - including support to identify assess and prioritize available adaptation measures and options;
- Companies' capacity to use climate data to develop their own business continuity plan; and
- Climate-proofing of businesses to minimize the consequences of exposure to climate change risks.

Trainings on the existing climate policies, institutional and regulatory frameworks

Approximately 66% of the respondents, reported not being aware of the existing (in-country) training programs related to climate change. The desk-based review confirms that SMEs need government support to transition towards climate-friendly measures or adaptive solutions, highlighting the need for government to create the right enabling environment (institutional, legislative and financial).

Here one has to distinguish between a) the lack of legal and regulatory frameworks in the countries and b) the knowledge among the private sector what kind of laws or regulations as well as (economic) incentives are required. The former refers to overall existence of such frameworks for the establishment of an enabling environment for private sector climate action, which is an issue in certain countries in the region as well, whereas the latter is about the actual level of knowledge about regulatory frameworks and incentive mechanisms to encourage private sector climate action. There also should be a difference between MSMEs and larger companies when it comes to regulations and in particular making use of opportunities and incentive mechanisms given MSMEs limitations, i.e., size and resource constraints.

Finally, the survey did not reveal anything about the depth of knowledge SMEs have on the existing carbon pricing policies and mechanisms and making use of such opportunities in the context of

transforming their business to more climate-friendly or -neutral businesses. However, the desk-based review has shown that some countries in Southeast Asia (Indonesia, Vietnam or Singapore) have already started to implement carbon trading schemes to create carbon pricing instruments to incentivize companies to reduce their GHG emissions.

Key takeaways:

- Little knowledge on the existing (in-country) programmes/trainings on climate action;
- Lack of advisory and support services and incentives from the government;
- Need for governments to creating an enabling environment for climate-friendly measures and business continuity through appropriate legislation, incentive, and awareness and capacity-building.

Capacity building gap:

- Knowledge on the existing (domestic) climate policy and targets, including regulatory requirements and related incentives for climate action that are relevant to SMEs and their workings and functions;
- How carbon pricing mechanisms work and the related (existing) opportunities for SMEs to benefit.

Training on the existing financial opportunities to implement climate action measures and how to access them

The results of the survey and desk-based review and interviews, clearly outline that SMEs are either not aware of the existing climate action opportunities (including accessing financial resources to implement climate action measures) or do not see climate action as a priority.

The interviews highlighted that MSMEs are facing two major challenges when it comes to accessing climate finance. These include the lack of financial products that are specifically designed to MSMEs needs as well as a lack of clarity on what are the range of financial service providers that MSMEs could work with. MSMEs feel that financial service providers don't have a good understanding about their unique needs and challenges. More often the products are designed primarily for large scale investors. In addition to that, some MSMEs also find it very difficult to engage in climate action when their profit margin is very small, implementing climate action measures is far from their agenda³².

The survey showed that 47% of the respondents reported that one the main benefits of receiving capacity building in climate change is the possibility to learn more about how to access sources of funding to implement climate action measures.

SMEs tend to prioritize their (short term) profit margins over investing in climate action measures, often with a (more) long term perspective, given their size, limited financial resources and human capacity. Approximately 29% of the respondents do not see climate action as a priority mainly because of the lack of financial means.

However, the desk-based review showed that some SMEs in Southeast Asia are seeking to climate-proof or green their business, despite the perceived added cost.

Finally, the results of the survey and the desk-based review also showed that SMEs are aware of the long-term benefits of investing in climate action (environmental benefits but also the cost-savings). Therefore, they are willing to invest in those measures if they can access the right sources of funding, including trainings on how to access financial support and on the benefits of investing in climate action.

Key takeaways:

- Limited financial resources to implement technical preventive and nontechnical adaptive measures;
- Limited knowledge on the existing financial opportunities and how to access them; and
- SMEs are willing to invest in climate action despite the perceived added costs since they believe in the long-term benefits of investing in climate action.

Capacity building gap:

- Knowledge about the existing sources of funding SMEs can tap into to green or climate-proof their business (credit lines, programmes, existing funds etc.) and how to access them;
- What are the different types of financial instruments for climate action for the private sector/SMEs; and
- Information on the different type of financial support governments/governmental organizations can offer if any. (e.g., subsidies, programmes)

32 Review of the notes from the interview conducted with Erin Sweeney from GrowAsia

Overall, the findings of the survey have shown that the majority of the respondents are aware of the potential benefits they might get from capacity building in climate action. Learning more about the funding opportunities ranked first followed by the environmental benefits, costs savings and the access to new business and streams of revenue. Only 2% of the respondents confirmed already receiving capacity building in climate change. The results highlighted that one of the major barrier or at least perceived barriers hindering MSMEs in southeast Asia from engaging in climate action is the **lack of financial means or knowledge on the existing funding opportunities**, an important gap that needs to be addressed in the capacity building offering.

In order to select the right funding opportunities MSMEs need to have the right **technical skills and climate change knowledge** to identify the climate risks that their businesses are facing as well as GHG savings opportunities to select appropriate climate action measures. Finally, a good understanding of **the existing climate policies, institutional and regulatory frameworks** is also required.

The following three areas emerge with regard to the information or support needed by the SMEs to be able to react to climate risks, take climate action and benefit from related financial opportunities.

1. **Access to information on climate change trends/policies:** Having access to reliable information on climate change impacts and trends for decision making and planning;

2. **Technical knowledge on climate action:**

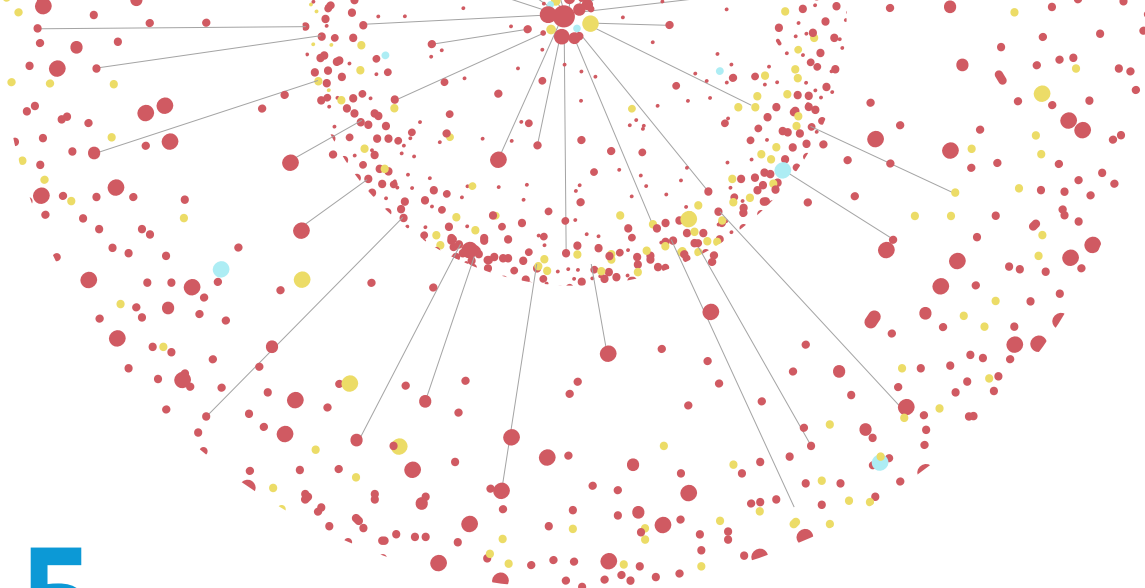
Information on the existing measures and practical solutions;

3. **Knowledge of existing financial opportunities:** Information on accessing financial resources and support for implementing such measures.

More precisely, most training needs arise in:

- a. **technical capacities** for risk assessment, product development - making businesses and related processes and products more resilient or better positioned with respect to mitigation contributions - proposal writing;
- b. **sound data and figures** as basis for strategic planning and risk-assessment;
- c. identification and planning of **feasible climate measures**;
- d. the understanding of the concrete **(domestic) climate change context** in terms of policies, targets and regulations; and
- e. information on and access to financing options.

Finally, when developing the trainings and offerings it is important to keep in mind that MSMEs will have different needs compared larger corporation given their smaller size and limited resources, among others.



5

Summary assessment & recommendations

5.1 Concluding recommendations

Building on the findings of the desk-based review and results of the survey, there are five main building blocks for a forthcoming strategy to help support MSMEs engage in climate action in the Southeast Asia region as a whole and at the level of the individual countries.

