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APEC Workshop on Eco Design and Eco Label Implementation for SMEs Towards a Green Economy

Ha Noi, Viet Nam | 20-21 July 2023

APEC Small and Medium Enterprises Working Group

September 2023

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20 – 21 July 2023

Summary Report

I. INTRODUCTION

On 20 - 21 July 2023, the APEC Workshop on Eco Design and Eco Label Implementation for SMEs towards a Green Economy, initiated by Viet Nam and co-sponsored by Malaysia; Singapore; Chinese Taipei; Thailand was held in Ha Noi, Viet Nam. Speakers and participants came from global organizations and research institutions and representatives from APEC member economies' relevant Ministries and government's agencies, companies and business associations that relates to SME and/or has expertise in eco label, eco design and green economy in APEC economies and across the APEC region.

The Workshop aimed to provide an opportunity for stakeholders for sharing experiences and good practices in developing and implementing eco design and eco label and how to overcome the barriers encountered in the development/ implementation process, in order to promote green economy.

II. BACKGROUND

Past and current patterns of natural resource usage are having growing detrimental effects on the environment and human health, prompting the need for a new economic model that makes optimal use of resources and energy. In recent years, the concept of a green economy has arisen and become a priority goal worldwide. According to United Nations Environment Programme (UNEP), a green economy is defined as low carbon, resource efficient and socially inclusive.

Small and medium-sized enterprises (SMEs) play a crucial role in every economy, irrespective of their development status. Green SMEs will contribute to the protection of the climate, environment, and biodiversity through their products, services, and business practices in various fields of the economy.

Eco design and eco label implementation are valuable tools that can assist SMEs in achieving the sustainability of green economy. Eco-design means designing with sustainable materials. Unlike the old "buy, use, throw away" paradigm of the linear economy, the goods with eco-design in the circular economy can reach the end of their useful lives in a suitable condition that enable them to be repurposed. As a result, it brings

about abundance of benefits: fewer materials, easy to recycle, more use of bio- materials, long-lasting, multipurpose, reusable and recyclable, lowering emissions and innovative.

Together with eco-design, the growth and use of eco-labeling schemes are also important. Basically, an ecolabel is a label which identifies overall environmental preference of a product (i.e., good or service) within a product category based on life cycle considerations. Ecolabel is recognized throughout Europe, with over 44,000 products using the label to date. This new change has lowered the application fees to 42 percent. An example can be seen in Malaysia: the official green recognition scheme endorsed by the Government - MyHIJAU Mark - brings together certified green products and services that meet local and international environmental standards under one single mark.

However, the implementation of eco design and eco label of SMEs has faced many challenges. Some can be mentioned are financial limitations, lack of government support, lack of strategic resources and lack of relevant knowledge and tools.

The main objective of the 2-day workshop is sharing experiences and good practices in developing and implementing eco design and eco label and how to overcome the barriers encountered in the development/implementation process, in order to promote green economy.

III. OPENING REMARKS

In the opening remarks, Ms Pham Quynh Mai (Viet Nam's Senior Official to APEC) highlighted that in implementing the green transition, APEC economies have recognized the important and active role of the business community, especially small and medium-sized enterprises (SMEs). SMEs are the engine of growth and innovation, accounting for more than 97% of all businesses and employing more than half of the workforce in the APEC region. SMEs make a significant contribution to economic growth, with GDP contribution proportions ranging from 40-60% in most APEC economies.

The Senior Official also mentioned that by "greening" products, services and business activities in different fields, SMEs will better meet the increasingly high and mandatory requirements of the market, thereby increasing their competitiveness and integration into regional and global value chains. This helps SMEs to maximize profits, grow sustainably and contribute to environmental protection. To become a "green enterprise", many key solutions have been implemented by the Government and businesses, including eco-design and eco-labels.

Ms Pham Quynh Mai cited that an "eco label", according to the World Trade Organization (WTO) and the World Bank (WB), is a type of label that is granted to products that meet

certain criteria issued by a government agency or an organization appointed by the government. These criteria are to assess the impact on the environment in different stages of the product life cycle: from primary processing, processing, processing, packaging, distribution, use to until discarded. There are also cases where the eco-label only refers to a certain criterion that is specific to the product, for example the level of emissions generated, the recyclability of the product etc.

It is necessary and important to develop and apply eco-labels and designs. However, the implementation in SMEs still faces many challenges, namely: limited resources (financial, technology, human resources), lack of support from the Government and inadequate awareness of social responsibilities. Therefore, this Workshop is an opportunity to share experiences and good practices in the development and implementation of eco labels and eco designs, thereby contribute to supporting SMEs to overcome obstacles encountered in the implementation process.

IV. KEY ISSUES

1. OVERVIEW ON ECO DESIGN AND ECO LABEL

There was one speaker in the Session: Dr Rajan Sudesh Ratna, Deputy Head and Senior Economic Affairs Officer, United Nations ESCAP.

- To begin the presentation, Dr Rajan Ratna explained on the term of Eco-design which was first used by John Button in 1998. Ecological design was originally conceptualized as the "adding in" of environmental factor to the design process, but later turned to the details of eco-design practice, such as product system or individual product or industry as a whole. The speaker listed out some principles for eco-design such as: materials with less environmental impact, fewer resources during the manufacturing process, less pollution and waste, products that cause less waste and pollution being used, easier reuse and recycling. In the second part, when mentioning about eco-labeling, Dr Rajan Ratna said that it is important to provide information to consumers about the environmental and social impacts of products or services so that the consumer or other parties including governments can take decision about its use. Such information also needs to contain energy efficiency, carbon footprint, water usage, waste management, recycling, and use of hazardous substances. At the end of the presentation, the speaker summarized some challenges that micro, small and medium enterprises (MSMEs) have to face with when applying eco-labeling. He shared that MSMEs will face with lack of knowledge and skill, lack of technology and know-how, cost of compliance, certification and labeling, remote locations, traceability for organic labels, and entire supply chain management through labeling requirements.

2. ECONOMIES' POLICIES AND STRATEGIES RELATING TO ECO DESIGN AND ECO LABEL

There were two speakers in the Session: Dr Nguyen Sy Linh, Head of Department of Climate Change and Global Issues, Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE), Viet Nam; Mr Rami Amer G.Hourani, Director – Trustee & President Philexport – Cebu Chapter, the Philippines.

