



ASIA TRANSITION FINANCE STUDY GROUP (ATF SG) ANNUAL REPORT

Toward the acceleration of transition finance in Asia
– with collaboration among industry, finance, and governments

September 2023

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
ATF	Asia Transition Finance
CBI	Climate Bonds Initiative
CFPP	Coal-fired power plant
CCUS	Carbon capture, utilization, and storage
CO ₂	Carbon dioxide
ERIA	Economic Research Institute for ASEAN and East Asia
ESG	Environment, social, and corporate governance
ETM	Energy Transition Mechanism
EU	European Union
FI	Financial institution
G20	The Group of Twenty
GHG	Greenhouse gases
ICMA	International Capital Market Association
IEA	International Energy Agency
JETP	Just Energy Transition Partnership
KPI	Key performance indicator
MAS	Monetary Authority of Singapore
MSMEs	Micro, small and medium-sized enterprises
NZBA	Net-Zero Banking Alliances
OECD	Organization for Economic Co-operation and Development
PPA	Power purchase agreement
R&D	Research & Development
SDS	Sustainable development scenario
SB	Sustainability Bond
SLB	Sustainability-linked bond
SLL	Sustainability-linked loan
SMEs	Small- and medium-sized entities
SPO	Second party opinion
TF	Transition Finance
TFF	Transition Finance Framework
TSC	Technical screening Criteria
UoP	Use-of-proceeds

FOREWORD AND ACKNOWLEDGEMENT

The Asia Transition Finance Study Group (hence called the Study Group) is a private group led by financial institutions, mainly Asian and global banks. Its goal is to promote transition finance (TF) in Asian countries. The Study Group developed guidelines for financial institutions (FIs) and suggested support measures to relevant parties as the outcome of its 2022 sessions.

While FIs are its core members, the Study Group shares the practical challenges faced by FIs with other participants such as development banks, export credit agencies, financial and energy public authorities (Exhibit 1). By doing so, it is a forum for promoting communication between the public and private sectors to enhance the mutual understanding of practical issues related to supporting transition activities, including interoperability of different taxonomies. In addition to exploring possible solutions to transition finance obstacles, the Study Group also exchanges information with corporates in the energy sector to gain knowledge and insights from energy and industry players in Asia.

In 2023, the Study Group held five peer learning sessions, twenty one-on-one meetings, one survey, one learning session with energy and industry players, and two public-private dialogues. The results of those events are summarized in this document, with the hope that they will lead to more transactions to assist the transition to a sustainable society in the future.

The reference documents that result from the ATF Study Group discussions ([Asia Transition Finance Guidelines](#) in 2022 and the *Asia Transition Finance SG (ATF SG) Annual Report 2023*) are non-binding and are intended to help members in their efforts to provide finance to transition activities. The final decision on whether to apply these deliverables to practical operations is at the discretion of each FI.

The *ATF SG Annual Report 2023* outlines the progress in the transition finance landscape since 2022, highlighting with key challenges and potential responses at a more granular level based on survey results and other Study Group activities during the year which benefitted from views offered by energy sector. Also, with the development of taxonomies in Asia, the report describes steps to apply taxonomies in two hypothetical case studies, and shares some practical challenges identified and clarifications made during the Study Group sessions. As its name suggests, the *ATF SG Annual Report 2023* provides references regarding transition finance, but each FI must use its own case-by-case judgment on how to follow the guidance. There is no guarantee that in doing so, the financing will be labeled as transition finance¹.

The Study Group would like to thank all those who assisted in the work of the Study Group and contributed to this report.

¹ Transition labels are certified through further assessments, which could include second party opinions. *ATF Guidelines*, issued in 2022, and case studies presented in this *ATF SG Annual Report 2023*, do not determine whether projects merit financing.

Exhibit 1: ATF Study Group's members

Category		Participants		
Core members of Study Group	Commercial banks (20)	Asia FIs <ul style="list-style-type: none"> • Bank Danamon • Bank Mandiri • Bank of Ayudhya • BDO Unibank • Kasikornbank • Maybank • Mizuho Financial Group 	<ul style="list-style-type: none"> • MUFG Bank • Power Finance Corporation • Security Bank • Sumitomo Mitsui Banking Corporation • Sumitomo Mitsui Trust Bank • United Overseas Bank • VietinBank 	Global FIs <ul style="list-style-type: none"> • Brookfield • Barclays Bank • Citi • HSBC • Standard Chartered Bank • UBS
	Development banks, ECAs, and others (6)	Multilateral <ul style="list-style-type: none"> • International Finance Corporation 	State-affiliated <ul style="list-style-type: none"> • Development Bank of Japan • Export-Import Bank of Thailand • Japan Bank for International Cooperation • Nippon Export and Investment Insurance 	Commercial <ul style="list-style-type: none"> • DBS Bank
Observers of Study Group	Public agencies and finance associations (13)	<ul style="list-style-type: none"> • ASEAN Taxonomy Board • Australian Government • Department of Energy, Republic of the Philippines • Financial Services Agency, Japan • International Capital Market Association 	<ul style="list-style-type: none"> • Japanese Bankers Association • Ministry of Economy, Malaysia • Ministry of Economy, Trade and Industry, Japan • Ministry of Energy and Mineral Resources, Indonesia • Ministry of Energy, Thailand 	<ul style="list-style-type: none"> • Ministry of Finance, Indonesia • Ministry of Finance, Japan • Sustainable Finance Institute Asia
	Knowledge Contributor (4)	<ul style="list-style-type: none"> • DNV • Economic Research Institute for ASEAN and East Asia (ERIA) 	<ul style="list-style-type: none"> • Japan credit Rating Agency Ltd. (JCR) • Moody's 	

EXECUTIVE SUMMARY WITH KEY PROGRESS AND KEY FINDINGS THIS YEAR

TRANSITION FINANCE (TF) MARKET RECAP

As the world is experiencing the impact of climate change, the need for capital to accelerate the shift to net zero/carbon neutrality has become heightened. However, when looking at the sustainable finance-related transactions with a clear label following market standards as one of the indicators, 2022 witnessed a decline in both markets, after a sharp increase in the period of 2017-2021. In Asia, the development of sustainability-related financial products is still at a nascent stage. However, there is also a possibility that demand for sustainable finance may be at the same level from the previous period or even increasing, but those transactions may not have surfaced for a number of reasons. Uncertainty related to standards in the sustainable market may have also played a role, resulting in less volume in the sustainable markets as borrowers and issuers followed cautious approaches.²

The Asia Transition Finance Study Group (ATF Study Group) was established in 2021, led by private financial institutions, to foster a “just and orderly” transition in the region. As outputs from its activities, the Study Group issued the ATF Guideline and the suggested seven support measures in its Activity Report in September 2022. Since the release of the report, there has been some forward movement in the last year, as Section 2.1 will discuss. Most of the major Southeast Asian countries and India have published plans to reach their 2030 or relevant mid-term targets, especially for the power sector, while as of September 2023, Singapore has laid out complete pathways to net zero/carbon neutrality. Regional and national taxonomies in ASEAN included social aspects in their guidelines, taxonomies, and pathways to enhance just and orderly transitions. Initiatives by governments, development banks, and sustainability alliances to mobilize capital to support transition finance projects are underway. Public authorities are considering the interoperability between regional and national taxonomies while still ensuring alignment with each country’s strategy and current industrial and economic structures. Carbon credits are considered one tool to foster transition activities. However, while progress has been made in creating guidelines on the role they can play in transition finance, further clarification is needed to ensure credibility on their use. Some public authorities have proposed initiatives to support small- and medium-sized entities (SMEs) to develop and implement decarbonization strategies. Some progress has been made in boosting relevant skills for transition technologies, but such advancement remains fragmented in Asia.

ACTIVITIES THIS YEAR AND MAJOR FINDINGS

In order to have a more granular understanding of the obstacles that FIs and transition finance receivers such as borrowers and bond issuers (TF receivers) are facing and to devise a potential way out, directions to further pursue, or solutions, the Study Group conducted learning sessions, one-on-ones, and a survey to capture feedback from its members which are discussed in Chapter 3 of this report. The majority of FIs have received inquiries about transition finance, yet five of the 13 FIs in the survey did not receive a single request. A probable explanation for the low TF demand deduced by the responses by the Study Group is that TF receivers are not obligated by rules or standards, are

² Tessa Walsh, “SLL volume slows as standards tighten,” *International Financing Review*, May 26, 2023, <https://www.ifre.com/story/3935162/sll-volume-slows-as-standards-tighten-7xhytng6qx>

able to raise funds in a format other than TF and are not yet aware of the importance of TF and the risk of stranded assets.

The survey further indicated that although some FIs have not received any transition finance related inquiries, all FIs recognize a need for Transition Finance Frameworks (TFFs) for various reasons - to review the credibility of clients' transition activities; manage reputational risks; or by influence, extending to non-NZBA members, of the NZBA Transition Finance Guideline³ which encourages banks to develop their own frameworks.

Against this backdrop, FIs say that TFFs and government policies are a key enabler to guide the market (Enabler #1), as discussed in Section 3.3, especially creating sectorial and/or national transition roadmaps which clearly position the government's commitments, the role of transition activities, and the requirements for TF receivers and FIs is the most critical action needed from public authorities. At the same time some FIs also emphasized that even if TFFs and policies are in place, as transition projects can involve new technologies, the need for the transition projects to gain economic viability is a fundamental issue in making them bankable and implement TF. This was echoed by corporates in the energy sector that spoke at one of the SG sessions. The report highlights in Section 3.4 de-risking mechanisms to underpin economic viability of transition projects (Enabler #2) as essential for corporates to make decisions to invest in projects in a sustainable way and in turn for FIs to finance those. The Study Group also recognizes that in parallel with the progress on forestated points, simplified and tailored TF guidelines and a data platform for SMEs could unlock their capability and capacity issues (Enabler #3) as noted in Section 3.6 and would be helpful in bringing necessary transition of the whole economy forward.

INTEROPERABILITY OF TAXONOMIES

The Asian region has seen updates and new issuance of taxonomies since 2022. FIs would need to familiarize themselves in using those, in particular, in cross-border financing cases where the investors' home country has a different taxonomy than the country that houses the project. The Study Group is aware that guidelines providers, such as the ICMA and the ASEAN Taxonomy Board, also regularly organize study sessions and seminars to present new publications and enhance information sharing. To facilitate these efforts the Study Group held a session to discuss application of taxonomies in approaching hypothetical cases, which is elaborated in Section 3.5, Appendix 3 and Appendix 4.

GOING FORWARD

Since the release of the *ATF Activity Report* in 2022, while there is certain advancement in the seven suggested support measures, this year's Study Group identified more granular enablers needed for transition finance as mentioned above. The Study Group considers that making progress in these would merit a coherent collaboration among all stakeholders, especially among public authorities, TF receivers, and FIs. Therefore, in its future work, the Study Group will put more focus on collaboration with public authorities and TF receivers to deliver FI's views on enablers that are supported by experience as TF practitioners, as well as on peer learnings to bring deeper understanding and practical knowledge about various transition finance guidelines, countries' policies including national taxonomies, the development of TFFs by FIs, and transition technologies.

³ *NZBA Transition Finance Guide*, United Nations Environment Programme Finance Initiative, Net Zero Banking Alliance, October 2022, <https://www.unepfi.org/wordpress/wp-content/uploads/2022/10/NZBA-Transition-Finance-Guide.pdf>



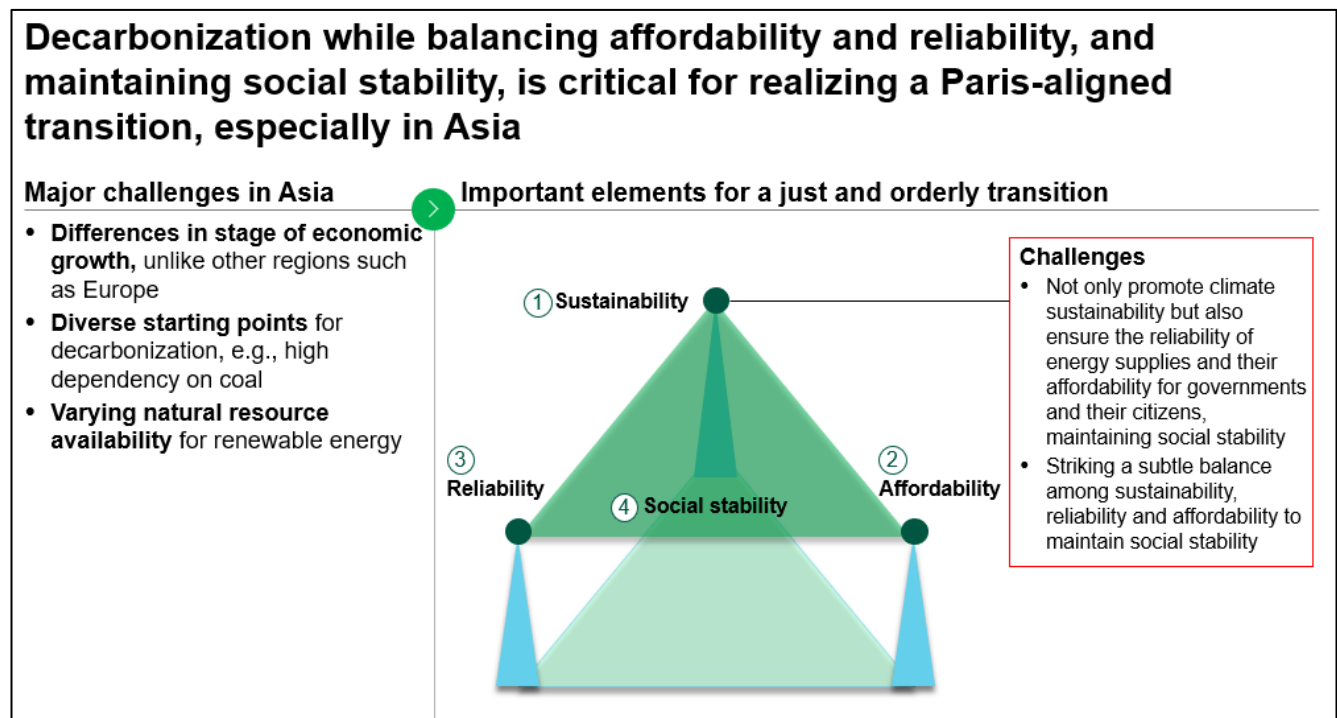
1

INTRODUCTION

1.1 POSITIONING TRANSITION FINANCE AND ENSURING STABLE TRANSITIONS

The realization of a decarbonized society requires a global effort among business organizations, government entities, and others. Transition finance supports the efforts of companies that are steadily making greenhouse gas (GHG) emission reduction efforts in accordance with long-term strategies to reach net zero/carbon neutral emissions. TF would also support the realization of a just and orderly transition – this is critical for Asia to reach the goals set forth in the Paris Agreement. A just and orderly transition not only promotes climate sustainability, but also ensures the reliability of energy supplies and their affordability for governments and their citizens. At the same time, it maintains social stability by striking a subtle balance between sustainability, reliability, and affordability.

Exhibit 2: Essential elements for a just and orderly transition



While the importance of TF toward a just and orderly transition has been widely recognized, a consensus around a definition of TF has not yet emerged, and various organizations are still developing their own interpretation of what TF should cover. Through the discussions in learning sessions and one-on-one sessions, the Study Group observed that the definitions of “transition” or “green” were different or not clearly stated across transition finance-related guidelines and taxonomies.

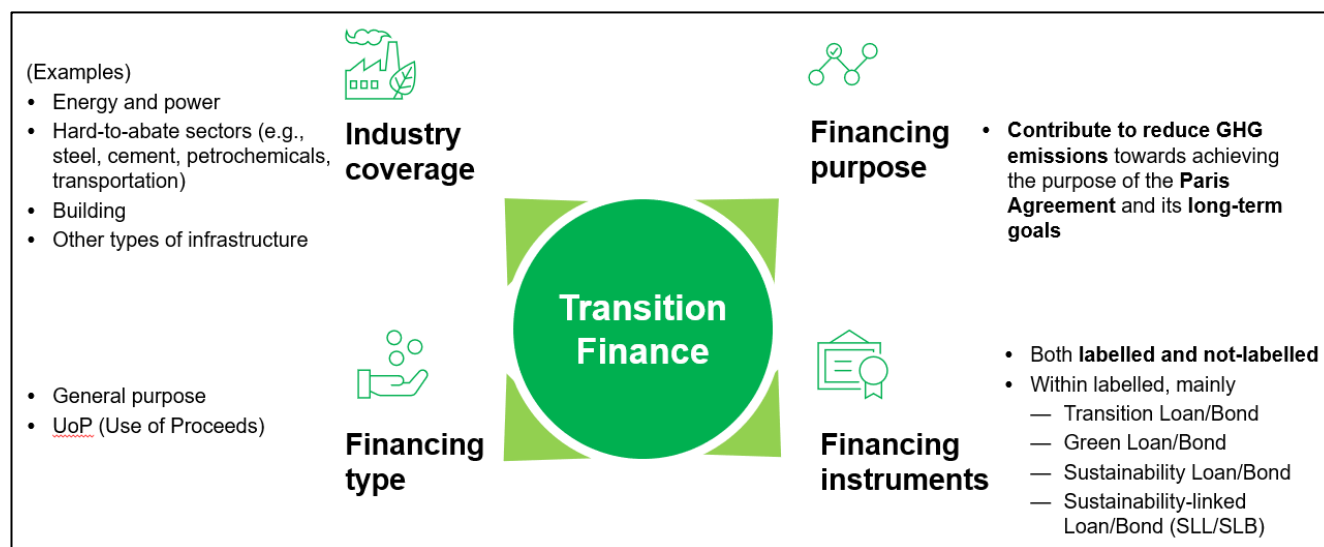
Such different understandings of TF could hinder effective discussions among practitioners. To avoid that, in this report the Study Group considers TF as follows (Exhibit 3):

- **Financing purpose:** TF could be the **financial support** for the aim to **contribute to reduce GHG emissions toward achieving the purpose of the Paris Alignment and its long-term goals**.
- **Financing instruments:** TF could be both “labelled” and “non-labelled” instruments. While the ICMA’s [Climate Transition Finance Handbook](#) (the *ICMA Handbook*) shows four key elements for labelled transition bond issuance, the concept may apply to other instruments. Therefore, the Study Group considers financing instruments for TF could be **bonds, loans, equity, and others including sustainability-link loans/bonds (SLL/SLB)**.
- **Financing type:** TF could be mainly categorized in two formats:

- **General Purpose financing**, which supports a corporation's overall decarbonization strategy,⁴ and
- **Use-of-Proceeds (UoP) financing**, which supports specific projects contributing to environmental objectives which includes decarbonization.⁵
- **Industry coverage:** TF could be used not only for fossil fuel energy or power sectors, but also for other hard-to-abate industry sectors (e.g., steel, cement, chemicals, transportation, agriculture), building, and other types of infrastructure, etc.