Improve MSMEs capacities to contribute to higher climate ambition and collective actions – including the implementation of NDCs and NAPs

In general, the offerings in the below areas should contain the following: (comparative) analyses and reviews of countries and sectors in the countries

in the Southeast Asia region and elsewhere internationally, including historical analyses, where examples and showcases already exist and that can serve as demonstrations to private players. Next to making sure the offerings are regularly updated, i.e., the underlying research constantly stays abreast with the latest climate policy developments, the landscape of actors and their actual and potential roles through collaboration and partnerships in advancing particularly the engagement of MSMEs and the private sector as a whole in climate action by means of enhancing their capacities should be analyzed and monitored from a scientific viewpoint. Academia and research organizations such as the Asian Institute of Technology or Cambodia Development Research Institute, the

What?

Capacity building needs

- Trainings on climate change risks, opportunities and benefits
- Trainings on the existing climate policies, institutional and regulatory frameworks
- Trainings on the existing financial opportunities

Why?

Improving MSMEs capacities to contribute to higher climate ambition and collective actions – including the implementation of NDCs and NAPs

How?

- Harnessing platforms and other engagement means to enable private sector climate action at different levels – drawing on the capacity building initiatives and bringing increased capacities into action
- Promoting champions, i.e., countries and organizations within the countries, for the engagement of the private sector in climate action
- Establishing consortia or coalitions for increased private sector climate action in the Southeast Asia region sector
- Building on the state of play and understanding of the private sector on carbon pricing instruments – fostering an appetite for exploring adequate instruments

Centre for Natural Resources and Environment or the Research Center for Climate Change University of Indonesia can help MSMEs understand the climate risks their business are facing to be better informed to take part in national or regional climate action initiatives or make better use of governmental climate action incentives and schemes. Some of these are listed below.

- Good examples include **EU initiatives** in partnership with regional programs, such as the **SWITCH-Asia**, SwitchMed and SWITCH Africa Green that support the development of enabling frameworks and improved capacities of MSMEs to engage in climate action and promote green growth³³. In Singapore, there are several government schemes that encourage MSMEs to shift into more sustainable business practices and operations to cope with the existing threats of climate change (see below).

stimulate – focusing on MSMEs. What do such laws, regulations and (economic) incentives bring about, why and how does the private sector, in particular MSMEs benefit and contribute? The academia and research centers listed in the overview table (Annex B) can prepare the ground for MSMEs to benefit and engage with such schemes, funds and programmes based on an increased understanding, knowledge of climate action opportunities – while building the required capacities in parallel. Some interesting incentive mechanisms and government schemes are listed below.

Examples of incentive mechanisms and government schemes in the Southeast Asia region

- ³⁴In Singapore, there are many government schemes that encourage MSMEs to shift into more sustainable business practices and operations to cope with the existing threats

IN MOROCCO, the EBRD has established the Green Value Chain (GVC), a EUR 90 million credit line to local Participating Financial Institutions (PFIs) to on-lend to Moroccan SMEs operating in value chains for their investment in high-performing equipment that integrate energy, water and resource efficiency.

- *Contributing to the creation and improvement of the required regulatory frameworks and incentive mechanisms to be put in place by the respective governments (incl. respective reforms)*

What should be offered via trainings or courses? Capacity development offerings in this area need to make private sector actors (here: MSMEs) understand which (new) regulations or reformed laws or regulations are needed to incentivize or even require to some extent a change of doing business. This is about a more climate-friendly way to contribute to emission reductions compared to a business-as-usual as well as to move towards more resilient and adapted processes, operations and production. Examples are the power and contents of an overarching climate law with enshrined mitigation and adaptation targets for different sectors of the economy or a feed-in tariff regulation to accelerate investments in renewable energies or water tariffs for encouraging more efficient use of water, for instance. Where and what for do such (economic) incentives or incentive mechanisms, such as tariffs, tax exemptions, subsidies, etc. exist and have been introduced and what effects they have or

of climate change. These policies span a wide range of industries, covering many aspects – such as waste reduction and energy efficiency, among others:

- The 3R Fund aims to encourage MSMEs to target waste streams with low recycling rates, such as food, plastic and glass. It will co-fund up to 80 percent of qualifying costs subject to a cap of \$1 million per project per applicant. Subsequent or multiple onsite waste management systems will also be subsidized, but with a lower co-funding amount.
- The Energy Efficiency Fund (E2F) aims to improve energy efficiency of businesses with industrial facilities by covering the costs of MSMEs in various industries who are looking to upgrade their operations to be more energy-efficient.
- The Green and Sustainability-Linked Loans Grant Scheme (GSLs), launched in January 2021 by the Monetary Authority of Singapore (MAS), is a loan scheme aimed at supporting corporations of all sizes to obtain green and sustainable financing.

³³ European Commission (Evaluation of EU international cooperation on Sustainable Consumption and Production, 2018).

³⁴ Responsible Businesses (Financing SMEs for Sustainability in Singapore, 2021)

Examples of incentives and subsidies in neighbor countries in the wider Asia region.

In 2017, the Japanese government developed a policy to support the implementation of energy management measures in MSMEs through the establishment of government subsidies and grants (1 billion yen) to support climate mitigation - obtained through the special purpose energy tax from oil, coal and natural gas for energy efficiency³⁵.

China has established a matchmaking platform to link MSMEs to potential investors. The platform also allows for a green credit rating system to help identify qualified green projects and businesses. The government plans to issue subsidies for those rated as “green” (more on the matchmaking platform below).

Implementing climate policies and related (sectoral) strategies, programmes and actions in the countries at the national and local levels

- *What should be offered via trainings or courses?* Thorough, deep and comparative reviews and analyses of the respective national (and local) strategies, programmes and initiatives in the countries as well as internationally. The latter in particular with regard to more advanced countries to showcase what is possible, how and why. What kind of implementation strategies, approaches and activities have been applied in
- overarching policies and sectoral strategies and programmes should be reviewed and analysed, looking at countries in Southeast Asia and the wider Asian region next to the EU, North or Latin America with regard to showcases, lessons learned etc., for example. Dedicated modules dealing with the specific gaps and needs of MSMEs will need to be developed in this context (see elsewhere in this report).

the past and up to now, distinguishing sectors and sub-sectors of the economy, and what has been successful and why? More specifically, private sector actors, here MSMEs, will need to know what governments at the national and local levels potentially may offer with regard to support programmes and initiatives (e.g., energy efficiency programmes in the housing sector/built environment or national climate smart agriculture programmes) and how individual companies, in particular MSMEs, and benefit from these as well as being part of implementing such programmes and initiatives. Similarly, there should be dedicated modules specifically looking at how more advanced (sectoral) strategies, programmes and actions can integrate and incentivize the use of Art. 6 market mechanisms in the short run, whilst already looking ahead with respect to integrating and supporting carbon budgets, taxes or emissions trading systems. Here the integration of carbon pricing instruments into

Examples of European economic incentives to support MSMEs engage in climate action

Public financial institutions may offer reduced interest loans for environmental investments by SMEs. Such loans are usually conditional on the planned measures going beyond regulatory requirements. Here are some examples of low-interest loans for green investments.

IN THE UK, the Energy Saving Trust (a UK-wide non-profit organisation) provides zero-interest small business loans of up to GBP 100,000 to help businesses install renewable energy technologies or measures that reduce energy consumption.

IN FRANCE, OSEO public investment bank offers loans at favourable rates and without collateral from EUR 50,000 to EUR 3 million for up to seven years for SMEs who adopt environmentally friendly technologies (with the share of capital costs exceeding 60%) or develop new ones.

In addition to soft loans, **IN MANY OECD COUNTRIES**, entrepreneurs are allowed to take tax exemptions – deduct certain categories of environment-related investments (going beyond environmental compliance) from the taxable corporate income, for a clearly defined period of time.

35 IEA (Subsidies to support energy management in SMEs, 2019) <https://www.iea.org/policies/7320-subsidies-to-support-energy-management-in-smes>

- In 2018, the Global Green Growth Institute (GGGI) and Provincial Electricity Authority Company Limited signed a Memorandum of Understanding (MoU) to promote Thailand's Energy Efficiency program for the Small and Medium Enterprises (SMEs) in Thailand and enhance cooperation on energy efficiency. This program aims to support SMEs in Thailand's industrial sector to help them achieve the following: 1) Reduction in production cost through improvement in energy efficiency; 2) Increase in competitiveness; 3) Increased access to finance; 4) Reduction of greenhouse gas emissions and other negative environmental impacts and; 5) Sustainability. The main focus of the Program is on creating financial tools to address key barriers to greater energy efficiency (EE) investments in the SME sector.