- Dr Nguyen Sy Linh divided his presentation into four main parts: (1) Overview of Eco-labeling in Viet Nam; (2) Eco-labeling regulations and practices in Viet Nam, (3) Roles of Eco-labeling in green transition; (4) Conclusions and Recommendations. In the first part, the speaker talked about the definition and objectives of eco-labeling. He shared that there are 3 types of eco-labeling that include: Type I Ecolabel – Ecolabels (ISO 14024); Type II Ecolabel - Self-declared environmental claims (ISO 14021); Type III Ecolabel - Environmental Product Declarations (ISO 14025). In the second part, the speaker provided some information regarding eco-label regulation system in Viet Nam. The Label scheme is regulated by a Decision and a Circular under the Ministry of Natural Resources and Environment. He also made an analysis about strengths, weaknesses, opportunities, and challenges of the current Viet Nam's Green Labels. In the third part, Dr Linh presented some trends of green labeling transition. Carbon footprint is one of the key indicators that the international market is proposing to deploy in order to reduce carbon linkage and eventually to promote Green House Gas (GHG) emission from a single product (using Life Cycle Assessment-LCA principle). Generally, energy sector contributes from 70-75% of total GHG emission worldwide, then the energy efficiency and savings, then renewable energies are the best options for GHG emission reduction. To conclude, the speaker made some recommendations: online platform, application of IoT (Internet of Things), AI (Artificial Intelligent), willing to pay, training program, and update regulations in order to promote eco design and eco labeling in Viet Nam as well in the APEC region.

- Mr Rami Amer G.Hourani said that eco design is known as environmentally conscious design or green design, refers to the integration of environmental considerations into the product design process. An ecolabel is a voluntary certification or labeling scheme that identifies products or services with reduced environmental impact. The speaker shared that the Philippines has a shameful history when it comes to the level of its plastic pollution. There is a "sachet" culture

in the Philippines which makes us very prone to creating an excess of plastic pollution. Many efforts of Eco-Design in the Philippines attempt to remedy this. After that, he talked about the development of eco-design in the Philippines when they have a very environmentally conscious population. The approach though has been very bottom-up. Much of the reform comes at the local government level. The Philippines is keenly aware of the need to reform the industry in relation to plastic. Industry associations have come together to steer policy in that direction, largely driven by large conglomerates whose care for MSMEs may be limited. The Philippines passed the Republic Act 9003 or the Ecological Waste Management Act which created avenues for the creation of eco labels. At the end of the presentation, the speaker concluded that the Philippines as an economy is slow to adapt to the changes concerning eco-design and eco-labeling. The nature of the Philippines position though is one where it must necessarily take the role of a follower in relation to other economies with more manufacturing-centered economies. This is because the Philippines economy is more consumer-driven and has a large services sector. Therefore, a larger role will necessarily be taken by other economies insofar as Eco-Design and Eco-labeling is concerned.

3. ECO DESIGN AND ECO LABEL IMPLEMENTATION FOR SMES – PERSPECTIVE OF THE PRIVATE SECTOR

There were two speakers in the Session: Mr Wijarn Simachaya, President, Thailand Environment Institute Foundation (TEI), Thailand; Ms Le Thi Kim Thanh, Manager, Small and Medium Enterprise Promotion Center, Viet Nam Confederation of Commerce and Industry (VCCI).

- Mr Wijarn Simachaya began his presentation by introducing the eco-label status in Thailand and the BCG (Bio Circular Green) Strategy in Thailand. He said that Thai government strongly promotes economic development by giving a high priority to a new economic model known as BCG Model to develop three areas of the economy: bio-economy, circular economy, and green economy. After that he presented some Environmental Label Programs under TEI such as: green label, circular mark, and community product for the protection of the environment and consumers. About community products for protecting the environment and consumers, the speaker emphasized that we need to support SMEs and community products to improve their processing and products to be more environmentally friendly by using CEC (Circular Economy Club) requirements as a guideline, providing training and coaching programs, and target producers. In the second part, Mr Wijarn Simachaya talked about eco-design which is designing with sustainable materials, thereby the goods in the circular economy reach the end of their useful life in a suitable condition to be put to new uses. He mentioned the features of Eco-

design, promoting Eco-design, challenges and solutions. At the end of the presentation, the speaker provided some suggestions for long-term oriented which focus on environmental sustainability and social sustainability.

- Ms Le Thi Kim Thanh started her presentation by talking about current environmental challenges in the next 2 and 10 years. She said that Viet Nam is dealing with the challenges when 3.2% of GDP in 2020 has been lost due to climate change, 12% of GDP may be lost by 2050 if it is not being timely responded. Climate change affects many aspects of SME's production and business activities. In the second part, the speaker shared some information on the activities of VCCI to promote SMEs towards fostering environmentally friendly and sustainable businesses. Many programs were implemented such as: the program for assessing and disclosing sustainable businesses in Viet Nam, promoting businesses to create sustainable development reports, dialogues on sustainable development, and provincial Green Index (PGI). About the difficulties and challenges for SMEs when implementing eco-label, the speaker listed out some main reasons: regulation issues, information, measure tools, management capacity, capital and internal resources. At the end of the presentation, Ms Thanh came with some recommendations: facilitate access to information on environmental policies, laws, and sustainable development; strengthen access to funding sources for green growth of businesses; use eco-labeling as a marketing tool, develop and improve policies and laws for green growth; monitor and evaluate the implementation of policies on environmental protection; promote the improvement of a green business environment.

4. ECO DESIGN AND ECO LABEL IMPLEMENTATION FOR SMES – PERSPECTIVE OF THE ACADEMIC SECTOR AND INTERNATIONAL ORGANIZATION

There were 2 speakers in the Session: Dr Rajan Sudesh Ratna, Deputy Head and Senior Economic Affairs Officer, United Nations ESCAP; Ms. Sita Zimpel, Project Director, ASEAN SME II Project.

- Mr Rajan Ratna said that the primary goal of eco-labeling is to provide consumers with reliable information about a product's environmental performance, allowing them to make more sustainable purchasing decisions. He also talked about some international standard settings, sustainable development goals, processes relating to verification and certification and associated costs, and disputes relating to standards. About the perspective of international organizations (IOs) on eco-label, the speaker shared that IOs are supportive of the overall broad objectives as this can help to achieve sustainable development goals, raising standards of living and a

better world. There are some concerns on standard setting (gap between those who have knowledge and those who do not), concerns of standards, lack of cooperation on this issue in RTAs, cost of compliance for MSMEs is higher, use of digital platforms and certification etc. Mentioning about SMEs, Mr Rajan Ratna said that MSMEs face several challenges: unorganized sector, lesser persons manage many issues but are not aware of processes, rely on consultants or agents adding to their costs, price disadvantage even in normal circumstances. Besides, SMEs are part of domestic value chains in many sectors, but still struggle with being part of regional or global supply chains. SMEs also face knowledge and capacity constraints about changing policies and rules when exporting. Government's special attentions are being given now to MSMEs, but still gaps exist. To address capacity constraints, the speaker suggested: digitalization; paperless procedures; filling information gap, creating awareness on how eco-labeling is helpful for their business, etc.

- Ms. Sita Zimpel started her presentation by saying that Green economy initiatives are increasingly becoming an imperative in Southeast Asia, including Viet Nam. Evolving consumer demand and market dynamics for sustainable consumption and production require a future-oriented mindset of government authorities and private sector. After that, she introduced a study of GIZ in 2023 on Eco-labeling and Enterprises. The objectives of the project are to assess the level of awareness and uptake of eco-labeling among selected businesses, identify challenges, needs and gaps, based on business feedback, and develop policy recommendations to promote greater adoption and accessibility of the Viet Nam Green Label (VGL). The speaker shared some characteristics of surveyed enterprises on the understanding of eco-label, benefits of eco-label, practical and policy hurdles, other observations and open questions. At the end of the presentation, Ms Sita Zimpel talked about some main findings from the study with untapped potentials such as long-standing legal framework; lack of wider familiarity about eco-label certification among producers and consumers; general awareness about benefits; too little information and communication efforts, insufficient institutional support, overall low environmental consciousness; limited application; needs for clearer eco-labeling mandate and mechanisms to promote commitment and stimulate the market.