Based on the understanding above, the Study Group conducted various discussions with stakeholders, including TF receivers and public authorities, this year.

Exhibit 3: Coverage of transition finance



1.2 RECAP OF THE STUDY GROUP'S REPORTS IN 2022 AND FOCUS IN 2023

In 2022, the Study Group identified several challenges to transition finance in Asia. It mentioned ways that governments and stakeholders can work together to overcome these obstacles.

It also mentioned each country needs to develop net zero/carbon neutrality pathways, taxonomies, and/or technology roadmaps. Until governments formulate them, an interim approach using other alternative references is needed, such as those created by the International Energy Agency (IEA), the Network for Greening the Financial System, the Economic Research Institute for ASEAN and East Asia (ERIA), and others. When using these alternative references, it is appropriate to consider the regional characteristics of Asia.

⁴ The term 'General Purpose financing' is borrowed from ICMA, which specifies that it takes the form of sustainability-linked bonds. [Sustainability-Linked Bond Principles](#) and [Sustainability Linked Loan Principles](#) list specific requirements for issuing sustainability-linked bonds/loans. (The *ATF Guidelines* is not limited to debt instruments.) SLBs can also be issued by sovereigns and banks although the majority of issuers are corporates.

⁵ The term 'UoP financing' is borrowed from ICMA, which stipulates that it can be either green bonds, social bonds, or sustainability bonds. For more detailed information, see the ICMA's [Green Bond Principles](#), [Social Bond Principles](#) and [Sustainability Bond Guidelines](#) for debt instruments, as well as [Green Loan Principles](#), [Social Loan Principles](#) and [Sustainability Linked Loan Principles](#) published by Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications and Trading Association.

In September 2022, the Study Group published *ATF Guidelines* and *ATF Activity Report* as deliverables and presented them at the Asia Green Growth Partnership Ministerial Meeting. *ATF Guidelines* provided practical guidance, including how to use an interim approach when country-level or sector-level pathways and technology roadmaps for Asia are insufficient. The *ATF Activity Report* included the following seven suggested support measures:

Suggested Support Measures :

- ① Create sector-level or country-level pathways and technology roadmaps for Asia
- ② Consideration of a just and orderly transition in accelerating decarbonization
- ③ Financing or stakeholder support for transition finance/pilot cases in Asia
- ④ Promote the interoperability of regional and country taxonomies
- ⑤ Create guidelines on the role of carbon credits in transition finance
- ⑥ Development of transition support for SMEs
- ⑦ Promote acquisition and development of relevant skills to transition technologies

While last year the Study Group mainly focused on ASEAN countries, this year as a result of expansion of core members, the Study Group expanded the discussion to India, especially in Chapter 2.

In 2023, the Study Group focused on deepening the understanding of the progress and status of these support measures, while researching the practice of transition finance. To gain a more granular level of the challenges that FIs face, as well as uncover what needs to take place to enhance the continued evolution of these support measures, the Study Group proceeded with five main activities:

1. **Peer learning:** The introduction of initiatives by participating FIs led to the sharing of individual banks' various approaches and documents, such as internal TF guidebooks and guidelines for transition finance by international organizations and associations. These can be used as a reference for other FIs to help them consider a suitable approach. The Study Group will also share knowledge about how to use taxonomies, as well as the latest developments in international regulations.
2. **One-on-one sessions:** Recognizing that it might be hard to obtain detailed opinions from Study Group members during the large peer learning and energy and industry meetings, the Study Group organized one-on-one sessions with individual members to exchange information and learn their stance on transition development, obstacles and supports needed.
3. **Survey:** The Study Group conducted a survey among core members and others in the group to gain more insights into the market status of TF, key challenges that remain, and potential actions that can alleviate them.
4. **Energy and industry session:** The Study Group invited leading energy and industry players to its learning session to understand their challenges to achieve energy transition, and to explore potential solutions with FIs. The discussion highlighted the importance of collaboration among energy and industry players, FIs, and related public agencies.
5. **Public-private dialogue:** The Study Group had one-on-one meetings with public agencies in Asian countries to deepen its understanding of publicly released taxonomies and guidelines, and to provide an opportunity for the private sector to give public sector feedback.

The seven support measures suggested by the Study Group in 2022 have had some forward movement in the last year, as Section 2.1 will discuss. Later, Chapter 3 will synthesize the results from the Study Group survey and one-on-one meetings to identify further expectations from FIs and potential answers to the problems they've encountered.



2

PROGRESS ON THE SEVEN SUGGESTED SUPPORT MEASURES AND DEVELOPMENT OF A TRANSITION FINANCE MARKET

2.1 PROGRESS ON THE SEVEN SUGGESTED SUPPORT MEASURES

This chapter explains the key evolution of the seven suggested support measures over the past year.

The Seven Suggested Support Measures :

- ① Create sector-level or country-level pathways and technology roadmaps for Asia
- ② Consideration of a just and orderly transition in accelerating decarbonization
- ③ Financing or stakeholder support for transition finance/pilot cases in Asia
- ④ Promote the interoperability of regional and country taxonomies
- ⑤ Create guidelines on the role of carbon credits in transition finance
- ⑥ Development of transition support for SMEs
- ⑦ Promote acquisition and development of relevant skills to transition technologies

2.1.1 Create sector-level or country-level pathways and technology roadmaps for Asia.

Most of the major Southeast Asian countries and India have published plans to reach their 2030 or relevant mid-term targets, especially for the power sector, while as of September 2023, Singapore has laid out complete official pathways to net zero/carbon neutrality.

Indonesia: The Presidential Regulation (PR) No. 112/2022, issued in September 2022, mandates the Ministry of Energy and Mineral Resources collaborate with Ministry of Finance and Ministry of State-Owned Enterprises to develop a roadmap for reducing Coal-fired power plants (CFPPs) GHG emissions and accelerating the early retirement of CFPPs, and prohibits development of new CFPPs with some exceptions.

Malaysia: Malaysia's Minister of Economy launched the first and second parts of the country's *National Energy Transition Roadmap* in July and August 2023 respectively. The roadmap's four principles align the energy sector with sustainable development, ensure a just and orderly transition, call for a national approach with effective governance, and create jobs and economic opportunities for SMEs.

Philippines: the Philippine's Department of Energy plans to publish the Philippine Energy Plan in September 2023, which is expected to maintain its target of 35 percent renewable share in the power generation mix by 2030 and 50 percent by 2040, as well as possibly adding nuclear power to its energy mix.

Singapore: In March 2022, the Energy Market Authority (EMA) issued [Charting the Energy Transition to 2050](#). The report looks at long-term strategies and the unique circumstances in Singapore to see what transformational changes will be necessary to achieve net-zero emissions in the power sector by 2050.

Thailand: Thailand is working on its National Energy Plan (NEP). Expected to be complete in 2023, it will serve as the framework and development strategy for the country's energy systems for the next two decades. The NEP will set guidelines for power development, renewable and alternative energy development, energy efficiency, natural gas management, and fuel management.

Vietnam: Vietnam's [Power Development Plant 8](#), approved in May 2023, includes a shift away from coal toward renewable energy. PDP8 aims to produce more electricity from wind, solar, hydropower

and other renewable sources to make up almost 50 percent of the country's total power capacity. Under the plan, no new coal power stations can be built after 2030.

India: By 2030, India is committed to achieve the target of 500 GW non-fossil energy capacity, 1 billion tons reduction in projected carbon emission, 45% reduction in emission intensity of GDP and 50% installed capacity from non-fossil fuel-based energy resources. This will lead to create a path for achieving India's Net Zero target by 2070. Under this backdrop, the Central Electricity Authority has notified the *National Electricity Plan* (Vol-I Generation) for the period of 2022-32 in May 2023. The plan provides a detailed plan for the next five years (2022-27) and the prospective plan for the next five years (2027-32), including short-term and long-term demand forecasts, capacity additions in generation and transmission, technologies and fuel choices based on economy, energy security, and environmental considerations, and expected financial outlay.

2.1.2 Consideration of a just and orderly transition in accelerating decarbonization

While both the G7 and G20 announced aims to achieve a just and orderly transition, regional and national taxonomies in Asia have already included social aspects in their guidelines, taxonomies, and pathways to enhance just and orderly transitions.

In May 2023, the G7 announced its Clean Energy Economy Action Plan, which will focus on global trade and increased cooperation to reach net zero emissions by 2050. The G7 said it was committed to ensuring that regulations and investments would make clean energy technologies more affordable everywhere and “help drive a global, just energy transition for workers and communities that will leave no one behind.”⁶ In the G7 Hiroshima Leaders' Communique released the same day, the G7 said it was calling on and would “work with other countries to end new unabated coal-fired power generation projects globally as soon as possible to accelerate the clean energy transition in a just manner.”⁷

In October 2022, the G20's Sustainable Finance Working Group (SFWG) published an overview of its efforts, including the development of a transition finance framework. The framework outlines 22 high-level principles for jurisdictions and financial institutions to consider on a voluntary basis, including those that deal with the social implications of transition finance. The SFWG emphasized in Principle 6 the importance of an “orderly, just and affordable transition, while avoiding or mitigating possible negative impacts on employment and affected households, communities.” It also stressed other sustainable development goals, such as protecting the environment, biodiversity, or “risks to energy security and price stability.”⁸

Strong emphasis on a just and orderly transition consideration by the G20 is also reflected in its emphasis on the 2 °C as a main goal and the 1.5 °C as an ambition goal. While the G7's Clean Energy Action Plan emphasizes “while acknowledging that there are various pathways according to each country's energy situation, industrial and social structures, and geographical conditions, we highlight that these should lead to our common goal of net zero by 2050 at the latest, in order to keep a limit of 1.5 °C temperature rise within reach”, the Recommendation 1 of the G20 SFWG' [2022 G20 Sustainable Finance Report](#) states that “apply commitments, where possible, to all operations, financing, products,

⁶ G7 Clean Energy Economy Action Plan, White House Briefing, May 20, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/20/g7-clean-energy-economy-action-plan/#:~:text=We%2C%20the%20leaders%20of%20the,commitment%20to%20the%20Paris%20Agreement>

⁷ G7 Hiroshima Leaders' Communique, White House Briefing, May 20, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/20/g7-hiroshima-leaders-communique/#:~:text=We%20call%20on%20and%20will,coal%20power%20generation%20in%202021>

⁸ 2022 G20 Sustainable Finance Working Report, G20 Sustainable Finance Working Group, October 2022, <https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf>

services, and business lines, and be in-line with holding the increase in the global average temperature to well below 2 °C above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels".

The [Climate Transition Finance Handbook 2023](#) initially published by ICMA in December 2020 and updated in June 2023 also recommends "disclosures on adverse impacts on the workforce, community and surrounding environment, and related strategies used to mitigate those negative impacts".

[ASEAN Taxonomy for Sustainable Finance, version 2](#) (ASEAN Taxonomy version 2), which was released in March 2023, includes Social Aspects as its third essential criteria. The Social Aspects essential criteria prevent activities that could potentially lead to negative ramifications for employees, communities, and those living near sustainability projects. While ASEAN Taxonomy version 2 defines "Green" tiers benchmarked to the 1.5 °C target, it also provides "Amber" tier 2 and 3 for promoting inclusivity. This shows a different approach towards the 1.5 °C target from the G7 Action Plan.

[Indonesia Green Taxonomy edition 1](#) includes social factors in two out of its four principles. The first principle, "Responsible Investment Principles," considers "economic, social, environmental and governance factors in economic activities." The third principle "Social and Environmental Risk Management Principles," includes "precautionary prudential principles in assessing social and environmental risks through identification, measurement, mitigation, supervision, and monitoring processes."⁹

The Securities Commission Malaysia issued the [Principle-Based Sustainable and Responsible Investment Taxonomy](#) for the Malaysian Capital Market in December 2022. The taxonomy contains four environmental objectives and three social objectives. For an economic activity to be deemed sustainable, the economic activity has to be aligned with the objectives of both the environmental and social components of the taxonomy.

Malaysia's *National Energy Transition Roadmap* includes just and inclusiveness as a principle, as mentioned in Section 2.1.1.

Singapore EMA's [Charting the Energy Transition to 2050](#) report, mentioned in Section 2.1.1., concluded that Singapore's power sector can realistically aspire to achieve net-zero emissions by 2050 while still maintaining energy security and affordability.

[Thailand Taxonomy phase 1, published in June 2023](#), requires "Minimum Social Safeguards" as one essential criterion to ensure that the asset or activity does not generate a negative social impact.

2.1.3 Financing or stakeholder support for transition finance/pilot cases in Asia

Initiatives by governments, development banks, and sustainability alliances to mobilize capital to support transition finance projects are underway.

In November 2022, the government of Indonesia and the Asian Development Bank (ADB) signed a memorandum of understanding to initiate a preliminary discussion about refinancing a coal power plant in West Java, with the provision that it be taken out of service 10 to 15 years earlier than planned. The possible refinancing of the 660-megawatt Cirebon 1 power plant in West Java would be

⁹ *Indonesia Green Taxonomy edition 1*, Sustainable Finance Indonesia, January 20, 2022, <https://www.ojk.go.id/keuanganberkelanjutan/en/publication/detailslibrary/2352/taksonomi-hijau-indonesia-edisi-1-0-2022>

an approximately \$250 million USD deal, which news reports referred to as the first agreement of its kind under the ADB's Energy Transition Mechanism (ETM).¹⁰

At the G20 summit in Bali – and on the same day as COP27's Energy Day in November 2022– Indonesia announced it had teamed up with developed countries to launch its Just Energy Transition Partnership (JETP). The deal secures \$20 billion USD investment from the US, Japan, and others to help Indonesia accelerate the transition from coal to clean electricity.¹¹

Following Indonesia, Vietnam and the International Partners Group, which includes the European Union (EU), Japan, the US, and other developed countries, also announced a launch of JETP in December 2022 with initial pledges of \$15 billion USD over the next five years, to help Vietnam become carbon neutral by 2050.¹²

In April 2023, the Monetary Authority of Singapore (MAS) launched its Finance for Net Zero Action Plan, which expands its 2019 Green Finance Action Plan to include transition finance. The expanded plan, announced at the opening of the Sustainable and Green Finance Institute of the National University of Singapore, includes strategies to increase financing for the Asian region's decarbonization efforts.¹³

In July 2023, MAS announced it had allocated about 2 percent of its equity portfolio or just over \$6 billion USD to “less carbon intensive companies that are more aligned with the low-carbon transition.”¹⁴

In June 2023, the World Bank's Board approved \$1.5 billion financing to accelerate India's development of low-carbon energy. The financing will help India promote low-carbon energy by scaling up renewable energy, developing green hydrogen, and stimulating climate finance for low-carbon energy investments. The program will support the successful implementation of the National Green Hydrogen Mission that aims to stimulate \$100 billion in private sector investment by 2030. The program also aims to scale up renewable energy supply thereby reducing costs and improving grid integration.¹⁵

¹⁰ Reuters Wire Service, “Indonesia, ADB launch first coal power plant retirement deal”, *Reuters*, November 14, 2022, <https://www.reuters.com/article/g20-summit-climate-coal-idAFL1N32A088>

¹¹ *Indonesia and International Partners Secure Groundbreaking Climate Targets and Associated Financing*, White House Briefing, November 15, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/11/15/indonesia-and-international-partners-secure-groundbreaking-climate-targets-and-associated-financing/>.

¹² Jörg Wischermann, “JETP Vietnam: 15 billion US dollars for a new energy system,” *Heinrich Böll Stiftung The Green Political Foundation*, April 20, 2023, <https://www.boell.de/en/2023/04/20/jetp-vietnam-15-billion-us-dollars-new-energy-system>.

¹³ MAS, News release, “MAS Launches Finance for Net Zero Action Plan,” April 20, 2023, <https://www.mas.gov.sg/news/media-releases/2023/mas-launches-finance-for-net-zero-action-plan>

¹⁴ MAS, Remarks by Mr. Ravi Menon, Managing Director, MAS, at the MAS Annual Report and MAS Sustainability Report 2022/2023 Media Conference, July 5, 2023, <https://www.mas.gov.sg/news/speeches/2023/mas-annual-report-and-mas-sustainability-report-2022-2023>

¹⁵ *World Bank Approves \$1.5 Billion in Financing to Support India's Low-Carbon Transition*, World Bank, June 29, 2023, <https://www.worldbank.org/en/news/press-release/2023/06/29/world-bank-approves-1-5-billion-in-financing-to-support-india-s-low-carbon-transition#:~:text=WASHINGTON%2C%20June%2029%2C%202023%20%E2%80%94,development%20of%20low%2Dcarbon%20energy>

2.1.4 Promote the interoperability of regional and country taxonomies

The Asian region has seen updates and new issuance of taxonomies since 2022. Following is the summary of the status of regional and national taxonomies (Table 1).