Developing technical skills on product/services development, financing proposal development & climate finance/funding sources

- What should be offered via trainings or courses? What do businesses, specifically MSMEs need to do to adapt their production processes or service lines or contribute to GHG emission reductions, looking beyond their own businesses and locations by integrating and involving their supply and value chains in the related strategies and approaches. Thoroughly and comparative reviews and analyses of relevant showcases in the region as well as from elsewhere outside the region need to be prepared to show and demonstrate what and how this can be done. This is about the avoidance of economic losses via adapted processes and practices, whilst looking into GHG emission reduction measures via improved processes and practices – including the application of related technologies, if and as applicable. The development of more long-term business strategies in this regard should be fostered, which is particularly an issue with (M) SMEs (see elsewhere in this report). Equally, the knowledge about the related (climate) finance opportunities and what needs to be done to access them, requires thorough reviews and analyses of climate-relevant or related funds, programmes and facilities by public and non-state actors and instruments such as loans, subsidies/grants, carbon finance and further innovative finance (angel investors, impact investors, etc.), with particular attention to the gaps and needs of MSMEs in this regard. Knowledge about the national and international

climate finance landscapes and their workings needs to be offered – linking this to the specific situation(s) of MSMEs and how they can get access and benefit from related funding streams and investments, e.g., via supply and value chains and related improvements in collaboration with and supported by other actors (see below).

Academia and research institute like The Sustainable Finance Institute Asia (an institute that provides policy recommendations on sustainable finance in ASEAN countries) could provide trainings to MSMEs to improve knowledge on the current climate finance landscape (see below), the existing financial opportunities that MSMEs could benefit from as well as the exiting climate policies that are relevant to their businesses.

Understanding the climate finance landscape in Southeast Asia: Indonesia, the Philippines and Vietnam are the top three climate finance recipients in ASEAN countries. However, Lao PDR, Cambodia, and Vietnam are the top three recipients of assistance received per capita. (OECD, 2019). There is a lack of climate adaptation finance in this region. Although Southeast Asia is frequently referred to as one of the most vulnerable regions to climate change, assistance on climate adaptation finance that can provide the region with the capacity to reverse effects of climate change such as floods, drought, and extreme weather, and to improve the resilience of vulnerable populations is still lacking. Simply put, climate mitigation projects attracted almost three times as much funding as climate adaptation projects did. The Japanese government is by far the biggest bilateral and multilateral donor in the region. Transport and Storage, Energy, and Agriculture, Forestry, and Fishing are the top three most funded sectors in the region, whereas adaptation-specific sectors, such as water supply and sanitation, disaster preparedness, and reconstruction and rehabilitation, have received less funding³⁶. Most climate finance received in the region is in the form of loans. ASEAN governments should also be more articulate in determining to what extent loans can assist lower-income countries in climate action without adding to their existing financial burdens.

The ASEAN region currently receives much bilateral and multilateral climate assistance from the government of **Japan**. The ASEAN

36 ISEAS YUSOF ISHAK INSTITUTE (Climate Finance in Southeast Asia: Trends and Opportunities, 2021)

countries need to better communicate their climate visions to other bilateral and multilateral partners so that they can play more critical roles in filling the financial gaps in the future. ASEAN countries need to articulate better adaptation pledges as well as make adaptation investments bankable to attract more capital from other sources.

Here are some examples of agencies, facilities and financial mechanisms that could be involved in the capacity building of MSMEs on accessing climate finance or work as an intermediate to help establish dialogue between MSMEs and financial institutions.

- In Indonesia, the **National Development Planning Agency (BAPPENAS)** is responsible for formulating procedures and planning for climate finance, coordinating climate change loans and grants, and is the agency responsible for mainstreaming climate change into national policies.
- The **Indonesia Climate Change Trust Fund (ICCTF)** as an institutional mechanism for public-private collaboration. The ICCTF is the only national trust fund dedicated to climate finance in Indonesia equipped with a governmental mandate. ICCTF can help to establish dialogue and collaboration with the private sector (MSMEs) and financial institutions to ensure their involvement in the Green Climate Fund (GCF) and related political processes via the Private Sector Facility³⁷.
- The **ASEAN Catalytic Green Finance Facility (ACGF)** is an innovative finance facility dedicated to accelerating green infrastructure investments in Southeast Asia. The ACGF focuses on projects that promote renewable energy, energy efficiency, green urban transport, water supply and sanitation, waste management, and climate-resilient agriculture.

Knowing (the basics) of GHG accounting standards and protocols (the basics) of carbon pricing systems and trading mechanisms

Knowing the basics of both GHG accounting and carbon pricing systems and trading mechanisms and related protocols and standards will help to better position MSMEs as part of measures aiming at emissions reductions along supply chains. On the one hand, analyses of the main relevant economic sectors

and related business groups within these sectors in Southeast Asia should be conducted – breaking it down to the relevant emissions sources and distinguishing between Scope 1, 2 & 3 emissions – using or developing practical examples from the Southeast Asian economies and businesses. Then the related, relevant GHG accounting protocols and standards (e.g., CDP or GHG Protocol) and their application to such case studies should be analysed and prepared in a way so that MSMEs a) understand the basics and their position with regard to what they may directly be able to control and change with limited resources and efforts and b) what may be possible when being integrated in efforts as part of larger demand and supply systems at the national, regional and international levels. On the other hand the relevant emerging and evolving carbon pricing systems and trading mechanisms in the region should be analysed and prepared in way that the abovementioned case studies for business categories in the different sectors of the economy become or can serve as blueprints for benefitting from these systems and mechanisms. This will require to develop case studies and scenarios to a) link, for example, tax exemptions or reductions related a carbon tax to direct measures by MSMEs and b) to demonstrate and showcase climate-proofed or green business models as part of sustainable, low emissions supply chains with several players involved – creating sufficient critical emission reductions mass as well as tracking and reporting power to apply the required standard and protocols. Financing and organizing such transformative cross-organizational business endeavors in the Southeast Asia region will require financial and technical assistance provided by both public and private players (see below).

Examples of carbon trading mechanism and initiatives involving the private and public sector from champion countries in Southeast Asia are listed below.

Vietnam³⁸

In Vietnam, NIRAS has established RCEE – NIRAS, a joint venture with a local Vietnamese company (RCEE Energy and Environment Company formerly known as the Research Center for Energy and Environment) The Carbon Center in RCEE-NIRAS has successfully developed more than 30 CDM projects. The projects typically targeted the renewable energy sector.

³⁷ GCF has a Private Sector Facility (PSF), with the primary mission to engage both the local and global private sector to support climate change mitigation and adaptation projects in developing countries

³⁸ <http://www.rcee.org.vn/en-us/services/carbonmitigationconsultancy.aspx>

Singapore³⁹

In 2021, Singapore launched a new carbon marketplace for nature conservancy project: Climate Impact X (CIX). The initiative has two main platforms: a marketplace of nature-based projects for firms to invest in, and an exchange platform where high-quality carbon credits can be freely traded, catering mainly to **multinationals and institutional investors**. Through CIX, big and small companies can directly purchase high-quality, nature-based carbon credits from specific projects in Southeast Asia and elsewhere

Enabling to meeting and contributing meeting mitigation, resilience and adaptation targets at the business, local and national levels (incl. sustainability reporting, carbon or environmental footprints & risk assessment, management and mitigation measures)

- What should be offered via trainings or courses?
What kind of accounting or measurement, monitoring and reporting systems do need to have in place to track, monitor and report measurable contributions against own targets and be able to report contributions towards local and national level targets – paying particular attention to the gaps and needs of MSMEs? This requires a thorough review and analysis at the regional Asia/Southeast Asia and international levels – looking at examples of companies that already apply or work with GHG accounting and tracking systems trained by institutes such as the GHG Management Institute and reporting as part of the Carbon Disclosure Project (CDP), for example. Offerings should include analyses of the workings behind these systems in different sectors and situations or circumstances in different countries, so that this understanding helps to see how they can adequately integrate them into their operations, including simple or more complex in-house solutions as well as (partly) outsourcing solutions – keeping in mind that MSMEs may have limitations with regard to the overall complexity and automation via sophisticated IT solutions compared to larger corporates. Again, the comparative analysis and related knowledge about the underlying workings provided by respective academia and research organizations should include GHG emission scopes, SMART indicators etc.) of GHG accounting – reviewing and analyzing local and international examples for illustration and education purposes – as well as how to measure and report on adaptation and resilience measures. For example, proper showcases taking

the GHG emission scopes angle will look at supply chains and end users (see above with regard to MSMEs and supply chains). This may or should lead to spillovers for maximum impact driven by businesses themselves in the case of GHG emission reductions as well as resilience and adaptation measures in the respective sectors with a long(er) term perspective.