5. CASE STUDIES IN SOME APEC MEMBER ECONOMIES

There were three speakers in the session: Mr Nguyen Le Thang Long, Deputy CEO, Board of Bioplastic, An Phat Holdings, Viet Nam; Mr Rami Amer G.Hourani, Director – Trustee & President Philexport – Cebu Chapter, the Philippines; Dr Sitanon Jesdapipat, Associate Professor, Rangsit University, Thailand.

- Mr Nguyen Le Thang Long divided his presentation into three parts: (1) Ecofriendly Products; (2) How we develop eco-designs? (3) Impact of eco-labeling on our business. Firstly, he introduced list of the company's eco-products and how they develop eco-design. The company has two research and development centers in Korea and Viet Nam which conduct intensive research activities. The company holds 30 patents which are granted at multiple economies. The speaker shared some information about standards for compostable plastics in Viet Nam. The speaker made an example of achieving certificate for eco-friendly nylon bags, the criteria do not follow any specific standards but cover a wide range of requirements from products' quality to environment management of producers. To conclude, he figured out some benefits of "Eco-friendly nylon bags" certificate in Viet Nam such as: Validation of products' quality; Increase competitiveness in the market; Promote "green" consumption, sustainable development; Promote "green" innovation of ecofriendly products, Create more "entry" to international market; Tax incentives.

- In this session, Mr Rami Amer G.Hourani presented about three case studies in the Philippines: Art N' Nature Mfg. Corp, Balik Batik, Samples of Eco-Design Principles in the Philippines. The speaker said that Art N' Nature Mfg. Corp has been engaged in the export market for over 40 years. They deal almost exclusively with handicrafts and simple furniture pieces which they source from remote communities. This is a circular economy company with indigenous makers, all biodegradable and eco-design principles. Regarding the second case, Balik Batik is a start-up. It qualifies as a micro-enterprise with only a few employees. It has only one physical location beyond sporadic pop-ups but has considerable sales monthly. Balik Batik works with Filipino indigenous groups, weavers and artisans to make modern clothing pieces. The last case was about Samples of Eco-Design Principles from the Philippines. The company has large opportunities to engage in more environmentally friendly production and business. They begin the ground up, building something that is environmental at core, incorporating environmentally friendly components and addressing a problem in an environmentally friendly way.

- At the beginning of the presentation, Dr Sitanon Jesdapipat talked about the reason why we need eco-design and eco-labeling and the implementation of SMEs in Thailand. According to the speaker, with eco-labels, we can select products and services according to specific environmental and social criteria. The objectives of the Green Label scheme are three-fold: reduce waste, provide green information to consumers and, promote the adoption of cleaner technology among producers. The speaker said that there are three types of labeling: self-claimed, third party and compulsory scheme. For the SMEs, there is still ample room for start-up; and

independent producers of vegies and seafood. The incremental costs of labeling, however, could be a barrier, if the markets are too small (thin). In such a case, labeling could be prohibitive. At the end of the presentation, Dr Sitanon cited some pending issues to promote eco-design and eco-labeling such as: From voluntary to compulsory measure, compulsory scheme, label effectual, incremental costs, affordable to SMEs, etc.

6. DISCUSSIONS

- A speaker made clear that the availability of millions of pieces of similar design and packaging creates a huge challenge for eco-design. This challenge could be addressed through a cluster or cooperative between the government and manufacturers. In addition, the creation of a digital platform to support SMEs, women-led SMEs, enterprises, government ministries, and government procurement to address challenges in the marketplace of eco-design should be seriously taken into account.
- Another problem is the lack of good governance. In order to improve on this aspect, the speaker indicated that first the government should make a good plan for the implementation of eco-design and eco-labels. Second, the government should identify which industries would produce these items and the size of those industries, and then provide incentives and a time frame for those industries to adjust or to fit with the orders as well as its eco requirements.
- Big companies are involved in sourcing eco-designs and labels from small and medium enterprises.
- Apply the same eco-labeling eligibility criteria for different industries could represent a challenge. For example, SMEs producing bamboo-based product with eco-labels have to communicate with the local communities because some governments require only local enterprises to produce the products. So basically, local SMEs in the area assume an important role in producing and adapting the eco-label of the designing company.
- Regarding policy supporting for SMEs to develop eco-labeling schemes, one speaker commented that although they had many types of policy supporting for SMEs in the economy, none of them gave specific support for SMEs. However, application for the green labeling was provided free of charge for the companies. They just needed to pay only small costs for certification to certify the product or service to meet eco-label criteria.
- The government also set up an environmental protection fund. Companies could apply for it if they want to improve the environmental monitoring systems. But again, the support is not specific for eco-labeling.
- Relating to equal labeling, there is only one section in the law that regulates equilibrium. In the Philippines, the Department of Trade and Industry's Bureau for

Product Standards is designated to certify and issue eco-labels. There are no subsidies available to procure eco-labels within the Philippines.

- In Viet Nam, the Green Label Office has been operating since 2017 under the management of the Ministry of Natural Resources and Environment (MONRE). They circulate options for applying for eco and green labels and then send them to the office design committee to examine the documents and certify the product. For the certified criteria and indicators, the committee has to consult the Ministry of Natural Resources and Environment. This Ministry may have some contribution insights for designing and also formed an independent committee with experts for the certification.
- Another sharing was that enterprises may suffer from the high cost of the research for eco-design and the huge shortage of human resources, design skills, and eco-friendly consciousness. Besides, there was a limitation in policies in terms of training or giving expertise to eco-designers.
- In the Philippines, to promote these skills, different regional offices in the Department of Trade and Industry collaborated with educational institutions. They created a system for different educational institutions with limited commercial success. The challenge was that it was hard to interface with students but it helps at least to expose students to modern manufacturing techniques, industry 4.0 production concepts, etc.
- Filipinos are not really strong in manufacturing. Therefore, if they would like to promote a particular purchase or manufacture managers, they need to ensure eco-friendliness and design. If they are just talking about costs, they cannot compete with other economies, including Viet Nam and China. What they can really compete on is the design.
- In addition, when talking about design, a few more factors should be taken into account. They are the link between design and a typical product and whether they can be procured from the foreign or domestic markets. Besides, people need to really look at the external factors such as the climate for applying environmentally friendly designs and labels because sometimes some eco-labels do not work in the tropical region.
- In Australia, there was a very large furniture manufacturer in Sydney. They exported around 30 or 40 container loads of furniture every month. When the Filipino labor costs went up, they start to move their operations to other economies, including Viet Nam.
- What the Filipino could do was to collaborate with Viet Nam. The later had had convenient access to manufacturing zones in China and had been making big investment in advanced manufacturing technologies, process and human resource development. So there was a room for the Philippines and Viet Nam to cooperate in terms of more efficient manufacturing technologies and techniques and more thorough supply chains.