Table 1: Taxonomy status in some Asian countries (as of September 2023)¹⁶

Taxonomy	Approach	Objectives	Sector coverage
ASEAN Taxonomy version 2, published in March 2023, by ASEAN Taxonomy Board	Principle-based for Foundation Framework Technical Screening Criteria (TSC) in Plus Standard	<ul style="list-style-type: none"> Climate Change Mitigation Climate Change Adaptation Protection of Healthy Ecosystems and Biodiversity Resource Resilience and the Transition to a Circular Economy 	Foundation Framework: Sector-agnostic Plus Standard: Focus sectors: <ul style="list-style-type: none"> Agriculture, forestry & fishing Electricity, gas, steam and air conditioning supply Manufacturing Transportation & storage Water supply, sewerage, waste management Construction & real estate Enabling sectors: <ul style="list-style-type: none"> Information & communication Professional, scientific & technical Carbon capture, utilization & storage
Indonesia Green Taxonomy edition 1.0, issued in January 2022, by Indonesian Financial Services Authority	Principle-based	<ul style="list-style-type: none"> Climate change mitigation Climate change adaptation 	919 sectors and subsectors mapped to sub-sectors, groups, and business activities based on the Indonesia Standard Industry Classification (KBLI) and 198 (beyond the KBLI) sub sectors were clarified regarding green and non-green thresholds.
Malaysia's Climate Change and Principle-based Taxonomy, issued in April 2021, by Bank Negara Malaysia	Principle-based	<ul style="list-style-type: none"> Climate change mitigation Climate change adaptation 	
Malaysia's Sustainable and Responsible Investment Taxonomy, issued in December 2022, by Securities	Principle-based (Phase 1) (TSC to come via Phase 2 – Plus Standard)	Environment <ul style="list-style-type: none"> Climate change mitigation Climate change adaptation Protection of healthy ecosystems and biodiversity Promotion of resource resilience and transition to circular economy Social	Sector-agnostic (Phase 1) (Plus Standard will include metrics and thresholds for focus sectors)

¹⁶ ASEAN Sustainable Finance, State of the Market 2022, Climate Bonds Initiative, May 2022, <https://www.climatebonds.net/resources/reports/asean-sustainable-finance-state-market-2022>

Taxonomy	Approach	Objectives	Sector coverage
Commission Malaysia		<ul style="list-style-type: none"> Enhanced conduct towards workers Enhanced conduct towards consumers and end-users Enhanced conduct towards affected communities and wider society 	
Singapore-Asia Taxonomy, 4 th consultation paper issued in June 2023, by Singapore's Green Finance Industry Taskforce	TSC	<ul style="list-style-type: none"> Climate change mitigation Climate change adaptation Protect biodiversity Promote resource resilience and circular economy Pollution prevention and control 	<ul style="list-style-type: none"> Agriculture and Forestry / Land Use Construction / Real Estate Transportation and Fuel Energy (including upstream) Industrial Information and Communication Technology Waste and Water Carbon Capture and Storage
<i>Thailand Taxonomy phase 1</i> , issued in June 2023, by Bank of Thailand and Securities and Exchange Commission	TSC	<ul style="list-style-type: none"> Climate change mitigation Climate change adaptation Sustainable water conservation Resource circulation Pollution prevention and management Biodiversity conservation 	<p>Phase 1 include 2 sectors:</p> <ul style="list-style-type: none"> Energy Transportation <p>Phase 2 will include more sectors:</p> <ul style="list-style-type: none"> Manufacturing Agriculture Real estate and Construction Waste management

Public authorities are considering the interoperability between regional and national taxonomies while still ensuring alignment with each country's climate strategy and current industrial and economic structures.

ASEAN Taxonomy version 2: The ASEAN Taxonomy version 2 takes a hybrid approach and is an overarching guide for the region with an intention that the ASEAN Taxonomy and national taxonomies complement each other. Published in March 2023, it has a multi-tiered framework that considers differences among ASEAN member states and allows them to choose between using a principles-based approach under the Foundation Framework, and technical screening criteria (including quantitative thresholds) under the Plus Standard. The Plus Standard has multiple thresholds (Green, Amber Tier 2, and Amber Tier 3) rather than a single threshold which further enable countries at different stages to find meaningful guidance through the Taxonomy.

Singapore-Asia Taxonomy: In June 2023, Singapore's Green Finance Industry Taskforce published its final consultation on the Singapore-Asia Taxonomy, which focuses on climate change mitigation. The Singapore-Asia Taxonomy is intended to be interoperable with international taxonomies, including the EU Taxonomy and the ASEAN Taxonomy.¹⁷

¹⁷ Mark Uhryuk, Wei Na Sim, and Joey C.Y. Lee, "ASEAN Releases Version 2 of the Sustainability Taxonomy for Southeast Asia", *Eye on ESG*, May 5, 2023, <https://www.eyeonesg.com/2023/05/asean-releases-version-2-of-the-sustainability-taxonomy-for-southeast-asia/>.

Indonesia Green Taxonomy edition 1: Indonesia's Green Taxonomy edition 1 was launched in January 2022, and is aligned with the ASEAN taxonomy's principles-based Foundation Framework, which classifies and color-codes activities based on their contribution to climate change mitigation.

Thailand Taxonomy phase 1: In June 2023, the Bank of Thailand and the Securities and Exchange Commission released the *Thailand Taxonomy phase 1*. The taxonomy is more like the EU's taxonomy, rather than the principle-based frameworks used by other Asian countries.¹⁸

2.1.5 Create guidelines on the role of carbon credits in transition finance

Carbon credits are considered one tool to foster transition activities, and certain progress has been made in creating guidelines on their role in transition finance. However, further clarification of the role carbon credits play in transition finance and guidance may be needed to ensure credibility on their uses.

The Study Group recognizes two potential roles for carbon credits in transition finance. The first is to help TF receivers, especially those in hard-to-abate sectors, offset their emissions by purchasing carbon credits. The second is to help TF receivers generate carbon credits by achieving energy savings, emissions reductions, or sequestration, or avoiding emissions from early phaseout of brown assets. But without clear acceptance from guidelines issuers, TF receivers face challenges to completely remove their direct emissions, while FIs face reputational risks by accepting a TF receiver's carbon credits to offset their emissions.

[Climate Transition Finance Handbook 2023](#): The *ICMA Handbook* says that the use of carbon credits for offsetting purposes toward achieving GHG emission reduction strategies should be kept to a minimum and used only to abate residual emissions. It recommends that issuers should disclose the reasoning and need for using carbon credits, along with details on the internal carbon credits procurement policy and associated governance. Guidance related to use of high-quality and high-integrity carbon credits includes the Voluntary Carbon Market Initiative and the Integrity Council for Voluntary Carbon Markets.

GFANZ's [Financing the Managed Phaseout of Coal-Fired Power Plants in Asia Pacific](#), published in June 2023, proposed that carbon credits could have a role to play if they can be generated to cover avoided emissions from an early phaseout.

CBI's [Transition Finance for Transforming Companies](#), updated in September 2022, says that offsets should not be used "in place of or to delay decarbonization of the underlying activity." The guide suggests that if offsets are used, they should be marked as "additional actions on top of efforts to directly reduce emissions" and should comply with the sectoral green transition pathway.

Many taxonomies still do not mention the role of carbon credits, including those in Indonesia, Malaysia, Thailand, and Singapore, *ASEAN Taxonomy version 2*, as well as EU Taxonomy.

2.1.6 Development of transition support for SMEs

Public authorities have proposed initiatives to support small- and medium-sized enterprises (SMEs) in developing and implementing decarbonization strategies

¹⁸ Khalid Azizuddin, "Thailand issues green taxonomy in partnership with CBI", *Responsible Investor*, July 3, 2023, <https://www.responsible-investor.com/thailand-issues-green-taxonomy-in-partnership-with-cbi/>.

In December 2022, the Organization for Economic Co-operation and Development (OECD) published a “Financing SMEs for sustainability: Drivers, Constraints and Policies” report to address SMEs’ a significant aggregate environmental footprint and need to adopt cleaner business models. The report highlighted key challenges that SMEs were facing, provided an overview of the key policies and instruments in place to support SMEs to access to sustainable finance and mentioned potential considerations for future public support and policy making.

In Indonesia, the government helped launch an integrated funding platform called SDG Indonesia One to finance infrastructure projects that will support sustainable development. The unique financing plan already has \$3.19 billion USD in commitments.¹⁹ Observers are hopeful that the platform can be used to target SMEs to help with decarbonization.²⁰

In Singapore, Ministry of Trade and Industry of Singapore and Enterprise Singapore (EnterpriseSG) announced in February 2023 that they will provide more support for businesses and workers to help with sustainability and decarbonization. EnterpriseSG will expand the Enterprise Sustainability Programme, which was launched in 2021, with new initiatives to make it easier for SMEs to get access to tools and resources, such as digital training, workshops, sustainability guides, and a new website.

MAS and the United Nations Development Programme (UNDP), Global Legal Entity Identifier Foundation (GLEIF) announced Project Savannah in June 2023, a collaboration to develop digital Environmental, Social and Governance (ESG) credentials for micro, small and medium-sized enterprises (MSMEs) worldwide. The program would create a common set of ESG metrics that could be stored in Legal Entity Identifier (LEI) records, making it easier for MSMEs to transmit the critical data to their business partners, speeding up access to global financing and enhancing supply chain opportunities.²¹

In Malaysia, *National Energy Transition Roadmap* includes “creating high-value employment for people and generating high-impact economic opportunities for small and medium enterprises” as one of its four guiding principles.

*Guide for Malaysian Banks Supporting SMEs in the Sustainable Recovery*²² was published by The United Nations Environment Programme Finance Initiative in June 2022 to help Malaysian banks in supporting SMEs on their sustainability journey in the post-pandemic environment. The guide provides a framework for banks, includes case studies from Malaysian and other international banks, and a step-by-step guide for product development.

Capital Markets Malaysia, an affiliate of the Securities Commission Malaysia, has launched a public consultation on the *Simplified ESG Disclosure Guide (SEDG) for Small to Medium Enterprises (SMEs)*²³. The aim of this Guide is to support SMEs in their adoption of Sustainability by providing guidance on the data requirements of their journey.

¹⁹ “One Commitment. One Platform. One Indonesia,” SDG Indonesia One, December 2022, <https://ptsmi.co.id/sdg-indonesia-one>.

²⁰ Hasintya Saraswati, “MSMEs: The Key to Indonesia’s Decarbonization Efforts,” *The Diplomat*, December 23, 2022, <https://thediplomat.com/2022/12/msmes-the-key-to-indonesias-decarbonization-efforts/>.

²¹ *MSMEs to unlock new access to sustainable finance*, United Nations Development Programme, June 2023, <https://www.undp.org/news/msmes-unlock-new-access-sustainable-finance>

²² *Guide for Malaysian Banks Supporting SMEs in the Sustainable Recovery from COVID-19*, United Nations Environment Programme Finance Initiative, June 2022, <https://www.unepfi.org/regions/asia-pacific/guide-for-malaysian-banks-supporting-smes-in-the-sustainable-recovery-from-covid-19/>.

²³ *Simplified ESG Disclosure Guide (SEDG) for Small to Medium Enterprises (SMEs)*, Capital Markets Malaysia, July 14, 2023, <https://www.capitalmarketsmalaysia.com/simplified-esg-disclosure-guide-sedg-for-smes/>

In Thailand, the Bank of Thailand introduced a new program in 2022 for entrepreneurial businesses that will include low-interest loans for investments that promote sustainability. The transformation loans, part of the bank's Emergency Decree on Rehabilitation Loans, are intended for projects that focus on digital technology, eco-friendliness, and innovation.

In Vietnam, in November 2022, the US Agency for International Development (USAID) and Vietnam's Ministry of Planning and Investment (MPI) announced a new initiative to spur private sector-driven sustainable and inclusive growth across Vietnam. The initiative will help SMEs adopt ESG standards.²⁴

In India, multiple initiatives have been observed in the last one year. The Bureau of Energy Efficiency signed MoU with Small Industries Development Bank of India (SIDBI) in November 2022 to promote energy efficiency financing for MSMEs and exploring IoT based solutions, Greening MSMEs, capacity building of various stakeholders, etc.²⁵

Earlier in September 2022, the SIDBI also signed three MOUs to provide credit guarantees, technology supports, and trainings to support MSMEs on their sustainability development²⁶

2.1.7 Promote acquisition and development of relevant skills for transition technologies.

Some progress has been made in boosting relevant skills for transition technologies, but such advancement remains fragmented in Asia.

As part of the February 2023 Singapore SME initiative mentioned earlier, the Ministry of Trade and Industry Singapore said it had partnered with SkillsFuture Singapore to set up a Green Skills Committee to bring together industry leaders and training providers to help develop the competencies and training programs required for a green economy.

In March 2023, Enterprise Singapore said it was launching decarbonization and sustainable finance courses to provide in-depth knowledge to business leaders. The courses were developed with the help of the UN Global Compact Network Singapore, PwC Singapore, and the Carbon Trust.

In July 2023, Japan Fund for Prosperous and Resilient Asia and the Pacific provided funding for "[Institutional and Capacity Building Support for the Just Energy Transition Partnership Secretariat](#)" in Indonesia. The \$2 million USD will go toward helping provide technical assistance, as well as institutional and implementation support, to the Just Energy Transition Partnership Secretariat that is helping Indonesia in its energy transition.

In India, the Skill Council for Green Jobs was launched by Government of India in 2015 with a mission to identify skilling needs of service users as well as manufacturers/ service providers, within green businesses sector, and implement nation-wide, industry led, collaborative skills development & entrepreneur development initiatives that will enable meet India's potential for "Green Businesses". Besides ongoing programs, the Skill Council for Green Jobs have launch various new programs to

²⁴ USAID, *Vietnam Launch New Initiative to Promote Private Sector-Driven Sustainable Growth*, USAID, November 22, 2022, <https://www.usaid.gov/vietnam/press-releases/nov-22-2022-united-states-vietnam-launch-new-initiative-promote-private-sector-driven-sustainable-growth>

²⁵ BEE, *SIDBI to Jointly Promote Energy Efficiency Financing for MSMEs*, Adda247, November 2022, <https://currentaffairs.adda247.com/bee-sidbi-to-jointly-promote-energy-efficiency-financing-for-msmes/>

²⁶ MSME Desk, "SIDBI announces multiple MoUs to help MSMEs embrace energy efficiency", *Financial Express*, September 18, 2022, <https://www.financialexpress.com/industry/sme/msme-green-sidbi-announces-multiple-mous-to-help-msmes-embrace-energy-efficiency-in-operations/2672363/>

develop relevant skills for transition in the last year. For example, the council organized Remote-Online Training of Trainer on Solar PV in 2022.

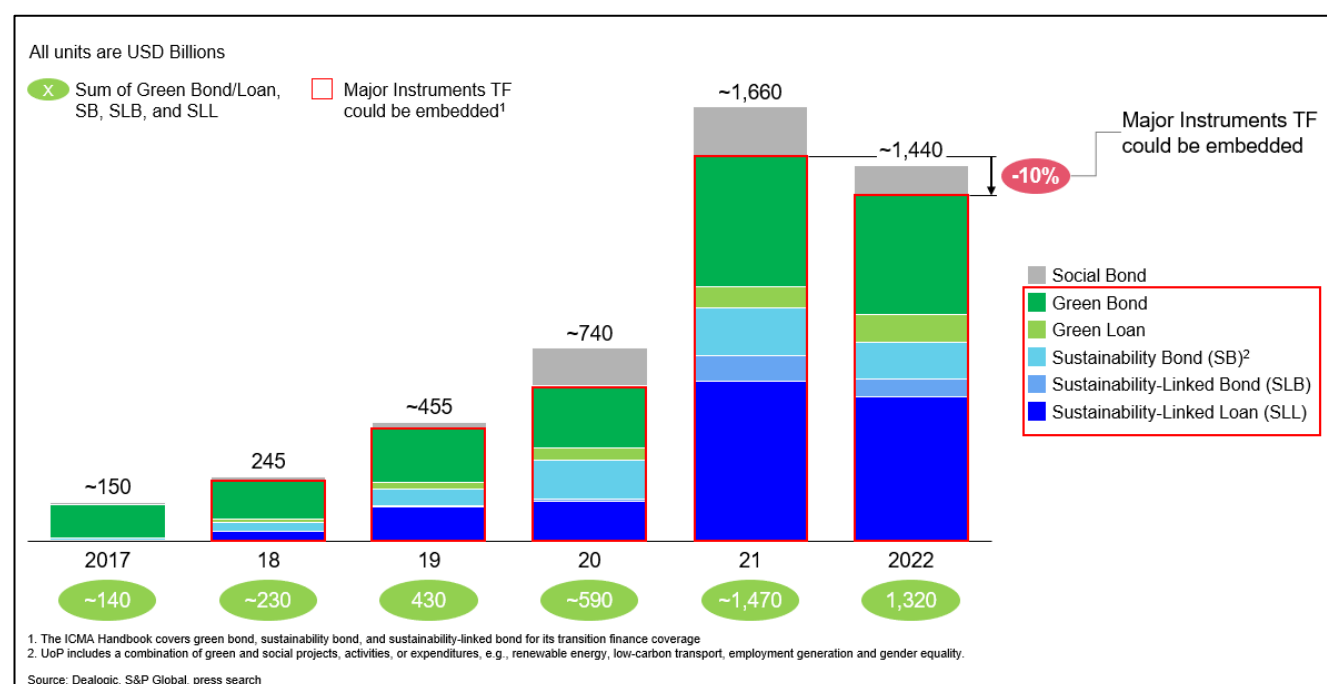
2.2 TRANSITION FINANCE MARKET DEVELOPMENT GLOBALLY AND IN ASEAN

Transition Finance Market Overview:

Transition finance-related instruments – mainly embedded in green bonds, green loans, sustainability bonds (SB), sustainability-linked bonds (SLB), and sustainability-linked loans (SLL), grew rapidly from 2017 until 2021, but then stagnated in 2022. This trend can be cited globally (Exhibit 4) and in the ASEAN region (Exhibit 5).