- On the one hand, courses should also integrate the knowledge about abovementioned tracking, measurement and monitoring and reporting of GHG emissions and adaptation or resilience measures with sustainability reporting and related measures such carbon or environmental footprints and related countermeasures and compensation measures (see above on SDG and CSR reporting) – developing modules paying attention to the gaps and needs of MSMEs. On the other hand, this should lead to covering risk assessment and management and mitigation measures, incl. insurance against climate change impacts, for example, as both areas require better capacities, according to the survey.

Harness platforms and other engagement means to enable private sector climate action at different levels – bringing increased capacities into action

Which players are needed to cooperate and provide a seamless chain, bringing the theoretical knowledge gained by private sector players, in particular MSMEs, into measurable climate actions and contributions to NDCs and NAPs?

The following key actors are required and what for:

- Academia & research organizations (incl. specialized/expert organizations/NGOs and private institutions): Provision of offerings with dedicated modules for MSMEs about regulatory frameworks and incentive mechanisms, climate policies and related (sectoral) strategies, programmes and actions, technical skills on product/services development, financing proposal development and climate finance/funding sources, carbon pricing systems and mechanisms and mitigation, resilience and adaptation targets (see above). The following examples include one regional and national research institute and universities which could help develop trainings or offerings for SMEs in climate action or climate policy.
- **Capacity building in climate policy aspects: The Sustainable**

39 <https://news.mongabay.com/2021/06/singapore-launches-new-carbon-marketplace-for-nature-conservancy-projects/>

Finance Institute Asia (“SFIA”) is an independent institute established to catalyze ideas on Sustainable Finance at the policy level, as well as propel action in support of those policy ideas in Asia, particularly in ASEAN.

- **Capacity building in climate action: The Asian Institute of Technology (AIT – Thailand):** The Climate Change and Sustainable Development program at AIT seeks to develop professionals who can contribute to address issues of the climate change impacts and sustainable management of resources.
- Associations & umbrella organizations (at the national & regional/international level):
 - Linking the businesses in the respective sectors with their increased knowledge and capacities to the implementation of government strategies, programmes and actions, such as the NDCs and NAPs together with any sector-specific measures, if and as applicable – paying particular attention to the needs of MSMEs.
 - Lobbying for required frameworks and enabling environments to encourage, incentives and regulate private sector climate action. The ASEAN Center for Energy can provide trainings for MSMEs which are active in the energy sector or are looking to adopt energy efficiency measures to reach their climate targets.
 - **Capacity building in energy efficiency measures: The ASEAN Center for Energy** is a think tank and knowledge hub for energy sustainability that works to facilitate international and regional cooperation for improved energy efficiency management across Southeast Asia.
- UN or international organizations (such as UNFCCC secretariat and RCC Bangkok or Global Compact and CDP): Moderation and facilitation of the required processes, bringing together the different actor groups as well as provision of complementary technical and financial assistance and practical regional and international experience and expertise. The examples

listed here are global initiatives/organizations that could partner with regional or national organizations /research institutes.

- The **Carbon Disclosure Project (CDP)** in collaboration with the **SME Climate Hub** has launched a climate disclosure framework to empower MSMEs to join race to net-zero. This framework enables small and medium-sized enterprises (MSMEs) to take climate action through environmental disclosure and science-based target setting. The framework has a modular design to provide flexibility for MSMEs and data requesters to tailor the use of the framework to their disclosure needs ⁴⁰.

- Governments: Connecting with the government-led processes such as to contribute to NDC and NAP implementation and achieving related targets at the national and local levels, requires coordination and collaborations with the respective sector ministries and related agencies at the national levels and local government institutions as well. Below an example of ministries that could be involved in the development of the offerings/trainings.
 - The **Ministry of Sustainability and the Environment of Singapore** has launched an initiative will help small and medium-sized enterprises (MSMEs) adopt sustainable practices and capture opportunities in the green economy as part of the Singapore Green Plan 2030.
 - The **Malaysian Green Technology and Climate Change Corporation (MGTC)** is an agency of the Ministry of Environment and Water (KASA) mandated to drive the country in the scope of Green Growth, Climate Change Mitigation and Green Lifestyle. The MGTC has an entire webpage (with links to useful websites and tools) on how MSMEs can engage in climate action including energy efficiency measures, energy audits, resources efficiency and reduced waste generation.

Examples of good practices in neighboring countries

Below are some relevant initiatives by government players (here Japan) from the wider Asian region that engage in Southeast Asia and offer relevant support programmes that may be used to address

some of the gaps that were highlighted in this study with regard to MSMEs and climate action.

Japan implemented cluster-based collaboration approaches to increase private sector (including MSMEs) engagement in climate action. Clusters are bottom-up, industry-specific collaborative networks of business leaders, MSMEs, policymakers, among others with a common interest in spurring innovation and catalyzing growth for start-ups and MSMEs.

Below is a list of energy and environment clusters in Japan that could be of interest to the Southeast Asia region since these clusters operate at a regional level and also cover overseas markets⁴¹:

- **Kyushu Recycle and Environmental Industry Plaza:** Provides a platform for MSMEs to obtain cutting-edge info and market development support (for both domestic and overseas markets);
- **Association for Renewable Energy Regional Revitalization:** To promote partnerships between businesses and local stakeholders, and to promote knowledge-sharing on renewables, the development of new renewable energy facilities, regional economic revitalization and the deepening of ties between communities and businesses.

Promote champions, i.e., countries and organizations within the countries, for the engagement of the private sector in climate actions

Which countries in the Southeast Asia region can

be seen as or become champions in the region, providing showcases for other countries and organizations in the countries – paying particular attention to SMEs?

The following countries have benefitted from capacity building measures, building or strengthening the foundation of private sectors actors and MSMEs in the context of climate action engagement in the Southeast Asia region, by bilateral or multilateral organizations in the last few years. Examples include projects and capacity building initiatives in Singapore, Thailand and the Philippines. A short description is provided below.

- **Singapore:** The Energy Efficiency Technology Centre (EETC) is a collaboration between the Government and the Singapore Institute of Technology (SIT) to help companies, in particular SMEs, discover and implement energy efficiency improvement measures. Participating SMEs receive a diagnosis of their energy performance and recommendations on areas of improvement, and have their staff trained in energy assessment skills to enable continuous improvement in energy efficiency⁴².
- **Thailand** is part of the SEED project, a UN initiative that support MSMEs make significant contributions to climate protection. The project combines knowledge and resource building for socially-inclusive and climate-friendly MSMEs with the promotion of enabling institutional frameworks⁴³.

PRIVATE SECTOR INITIATIVE IN JAPAN: In Toyota City, the “Toyota City Decarbonization School” offers opportunities for companies, particularly SMEs, to learn about climate change risks and opportunities, as well as supply chain impacts. Similar schools or programmes in energy efficiency or decarbonization of production and agricultural processes can be created within big cooperation and multinational companies in the Southeast Asia region such as FPM Power Holdings (Singapore) Ltd, Toyota Motor Manufacturing Indonesia or JC Chang group in Malaysia (oil palm planting, palm oil milling and refining, among others).

GOVERNMENT INITIATIVE IN CHINA: In 2018, China has launched a matchmaking platform to support the green growth of local SMEs in Huzhou, a city in the province of Southeast China. The platform provides three primary financial services for SMEs. First, the platform connects business with banks, facilitating the green lending process. Second, the platform directly connects businesses with investors, lowering administrative costs and increasing transparency. Third, the platform establishes a green credit rating system to identify qualified green projects and businesses. The government plans to issue subsidies for those rated as “green.”

41 Emma Saraff (Local Decarbonisation in Japan, 2021)

42 Singapore National Climate Change Secretariat Strategy Group (Charting Singapore Low Carbon and Climate Resilient Future)

43 IKI (Financing and capacity-building for micro and small Climate-smart Enterprises: Filling the gap of the missing middle, 2022)

- In 2019, the **Private Sector Alliance for Disaster Resilient Societies (ARISE) in the Philippines** together with the UNDRR has conducted a capacity building workshop on disaster risk management strategies, including trainings on Business Continuity Planning (BCP), risk assessment and climate information dissemination. The initiative brought together several global, regional and national partners including the APEC Emergency Preparedness Capacity-Building Center, the Ministry of interior and Safety and the Incheon Metropolitan City.