- The application of the Internet of Things (IoT) and artificial intelligence (AI) to the eco-labeling and design industry is extremely important because the technologies could support monitoring systems and examine whether or not the products meet the required criteria. Without IoT, AI and supporting tools, it is very difficult to estimate the costs as well as weights in every single production stage.
- For example, it is important to measure the amount of greenhouse gases related to eco-designs and labels to foresee the environmental impact. With the support of IoT, it will help to reduce time, detect and eliminate poor quality production and design processes while monitoring and optimizing greenhouse emissions.
- In Viet Nam, to make MSMEs aware of the environmental, social, and economic benefits, a life cycle assessment is needed to proceed and identify which stage in production of products or services releases more greenhouse gases than others. And then possible measures can be worked out and taken to save energy, water and other resources.
- In the Philippines, 10% of the public procurement by the government has come from MSMEs for green labels. There are more collaborative frameworks that are made possible by the Philippines law, for example, the Public Private Partnership framework. Such a framework can be used to achieve green goals and targets.
- In Viet Nam, there are not any specific incentive schemes for MSMEs for eco products. Support is provided indirectly instead.
- The number of eco products and eco companies increases every year. Most companies want to apply for such green products that incorporate carbon reduction. The process to apply for certification for high-value products requires a huge amount of resources and efforts, making it too expensive. Despite that the application for security certification is not compulsory in Viet Nam, the eco certification is used for sales and promotion of the products in the market.
- Unlike Thailand, Viet Nam is still in the process of developing green labels. There are four main types of green labels. The eco-green label can be issued by the Ministry of Natural Resources and Environment (MONRE) and the Ministry of Industry and Trade (MOIT). This type of label was initially started as voluntary, then made mandatory. Now it is mandatory, and businesses are allowed to self-declare and label their products and make sure they comply with the existing labeling laws and regulations. After launching the products, they will be subject to inspection and testing by the Government. Viet Nam has plans to further develop Viet Nam's green labels in the near future.
- Regarding the certification process, currently green-labeled enterprises in Viet Nam do not receive any direct support from the government. Instead, enterprises do not have to pay fees for applications for eco-designs and eco-labels. For international green labels, a big fee applies and the total investment of enterprises also very large. More often there are international organizations who will assist businesses in targeted industries to achieve green labels or sustainability certifications. For

example, businesses that produce spices, fruits and vegetables are helped to get fair trade certification. This support is provided by an EU-funded project. The certificate works like a visa to the EU market. The rationale for opting to support fruit and vegetable certification is that Viet Nam recently gains advantage in such products. In implementation, it turns out very difficult to find eligible enterprises and producers for support. This is because there are really few SMEs that export to foreign markets and at the same time can meet the eligibility criteria for such certification.

- Although in Viet Nam the Government does not have any specific support for green-labeled businesses, companies benefit from an environmental tax exemption. International organizations provide support for this purpose. This support often includes: i) a certain, and usually small, amount of money to purchase manufacturing equipment and machinery; and ii) technical support, including consultancy and/ or coaching for the green-labeled businesses. Therefore, the businesses will incur most of the costs associated with green labels on their own account.
- Another speaker added that MSMEs benefit from other support from the government such as the reduction of the application fee or the training for businesses.
- Thailand has a lot of green labels, specifically categorized by ISO standards. Despite that only 5% of companies in Thailand are aware of eco-labeling. They are more familiar with energy-saving labels instead. Thai companies are trying to work with related ministries and agencies to incorporate the energy-saving label with other labels for their products.
- Large companies have to subcontract SMEs. In addition, Thailand also promotes domestic policy for public procurement.
- Business models are not always well-known. They need to be innovative. Regarding intellectual property rights (IPR) protection, a speaker commented that trademarks could somewhat protect the entities but it was important to raise awareness of the community on IPR.
- In Thailand, the Government gives awards to SMEs that meet international requirements for eco-design and eco-labels. In Viet Nam, there is no green-label awarding mechanism for businesses. However, the Viet Nam Confederation of Commerce and Industry (VCCI) operates an annual program to evaluate and declare sustainable businesses. Enterprises are evaluated against the set of criteria issued by VCCI, which also incorporates international standards. Enterprises are assessed on economic, social, and environmental aspects. This annual awarding program is endorsed by the Government to honor decent enterprises. They are considered cases of best practice for other businesses to learn from.
- Eco-design and eco-labels may eventually support sustainable development worldwide. That requires close cooperation among economies and stakeholders,

especially in terms of policy making. The fact is there are huge enforcement challenges for certain policies, regulations and laws. Therefore, a feasible approach is needed to identify the concrete lead and changes as well as to work with various ministries involved with the private sector and consumers' market to develop communication and education for awareness raising.

- In order to make a policy that has international ramifications, it is essential to have a strong holistic overview of multiple aspects and set smart policy making objectives.
- When talking about economic cooperation, there is a common expectation that the more developed economies would provide capacity building to the developing ones. However, it might depend on the request of the developing economies and capacity building support should be made very specific.
- Some of the assistance that could be provided include technical assistance, carrying policy analysis to identify the gap; addressing capacity constraints and capacity building; organizing inter-governmental meetings; sharing experiences among multiple stakeholders.
- On top of all that support, the policy reform needs new thinking, deep and open insights as well as measuring its impact on awareness and behavioral changes of consumers, especially of young consumers, towards environment-friendly products and directing their interest in environmental and sustainability issues. However, the concerns about and awareness of sustainability issues of the young generation may vary and change with time, context, and socio-economic situation and this is the long-term goal of the economy.
- Regarding the issue of biodegradation and bioplastics, a speaker shared a mechanism for biodegradation management. It ensured there were no microplastics in the living environment and water resources, and offered options for collaborative discussions with the government, and relevant agencies to reduce and eliminate microplastics in the environment.
- Many developed economies such as the United States, the European Union and Japan have been planning to step-by-step phase out single-use plastics through a number of target policies. Such policies can be taxing plastic products or making investments in green technologies, implementing an EPR system that expands production responsibility, paying fees for product recycling, and managing plastic waste. The revenue from taxes and fees will be put into a general fund called the environmental protection fund or similar fund.
- Regarding the research and development (R&D) of green products, a speaker shared that their business had more than 20 years of experience in manufacture of plastic and plastic-based products. They exported to the major European markets, which accounted for 60% of the company's exports. When policy makers and customers showed greater concerns about plastics, the company had no choice but to change and innovate to keep customers. Therefore, they made investment in

research, innovation, production, testing new technologies related to biodegradation, technology transfer. And then they scaled up to make sure the production costs and selling prices are reasonable so they could effectively cope with increasingly fierce competition. Specifically, in 2014 when the newly launched biodegradable plastic products became 5 times more expensive than conventional plastic products, the company could manage it and cut costs down by 1.5-2 times by means of increasing the scale of production. Therefore, the company stayed competitive in the market and it became easier to attract a larger number of consumers in the market.