There are two potential explanations for the downturn in sustainable finance and transition finance in 2022. First, the 2022 global bond market environment, marked by higher interest rates, inflation, an energy crisis, an unpredictable 2023, and overall volatility, weighed on funding decisions, making primary markets harder to navigate.²⁷ Another reason for the decline of the sustainable finance market may be the tightening of regulations in North America and Europe in 2022, making borrowers more cautious.²⁸

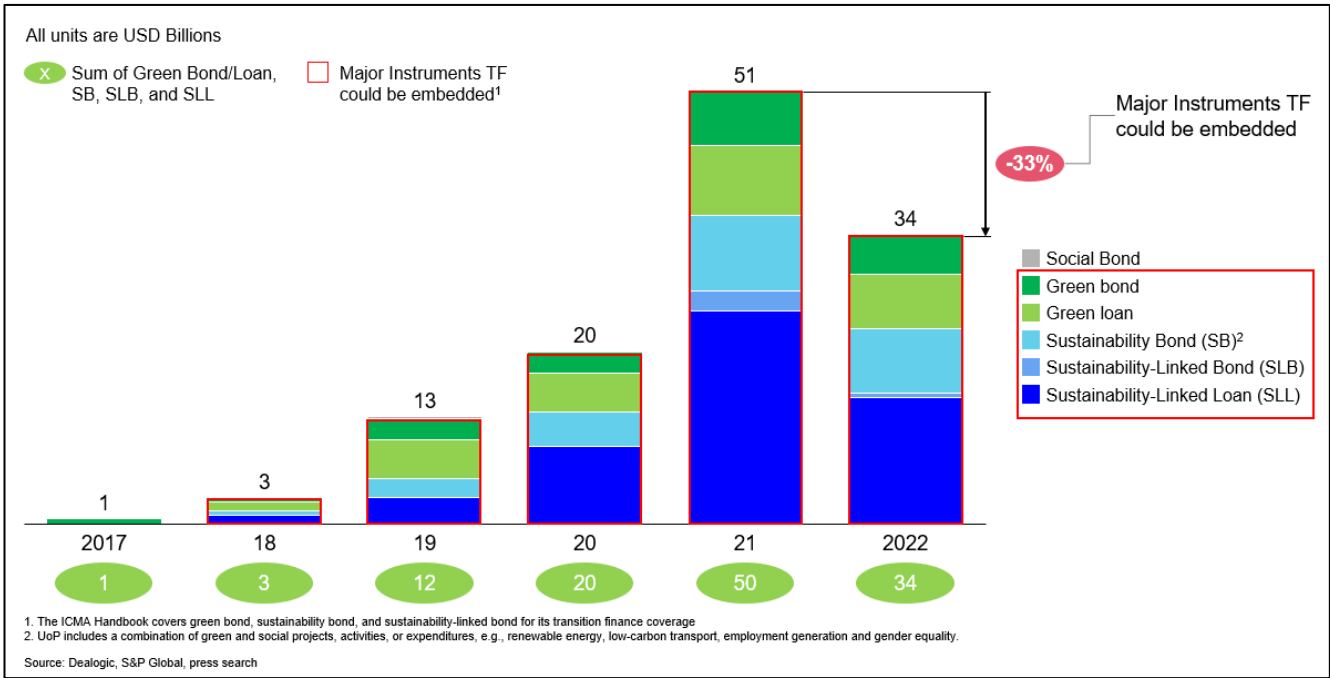
Exhibit 4: Global sustainable bonds and loans issuance during 2017-2022



²⁷ Edward Clark, "DCM Highlights: FY 22," *Ion Analytics*, December 21, 2022, <https://community.ionanalytics.com/dcm-highlights-fy22>

²⁸ Eugene Ellmen, "Five trends that shaped sustainable finance in 2022" *Corporate Knights*, January 3, 2023, <https://www.corporateknights.com/category-finance/five-trends-that-shaped-sustainable-finance-in-2022/>

Exhibit 5: ASEAN’s sustainable bonds and loans issuance during 2017-2022





3

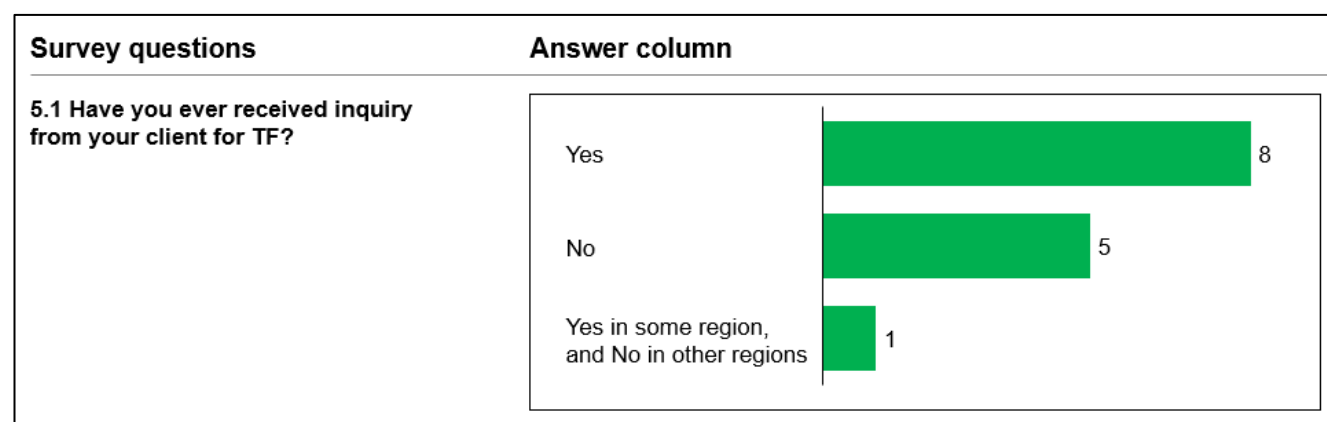
TRANSITION FINANCE IN ASIA TODAY AND KEY ENABLERS

To understand the current situations of TF and possible obstacles that FIs and TF receivers are facing, the Study Group conducted learning sessions, one-on-one meetings, and a survey to capture feedback from its members this year. Survey responses came from 14 core member FIs, two observers, and one knowledge contributor²⁹. The Study Group recognized that some quantitative questions are not applicable for non-core members, e.g., some banking associations and public authorities do not need TF frameworks and don't have direct clients who need TF. Therefore, the Study Group only counted the feedbacks from core members in quantitative results. However, feedback and comments from observers and knowledge contributors are valuable inputs to the Annual Report and are also quoted in the report. This chapter introduces the key findings from these initiatives as well as views from industry players who contributed comments during the Energy and Industry session.

3.1 CURRENT STATUS OF TF DEMAND IN ASIA

One-on-one meetings and a Study Group survey revealed a limited demand for TF in certain regions. Despite the release of several transition finance related guides in 2022, transition finance deals with labels are mainly concentrated in Japan and China.³⁰ The main interest in transition finance seems to come from larger oil and gas and electricity companies, according to the observations of some FIs in Asian countries. The Study Group survey results echoed those insights. Exhibit 6 shows the majority of FIs have received inquiries about transition finance, yet five of the fourteen FIs did not receive a single TF request. Some FIs also pointed out that while large corporations with a relatively large global/regional presence have stronger interest in transition finance for their energy transition activities, local corporations, especially SMEs, still lag behind.

Exhibit 6: Survey results - TF demand from FIs' clients

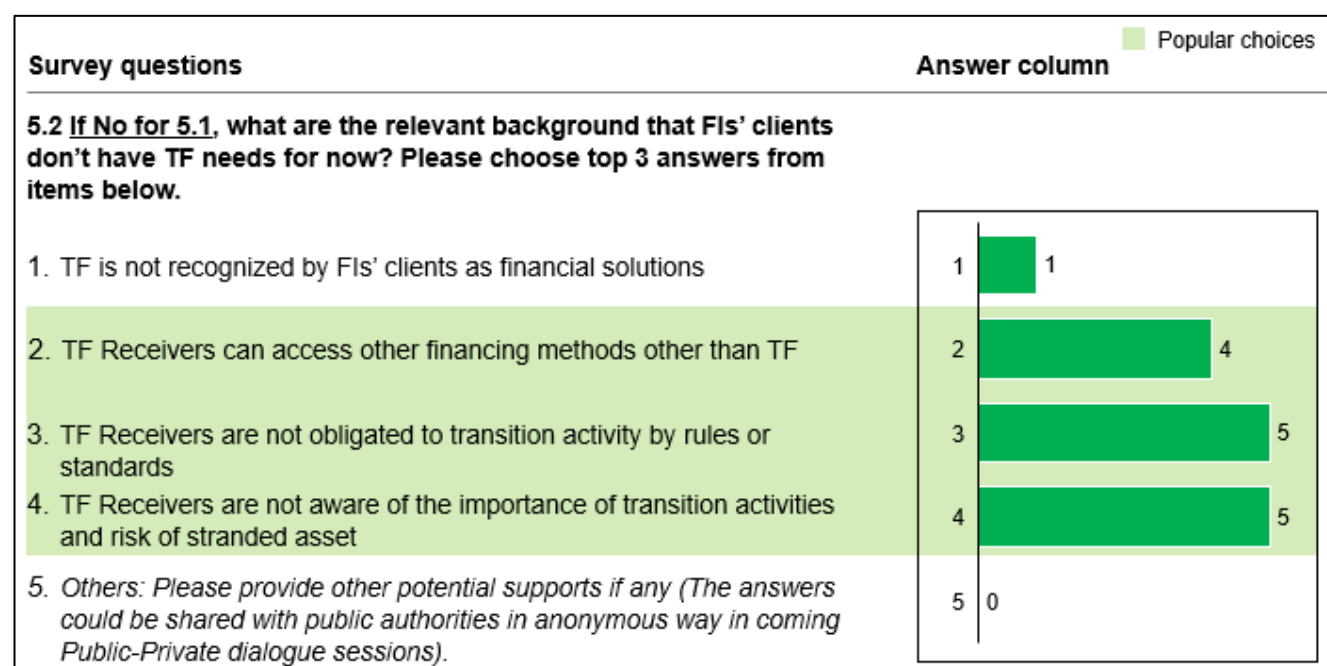


As depicted in Exhibit 7, survey respondents offered several reasons why customers may not be seeking transition finance: The most probable reasons for the low TF demand are that the TF Receivers are not obligated by rules or standards and they are able to raise funds in a format other than TF. In other words, some transition activities may be partially financed without using the transition label. During further one-on-one meetings, FIs shared that some of the TF funding requirements are met either through conventional loans or SLL/SLB. A potential risk associated with this approach, pointed out by one of the respondents, is that some TF receivers are not yet aware of the risks associated with stranded assets and might face the consequences in the future.

²⁹ For members' category, please refer to Exhibit 1

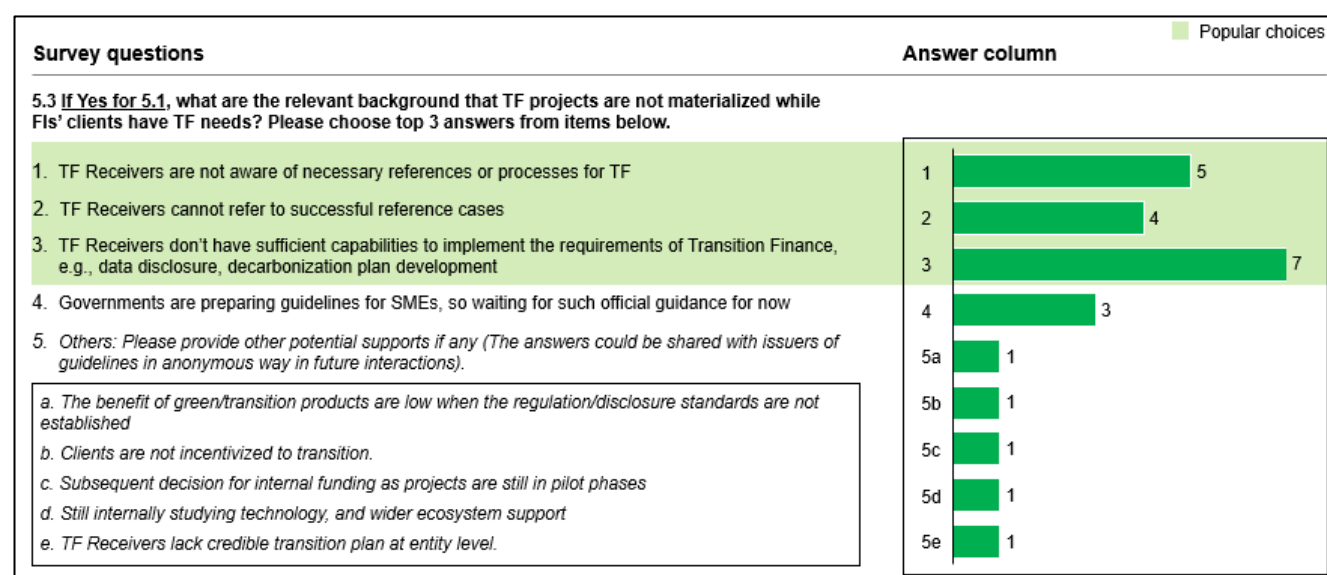
³⁰ Tomohiro Ishikawa and Masyita Crystallin, "How to mobilize more financing for Asia's energy transition," *Nikkei Asia*, May 3, 2023, <https://asia.nikkei.com/Opinion/How-to-mobilize-more-financing-for-Asia-s-energy-transition>

Exhibit 7: Survey results - Reason for low TF demand



Even though some leading energy and industry companies are interested in TF, several obstacles still hinder its development. As depicted in Exhibit 8, survey respondents offered a variety of reasons why TF projects have not materialized even though their clients have TF needs. The most probable explanation is that TF receivers do not have sufficient capabilities to implement the requirements of TF as our guidelines suggest or other standards and guidelines stipulate, and TF receivers are not aware of the necessary references or processes for TF. These points will be further elaborated in Section 3.6.

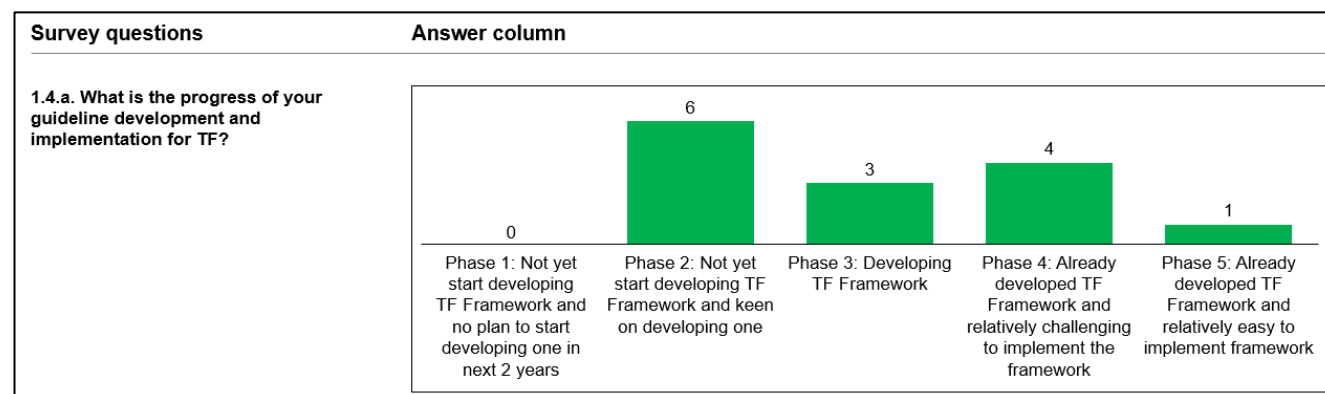
Exhibit 8: Survey results - Reason for unmaterialized TF inquiries



3.2 FI'S VIEW ON CHALLENGES, NECESSITY OF TRANSITION FINANCE FRAMEWORK DEVELOPMENT, AND PROGRESS

FIs, who have already recognized the importance of transition finance, drive its deployment. While FIs are starting to meet their clients' transitional capital requirements in various ways - whether labelled TF or otherwise, FIs understand the need to have a Transition Finance Framework (TFF) in place. Exhibit 9 shows that out of the fourteen respondents, five FIs have developed their own TFF, three are working on a plan, and the other six say they are interested in developing one.

Exhibit 9: Survey results - Progress in TF Framework development and implementation



The *NZBA Transition Finance Guide*,³¹ published in 2022, encouraged banks to develop their own TFF to reflect their unique business model and geographic operating footprint. Such frameworks, it suggested, should follow the guide's common principles as a minimum baseline, and then be supplemented with "detailed, practical and actionable" bank-specific information. The guide raised two material questions that the TFF should be able to evaluate:

1. Does the client have a credible, feasible, and sufficiently ambitious net-zero aligned transition plan (and how can "credibility" be verified)?
2. Will the financing in question meaningfully advance a client's or the wider economy's net-zero journey (and how can this be assessed and reported)?

One-on-one meetings helped the Study Group understand why FIs are motivated to develop their own TFFs despite some challenges:

- **TFF as a guidance in reviewing the credibility of clients' transition activities**

FIs recognize that their clients will have energy transition needs. They realize that TF is essential to support their clients in developing countries where carbon neutrality is a long-term goal, but whose current industrial makeup includes a high portion of carbon-intensive sectors. FIs feel they need their own transition plans and/or TFFs to meet funding demands from industries. Especially in the limited availability of sectoral or country-level pathways, which might be high-level, provided by governments, FIs need some guidance or common set of guidelines to review the credibility of transition activities by checking their alignment with the Paris Agreement.