What is needed or sought after in the context of this private sector or SME capacity mapping study are research organizations that have existing, first and relevant curriculums in (a) technical/knowledge area(s) relevant to private sector engagement in climate actions. In the following we present examples and first indications of such existing flagship research organizations in the identified champion countries in the context of this mapping study, applying the previously introduced broader definition of research organizations. Some may be in the position to cover many of the relevant capacity building (and mobilization and engagement aspects) in the different sectors, whereas others may only cover specific aspects or sectors, for instance. The **Asian institute of Technology** and the **ASEAN Center for Energy** are two regional research center/knowledge hub that could potentially provide general capacity building trainings for the following aspects: climate risks and impacts, technical knowledge around financial opportunities to engage in climate action as well as the technical aspects around climate mitigation measures for the energy sector. Whereas national research institute that are sector specific like the **Forest Research Institute Malaysia (FRIM)** could provide trainings for MSMEs that operate in a specific sector (forestry here). More information on these three institutes is provided below.

- **The Asian institute of Technology (AIT):** The AIT offers a Climate Change and Sustainable Development programme that covers aspects such as climate change adaption, vulnerability and early warning systems as well as climate mitigation aspects. The AIT could be a great partner for national or regional capacity building initiatives aiming to strengthen and improve MSMEs knowledge on **climate change risks and impacts**. In addition to that, the AIT's capacity building programme on Developing Concept Notes for the Green Climate Fund strengthens the capacities of countries in

Asia and the Pacific to prepare concept notes specifically for the Simplified Approval Process (SAP). The AIT could also be a great fit to provide trainings on how to **access climate finance**⁴⁴.

- The **ASEAN Center for Energy** is a think tank and knowledge hub for energy sustainability that works to facilitate international and regional cooperation for improved energy efficiency management across Southeast Asia. The **ASEAN Center for Energy** could provide trainings on how to implement energy efficiency measures in MSMEs or conduct energy audits.
- The **Forest Research Institute Malaysia** is one of the leading institutions in tropical forestry research in the world, it could provide capacity building trainings on climate adaptation and mitigation for MSMEs operating in the forests or agri-food sector.

Build on the state of play and understanding of the private sector on carbon pricing instruments - fostering an appetite for further engaging in and scaling mitigation activities up and out

The abovementioned trainings to be provided by qualified academia and research organizations, i.e., directly related to carbon pricing instruments as well as the related other topics such as on regulatory frameworks and incentives and meeting mitigation, resilience and adaptation targets, should foster

the appetite for engaging in and scaling mitigation activities up and out by private sector players in the countries in the Southeast Asia region. The interaction and the collaborations and coalitions (see below) between UN and international organizations, business associations and academia or research organizations should allow and push for making progress on both ends, the private sector and the governments within a few years, because increasing climate action by the private sector cannot wait another decade.

When considering countries in the Southeast Asia region that could become champions when receiving related financial and technical assistance to build on and further carbon pricing instruments for private sector mitigation action with a view to other countries following suit, the following countries can be mentioned. Some existing initiatives have been listed above (section on the basics of GHG accounting standards).

- **Indonesia:** is in the process of drafting a more progressive emissions reduction that would regulate the carbon trade, provide

44 RCC.AP (Developing Concept Notes for the Green Climate Fund including via the Simplified Approval Process – Training)

payments based on performance in reducing greenhouse gas emissions, and impose a levy on carbon emissions⁴⁵.

- **Vietnam:** to meet its development and climate change goals, the new domestic carbon emission trading aims to create a carbon pricing instrument that will penalize emitters of GHG emissions based on the principle of “polluter pays.” A trading scheme will be created through which production facilities, localities, and countries seeking to reduce their contribution of GHG emissions could buy credits to offset their actual GHG emissions⁴⁶.
- **Singapore:** has created a global exchange for high-quality carbon credits that should be launched by the end of the year 2021. The project marketplace enables the purchase of high-quality carbon credits directly from specific projects, allowing a broader range of companies to participate in the voluntary carbon market⁴⁷.

Some existing carbon initiatives or carbon trading schemes in the countries mentioned above have been listed above (in the section on the basics of GHG accounting standards).

Establish coalitions and consortia for increased private sector climate action in the southeast Asia region sector

Last but not least, an important building block of a forthcoming private sector climate action engagement strategy in the region should be the creation of coalitions and consortia to allow moving forward swiftly – considering the specific needs of SMEs in Southeast Asia. Organizations like the UNFCCC secretariat and RCC Bangkok can be of help in this regard as well, in particular when mobilizing and deploying targeted financial and technical assistance to support and accompany the required processes. Furthermore, they can put such assistance to work to trigger or promote snowball effects in the sectors in the countries with regard to both: more companies making use of the new capacity development offerings by research organizations and academia as well as starting to establish processes, procedures and systems to proactively engage in climate actions.

Particular attention should be paid to how (M)SMEs can be supported in the context of their integration into supply and value chains that allow for synergy effects – going beyond the impacts of only looking

at SMEs individually (see also above). This is about identifying and improving or establishing more sustainable supply chains, looking at related local, national and international interlinkages and opportunities when bringing together different private players (incl. larger corporates) and facilitating related grouping and bundling processes. *Building coalitions at the national and regional levels & organizing exchange*⁴⁸

Coalitions of the willing or climate clubs should be created with countries and related groups of actors (governments, private sector & associations, and academia and research organizations) that are willing to become first movers with regard to increased private sector engagement and climate action. This ties in with and should be linked to respective consortia to be created in the countries, at best as parallel processes, making governments moving faster or move at all in the first place (see below). Again, particular consideration should be given to the needs of (M)SMEs in Southeast Asia.

Making this a manageable effort in the beginning such undertaking may focus on (a) certain sector(s) in the respective countries at first, which will need to be determined by further assessments of the landscape of relevant actors with respect to where to find fertile ground. Where to go in this regard for starters may be determined by looking at the above lists of countries and the list with actors and stakeholders in the annexes.

These undertakings can tie in with the abovementioned support role and assistance by the UN and further international organizations with regard to supporting the required strategy developments and implementation, via targeted trainings and capacity-building measures and bringing experiences and showcases from the region and elsewhere to the processes at the regional level. Existing regional forums could be used for doing so, piggybacking on related meetings, or a new forum with a focus on private sector climate action by (M) SMEs may be created. Some existing regional forums and initiatives are listed below.

- **The Asia Clean Energy Forum (ACEF)** aims to accelerate the low-carbon transition in Asia and the Pacific. The ACEF 2021 was organized around 3 main pillars: technology roadmaps to achieve the NDCs, impact of COVID-19 and green recovery, and consultations to make the

45 SSEK - Putting a Price on Emissions: Indonesian Government Plans to Impose Carbon Tax, 2021

46 WB - Carbon Pricing Aids Vietnam's Efforts Towards Decarbonization, 2021

47 CNBC - A new global carbon exchange will be launched in Singapore this year,

48 See also annex with lists and country profiles that can serve as a basis for first approaches and discussions for starters

ADB energy policy more relevant⁴⁹.

- **The Asia-Pacific Forum on Sustainable Development (APFSD)** is an annual and inclusive intergovernmental forum and a regional platform for supporting countries, in particular those with special needs, in the implementation of the 2030 Agenda for Sustainable Development while serving as a regional preparatory meeting to the high-level political forum⁵⁰.
- **Regional Dialogue to Promote the Uptake of Eco-Design Approaches to Green SMEs in Asia:** This regional dialogue organized by EU SWITCH Asia Regional Policy Advocacy Component (RPAC), Thailand Environment Institute, and the Asian Institute of Technology (AIT) aims to facilitate exchange of knowledge and good practices, examine implementation challenges and benefits of adopting eco-design thinking for key sectors, and gather perspectives on enabling factors and solutions that encourage MSMEs to incorporate eco-design approaches in their businesses⁵¹.
- **The Regional Climate Week** organized by the UNFCCC and RCC Bangkok could also be a great opportunity to organized and hold such events.