V. RECOMMENDATIONS

During the final session, there were 3 panelists in this Session: *Dr Nguyen Sy Linh, Head of Department of Climate Change and Global Issues, Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE), Viet Nam; Dr Sitanon Jesdapipat, Associate Professor, Rangsit University, Thailand; Ms Veronica Baguio, RPm, LPT, Founder and Owner, Balik Batik, the Philippines.*

- Dr Nguyen Sy Linh came up with some recommendations as follow: (1) APEC should support a study and publish a report on the state-of-play of eco-labeling in APEC economies; (2) Provide training workshops on eco-design including principles, benefits, trends and expectations from different key imported markets; (3) Develop and regularly update a list of eco-labeled products/services that commonly traded among APEC economies and strategies, policies related to eco-labeling in its members; (4) Establish an information hub to share best practices in eco-design and eco-labeling in order to support SMEs to invest in eco-design and eco-labeling; (5) Establish a network of eco-designers among APEC economies to promote and exchange eco products/ patents.

- Ms Veronica Baguio talked briefly about the current status of fashion industry in the Philippines with focus to the consumption habit analysis of customers. She shared that 62 million tonnes are consumed each year with only 20% being reused for recycled. After that, she introduced the Balik Batik, a micro social enterprise that works with Filipino indigenous groups, weavers and artisans to make modern clothing pieces. About the recommendation to support SMEs in eco-design and eco-label, the speaker said that indigenous practices as resource for eco-design, SMEs understand the importance and value of eco design, SMEs would want to have eco

labels to be more established or legitimate. Standardized eco labels may be a challenge to achieve without in-depth information and clear incentive. It is important understand the different contexts of different SMEs. We need to encourage consumers to be more discerning, inform, incentivize, and empower SMEs.

- In this Session, Dr Sitanon Jesdapipat shared his sympathy to MSMEs as they have much deficit to compete even in local market. He came up with three main points to recommend on supporting SMEs: Firstly, MSMEs should have an alternative way to graduate approach. They can start at where they are and gradually make their way to graduate at some points so that they will become more mature and success. Dr Sitanon did not expect much from the Government because it takes a lot of time and effort, especially political will, to actually support MSMEs despite what they said about the important role of MSMEs. Secondly, it is tangible cooperation among APEC, including incubation experiments. It is needed to have business-to-business partnership to exchange information as well as data on their products. Through that network, they can exchange business experience as well as needed information. Thirdly, APEC can create a policy learning platform where experts can come exchange the experience in policy making and we can also involve the real players in the industry to share their views with policymakers, what the stakeholders are facing and what possible solutions.

Participants also shared overall views and recommendations on (i) take-aways from the Workshop, (ii) what economies/ APEC should do in term of policies and actions.

Sharing on what the participants have achieved from the workshop sessions

- Participants commented that they recognized different perspectives from different APEC economies. They learned a lot from the experience shared by Viet Nam and Thailand on how to approach eco-labels and eco-designs. However, not all MSMEs were effectively promoted to go into green design.
- Canvas was the process for developing eco-labels and eco-designs. It had some limitations and the speakers and participants shared a lot about them. There were relatively more advanced economies in the realms of manufacturing. And there were also different approaches of different economies.
- To the question on what they learned from the workshops, key answers from the first group of participants include:
    - Technical issues: There are different ISO standards and the participants learned how such standards were translated into eco-labels. It would be

easier to explain foreign suppliers and manufacturers about how to comply with ISO specifications;
    - Experience: They learned about the challenges of eco-labels, especially for MSMEs;
    - Network: Linkages needed to be developed and expanded among economies, experts, and relevant organizations.
- The second group of participants also shared that they learned a lot from the workshop and the key take-away are:
    - Green design should be market-driven and the market for it should evolve with demand;
    - In most economies eco-designs and eco-labels can be voluntary or mandatory, taking into account the sustainable and inclusive issues;
    - Updates on eco-labels and eco-designs should be shared widely among APEC member economies, especially with regards to categories, regulations or standards, etc.

Brainstorm/ explore possible ways and suggest recommendations to APEC and member economies

- ***Lowering the starting points for MSMEs:*** It is recommended to support MSMEs to obtain green certifications. In order to do that, the standards and process should be based on a gradual increase approach with a low starting point
- ***Roadmap***: It is recommended to make concrete steps forward for the adoption of eco labeling and eco-design concepts in APEC economies.
- ***Financial Support:*** APEC member economies can think about seeking financial support and funding from international organizations and also from public sources that governments make available for eco-labeling and eco-design initiatives. In addition, the governments should launch application actions or requirements on necessary resources to implement such recommendations.
- ***Awareness raising for consumers***: Besides, it is proposed to provide more awareness raising and education to the consumers. If the consumers understand the impact of their consumption, we will be able to make the environment more sustainable by encouraging and supporting MSMEs to go greener.
- ***SME***: It is important to create market opportunities for those SMEs which are involved in green activities for their products.
- ***Public procurement***: Laws can be amended, incorporating green public procurement. In this field, the government will be the biggest buyer in the marketplace.

Application actions or requirements on necessary resources to implement such recommendations.

- Creating an assessment tool: An assessment tool should be made available to make it easier for MSMEs to assess if they qualify for green labels.
- Organize workshops: Training workshops should continues conducting with promotion activities so that they can become widely available and reachable to larger audience.
- Database: A database of green companies should be developed to share key information and facilitate trade and commerce for eco-design and eco-labels.
- Education and awareness raising: Communication with people, approach consumers' organizations and train them about the green impact of eco-label and eco-design for the community.
- Revise the legal framework for government procurement with regard to eco-design and eco-labels. This is a real support to the private sector to become more sustainable in the global market.

VI. CONCLUSIONS

In her closing remarks, Ms Pham Quynh Mai (Viet Nam's Senior Official to APEC) observed that the Workshop's participants have had great opportunities to learn various perspectives from relevant stakeholders, including academic and international organizations, business communities, and so on, on how to promote the implementation of eco design and eco label for SMEs with views of heading toward a Green Economy – one of APEC's fundamental priorities and commitments.

Through the sharing and discussion of our speakers and experts on policies, best practices, case studies and experiences from member economies, a number of key findings and recommendations have been highlighted to best promote SMEs' implementation of eco design and eco label for the interest of green economy in APEC. Those might include, but not limited to:

- While the awareness of importance of eco design and eco label as well opportunities might be significantly increasing, SMEs still face a number of challenges in implementing such as lack of knowledge and skills, lack of technology and know-how, high cost of compliance, certification and labeling, difficulties in traceability especially in some specific sectors such as agriculture and processed food, high requirements throughout entire supply chain management, etc.
- Eco design and eco label can present both challenges and opportunities for SMEs to access markets and niche markets.