³¹ *NZBA Transition Finance Guide*, United Nations Environment Programme Finance Initiative, Net Zero Banking Alliance, October 2022, <https://www.unepfi.org/wordpress/wp-content/uploads/2022/10/NZBA-Transition-Finance-Guide.pdf>

“

Quote on necessity of TFF:

*“We can see the **importance of TF in developing countries to achieve carbon neutrality in the long run**, given the current industrial context with a high portion of carbon-intensive sectors. Therefore, although there are limited availability of policy or guidelines, we are **keen on establishing our own TFF to start supporting funding demand.**”*

– a commercial bank in Asia

”

- **Management of reputational risk**

FIs are motivated to manage reputational risks with TFF. They anticipate that a TFF will help increase accountability of the transition philosophy. For example, an FI in Asia shared an experience of receiving criticism for providing a loan to a coal miner. That prompted the FI to develop its own TFF to assess the suitability of transition activities more formally, to ensure accountability for its financing decisions, and to gain more supports vis-à-vis external parties with more transparent ways.

“

Quote on necessity of TFF:

*“**Continuous updates on TFF and policy will be required to mitigate reputational risk.**”*

– a commercial bank in Asia

”

“

Quote on necessity of TFF:

*“A few years back, we received some criticisms for financing a coal miner. Therefore, we **would like to have our own TFF to ensure that we could properly assess their transition activities.**”*

– a commercial bank in Asia

”

- **Influence by NZBA**

The encouragement for banks to develop their own frameworks in the *NZBA Transition Finance Guide* may have sparked the interest in frameworks that was reflected in the survey responses.

But more progress would need to happen before TFFs can be used with ease in business transactions. As can be seen from Exhibit 9, four FIs suggest that while they have established TFFs, they face challenges in implementing the frameworks in real operations, as can be seen from the following quote, some raising a need for internalizing some sector expertise.

“

Quote on challenges of transition finance implementation:

*“There are **still some main challenges from the TF Frameworks for actual deals**. For example, there is a **lack of awareness and expertise in our banks**. Not all employees including RMs (relationship managers), and support functions can define transition finance. **Transition finance also requires a lot of technical knowledge in particular sectors that our bank has not yet developed.**”*

- a commercial bank in Asia

”

3.3 TFF AND CLEARER GOVERNMENT POLICIES AS A KEY ENABLER (RELATED TO MEASURE #1 IN LAST YEAR'S REPORT)

As mentioned earlier, Chapter 2 describes the progress made since the release of the *ATF Activity Report* in 2022. However, some concerns remain.

Last year the Study Group identified Measure #1 (Create sector-level or country-level pathways and technology roadmaps for Asia), as the issue with the most pressing need. Although some progress has been made in some official guidelines and roadmap development, which was mentioned in Section 2.1.1, this issue remains highly relevant. FIs see the establishment of transition pathways as the area that still needs the most involvement from the Study Group, which is illustrated in Exhibit 10. This could indicate that the existing guidelines and roadmaps may not be sufficient to guide the market.



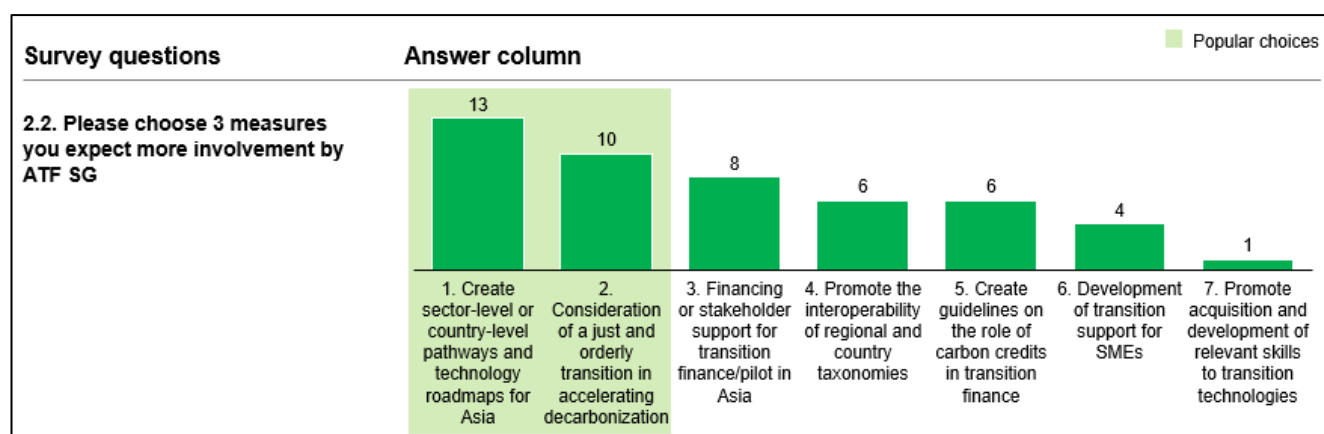
Quote on challenges of transition finance:

*“Strong mandates from government are the most important drivers for transition. **However, the mandate by the government is unclear in some countries while various announcements and commitments are released.** Mandates should be shown in clear roadmaps to achieve carbon neutrality or net zero.”*

- an international commercial bank



Exhibit 10: Survey results - Measures expected more involvement of ATF SG



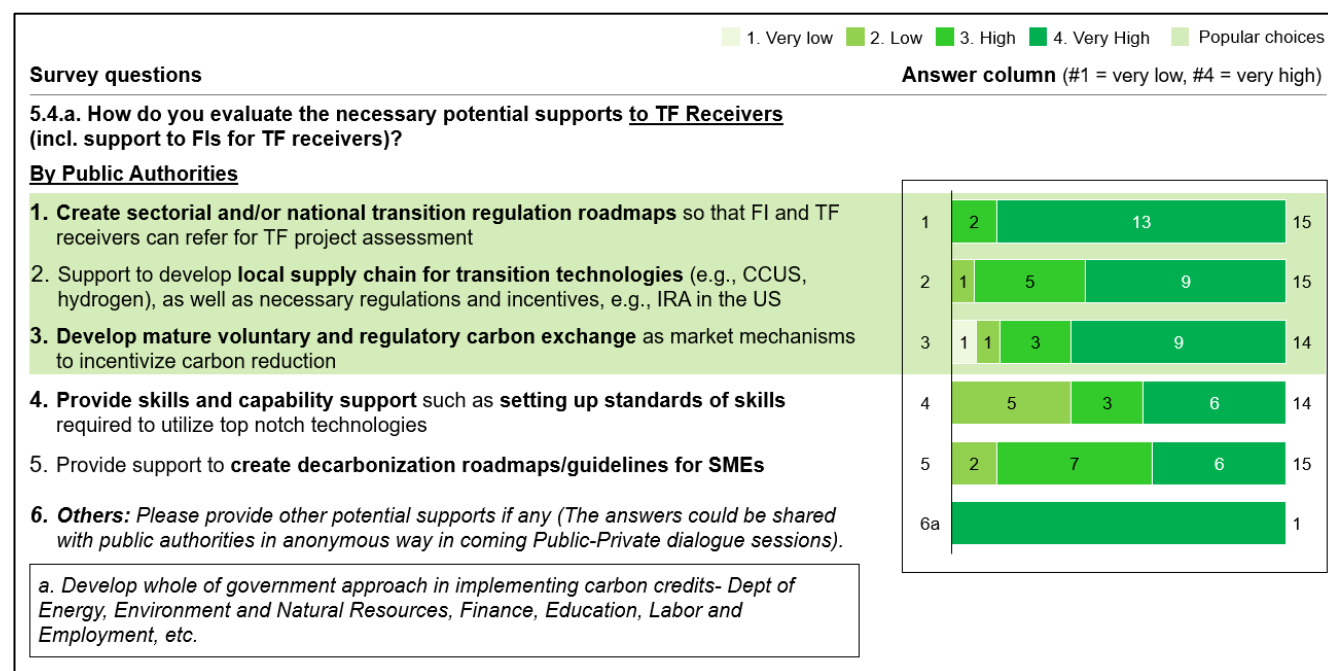
Sectorial and/or national transition roadmaps/pathways should clearly position the role of transition activities and cover enough sectors and technologies (Enabler #1)

Exhibit 11 indicates that creating sectorial and/or national transition roadmaps is the most critical action needed from public authorities. FIs said that they would like to see sectorial and/or national transition roadmaps to clearly position the government's commitments, the role of transition activities, and the requirements for TF receivers and FIs.

Via one-on-one meetings, FIs also noted that guidelines and taxonomies with wider coverage of sectors and technologies could help them reach more TF receivers, yet they also felt that sectorial

roadmaps for certain sectors need to be prioritized, with some raising hard-to-abate sectors as an example.

Exhibit 11: Necessary support from Public Authorities



Indeed, among the guidelines and taxonomies that were issued in the last one to two years, public authorities prioritized key sectors that have high carbon emissions in respective countries. In addition, most public authorities already have plans to expand their guidelines and taxonomies to cover more sectors and technologies in future revisions.

Another takeaway from Exhibit 10 is that Measure #2, “consideration of a just and orderly transition in accelerating decarbonization,” ranks second in term of needing more Study Group attention. As Section 2.1.2 described, Asian governments are also paying more attention to the need for a just and orderly transition in regional and national taxonomies published in the last 12 months. For example, *ASEAN Taxonomy Version 2* includes Social Aspect as its third essential criteria, *Thailand Taxonomy phase 1* requires “Minimum Social Safeguards” as one essential criterion, *Indonesia Green Taxonomy edition 1* include social factors in two out of its four principles, Singapore EMA’s *Charting the Energy Transition to 2050* report includes energy security and affordability, and Malaysia’s *National Energy Transition Roadmap* includes just and inclusiveness as a principle.

Other measures that FIs feel important from Exhibit 11 will be discussed further in the remaining Sections of this Chapter 3.

3.4 ENABLERS TO IMPROVE ECONOMIC VIABILITY IN TRANSITION PROJECTS (RELATED TO MEASURE #3 AND #5 IN LAST YEAR REPORT)

How transition projects can gain economic viability and how to make them bankable are fundamental issues to implement TF from practitioners’ standpoint.

Transition projects may have low return potential, at least at the inception of the adoption of new technologies such as green hydrogen and CCUS. Even mature transition technologies such as newly built combined cycle power plants might have low technology costs, but they still have high annualized costs because such projects need to account for the carbon lock-in costs. For example, a

combined cycle power plants, a “less brown” replacement for a CFPP, has a normal lifetime of more than 20 years to be economical for investors. While operations of a CFPP might be shortened to 10 to 15 years if it is replaced by green technologies, its shorter lifetime could make the annualized cost too high for the project to be economically viable. Moreover, brown assets such as CFPP in Asia are relatively younger than those in developed countries, so it might be too costly to be phased out without suitable financial supports.

This reality was pointed out by some of the participants in the one-on-one sessions, and it was echoed by energy and other industry players when the Study Group invited them to share their own challenges in transition.

In the last few years, JETPs and ETM have emerged to mobilize public and commercial funding to support early coal phase-out in countries such as Indonesia and Vietnam. Given that coal power plants in those countries are relatively young in their lifecycle, shutting them down early would require significant compensation for future lost revenue.

Survey results also revealed the need for economic viability from another angle– in the context of asking how often ASEAN or national taxonomies are being used. Most respondents have never used them (Exhibit 12). Exhibit 13 shares the main reasons— the need for de-risking measures to underpin project/investment viability, and incentives for companies, along with the preparedness of the companies.

Exhibit 12: Status of applying taxonomies to assess transactions

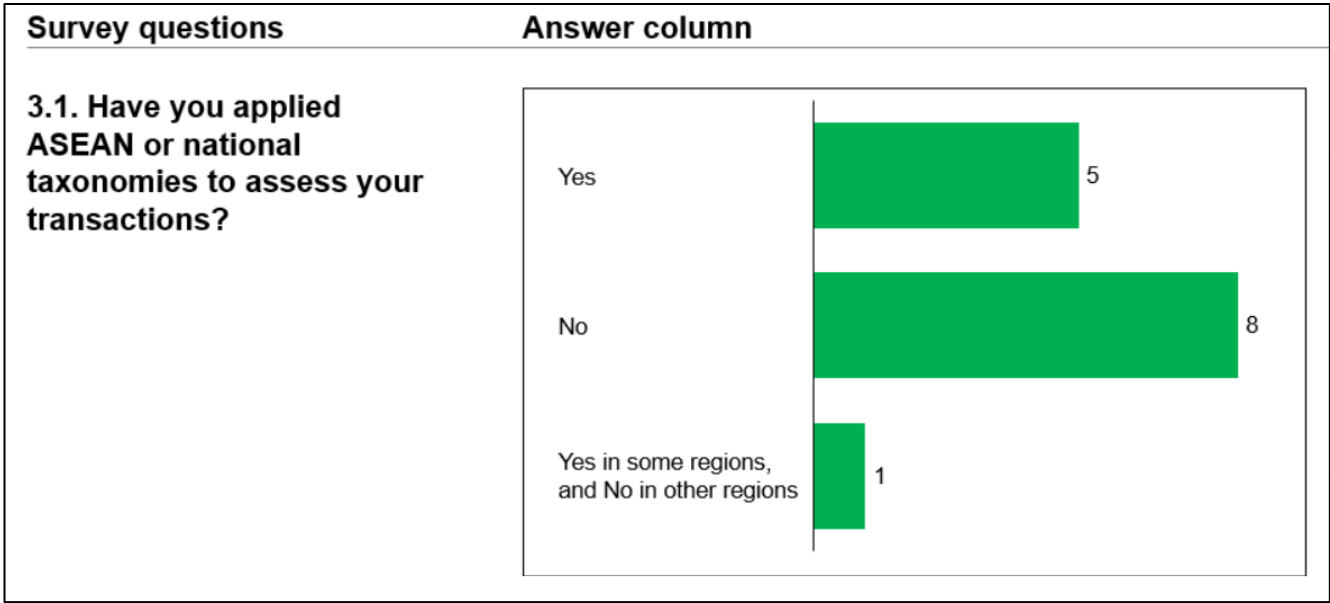


Exhibit 13: Main reasons why FIs haven't applied taxonomies

Survey questions	Answer column	
		Popular choices
3.2. If No in Q3.1, what is the background you have not used taxonomies? Please choose. (multiple answers)		
1. The requirements of the taxonomies don't match the energy policy and/or industry context	1	0
2. The requirements of the taxonomies match the energy policy and/or industry context, but TF receivers are on progress of development of transition strategy/plan, so it takes time to apply taxonomies	2	1
3. Number of companies developing transition strategy/plan is very limited and the necessity of such actions including disclosure standard by ISSB (International Sustainability Standard Board) should be more recognized	3	3
4. The differences of technical requirements among taxonomies make it difficult for TF receivers (and FIs) to use taxonomies	4	1
5. It is unclear how to apply taxonomies in case multiple investors invest in a country where it has different taxonomy	5	1
6. Sector coverage is not broad enough	6	1
7. Technology coverage is not broad enough	7	1
8. Even if there are taxonomies, companies can't implement their transition plan without incentives.	8	2
9. De-risking measures to underpin project/investment viability is required	9	3
10. Other reason: please specify in the answer box		
10.a. We have not yet started sustainability finance in the Bank	10a	1
10.b. We refer to the EU taxonomy in some of our transaction	10b	2
10.c. ASEAN and Thai Taxonomies are either newly finalized or SG Taxonomy has yet to be finalized. Do reference the thresholds.	10c	1

De-risking mechanisms to underpin economic viability of transition project are the key (Enabler #2)

1) Ensuring economic viability is essential:

Economic viability is essential for corporates to invest in projects – otherwise the FIs' support would be unsustainable. Transition projects with new technologies, in particular, would need cash flow support until the cost/benefit of technology is at par with existing solutions, whether through revenue uplifts or cost reductions.



Quote on challenges in economic viability of transition projects:

“Government subsidies are certainly necessary to promote new technologies. For example, we have seen how the cost of power generation from solar has dropped dramatically over the last decade. That wouldn't have happened without government subsidies in early phase. Now we see that some new technologies, take battery storage as an example, is an effective and proven solution to the intermittency issue of renewables such as solar and wind. And government's subsidies are now needed so the technology can be scaled to reduce the cost.”

– an industry player in Asia



This brings the problem beyond financing and can help explain the limited TF demand. As a borrower of corporate finance or as a shareholder in a project, corporates take the biggest risks. When a

project is economically unviable, they will not be able to justify investment decisions, nor can financiers finance the projects that corporates themselves cannot invest in.

“

Quote on challenges in economic viability of transition projects:

“From the commercial banker’s point of view, it’s **not possible to invest in or provide loans to something that is not bankable**. And so first, we need to **make sure that the project using the new emerging technologies is economically viable**.”

– a commercial bank in Asia

”

During a one-on-one session, a power generation company shared its intention to phase out a coal power plant. However, it requires offering the company a new long-term power purchase agreement for an alternative greener power generation to replace the coal power plant. Investors need to have a similar level or return as they have from the coal power plant. This is an example of how revenue from public authorities could play a key role in transition projects.

For instance, one of the new solutions that have been under discussion is to generate carbon credits from early retirement projects and assist TF receivers to earn additional revenue from the sale of their carbon credits. Use of carbon credits for TF may become a credible solution, provided that double counting issues are resolved and confidence in using carbon credits are established to create the demand.

“

Quote on challenges in economic viability of transition projects:

“The **limited availability of mandate and incentives does not create attractive energy and additional business environment to support transition projects**... Providing support for introducing transition technologies and **developing a carbon exchange platform will be very effective**.”