Establishing consortia at the national and local levels

Collaborations or consortia of research organizations and relevant, sector-specific business and industry associations – representing the actual private sector actors (with a focus on SMEs) and their needs in the context of increasing climate action - should be sought after and initiated at the national and local levels. On the one hand, this is important with a view to moving forward swiftly and convincing enough, combining business-minded, practical strategies with or backed by sound and cutting edge science - putting pressure on the governments to act on enabling increased private sector climate action in their countries at the same time. Again and recalling the importance of (M)SMEs in the region (see elsewhere in this report), the role and needs of MSMEs should be specifically considered.

Such consortia should also facilitate the actual private sector actors in the countries moving forward with developing and implementing the required business strategies. The business and trade associations are needed to help with addressing entire (sub)sectors or localities with regard to bringing theoretical knowledge into action and actionable measures on the ground. This is about supporting the implementation of the business

strategies at scale as this goes beyond what research organizations and academia cannot help doing as this is beyond their mandates and expertise. As already mentioned above a focus area and good entry point to a meaningful engagement of MSMEs may be supply and value chains.

Again, such consortia can a) be created, and b) be used as platforms to organize series of trainings, workshops and exchange meetings at the national and regional levels with the assistance of the UN and international organizations (e.g., UNFCCC and RCC Bangkok potentially in collaboration with CDP and/or the Global Compact) (see above). Such events can also be used for bringing the different groups of actors together, in particular the private sector, academia and research organizations and government organizations to jointly discuss, formulate or draft the required or missing elements of the enabling environment, if and as applicable. Specifically, these discussions may be used to pave the way for the needed regulatory frameworks or related reforms and further or better incentive mechanisms and support programmes with a focus on needs of MSMEs. Furthermore, joint learning and the establishment of required networks and partnerships may be facilitated through such events. Following are two examples of such networks and partnerships, at the regional level.

- The **SMEs Climate HUB** help small businesses deliver on their climate goals by providing them with a list of tools and step-by step guidance to set climate targets and measures their progress. The SMEs Climate HUB library contains guides, case studies, webinars and reports that are updated on a quarterly basis to continuously simplify SMEs' path to climate action. Together with the SMEs Climate Hub, regional organizations like the Association of Southeast Asian Nations and research institute like the AIT could partner to develop guides and step-by-step guidance that are more tailored to the South East Asian context.
- **The Governance of Climate Change Finance (GCCF)** could partner with financial institutions like the **ADB or EBRD** and the **ASEAN Centre for Energy** to develop credit lines to implement energy efficiency and renewable energy projects for MSMEs. The offer could include technical support for the implementation of energy efficiency measures or energy audits, soft loans or leases and investment grants.

49 Asia Clean Energy Forum

50 Asia – Pacific Forum on Sustainable Development

51 Regional Dialogue to Promote the Uptake of Eco-Design Approaches to Green SMEs in Asia

Annex A

Country profiles

Vietnam

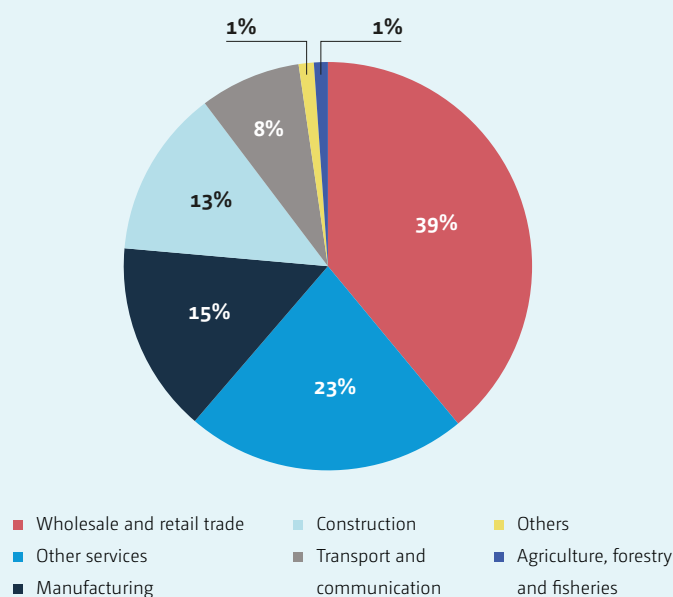
Businesses in Vietnam face unprecedented climate risk—the country is one of the most vulnerable countries to climate change and exposed to more than 20 types of natural disasters, especially storms, tropical depression, flash floods, droughts, saline intrusion, and coastal erosions. Climate change can affect all business sectors in Vietnam.

MSMEs



The number of MSMEs (private and domestically owned) has grown exponentially since 2007. MSMEs have also grown as a share of total enterprises, increasing from 96.3% in 2007 to 98.0% in 2015 and 2016, before dipping to 97.1% in 2017 and edging up to 97.2% in 2018.

By sector as of 2018, wholesale and retail trade accounted for 39.0% of MSMEs, followed by other services (22.3%), manufacturing (15.1%) and construction (13.3%). The share of SMEs by sector is illustrated in the diagram below.



According to the General Statistics Office, there are 5 million household businesses (sole proprietorships or personal home businesses), mostly engaged in agri-business. Of these household businesses, 1.6 million are registered with the remaining 3.4 million unregistered.

5 MLN HOUSEHOLD BUSINESSES

1.6 MLN registered

3.4 MLN unregistered

References

- Business for Social Responsibility (2020) Assessing the Impact of Climate Change on Business in Vietnam : Handbook of tools and resources for Vietnam's private sector
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Thailand

Thailand is the second largest economy in Southeast Asia after Indonesia. Thailand is sensitive to climate change at the geographic, industry, and community levels. At the industry level, a large proportion of Thailand's GDP is derived from agriculture, an industry highly sensitive to temperatures and rainfall. Rice is Thailand's largest commodity, and the country is the top global exporter of rice. Crop losses due to climate-induced weather events present food-security challenges both for Thailand and also for countries reliant on its exports.

MSMEs

2018

3.08 MLN
(99.8%)

As of the end of 2018, there were around 3.08 million MSMEs, or 99.8% of total enterprises. Thailand modified its definition of enterprises in November 2019, introducing microenterprises as a new segment along with new revenue criterion. Under the new definition, an MSME in manufacturing is defined as the firm having up to 200 employees or revenue (annual income) of less than B500 million, while an MSME in services and trading has up to 100 employees or annual revenue less than B300 million.

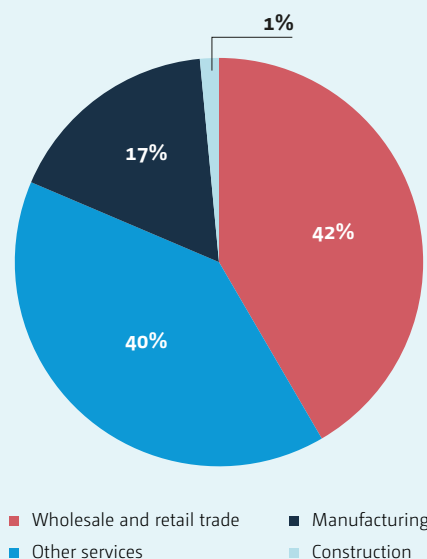
MSMEs by region

18.2%
BANGKOK

81.8% → 8.5%
PROVINCES

- NAKHON PATHOM
- NONTABURI
- PATHUM THANI
- SAMUT PRAKAN

By region, 18.2% of MSMEs were in the capital city Bangkok, while the remaining 81.8% were located in provinces, with the central provinces of Nakhon Pathom, Nonthaburi, Pathum Thani, and Samut Prakan having the second-largest density of MSMEs (8.5% in 2018).



By sector, 41.6% of MSMEs were engaged in wholesale and retail trade, followed by other services (39.8%), manufacturing (17.1%), and agribusiness (1.5%) in 2018.

References

- Business for Social Responsibility BSR (2015) Climate Resilience and the Role of the Private Sector in Thailand
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Singapore

As a low-lying island, the rise in sea level poses the most immediate threat to Singapore. An increase in the intensity of weather variability could present significant challenges to the management of water resources in Singapore.

SMEs

LESS THAN
\$ 100
IN ANNUAL TURNOVER

NO MORE THAN
200
WORKERS

Singapore's carbon intensity, or carbon dioxide emissions per dollar of economic output, is among the lowest in the world. Early in 2021, the government announced some measures to support SMEs towards an environmentally sustainable future. These include grant support for waste minimization and recycling projects, and for businesses looking to raise energy efficiency at their operations, as well as the enhanced investment allowance for emissions reduction to support manufacturing companies.

In Singapore, an enterprise is classified as simply an SME or non-SME. There is no microenterprise category. The definition of SMEs is based on annual sales (turnover) and number of workers. SMEs have no more than \$100 million in annual turnover, or no more than 200 workers.