- Policies, legal framework can play an important role in promoting the implementation of eco design and eco label, but the implementation pace among different economies might vary;
- R&D, certification granting, etc., can be significantly contribute to the promotion and implementation of eco design and eco label.
- Industry associations and other multi-stakeholders might have active roles in steering efforts and policies to promote eco design and eco label.
- Multi stakeholders cooperation is important to promote cost efficiencies, feasible studies, sustainable financing for SMEs, etc.
- In implementing eco design and label, SMEs should pursue sustainable management incorporating long-term orientation, environmental and social sustainability.
- APEC economies can learn from successful examples and case studies as well as share knowledge, lessons, and experiences through workshops, training programs, and exchange programs, etc., to promote the implementation of green economy in general, eco design and eco label in particular.

In that sense, it would significantly contribute to implement Bangkok Goals on Bio-Circular-Green (BCG) Economy endorsed by the APEC Leaders in 2022. Through the sharing, each and every member economy's participants could have a more in-depth knowledge of the issues, hence promoting further efforts to realize green economy, subject to their specific domestic circumstances and long-term development strategies.

By hosting this Workshop, Viet Nam wishes to join and strongly support APEC's common efforts in pursuing green economy, sustainable and inclusive growth and development.

VII. ANNEX 1: RESULTS OF THE PRE-WORKSHOP SURVEY

1. Do SMEs in your economy apply Eco Design and Eco Label? If Yes, please answer the next question.

Chile; Viet Nam: Yes

2. Can you share some challenges/obstacles as well as key success factors in implementing Eco Design and Eco Label for SMEs in your economy?

Chile

One of the major challenges we face as an economy in the field of eco design is to bring this innovation tool closer to businesses so that they can understand its advantages and move towards circular business models. It is important for them to comprehend the benefits of leading sustainable development models for their companies. There is a lack of information about eco design among Chilean businesses, mainly due to the immaturity of the market and the lack of specialized studies in sustainable consumption. This hinders the understanding and response to the growing market of increasingly concerned consumers who are worried about the impact of waste.

Currently, in Chile, we do not have a database with eco-indicators and local emission factors that would allow companies to access this information and quantify their impacts through Life-Cycle Assessment (LCA). LCA is also a little-known tool that remains costly for companies. We believe that these are the major obstacles.

The domestic industry still relies primarily on eco-indicators and emission factors from Europe and North America. Therefore, ecodesign is still beyond the reach of small and micro-enterprises, or it does not objectively represent the impacts according to domestic reality. However, there are inspiring cases of large companies that have worked on the ecodesign of their products and have achieved positive results in terms of reducing their environmental impacts throughout the life cycle and cost savings. But often, the data used does not align with the reality of our economy.

Both ecodesign and LCA are methodologies that are still quite unknown among Chilean businesses, and we believe that we have a great challenge in terms of broadcasting, knowledge, and adoption of these tools. We think that a significant step towards a circular economy is to create a database with domestic emission factors through a public good that guarantees its maintenance, constant updating, and accessibility. In terms of human capital, we also need to support the training of professionals in these new methodologies. In technological terms, we must move towards a model of supra-recyclability of materials by applying new technologies for new business models.

Regarding eco-labels, in Chile, we have made progress in creating regulations that regulate the functioning of eco-labels through a public-private collaboration, which resulted in the creation of the "Elijo Reciclar" stamp. The development of an eco-label was one of the actions included in the "Roadmap for a Circular Chile by 2040," the master plan of our economy to achieve circularity, developed by the Environment Ministry, together with key stakeholders. Considering the complexity of creating an eco-label, the first step was the development of a Clean Production Agreement (CPA), which served as a pilot and provided an excellent learning experience. Currently, over 2,000 products bear the "Elijo Reciclar" stamp, certified under this voluntary scheme. The eco-labeling pilot has been crucial in initiating the regulatory process that will make labeling with recycling information on packaging mandatory.

This collaborative work has resulted in more than 98.8% of the total mass of mass-market product packaging with the "Elijo Reciclar" seal - over 179,000 tons - being recyclable materials. This constitutes a significant contribution of the initial Clean Production Agreement (CPA) to the advancement of the circular economy. Undoubtedly, these results have helped steer companies towards the effective implementation of the Extended Producer Responsibility (EPR) Law.

Malaysia:

Obstacles:

- Lack of regulatory support
- Lack of infrastructure and information
- Most of eco-design approaches are treated on operational level, not on the strategic level
- Mind setting that doing eco design yields no rewards and only pitfalls
- Eco design practiced focus on environmental redesign of products rather than development of new product concepts

Success factors:

- Strong awareness of environmental preservation within industries
- Some industries successfully applied eco design, can encourage other industries
- Industries has been widely comply for some environmental standard

Viet Nam

Challenges:

- Policy and level of support are still limited
- Lack of connectivity information, measurement tools, recognition

- There is no complete sustainable business ecosystem
- Limited management capacity and necessary strategic vision
- Lack of investment capital
- Difficulties in internal resources: The rate of willingness to spend on environment is low
- Lack of human resources and technology
- Demand for eco-label products and alternatives is still small
- Incentive mechanism is limited
- Lack of information, best practices and case studies which are suitable to the conditions of Vietnamese SMEs

3. Please share some policies and regulations your economy is applying relating to Eco Design and Eco Label implementation for SMEs.

Chile

Regarding eco design, we do not have a domestic regulation that regulates its implementation. Currently, eco design is implemented according to international standards defined in ISO 14006:2020, which is a certifiable standard. We are exploring mechanisms of public support through subsidies to enable companies to finance the implementation and certification of this standard.

Currently, we are working on identifying gaps and opportunities for eco design and LCA in Chile through the creation of a community of practice that includes academia, researchers, the public sector, and the private sector. We believe that this work will contribute to reducing knowledge gaps and improving access to these methodologies. Additionally, the "Roadmap for a Circular Chile by 2040" establishes working axes around circular innovation, where eco design and LCA play a leading role.

Regarding eco-labels, in Chile, we have made progress in creating regulations that govern the functioning of eco-labels through a public-private collaboration, which resulted in the creation of the "Elijo Reciclar" stamp. This stamp was the result of a public-private collaboration, with the valuable participation of representatives from the public, consumers, various waste valorizers and managers, government representatives, and the commitment and action of the business sector.

The eco-labeling pilot program executed within the framework of the Clean Production Agreement (CPA) involved the evaluation of over 2,000 packaging units, with a recognition rate of over 60% by the public in November 2021. Additionally, 75% of the respondents acknowledged that the eco-label influenced people to recycle more and in a better way. Currently, as the pilot program continues, over 4,000 packaging units have been evaluated, involving more than 70 companies.

Based on the initial implementation of the CPA, it was found that the materiality of eco-labeled packaging introduced into the market annually is as follows: 61.6% is glass, 16.2% is PET material, 8.9% is paper and cardboard, and 5.8% is liquid carton.