– an industry player in Asia

”

Moreover, also during the Study Group’s energy and industry session, FIs and guest speakers agreed that without government policies, it is difficult for TF receivers and FIs alone to reduce the cost of transition activities. Some FIs noted the Inflation Reduction Act in the US as an example for an effective incentive policy,³² while others cited tax reductions/exemptions by the Indonesian government. The Indonesian government grants corporate income tax reductions up to 30 percent of invested value and two-year import duty exemptions when importing raw materials for renewable investments.³³ As yet another example noted was by the Malaysia government which proposed tax deduction for allowable pre-commencement expenses incurred by companies undertaking CCS in-house activity within five years from the date of commencement of operation. The government of Thailand provides both tax incentives (exemptions or reduction of import duties and excise taxes) and non-tax incentives (subsidies to increase the demand for EVs and attract investment in the EV

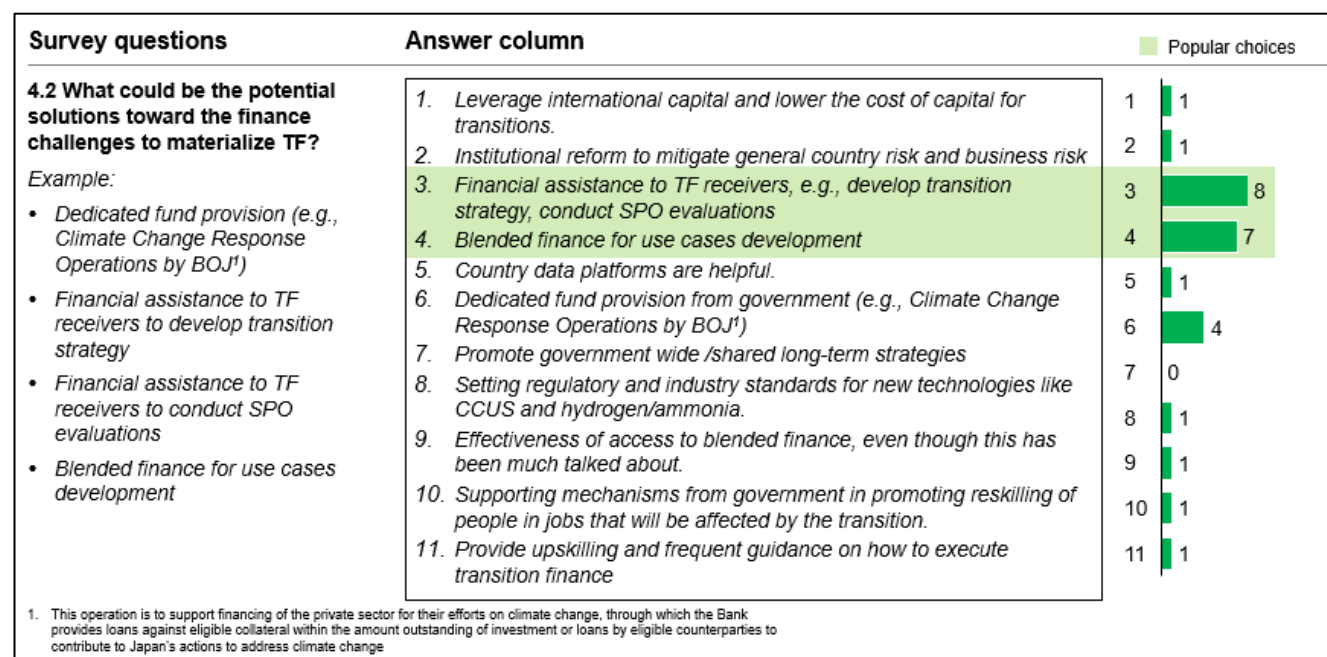
³² US Environmental Protection Agency, Green Power Markets, “Summary of Inflation Reduction Act provisions related to renewable energy,” <https://www.epa.gov/green-power-markets/summary-inflation-reduction-act-provisions-related-renewable-energy#:~:text=The%20Inflation%20Reduction%20Act%20of,of%20new%20clean%20electricity%20resources>

³³ Javanti Nada Shofa, “Indonesia Offers Incentives, Cuts Red Tape for Green Investment,” *Jakarta Globe*, Sept. 21, 2022, <https://jakartaglobe.id/business/indonesia-offers-incentives-cuts-red-tape-for-green-investment>

industry) from 2022 to 2025 to increase electric vehicle (EV) adoption and with an ambition to make Thailand an EV manufacturing hub in Asia.

Once project economics are thus uplifted and there is an environment for investment by corporates, the use of private financing would be effective. When asked what potential enablers might solve financial challenges to transition projects, FIs most supported the need for financial assistance and blended finance (Exhibit 14).

Exhibit 14: Needs from Public Authorities



On financial assistance FIs considered the following support to TF receivers as important.

- Developing a transition strategy and conducting second-party opinion (SPO) evaluations.
- Dedicated funds or soft loans from public authorities with zero or below-market rates of interest for sustainable and/or transition activities could help improve economic viability. For example, some respondents raised Japan Climate Change Response Operations as one of the examples of governmental support of this type. This program supports private sector financing for climate change, including transition finance, by providing loans against eligible collateral within the amount outstanding by eligible counterparties.
- Promoting R&D for transition technologies, such as the Singapore National Hydrogen Strategy, which provides \$184 million USD to advance R&D in hydrogen and CCUS, as part of its Low Carbon Energy Research (LCER) program.
- Training personnel and developing knowledge and skills.

2) Potential for blended finance:

FIs' expectations for blended finance center around public financial institutions and philanthropic money to work as credit enhancement for commercial financiers through provision of guarantees and/or first-loss taking, along with larger funding. At the same time however, discussions with FIs suggested that for blended finance to play an expected role at scale, they view economic viability of the project as crucial. De-risking mechanisms as discussed above to support project cashflow, for example, would increase bankability and accelerate the use of blended finance.

“

Quote on challenges in economic viability of transition projects:

*“The importance of economic viability for the project itself also has been discussed in GFANZ APAC. For example, how to balance the relevant cost or lost revenue with proceeding Managed Phaseout for coal fired plants in Asia. **Blended finance and the lower interest rate it can offer are helpful but are often not enough to cover the cost of Managed Phaseout** and our clients would still be reluctant to move toward transition.*

– a commercial bank in ASIA

”

In conclusion, various supports are needed to improve the revenue and cost of transition activities, which in turn could improve economic viability and gain confidence of investors to provide finance. This requires a coherent collaboration among stakeholders such as public authorities, FIs, and TF receivers to define a suitable combination of needed support.

3.5 INTEROPERABILITY OF REGIONAL AND COUNTRY TAXONOMIES IN ASIA (RELATED TO MEASURE #4 FROM LAST YEAR REPORT)

The Study Group recognizes that several regional and national taxonomies have been developed since 2022, including the *ASEAN Taxonomy version 2*, *Thailand's Taxonomy phase 1* in 2023, and the *Indonesia Green Taxonomy version 1* in 2022. Those taxonomies could serve as references for FIs to assess TF inquiries.

Yet, according to the survey, only six FIs in the Study Group say they have applied either the ASEAN or national taxonomy to assess a transaction (Exhibit 12). The Study Group therefore developed two hypothetical case studies (Case Study 1 and Case Study 2, collectively Case Studies) to help FIs get familiar with the assessment process of TF credibility and to understand the potential applications of taxonomies. The two Case Studies were discussed in one of the Learning Sessions and they can be found in Appendix 3 and Appendix 4.

Case Study 1 features an early phaseout of a coal power plant owned and operated in Indonesia, with potential Indonesian and Singaporean investors. It illustrates, among other things, which references could be used by FIs to assess the credibility of coal phaseouts: In the absence of taxonomy references in the country of the asset owner or of the asset location (in this case, Indonesia, whose taxonomy does not cover coal phaseouts), either a regional (*ASEAN Taxonomy version 2*) or the financiers' home country reference (Singapore-Asia Taxonomy) could be used, as both taxonomies are not mandatorily enforced yet.

Case Study 2 is an assessment of a Thailand-based power generation company's general corporate purposes SLL request. The company will use the loan proceeds to increase its renewable capacity and reduce its GHG emissions. This Case Study detailed the SLL's assessment process, highlighting several practical challenges. It is noticed that same GHG emission intensity could be classified differently using different taxonomies. This can get further complicated if the lenders are registered in different regions and countries, each with a different taxonomy.

These Case Studies prompted practical questions during the Learning Session and one-on-one meetings such as:

- In a case involving stakeholders from different countries, which taxonomies or guidelines should FIs use, bearing in mind that using different references could lead to different results?

- When FIs have a choice between regional or national taxonomies to assess a KPI can they choose either one freely, noting that ambitiousness of the KPI can be judged differently depending on taxonomies?
- What is the relationship between *ASEAN Taxonomy version 2* and individual taxonomies in each ASEAN country and can divergences among taxonomies be allowed?
- If a project is categorized as Red in the *ASEAN Taxonomy version 2* traffic light system, will the project not be financed?

Discussions with contributors in the Learning Session revealed to FIs that:

- *ASEAN Taxonomy version 2* is not mandatorily enforced, regional guidance intended to complement national sustainability issues as a common language for ASEAN.
- A project categorized as “red” in a not mandatorily enforced taxonomy does not mean it cannot be financed; it means it is not taxonomy-aligned.
- Even though most of the taxonomies are not mandatorily enforced at this stage of time, FIs and TF receivers, subject to discussion with independent reviewers if hire any, may decide which taxonomy to apply.

Outside of the session, there is also a comment that FIs and TF receivers may need to consider their priorities between the national policies and corporate policies³⁴. Moreover, independent reviewers may request to be applicable to all relevant taxonomies, especially to obtain labels. This experience suggests that while the taxonomies can serve as references, differences among them also bring certain confusions in actual use.

“

Quote on unclear applications of taxonomies across geographies:

“It is necessary to improve clarity on interoperability between taxonomies and legality within/across jurisdictions. More clarity and guidance will be useful on how to use the ASEAN and individual country taxonomies in an interoperable way. During the ATF Study Group meeting, a valid question was raised on how a Singapore-based financier speaking to a company headquartered in Thailand with a project in Vietnam should navigate the ASEAN, Singapore, Thai taxonomies and local Vietnamese rules.”

– a commercial bank in Asia

”

It should be noted, however, that the divergences among taxonomies may stem from variations in natural resources, technological progress, and economic development in each country, which suggests that there will be unique transition pathways for different markets. As a result, governments may design their own taxonomies to meet the needs of their own decarbonization pathways.

To address this dilemma, the G20 Sustainable Finance Working Group emphasized that international coordination of taxonomy development is a key in facilitating cross-border green/transition capital flows.³⁵

³⁴ Where the Plus Standard is selected for assessment method, the applicable Technical Screening Criteria should be applied where available

³⁵ 2022 G20 Sustainable Finance Working Report, G20 Sustainable Finance Working Group, October 2022, <https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf>

The use of Case Studies has highlighted the need for further collaboration between guideline issuers and practitioners, which is one of the key contributions the Study Group has made through learning sessions with public authorities and guideline issuers such as ICMA and the ASEAN Taxonomy Board.

3.6 OTHER ENABLERS TO HELP RELEVANT STAKEHOLDERS ESPECIALLY SMES (PARTIALLY RELATED TO MEASURE #6 FROM LAST YEAR'S REPORT)

While enablers mentioned above should be prioritized to guide and facilitate transition activities, the Study Group also recognizes, based on the survey feedback and one-on-one sessions, that additional efforts are needed for various stakeholders especially SMEs.

Simplified and tailored TF guidelines and a data platform for SMEs could unlock their capability and capacity issues (Enabler #3)

As mentioned in the *ATF Activity Report*, SMEs rarely have the resources to create the necessary decarbonization strategy or comply with other disclosure requirements, making it hard for FIs to assess their progress toward net zero. Tailored approaches are often needed to promote and support efforts by SMEs to decarbonize their activities.

Thematic guidance for TF such as the ICMA Handbook, is more suitable for large corporations that have sufficient resources and capabilities to meet TF requirements, than for many SMEs, which lack sufficient capabilities and resources to follow all the process requirements and disclosures. Issuers could consider developing a “light” version for SMEs to better meet their needs.

“

Quote on assessment criteria for SMEs:

“Credible guidelines such as Climate Transition Finance Handbook or Green Bond Principles from ICMA might be suitable to assess transition finance requests by large corporations as they provide granular assessment levels. However, SMEs might find it challenging to meet those disclosure requirements. For example, the Climate Transition Finance Handbook has about 45 criteria across its 4 core elements. Therefore, a simpler requirements list, like about 10 criteria, might be more suitable for SMEs.”

– from a Knowledge Contributor

”

Also, last year the Study Group identified the need for a database or digital platform for successful decarbonization projects. This year, FIs and public authorities, in Study Group one-on-one meetings, highlighted the importance of data platforms available to various stakeholders including SMEs. Currently it is difficult for some FIs and TF receivers to access reliable data sources, including individual companies' GHG emission data for FIs, GHG emission factors for SMEs to calculate their own emissions, upstream emissions to calculate/understand supply chain emissions by companies, emissions reduction potentials by transition technology, and more. A public, streamlined platform would ensure data reliability and quality, making it easier for stakeholders to analyze potential projects across the Asian region. The Study Group also observed that some public authorities in Asia are trying to establish such data platforms, covering data availability and disclosures.



4

CONCLUDING REMARKS

Since the release of the *ATF Activity Report*, certain advancement in the seven suggested support measures has occurred, as discussed in Chapter 2. However, this year's Study Group identified more granular enablers needed for transition finance to gain momentum, such as:

1. Enabler #1, discussed in Chapter 3.3: Sectorial and/or national transition roadmaps/pathways should clearly position the role of transition activities and cover enough sectors and technologies.
2. Enabler #2, discussed in Chapter 3.4: De-risking mechanisms to underpin economic viability of transition projects are key.
3. Enabler #3, discussed in Chapter 3.6: Simplified and tailored TF guidelines and a data platform for SMEs could unlock their capability and capacity issues.

The Study Group also identified a need for further collaboration between the TF guidelines providers and practitioners to harmonize the divergence among taxonomies and navigate taxonomies during the assessment process of credibility of transition activities³⁶.

Those potential solutions would merit a coherent collaboration among all stakeholders, especially public authorities, TF receivers, and FIs. In the future, the Study Group will focus more on the following actions:

1. **Collaborate with public authorities and TF receivers** more closely in Study Group activities, besides the core FI members, observers, and knowledge contributors, and share FIs' real experiences and concerns about the enablers highlighted in Chapter 3.
2. **Continue peer learnings** to bring deeper understanding and practical knowledge about various transition finance guidelines, countries' policies including national taxonomies, and the development of TFFs by FIs.

The ATF Study Group would like to thank all those who have assisted in its work so far and appreciates the opportunity to keep working together going forward.

³⁶ ICMA's Principles and related guidelines are created and updated by issuers, investors and underwriters (Executive Committee) supported by ICMA and with input from other stakeholders in the sustainable bonds market.



APPENDIX

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1. Glossary

Glossary of Terms

Carbon credits	Certificate representing carbon dioxide equivalent (CO ₂ e) that is either prevented from being emitted into the atmosphere or removed from the atmosphere
CCUS	The technological process of capturing carbon dioxide (CO ₂) from or before it enters the atmosphere, and then transporting and storing it (carbon sequestration) permanently
Climate (carbon) neutral/net zero emissions	Cutting greenhouse gas emissions to close to zero, with any remaining emissions absorbed by forests and oceans
Climate Finance	Local, national, or transnational financing – which can come from public, private and alternative sources– that is used to reduce emissions and support mitigation efforts to address climate change
Decarbonization	Reducing or removing carbon dioxide emissions, usually by using low carbon power sources
ERIA (Economic Research Institute for ASEAN and East Asia)	An international economic research and policy organization established in Jakarta, Indonesia in 2008 by a formal agreement among leaders of 16 countries in the East Asian region
General Corporate Purposes financing	Financing instrument to support a corporation's overall decarbonization strategy
GHG emissions	Also known as greenhouse gas emissions, these are gases (particularly CO ₂) that trap heat in the atmosphere, causing climate change
Green Finance	Any financing that is created to benefit sustainable development
Green Bond / Loan	Any type of bond or loan instrument whose proceeds are used in part to fund projects that make a substantial contribution to an environmental objective (Green Projects), and that align with the core components of the Green Bond Principles / Green Loan Principles
IEA (International Energy Agency)	An autonomous intergovernmental body established in the framework of the Organisation for Economic Co-operation and Development (OECD) whose mission is to shape global energy policies for a secure and sustainable future
IPCC (Intergovernmental Panel on Climate Change)	An intergovernmental body of the United Nations that assesses the science related to climate change so that policymakers can use the information for mitigation efforts. It produces special reports requested by its members, as well as assessments on the state of scientific, technological, and socio-economic climate change knowledge.
Just and orderly transition	Concept of moving toward decarbonization and climate sustainability while weighing the reliability of the energy supply and affordability of energy, avoiding social instability
Nationally Determined Contributions	Climate action plans that are required by signers of the Paris Agreement. The plans, which are updated every five years, must include how countries will reach their emission reduction targets and what steps, systems, and financing they will use to ensure that their goals are met.
Network for Greening the Financial System	A global coalition of central banks and financial supervisors that formed to help ensure that the Paris Agreement goals would be met. It seeks to enhance the role of the financial system in managing climate risk and mobilizing capital for green and low-carbon investments.
The Paris Agreement	A legally binding international climate change treaty that sets a global framework for how countries should reduce greenhouse gas emissions. Its goal is to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels. Article 4, paragraph