SMEs remain an important contributor to the country's productivity; enterprises in manufacturing and services account for the majority of nominal value added, with SMEs contributing nearly half of the total.

SMEs are domestically focused; they do not generally tap global business opportunities and have little interest in internationalization.

References

- National Climate Change Secretariat of Singapore
- Government of Singapore
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Philippines

Impacts of climate change in the Philippines are immense, including: annual losses in GDP, changes in rainfall patterns and distribution, droughts, threats to biodiversity and food security, sea level rise, public health risks, and endangerment of vulnerable groups such as women and indigenous people. Based on a study by the Asian Development Bank on the economics of climate change, Philippines stands to lose 6% of its GDP annually by 2100 if it disregards climate change risks.

MSMEs

2018

86.8%

The main business sector for MSMEs is services, accounting for 86.8% of MSMEs in 2018, with wholesale and retail trade (including the repair of motor vehicles and motorcycles) holding the largest share (46.3% and rising), followed by other services (40.5%)—which includes accommodation and food services (14.5%), other personal services (6.6%), and financial services (4.6%).

MSMEs by region

20.4%
MANILA

79.6%
PROVINCES

- CALABARZON
- CENTRAL LUZON
- CENTRAL VISAYAS
- WESTER VISAYAS
- OTHER REGIONS

In 2018, by region, 20.4% of MSMEs operate in Metro Manila—the National Capital Region—with the remaining 79.6% spread across the country—Calabarzon (14.8%), Central Luzon (11.6%), Central Visayas (7.1%), Western Visayas (6.2%), and other regions (39.9%).



References

- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia
- National Integrated Climate Change Database Information and Exchange System

Myanmar

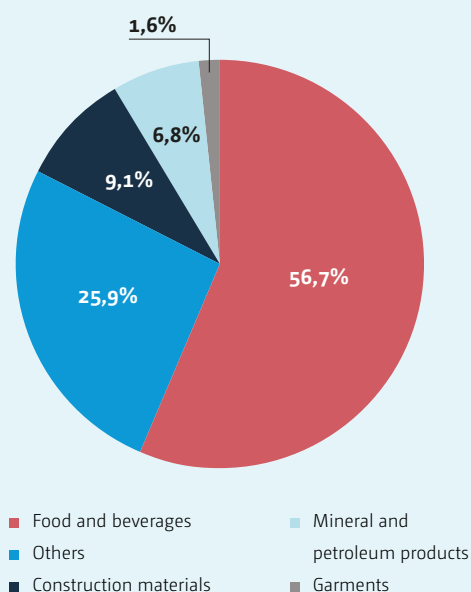
Myanmar's NDC identifies extreme weather events, sea level rise, flooding, and drought as the most significant threats it faces from climate change. In Myanmar, vulnerability remains high due to rapid rises in exposure as rapid development has taken place in urban areas without sufficient protection to natural hazards through the continued development of the country. Myanmar's identified agriculture, water resources, public health, forestry, coastal zones, and biodiversity sectors as the most vulnerable sector to climate change.

SMEs

2019

89.9%
OF TOTAL ENTERPRISES

In 2019, SMEs accounted for 89.9% of total enterprises. As of 2019, the food and beverage sector comprised 56.7% of SMIs (manufacturing firms), followed by "other manufacturing" (25.9%), construction materials (9.1%), mineral and petroleum products (6.8%), and garments (1.6%) (Figure 8.1B). As to the growth trend, food and beverages declined by 13.5% from 2011 to 2019, while mineral and petroleum products increased by 66.2% and construction materials increased by 27.0%.



References

- World Bank Climate Change Knowledge Portal: Myanmar
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Malaysia

Malaysia's geographic location and low poverty rates mean both its risk and vulnerability to natural hazards are lower than some of its Southeast Asian neighbors. While Malaysia can experience drought, landslides, earthquakes and storm surges, the large majority of its losses are attributable to flooding. Climate change impacts particularly on agriculture, forestry, biodiversity, water resources, coastal and marine resources, public health and energy.

SMEs

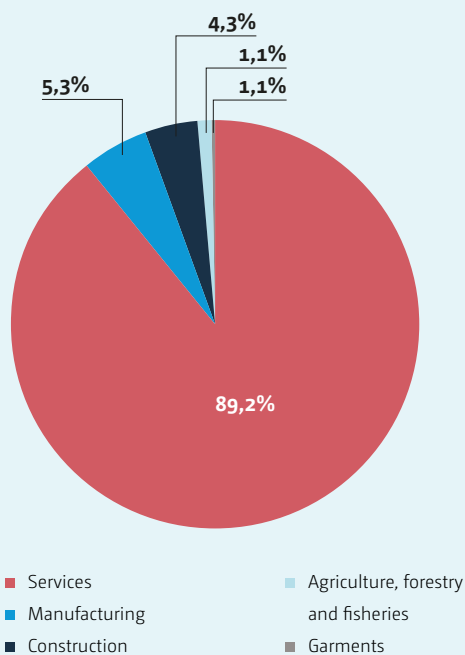
2015

950 000

CONCENTRATED
IN URBAN AREAS

In 2015, there were approximately 950 000 SMEs in Malaysia. The services sector, primarily distributive trade, dominates MSME activity, which tends to be concentrated in urban areas such as in the capital, Kuala Lumpur, and Selangor State.

By sector, 89.2% of SMEs were in services, including transport and storage, wholesale and retail trade, telecommunications, and real estate, followed by manufacturing (5.3%); construction (4.3%); primary industries like agriculture, forestry, and fisheries (1.1%); and mining and quarrying (0.1%).



References

- World Bank Climate Change Knowledge Portal : Malaysia
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Indonesia

Under climate change, Indonesia is predicted to experience temperature increases of approximately 0.8°C by 2030. Indonesia is highly vulnerable to climate change impacts, including extreme events such as floods and droughts, and long-term changes from sea level rise, shifts in rainfall patterns and increasing temperature. Moreover, rainfall patterns are predicted to change, with the rainy season ending earlier and the length of the rainy season becoming shorter. Climate change affects all economic sectors, but the agricultural sector is generally the hardest hit in terms of the number of poor affected.

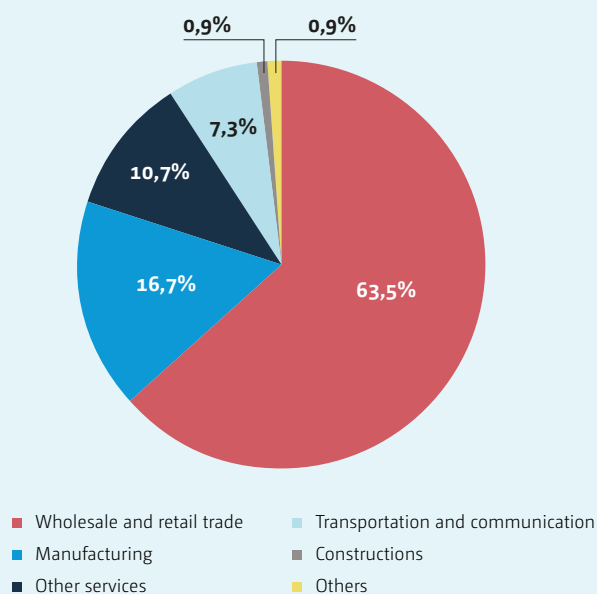
MSMEs

64 MILLION

ACCOUNTING FOR
99.9%
OF TOTAL ENTERPRISES

As of 2012, around half of MSMEs were engaged in agriculture, forestry, and fisheries.

As of end-2018, there were 64 million MSMEs, accounting for 99.9% of all Indonesian enterprises. The services sector has the highest growth potential among MSMEs, especially digital technology-based start-ups.



References

- World Bank Climate Change Knowledge Portal: Indonesia
- R. Oktaviani et al. 2011, The impact of global climate change on the Indonesian economy
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Cambodia

Cambodia is one of the more disaster - prone countries in Southeast Asia, affected by floods and droughts on a seasonal basis. Cambodia's vulnerability to climate change is linked to its characteristics as a post - civil war, least developed, predominantly agrarian country, with nearly 80% of the population living in rural areas.