While there is still much to do in terms of public policies and regulations, the following initiatives have been implemented:

Domestic Program for Sustainable Consumption and Production[1]: The program aims to be an instrument that, through its different lines of action, promotes economic growth to contribute to environmental protection and social equity, by changing consumption and production patterns and decoupling the economy's growth and development from environmental degradation. Among its lines of action, it emphasizes the development, implementation, and strengthening of mechanisms to prevent waste generation and valorize waste generated by all sectors of the economy, using financial and educational tools that consider concepts such as ecodesign and circular economy.

Framework Law for Waste Management, Extended Producer Responsibility, and Recycling Promotion (2016)[2]: The law establishes provisions for waste management to prevent its generation, promote its valorization, and ensure proper management. The Environment Ministry assumes the task of leading waste management at the domestic level, redefining its approach towards prevention and waste valorization in all aspects. As a result, the Ministry can develop environmental management instruments in waste matters such as ecodesign, certification, labeling, and marking, among others.

Extended Producer Responsibility (EPR) Law[3]: The law stipulates that producers of packaging and packaging waste, electrical and electronic equipment, batteries, tires, lubricating oils, and batteries must take responsibility for their management at the end of their life cycle. Collection and valorization targets are established. It encourages the design of products with reduced environmental impact and promotes recycling and proper disposal practices.

EPR Law - Supreme Decree that regulates labeling (Resolution No. 42 E)[4]: This resolution regulates labeling for food or food product packaging, personal hygiene products, and household cleaning products (which are estimated to represent 80% of packaging generated at the household level internationally). The objective is to modify consumer behavior to facilitate and guide the identification and management of waste generated by these products, while also standardizing the information provided to consumers.

[1] https://mma.gob.cl/wp-content/uploads/2017/08/20160905_PNCPS.pdf
[2] https://www.bcn.cl/leychile/navegar?idNorma=1090894
[3] https://economiacircular.mma.gob.cl/ley-rep/#:~:text=sistemas%20de%20gesti%C3%B3n%3F-,%C2%BFQu%C3%A9%20es%20la%20REP%3F,sus%20productos%20en%20el%20pa%C3%ADs

[4] https://www.bcn.cl/obtienearchivo?id=repositorio/10221/33277/2/BCN_Ecoetiquetado_en_Chile_otros_paises_2022_FINAL.pdf

Clean Production Agreement: Eco-labeling for packaging [5] : This agreement establishes the certification procedure to obtain the recyclability seal and recycling information for packaging in the food and beverage, cleaning and hygiene, bookstore, cosmetics, perfumery, and healthcare sectors, among others.

Malaysia:

Government Green Procurement (GGP) project:

- The 2½-year project focuses on the role of the government as a key catalyst in creating a green market for products and services.
- GGP refers to the acquisition of products, services and work in the public sector that takes into account environmental criteria and standards for protecting the environment and natural resources and minimizing or mitigating the negative effects of human activities. The 11th Malaysia Plan has stated the target for 20% of selected groups of products and services in government procurement to be green procurement by 2020. The government's long-term action plan is to have 100% procurement of selected product groups by 2030.
- With the federal, state and local governments involved in GGP, there will be an increase in demand for green products and services and this will spur industries to meet green requirements.
- Launched in 2013, the GGP initiative in Malaysia started with five ministries involved in a pilot programme. From only six product categories initially, 40 product and service categories have now been identified and selected in the implementation of GGP.
- A product or service that meets local and international environmental standards will be given the MyHIJAU mark. MyHIJAU is Malaysia's official green recognition scheme endorsed by the Ministry of Environment and Water.

SIRIM's Eco-labeling Scheme:

- Apart from supporting the implementation of GGP, the SIRIM Eco-labeling mark also presents a competitive edge to products over similar ones in the market. They gain acceptance in international "green markets" that favour eco-friendly products. They can participate in green procurement programmes by the government and the private sector.

[5] https://elijoreciclar.mma.gob.cl/wp-content/uploads/2022/05/Esquema_APL-EcoEtiquetado-II-mayo-2022.pdf

- The SIRIM Eco-labeling certification is awarded by SIRIM QAS International, Malaysia's leading testing, inspection, and certification body. SIRIM QAS is a member of the Global Ecolabelling Network (GEN), a non-profit network comprising 27 eco-label organisations worldwide that aims to improve, promote and develop the eco-labeling of products and services worldwide. SIRIM QAS' membership in GEN gives credibility to the SIRIM Eco-labeling Scheme and puts it on par with the eco-labeling schemes of other member economies.
- The SIRIM Eco-labeling certification will enhance a brand's image and its manufacturer's reputation as an environmentally friendly company. Not only do eco-friendly products contribute to the preservation and protection of the environment, but they also increase efficiency in production and reduce wastage in terms of rejects.
- To receive the SIRIM Eco-labeling certification, products must comply with product standards or specifications and the relevant eco-labeling criteria, demonstrate an acceptable quality as specified in the product certification agreement, as well as comply with the relevant provisions of the Environmental Quality Act.
- To ensure that the required standards are upheld, SIRIM's Eco-labeling certification process is intensive and involves enquiry, application, document evaluation, factory audit, sample selection and testing, recommendation and approval, surveillance and renewal.
- After products have received certification, surveillance audits are carried out every two years to ensure that companies uphold the certification standards.
- Although there are self-declaration options for eco-labels, SIRIM acts as a third party and ensures compliance with its detailed certification process.

Viet Nam

Eco-labelling in Viet Nam currently is regulated by Law on Environmental Protection (2020)- Article 145 (definition of an eco-labelled product/service and labelling process) and Decree 08/2022/ND-CP (Article 145 for products and services; Article 146: Documents submitted to grant Ecolabel; Article 147: Procedure and protocol for certifying Ecolabel; Article 148: Issues, and recall Ecolabel certification; Article 149: Agency that monitor, analyse and assess the suitability of a product/service to be certified as an Eco product/service; Article 150: Announcement and recognition of a product that meets environmentally friendly product/service) on guiding to implement LEP 2020.

Viet Nam Green Label is an eco-label program implemented domestically since March 2009 with the aim of increasing sustainable use of natural resources and protecting the environment through encouraging production and consumption models

of environmentally friendly products assessed and certified by the government of Viet Nam (through MONRE).

Viet Nam Green Label's criteria are built based on the assessment of the ability to control and limit the impact on the environment of products and services entire product life cycle.

The Label scheme is regulated by Decision No.253/QD-BTNMT dated 05 March 2009 and Circular No.41/2013/TT-BTNMT (criteria for granting VNGL).

4. **If possible, can you list out implication(s) of those policies and regulations on supporting the implementation Eco Design and Eco Label in SMEs towards green economy.**

Chile

Our economy has a "Roadmap for a Circular Chile by 2040," which is part of the update to our Domestically Determined Contribution. Ecodesign and Life-Cycle Assessment (LCA) are important components of the goals defined in the "Circular Innovation" work axis. Additionally, as the economy's economic development agency, CORFO aims to progress towards a model of sustainable productive development for the Chilean economy, where decarbonization and knowledge-based economy play a significant role. Therefore, our agency, CORFO, has a relevant role in implementing actions that contribute to the achievement of the major goals defined in this Roadmap for 2030 and 2040.