	2 requires each country to document how it will achieve its reductions in plans known as nationally determined contributions
Pathway	A process or roadmap for how a country or company will reach its stipulated emissions targets. Also referred as climate (carbon) neutral/net zero pathways.
Science-based Target	Targets that are in line with the scale of reductions required to keep the global temperature increase below 2°C above pre-industrial temperatures
Social Finance	A type of financial services that manages investments to deliver both a social dividend and an economic return. It is often used to describe the lending and investment into social enterprises, charities, co-operatives, non-profits, and other impact-focused organizations that address societal and environmental challenges.
Social Bond	Any type of bond instrument whose proceeds are used to fund projects that address or mitigate a social issue and/or seek to achieve positive social outcomes (Social Projects), and are aligned with the ICMA's four core components of Social Bond Principles
Sustainable Finance	While some organizations say this is when investment decisions consider environmental, social and governance issues, ICMA has a broader definition. It considers sustainable finance to include climate, green and social finance that also weighs the economic sustainability of the organizations being funded, as well as the stability of the overall financial system in which they operate (refer to Sustainable Finance High-level definitions for further details)
Sustainable Bond	Bond instruments whose proceeds are used to finance a combination of both Green and Social Projects (refer to Sustainability Bond Guidelines for further details)
Sustainability-linked bond	Bond instruments in which the financial and/or structural characteristics are tied to whether the issuer achieves predefined sustainability/environmental, social, and governance objectives (refer to Sustainability-Linked Bond Principles ³⁷ for further details)
Sustainability-linked loan	Loan instruments and/or contingent facilities (such as bonding lines, guarantee lines or letters of credit) that are used to help the borrower achieve predetermined sustainability performance objectives (refer to the Sustainability-Linked Loan Principles for further details)
Taxonomies	Classification system that provides businesses with a common language and the means to identify whether or not a given economic activity is environmentally sustainable
Technology roadmaps	Roadmaps that outline the technologies that will be necessary to get specific industry sectors aligned with the Paris Agreement, showing which technology should be ready for use in what year
Transition activities	Activities that support a just and orderly transition to low-carbon economies by lowering rather than eliminating GHG emissions
Transition Finance	Financial support that helps companies in their long-term strategic efforts to reduce greenhouse gas emissions on the path to climate (carbon) neutral/net zero
Use-of-Proceeds financing	Includes financing instrument that support specific projects contributing among other to decarbonization

³⁷ Sustainability-Linked Bond Principles, ICMA, 2023,

<https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-linked-bond-principles-slbp/>

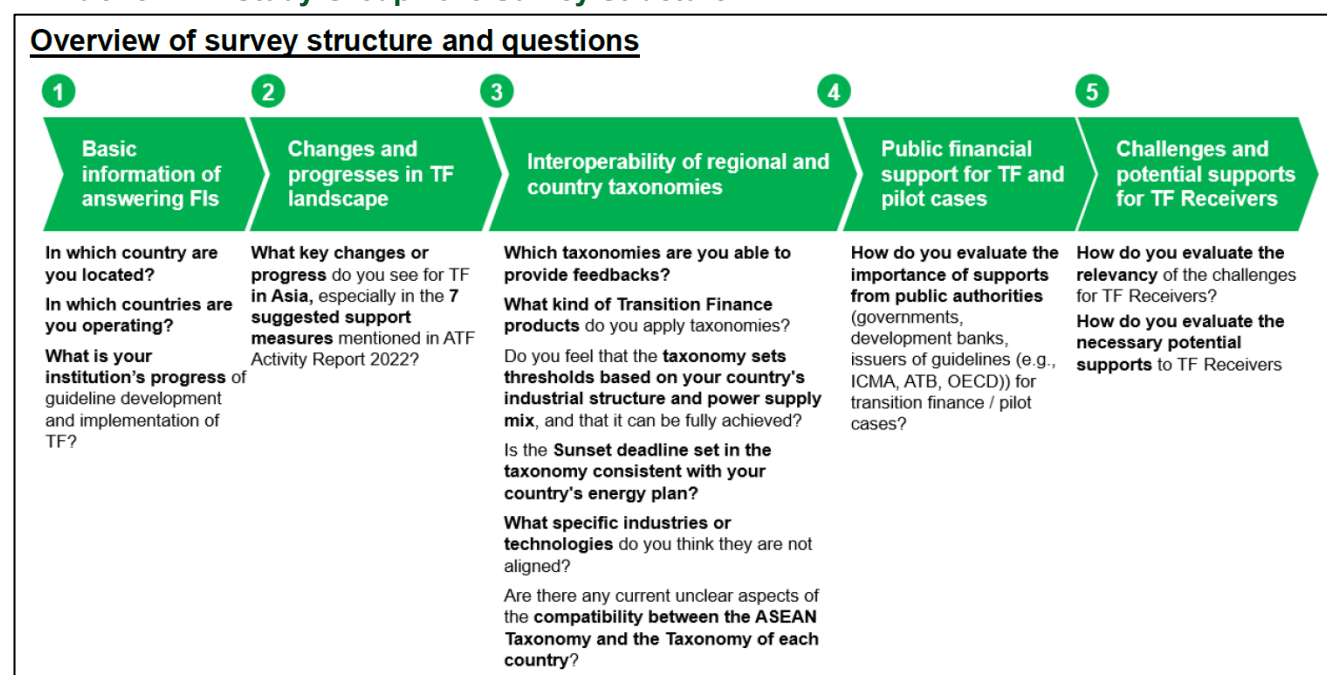
2. ATF Study Group 2023 survey

In 2023, the Study Group have organized various peers learning sessions to understand key challenges and potential supports needed for Financial Institutions to accelerate Transition Finance. In addition to this effort, the Study Group would like to obtain more views on key points of overall progress of transition finance and challenges and potential supports for the suggested support measures mentioned in our Activity Report last year. Also, the Study Group would like to utilize such results for coming public-private dialogue and development of Annual Report 2023.

Survey structure

To achieve these, the Study Group launched a survey starting from July 21st, 2023, and finishing by August 4th, 2023. The survey is consisted of 5 main sections with targets to answer key questions as illustrated in Exhibit 15.

Exhibit 15: ATF Study Group 2023 Survey Structure



The survey contains 30 questions with multiple choice and free text options.

Survey response

The survey was sent to all twenty-one core members, nineteen observers, and four knowledge contributors. The core members were requested to respond the survey. It is optional for the observers and the knowledge contributors, but feedbacks especially from development banks, ECAs, financial associations, and SPOs would be beneficial.

At the end, the Study Group received responses from fourteen core members, three observers, and one knowledge contributor. While responses from the fourteen core members serve as key data for this Annual Report, information sharing from the three observers and the one knowledge contributor is partially used to confirm the key messages throughout the reports.

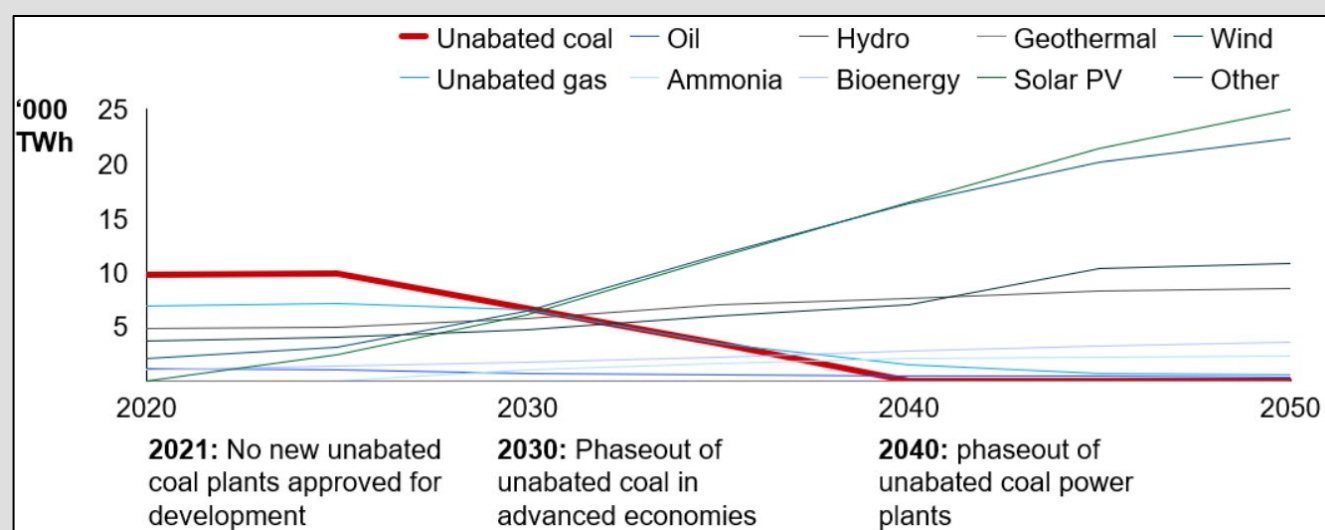
3. Hypothetical Case Study #1 (related to Section 3.5)

Box 1: CASE STUDY 1 – APPLICATION OF TAXONOMIES IN COAL PHASEOUT (CPO) AND THEIR CHALLENGES

Introduction about CPO and why it is relevant to Asia:

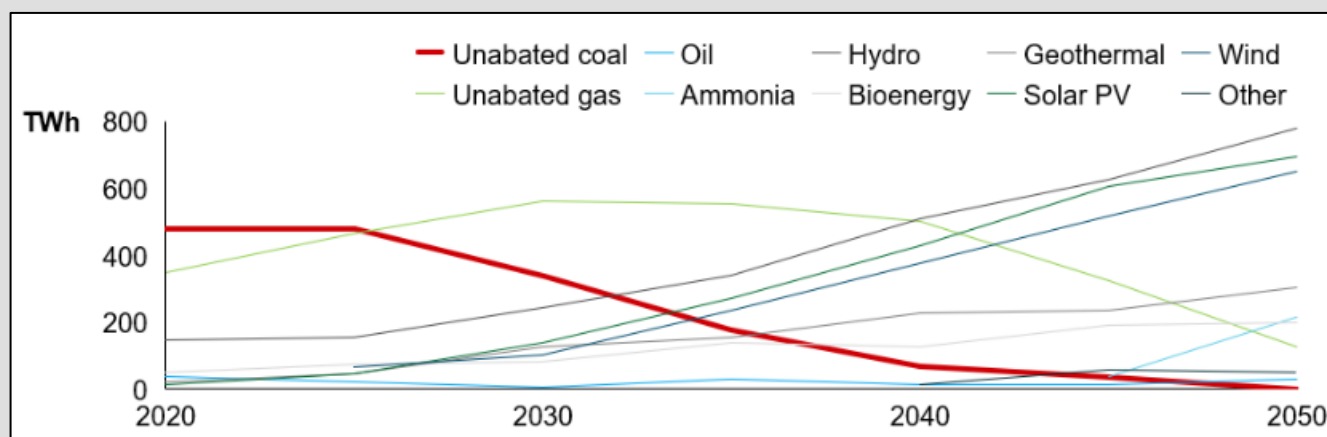
Phasing out coal, which will reduce GHG emissions, is critical to limiting global warming to 1.5°C, the goal of the Paris Agreement. As CPO in the power and industry sectors takes hold, coal demand is projected to decline by 60 percent by 2050. The Net Zero Emissions (NZE) scenario includes three important milestones for CPO in power generation: no new unabated coal plants approved for development by 2021, phaseout of unabated coal in advanced economies by 2030, and complete phaseout of unabated coal power plants by 2040 (Exhibit 16). In Southeast Asia, CPO will also accelerate, with coal playing a negligible role in the power generation mix by 2040 and will reach zero in 2050 in the SDS scenario (Exhibit 17).

Exhibit 16: Global electricity generation by source in the NZE scenario³⁸



³⁸ Consistent with limiting the global temperature rise to 1.5°C with no or limited temperature overshoot. Data from: *World Energy Outlook 2022*, International Energy Agency, November 2022, <https://iea.blob.core.windows.net/assets/830fe099-5530-48f2-a7c1-11f35d510983/WorldEnergyOutlook2022.pdf>.

Exhibit 17: ASEAN electricity generation by source in the SDS scenario³⁹



Challenges of CPO: FIs face two key challenges in assessing CPO activities. First, how do they ensure that the CPO plan is credible and not a misleading environmental claim often referred to as greenwashing? And is the plan economically viable and can the borrower repay the loan? The Study Group focused on a possible solution for the first question.

Major initiatives to support CPO in Asia:

There have been many initiatives to ensure the just and orderly transition of CPO. ADB's Energy Transition Mechanism is a regional partnership to leverage a market-based approach to transition from fossil fuel, such as retiring 50 percent of the coal fleet in three ASEAN countries (Indonesia, Vietnam, Philippines).⁴⁰ The Glasgow Financial Alliance for Net Zero and the International Partners Group (IPG) announced in 2022 that they were helping to mobilize private capital for a Just Energy Transition Partnership to accelerate fossil fuel phaseout in ASEAN countries, particularly in Vietnam and Indonesia.

Developing guidelines to cover CPO activities is also underway. *ASEAN Taxonomy version 2*, released in March 2023, included Technical Screening Criteria (TSC) to classify CPO activity as Green or Amber under the Plus Standard framework. *Singapore Asia Taxonomy Consultation*, released in June 2023, has a set of criteria to classify CPO as transition activity.

Potential key steps for FIs to assess credibility of CPO

- Step 1: Select applicable references:
 - Where is the location of the CPO project?
 - Is there local taxonomy/guidance for CPO activity?
 - Do the FIs' countries have taxonomy/guidance for CPO activity?
 - Are taxonomies/guidance mandatory or not mandatory?
- Step 2: Assess whether the project meets the criteria of the chosen reference
 - What are the requirements of the applicable taxonomy?
 - Does the project data meet the criteria?

Introduction of the CPO hypothetical case

Issuer: A power generation company in Indonesia wants to issue green bonds to phase out its 1,400 MW CFPP and develop renewable generation plants to meet the power system's electricity demand by 2030.

Potential investors: A Singaporean PE and an Indonesian bank

Asset:

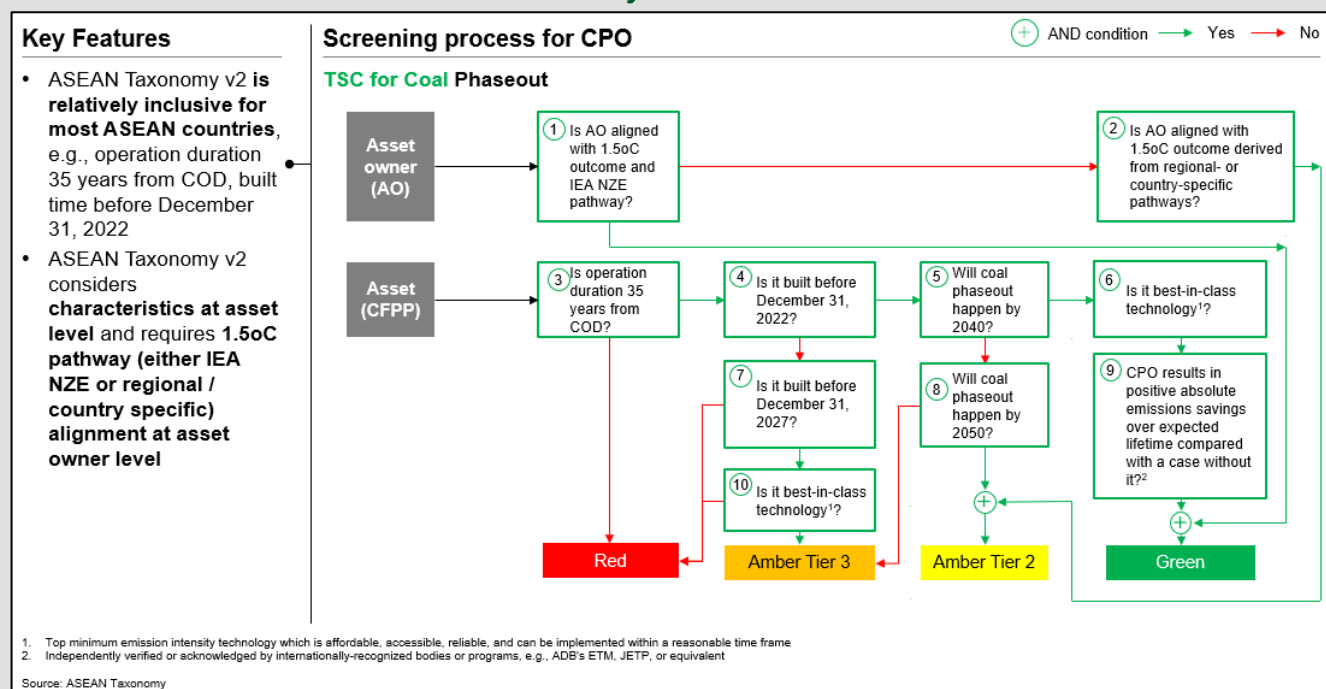
- Plant #1: COD: 1999; Capacity: 600 MW; Technology: subcritical
- Plant #2: COD: 2012; Capacity: 800 MW; Technology: supercritical

Assess credibility of the CPO hypothetical case:

Step 1: Select applicable references

Given that the CFPP and its owner are based in Indonesia, the first reference option could be local guidelines such as the Indonesia taxonomy. However, the current version of the Indonesia taxonomy does not cover CPO. The next potential reference is to consult the *ASEAN Taxonomy version 2* as a regional reference and to use the Singapore-Asia Taxonomy as the investor's home country reference. As both references are not mandatorily enforced, the Study Group used the *ASEAN Taxonomy version 2* to assess the CPO. Exhibit 18 shows the technical screening criteria for CPO in *ASEAN Taxonomy version 2*.

Exhibit 18: TSC for CPO in *ASEAN Taxonomy version 2*



Step 2: Assess whether the project meets the criteria of the chosen reference

Exhibit 19 shows the process flow when applying the *ASEAN Taxonomy version 2* to assess the hypothetical case. The taxonomy requires both assets (CFPPs) to meet a set of technical criteria and the asset owner to have a decarbonization plan aligned with a 1.5°C pathway (either IEA net zero emission or regional/country specific) to be classified as Green or Amber Tier 2. Further technical analysis is also expected. FIs could consider obtaining a second party opinion from credible consultants.