MSMEs

2014

59.6%

IN WHOLESALE

26.5% IN OTHER SERVICES

13.9% IN MANUFACTURING

By industry, 59.6% of MSMEs were in wholesale and retail trade in 2014, 26.5% in other services, and 13.9% in manufacturing. Wholesale and retail trade (including motor vehicle and motorcycle repair) held the largest share of microenterprises (60.7%), followed by manufacturing (14.0%) and accommodation and food services (10.9%) (CIES 2014). For SMEs, education held the largest share (33.7%). Half of Cambodia's large enterprises were in manufacturing.

MSMEs by region

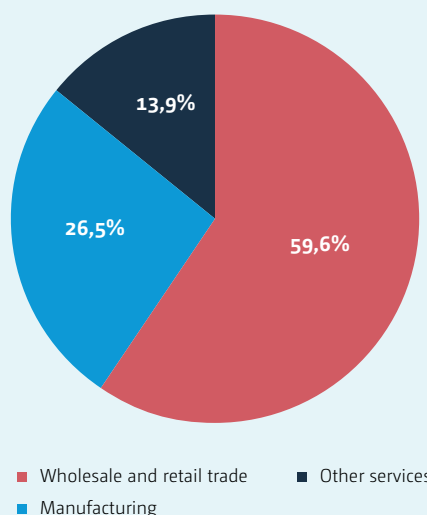
18.8%

PHNOM
PENH

81.2%

RURAL AREAS

By region, 18.8% of MSMEs in 2014 were located in Phnom Penh, with the remaining 81.2% in rural areas such as Kampong Cham, Kandal, Siem Reap, and Takeo. Cambodia's MSMEs were increasingly concentrated in the capital as compared to 2011 (18.2% in Phnom Penh).



References

- World Bank Climate Change Knowledge Portal: Cambodia
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Brunei Darussalam

Climate change has created a variability in Brunei's weather trend which has intensified the regional hydrological cycle, the frequency as well as the severity of natural disaster cases. Brunei Darussalam is exposed to flooding incidences particularly in low lying areas; heat stress and transboundary haze pollution arising from forest fires in neighbouring countries during dry season.

MSMEs

2017

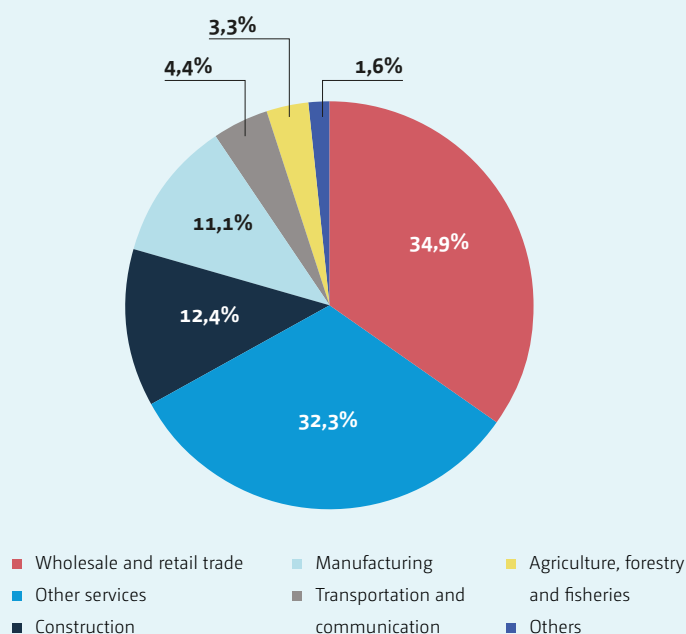
5,876

2,442 MICROENTERPRISES

3,434 SMALL ENTERPRISES

The number of active registered MSMEs is small but growing. The majority of MSMEs are in traditional trade and services. There were 5,876 MSMEs in Brunei Darussalam in 2017, with 2,442 microenterprises and 3,434 small enterprises.

By sector in 2017, 71.6% of MSMEs were in services (34.9% for wholesale and retail trade, 4.4% for transportation and communication, and 32.3% for "other" services represented by accommodation and food services), followed by construction such as material suppliers (12.4%) and manufacturing (11.1%)



References

- Brunei Climate Change Secretariat
- EY (2019) Redesigning for the digital economy A study of SMEs in Southeast Asia

Annex B: Overview matrix

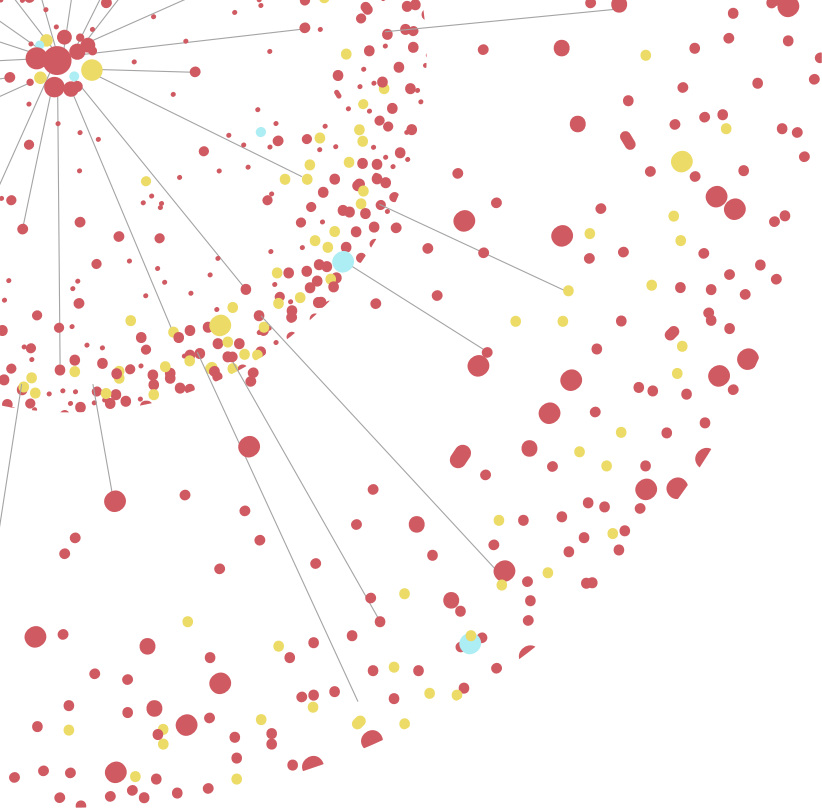
Overview matrix - mapping research organizations and academia and their existing offerings to address private sector and SME capacity-building needs

Institution / Organization	Existing offering as per main capacity building categories		
	Knowledge on the existing financial opportunities to implement climate action measures	Climate change knowledge, risks and opportunities	Climate policies, institutional and regulatory frameworks.
Thailand Institute for Science and Research (TISTR)		X	
SWITCH Asia Countries: Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand, Vietnam	X	X	X
The Association of Southeast Asian Nations : ASEAN Access			X
Asian Institute of Technology Bangkok, Thailand		X	
The SME Climate HUB	X	X	X
UN global compact			X
The ASEAN Catalytic Green Finance Facility (ADB)	X	X	X
The ASEAN Centre for Energy	X		X
Thailand Development Research Institute TDRI			X
The Oscar M. Lopez Center for Climate Change Adaptation and Disaster Risk Management Foundation – Philippines		X	X
Climate Change Commission – Philippines			X
Environmental and Climate Change Research Institute – ECCRI – Philippines		X	
Centre for Climate Research Singapore		X	

Institution / Organization	Existing offering as per main capacity building categories		
	Knowledge on the existing financial opportunities to implement climate action measures	Climate change knowledge, risks and opportunities	Climate policies, institutional and regulatory frameworks.
National University of Singapore (NUS) Tropical Marine Science Institute (TMSI)		X	
Association of Small and Medium Enterprises of Singapore	X		
The Sustainable Finance Institute Asia – ASEAN countries	X		X
Vietnam Institute of Meteorology, Hydrology and Climate Change		X	
The Governance of Climate Change Finance (GCCF) – Vietnam, Indonesia, Philippines, Thailand & Cambodia	X	X	X
Cambodia Development Research Institute - Centre for Natural Resources and Environment		X	
Research Center for Climate Change University of Indonesia		X	X
Indonesia Climate Change Trust Fund	X		X
The Forest Research Institute Malaysia		X	
Malaysian Green Technology Corporation		X	X
Malaysian Agricultural Research and Development Institute		X	
The Vietnam Institute of Agricultural Technology Application and Development		X	
Vietnam National University of Agriculture		X	
ARISE Philippines - The Private Sector Alliance for Disaster Resilient Societies		X	X
APEC Emergency Preparedness Capacity Building Center	X	X	X

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