Another essential element to understand these actions is the implementation of the Extended Producer Responsibility (EPR) Law, which requires those introducing new products to the market to be responsible for managing these products through waste managers. The EPR Law focuses on six priority products: packaging, tires, electrical and electronic equipment, batteries, oils, and lubricants.

It is the first EPR Law in the world that incorporates ecodesign in its foundations. For this reason, both ecodesign and eco-labeling are important tools for achieving the objectives of this law and capitalizing on the advantages it offers in terms of access to preferential rates for the management and treatment of ecodesigned products. The Environment Ministry is working on a Domestic Ecodesign and Eco-labeling Plan that would regulate these matters. Although it has already undergone a public consultation process, it is currently under review by the ministry authorities. It is in this phase where more specific definitions could be finalized. The current draft of the domestic plan establishes environmental certification of products and organizations through technical reference standards, supports the government and productive sector in the application of ecodesign and eco-labeling, and incentivizes the implementation and certification of ecodesign through various mechanisms, among others.

Within these frameworks of action, we have the mandate to deploy all mechanisms for Chile to advance towards a transformation of its economic model based on circularity and sustainable productive development.

Malaysia:

- Customer-oriented sustainable practice was the most common type of sustainable manufacturing practice implemented by SMEs in Malaysia. The demand for green products or processes from customers, and customer collaboration in green initiatives, were identified as important drivers for the implementation of green practices in SMEs. SMEs may have two types of customers, namely individuals (the public) and other businesses (including private firms and government agencies). The growing consciousness of environmental protection among customers has forced SMEs to be more environmentally responsible. As many of the firms are suppliers to other businesses or firms, they face growing pressure from customers to incorporate environmental considerations into their networks to create a sustainable and responsible supply chain.

- Cleaner production and eco-efficiency have been moderately implemented. Malaysian SMEs have started to change from relying merely on pollution control and treatment strategies in handling environmental and other sustainability issues, to more proactive approaches. However, substantial changes or improvements need to be made, especially in internal recycling of materials; substituting non-environmentally friendly materials; and focusing on reducing energy and material consumption when designing products. Currently, these three sustainable practices have been adopted by SMEs, but with a low extent of implementation.

- There is a moderate extent of implementation of other sustainable efforts in cleaner production and eco-efficiency, such as acquiring clean technology/equipment; focusing on reducing energy and natural resource consumption in operations when designing processes; optimizing manufacturing processes in order to reduce solid waste and emissions; establishing environmental compliance and auditing programmes; and cross-functional cooperation for environmental improvements; the firms' efforts in relation to the environmental matters that have exceeded the requirements of the relevant regulations; and establishing total quality environmental management system.

- Malaysian SMEs make moderate efforts to prevent products from causing danger to their customers; provide credible information about the products being supplied; integrate customer feedback into business activities; improve packaging based on environmental considerations; and implement environmentally friendly waste management systems and eco-labeling of products.

- Awareness and implementations of eco-label are still lacking among Malaysian SMEs. Considering the uniqueness of SMEs in Malaysia, especially micro and small manufacturers; the lack of resources, organizational management and financial stability may explain the reasons for the insufficient implementation of pollution prevention approaches, such as cleaner production and eco-efficiency, as well as socially responsible practices related to employees, customers and suppliers.

- Customer-oriented sustainable practice is the most common type of sustainable practice implemented by the responding firms, followed by customer relations, cleaner production, eco-efficiency, and supplier relations.

5. Can you share some good practices/ case studies of SMEs in your economy implementing Eco Design and Eco Label towards a green economy.

Chile

• **Coca-Cola**: Their project involved reducing the weight of water bottles by a considerable percentage, resulting in decreased environmental impacts. Today, they use between 30% and 40% less PET plastic in their bottles. This not only means a reduction of 1,740 tons of waste per year and 100% recyclable material but also translates into energy savings equivalent to the monthly consumption of 65,000 households.

• **Unilever**: They modified the packaging of their detergent, which previously consisted of cardboard covered with plastic film, making recycling difficult. Through ecodesign, the company managed to replace the plastic with a 100% recyclable material.

• **Agrosuper**: Under their brand Super Pollo, Agrosuper decided to replace the EPS (expanded polystyrene or Styrofoam) packaging wrapped in non-recyclable plastic film. Thanks to ecodesign, the company was able to manufacture new 100% recyclable packaging, reducing their environmental impact by 45%. This translates into cost savings, raw material savings, and transportation savings because it allows for more packaging to be transported per pallet.

• **Belu**: The company Belu has chosen to conduct an environmental assessment of its basic baby clothing line through a Life-Cycle Assessment (LCA) to extract information that enables ecodesigning a new line of baby clothing with lower environmental impacts. They designed baby garments that last a whole year instead of just 3 months, significantly reducing the materials needed to dress a baby and thus reducing the environmental impact in the first year of life. The objective of this ecodesign project is to create a multi-size ecodesigned clothing line that includes mechanisms for expansion and adaptation to the baby's growth, enabling prolonged use and reducing environmental impacts compared to the basic line.

First, the environmental impact of basic garments was analyzed to gather information to inform the design of ecodesigned garments. It was found that cotton contributes to 84% of the environmental impacts, making it the priority material for ecodesigning clothing. Additionally, metal snaps and air transportation contribute 7% of the environmental impacts. The results show that ecodesigned garments reduce the environmental impact of dressing a baby for a year by an average of 28%. This is mainly due to the reduced use of materials (especially cotton) and the extension of the product's lifespan.

Belu is a project funded by CORFO.

• **Quesos El Roble**: It is the first product in the dairy industry to use an ecodesigned packaging. It features a new packaging that will have a life beyond its initial use, using recycled materials such as PET and paper, replacing virgin materials.

The project was carried out by the Ecodiseño.cl consultancy and supported by CORFO.

Thus, ecodesign should also go hand in hand with eco-labeling, which provides information to consumers to help close the loop of the circular economy, as well as recycling products as a final alternative when they reach the end of their life cycle. Information is crucial for ecodesign, as well as for companies and consumers. An informed consumer is a more conscious consumer.

Viet Nam

An Phat Holdings:

Through establishment and development process, An Phat Holdings is now the leading high-tech and environmentally-friendly plastic Group in Southeast Asia.

With many company members in the plastic ecosystem, they have affirmed the brand name, prestige and position to bring their products to overseas markets such as Europe, America, United Arab Emirates, Japan, Korea, Singapore, the Philippines etc.
By now, they are fully confident with our competitive strength and position to move to a new development stage with several projects which focus on key products such as AnEco compostable products and AnBio compounds, packaging, engineering plastics & building material plastics, precision engineering & molding, raw materials and chemicals for plastic industry, Industrial real estate.

Along with the world trend of shifting to green products, which replace traditional plastic, they have built the brand vision to guild them along the way and achieve the sustainable value. The journey ahead will be longer but full of meaning as each product and all effort is towards the ultimate the goal of green future.