³⁹ Consistent with the Paris Agreement goal to limit the temperature to “well below 2°C.” Data from: *Southeast Asia Energy Outlook 2022*, International Energy Agency, <https://iea.blob.core.windows.net/assets/e5d9b7ff-559b-4dc3-8faa-42381f80ce2e/SoutheastAsiaEnergyOutlook2022.pdf>.

⁴⁰ “Energy Transition Mechanism Explainer: How ETM Will Support Climate Action in Southeast Asia,” Asia Development Bank, November 3, 2021, <https://www.adb.org/news/features/energy-transition-mechanism-explainer-support-climate-action-southeast-asia>.

Exhibit 19: Apply ASEAN Taxonomy version 2 to assess the CPO hypothetical case

Case study: The hypothetical CPO case needs further assessment to be classified as Green

Case

A power generation company in Indonesia wants to issue **Green Bonds** to phase out its 1,400 MW CFPP and develop new renewable generation plants as replacement to meet electricity demand of the power system

Asset information:

- Plant #1:
 - COD: 1999
 - Capacity: 600 MW
 - Technology: subcritical
- Plant #2:
 - COD: 2012
 - Capacity: 800 MW
 - Technology: supercritical
- Target CPO time: 2030

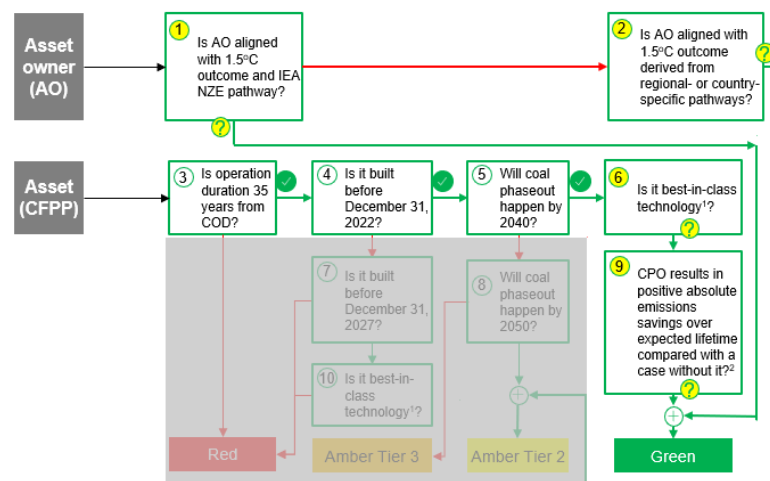
Asset owner:

- A power generation company in Indonesia

Power system: no transition plan yet

ASEAN Taxonomy's criteria

TSC for Coal Phaseout



Potential actions

To finalize whether Green, FIs could request assessment report from SPO provider for criteria 1, 2, 6, and 9

1. Top minimum emission intensity technology which is affordable, accessible, reliable, and can be implemented within a reasonable time frame
 2. Independently verified or acknowledged by internationally-recognized bodies or programs, e.g., ADB's ETM and JETP

Source: ASEAN Taxonomy version 2

4. Hypothetical Case Study #2 (related to Section 3.5)

Box 2: CASE STUDY 2 – APPLICATION OF TAXONOMIES IN GENERAL CORPORATE PURPOSES SUSTAINABILITY-LINKED LOANS (SLL) AND THEIR CHALLENGES

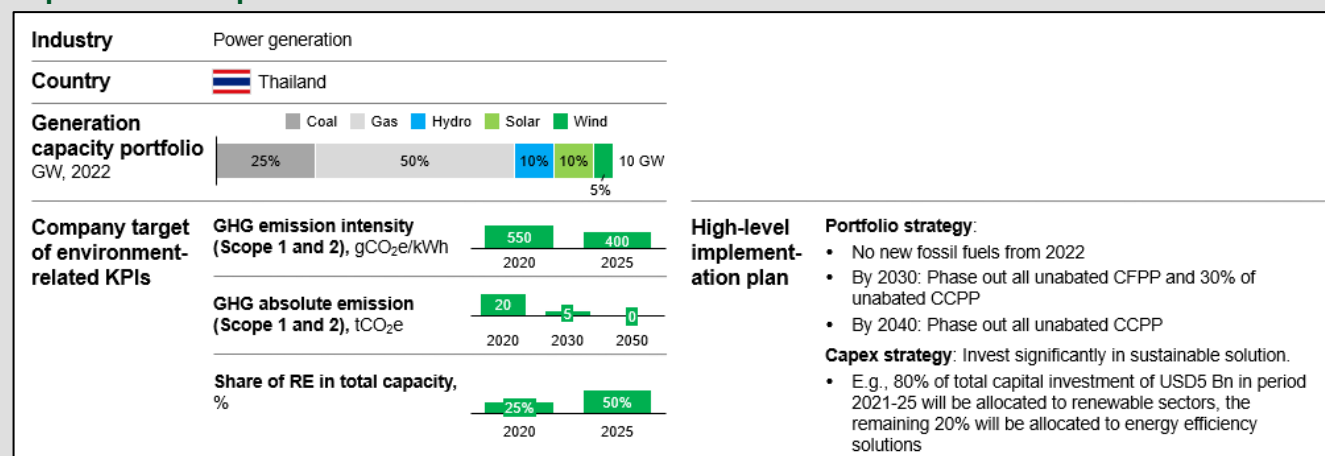
Introduction of SLL:

Sustainability-Linked Loans (SLLs) tie interest rates to achieving certain environmental and/or social governance metrics, such as ESG ratings or specific KPI. They were created to facilitate and support sustainable economic growth and activity. These types of loans could benefit issuers in various ways, such as an issuer could receive lower interest rates with achievement of sustainability targets, and there is no restriction on how the funds are used. But a lack of standardization on carbon accounting/ESG frameworks could limit the instrument's use.

Introduction of the General Corporate Purposes SLL case:

Borrower: A power generation company based in Thailand wants to receive general corporate purposes SLL for its investment to increase its renewables capacity and for other activities to reduce GHG emissions. Exhibit 20 details the company's current situation, its targets, and implementation plan.

Exhibit 20: Generation portfolio, entity's environment related KPIs, and high-level implementation plan



Assessment process of General Corporate Purposes SLL credibility

The Loan Market Association, the Loan Syndications & Trading Association, and the Asia Pacific Loan Market Association updated [Sustainability-Linked Loan Principles](#) (SLLP) in 2023. The guide includes five core components to guide FIs and borrowers who use sustainability-linked loans:

1. "Selection of KPIs"
2. "Calibration of Sustainability Performance Targets (SPTs)"
3. "Loan Characteristics"
4. "Reporting"
5. "Verification"

While the guidance helps borrowers assess their sustainability targets in Step 1 and Step 2, it does not provide instruction on reviewing the implementation strategies to achieve those targets. The Study

Group considered an optional additional step (2B) - evaluate implementation strategy - to assess the feasibility of the borrowers' plan. Exhibit 21 illustrates how this hypothetical case would go through all these steps, including the new Step 2B.

Exhibit 21: Process to assess General Corporate Purposes SLL

FIs have 5 key execution steps and need to leverage relevant references across the steps

Process for FIs based on in SLLP¹ by LMA², APLMA³, and LSTA⁴

	SLL originated					Steps to assess TF
	1 Select KPIs	2 Calibrate SPTs	3 Determine loan characteristics	4 Collect reporting data	5 Verify data	
Description	Select KPIs to track sustainability commitment by TF Receivers	Calibrate ambitious and realistic SPTs to motivate TF Receivers to improve selected KPIs	Loan economic outcome should be linked to whether the selected predefined SPTs are met	TF Receivers should, at least annually, provide FIs updated data for FIs to monitor SPTs' performance	Annual external verification against each SPT for each KPI	
Potential reference	<ul style="list-style-type: none"> TF Receivers' reported performance SASB standards 	<ul style="list-style-type: none"> Localized pathways Alternative pathways, e.g., IEA, NGFS, ERIA ASEAN taxonomy v2 TF Receivers' peers, TF Receivers' historical performance SPO providers 	SLLP ¹ by LMA ² , APLMA ³ , and LSTA ⁴	SLLP ¹ by LMA ² , APLMA ³ , and LSTA ⁴	SLLP ¹ by LMA ² , APLMA ³ , and LSTA ⁴	
Parties	TF Receivers, FIs	TF Receivers, FIs	TF Receivers, FIs	TF Receivers	TF Receivers, Auditor	
External reviewers	SPO ⁵ provider to assess relevance, robustness, and reliability of selected KPIs, rationale, and level of ambition of the proposed SPTs, and the relevance and reliability of selected benchmarks		NA	NA	Qualified auditor or consultant to assess SPTs' performance	

2B Optional: evaluate implementation strategy

1. Sustainability-Linked Loan Principles;
2. Loan Market Association
3. Asia Pacific Loan Market Association
4. Loan Syndications and Trading Association
5. Second-Party Opinion

Source: SLLP¹ by LMA², APLMA³, and LSTA⁴, ASEAN Taxonomy

Exhibit 21 also shows potential references that FIs and borrowers can use to assess their SLL applications.

In Step 1, the guidance calls for selected KPIs to be relevant to the borrower's situation, be measurable or quantifiable, and be benchmarked. Borrowers could select KPIs from the metrics that they or their industry peers regularly measure and report. Two potential references are the borrowers' performance report and the metrics list recommended by the [Sustainability Accounting Standards Board](#) (SASB). Combining the two references could ensure that the selected KPIs are relevant to the borrower's industry and can be benchmarked against its historical data, which also helps assess whether the borrower's sustainability performance targets (SPT) are ambitious enough.

In Step 2, the SPTs should show material improvement beyond business-as-usual activity and regulatory requirements. *SLLP* recommends that SPTs be benchmarked against three potential references: the borrower's own performance over time, its peers, and science-based scenarios, such as carbon budgets or official country/regional/international targets (Paris Agreement, net zero goals, sustainable development goals).

In Step 2B, an assessment of the implementation strategy could follow the ICMA's [Climate Transition Finance Handbook](#). The *ICMA Handbook* recommends disclosures around four key elements that issuers should follow closely when they are issuing UoP or sustainability-linked instruments with a transition theme. This is especially true for issuers in hard-to-abate sectors. The four key elements are:

1. The issuer's climate transition strategy and governance

2. Confirming that the strategy is relevant to the environmentally material parts of the issuer's business model
3. Ensuring that the climate transition strategy and targets are science-based
4. Implementation transparency, including market communications. This element can be used as a possible reference to assess the borrower's implementation strategy.

Apply assessment process to hypothetical case:

Exhibit 22, Exhibit 23, and Exhibit 24 use references to assess the case. As this example shows, references may not always deliver clear-cut answers:

- In Step 2, when assessing the GHG emission intensity by referring to the thresholds used in the *ASEAN Taxonomy version 2* and the *Thailand Taxonomy phase 1*, the same GHG emission target could be classified as Tier 2 Amber in *ASEAN Taxonomy version 2* and as Red in *Thailand Taxonomy phase 1*. This situation might get even more complicated if the lenders are registered in different regions or countries (such as Europe and Singapore), that also have taxonomies/guidelines. Since most taxonomies are not mandatorily enforced, FIs must make their own decisions about which guidance to follow, but they feel challenged when presented with conflicting opinions.
- In Step 2, when assessing the absolute GHG emission, science-based pathways are a potential reference. In this case, as there is no pathway established in *ASEAN Taxonomy version 2*, alternative pathways published by credible organizations such as ERIA, IEA, and Network for Greening the Financial System could be used. This method was also described in the [ATF Guidelines](#), published in 2022.
- In Step 2B, while the disclosure of a fossil-based power generation phaseout plan and capital expenditure investment plan meets the *ICMA Handbook* criteria, the borrower still lacks sufficient data. FIs could request additional disclosures for further assessment.
- In all three steps (1, 2 and 2B) FIs and/or borrowers may want to seek second party opinions from credible consultants.

Exhibit 22: Step 1 – Select KPIs in hypothetical case

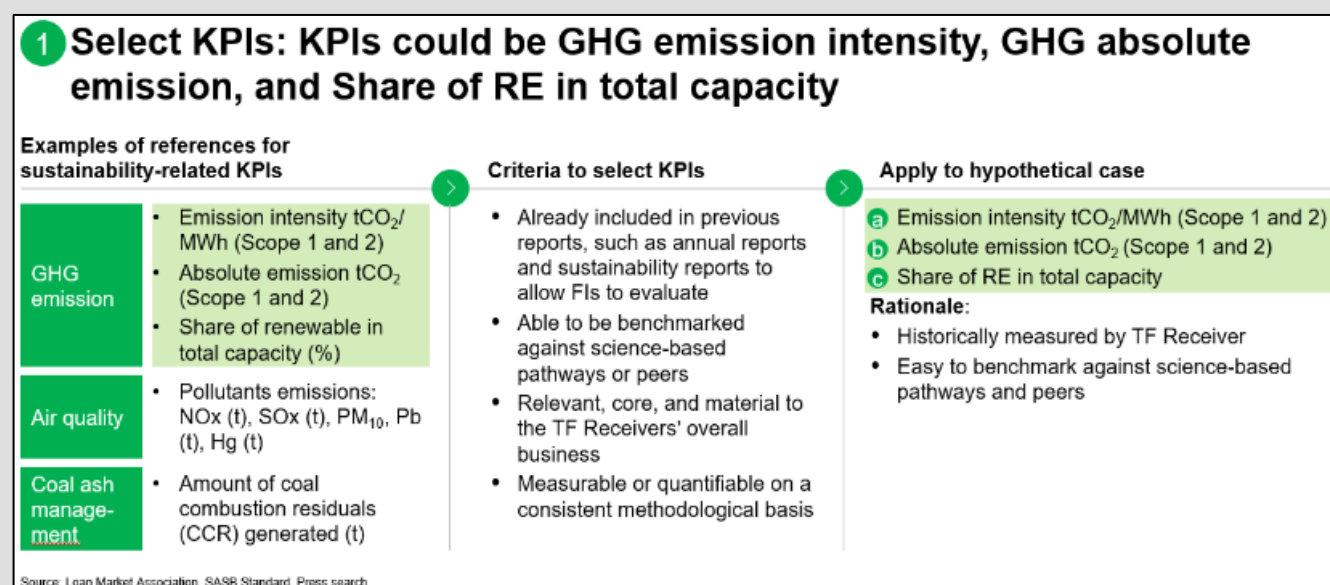
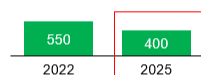


Exhibit 23: Step 2 – Calibrate SPTs in hypothetical case

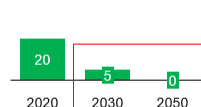
2 Calibrate SPTs: SPTs could be set by using science-based references, industry peer data, or TF Receiver's historical performance

Selected KPIs and current targets

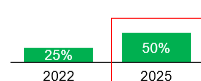
a GHG emission intensity, gCO₂/kWh



b GHG absolute emission, tCO₂



c Share of RE in total capacity, %



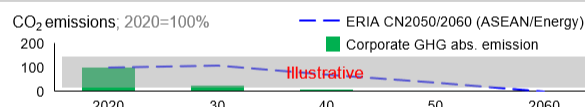
Calibrate the SPTs

GHG emission intensity: Thresholds in various science-based references:

- ASEAN Taxonomy: <425 gCO₂e/kWh by 2025 classified as **Tier 2 Amber**
- Thailand Taxonomy: >381 gCO₂e/kWh by 2025 classified as **Red**

Assessment:

- As both taxonomies are voluntary, FI's could make their decision of taxonomy usage and assessment conclusion based on FI's internal criteria



Assessment: Compare with ERIA carbon neutral 2030, the GHG absolute emission by the TF Receiver will have more significant interim reduction by 2030 and will reach carbon neutrality faster. Therefore, the SPT is **ambitious enough**

Renewable installed capacity:

- Benchmark against ASEAN's renewable target: 35% share of total installed capacity mix by 2025¹
- Benchmark against Thailand's renewable target: 30% share of total installed capacity mix by 2037²

Assessment: SPT is **ambitious enough**

1. "ASEAN Plan of Action for Energy Corporation (APAEC) 2016-2025" report by ASEAN Center for Energy
2. Thailand Power Development Plan 2018
Source: Loan Market Association, ASEAN Taxonomy, Press search

Potential reference to calibrate SPTs

Science-based references

- Localized pathways, not yet published in ASEAN
- Alternative pathways, e.g., published by IEA, NGFS, ERIA
- ASEAN taxonomy
- Thailand Taxonomy

The TF Receivers' peers

- The SPT's relative positioning vs. its peers' where available (average performance, best-in-class performance)

The TF Receivers' performance over time

- SPOs: FIs could involve SPO provider to evaluate SPTs of TF Receivers to ensure the SPTs are **ambitious enough**

Exhibit 24: Step 2B – Evaluate implementation strategy

2B (Optional) Evaluate implementation strategy: TF Receivers are recommended to share CAPEX / OPEX plan for climate transition strategy

Disclosure recommendations from ICMA

- Phase-out plan for high-carbon emission assets
- CAPEX rollout plan and decision-making process
- Green CAPEX plan
- Qualitative and/or quantitative assessment of potential lock-in of GHG emission
- Assumption on internal cost of carbon
- Disclosure on potential adverse impacts on workforce, community, and surrounding environment in climate transition plan

TF receiver's high-level implementation plan

- Portfolio strategy:
 - No new fossil fuels from 2022
 - By 2030: Phase out all unabated CFPP and 30% of unabated CCPP
 - By 2040: Phase out all unabated CCPP
- Capex strategy: Invest significantly in sustainable solution.
 - E.g., 80% of total capital investment of USD5 Bn in period 2021-25 will be allocated to renewable sectors, the remaining 20% will be allocated to energy efficiency solutions
- NA

Assessment and potential actions by FIs

- ✓ TF Receivers provide **clear high-level phaseout plan** for high-carbon emission assets
- ✓ TF Receivers provide **clear CAPEX deployment plan to achieve SPTs**
- ? FIs could take further actions to request **support from SPO provider** to assess more granular data or other aspects of implementation strategy if needed