

# CHAPTER 4

## Survey on International Economic Cooperation

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# CHAPTER 4

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### 4.1 Introduction

In this chapter, opportunities for the enhancement and expansion of the partnership between the Association of Southeast Asian Nations (ASEAN) and Japan are explored through the lens of various case studies from other regions of the world. In collaboration with Deloitte Consulting Pte Ltd., the chapter examines case studies on four key domains of interest:

- (i) **Trading across borders.** ASEAN has built a competitive and resilient international production network, thanks to its generally liberalised trade environment. The COVID-19 pandemic exposed the vulnerabilities of the trading system, however, including supply chain resilience. In this chapter, boosting multilateral trade and customs clearance operations are thus investigated.
- (ii) **Human resources development.** Industry 4.0 is requiring new skill sets for human resources, including those in the ASEAN–Japan region. This chapter investigates approaches to the development and supply of such human resources to the labour market across the globe.
- (iii) **Digital economy.** Digital technology is creating new, large businesses. In addition, in this age of rapid digital penetration, digital innovation is a key driver of economic growth. How innovation can be promoted in the ASEAN–Japan region is therefore investigated.
- (iv) **Sustainability.** For ASEAN and Japan, sustainability is not a medium- to long-term initiative but an urgent issue. Climate change and disasters are having major impacts in the region. The chapter examines various sustainability agendas around the world that ASEAN and Japan should consider.

## 4.2. Trading across Borders

This section examines case studies concerning the digitisation of trading practices. Furthermore, it expounds on emergency trading schemes in the European Union (EU) and Japan, which offer insights not only on emergency situations but also on the establishment of an expeditious logistics network, with the aim of invigorating business activities in specific industries.

### 4.2.1. Intra-Regional Integration of the Trading System

#### 4.2.1.1. European Union Single Window Environment for Customs

In 2020, the European Commission (EC) launched a new customs union action plan intended to enhance efficiency within the EU Customs Union.<sup>1</sup>This plan falls under the EU Customs Single Window Certificates Exchange System.<sup>2</sup>It provides customs officers, traders, and information technology service providers with a streamlined and integrated platform to work together.

In compliance with EU directives, member states are required to establish electronic windows for the centralised submission of customs-related documents. The plan intends to integrate these national single windows (NSWs) into a single digitalisation framework, thus enabling authorities in each member state to readily access requisite customs information. This will replace the current decentralised system of customs contact points with a centralised electronic contact point for each member state, thereby standardising the implementation of customs clearance procedures and reducing administrative burdens on operators. Ultimately, the EC envisions the establishment and operation of a centralised contact point for the entire EU region.

According to the EC, a gradual implementation process will extend 1 decade (i.e. to 2030). This extended duration is deemed necessary to accommodate legislative proceedings and the creation of novel information technology systems at both the EU and member state levels.

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<sup>1</sup>EC, The Customs Action Plan: Supporting EU Customs to Protect Revenues, Prosperity and Security, Taxation and Customs Union, [https://taxation-customs.ec.europa.eu/customs-action-plan-supporting-eu-customs-protect-revenues-prosperity-and-security\\_en](https://taxation-customs.ec.europa.eu/customs-action-plan-supporting-eu-customs-protect-revenues-prosperity-and-security_en)

<sup>2</sup>EC, The EU Single Window Environment for Customs, Taxation and Customs Union, [https://taxation-customs.ec.europa.eu/eu-single-window-environment-customs\\_en](https://taxation-customs.ec.europa.eu/eu-single-window-environment-customs_en)

#### 4.2.1.2. Common Market for Eastern and Southern Africa (COMESA)

In 2017, the Common Market for Eastern and Southern Africa (COMESA)<sup>3</sup> was established as a large economic and trading unit to effectively address the challenges faced by its member states. A key priority is the need to enhance intra-regional trade and the investment environment at the regional and member state levels (COMESA, 2022). Accordingly, COMESA resolved to adopt a uniform data connectivity platform via an electronic single window system, thereby streamlining and enhancing the efficiency of trade-related procedures within the region.

From 18 to 21 July 2022, a technical working group formulated requirements and a framework for the electronic single window system (COMESA, 2022). This undertaking entailed a session with customs and single window experts drawn from 15 member states. Several items were deliberated, including a situational assessment study on the implementation of an electronic single window system, a draft legal framework, and a draft strategy for the development and implementation of electronic single windows. As of this writing, half of the member states have implemented electronic single windows, with the remaining countries at varying stages of planning or deploying them.

#### 4.2.2. Private Trade Platforms

To enhance trade facilitation, the private sector has created platforms that offer online services to expedite trade, harnessing the potential of digital technologies, most notably blockchain. In 2020, a blockchain-based platform, TradeWaltz, was established, aimed at facilitating trade information collaboration.<sup>4</sup> It was a joint investment venture by prominent entities such as Mitsubishi, Nippon Telegraph and Telephone (NTT), and Toyota. In November 2020, TradeWaltz entered into a memorandum of understanding with Nippon Automated Cargo and Port Consolidated System (NACCS), Japan's NSW system that processes imports and exports and port-related information (TradeWaltz, 2020). This partnership between Japan's NSW (i.e. NACCS) and a private-sector trading platform (i.e. TradeWaltz) promotes digitalisation across trade operations; it has indeed boosted operational efficiency, with a demonstrated increase of over 44% (TradeWaltz, 2021a).

TradeWaltz has also partnered with public systems in various ASEAN Member States (AMS), as the digitisation of trade-related procedures necessitates collaboration between public and private systems across international borders. To this end, TradeWaltz is actively engaged in constructing the ASEAN–Japan Digital Trade

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<sup>3</sup>COMESA is a regional organisation of 21 member states (i.e. Burundi, Comoros, Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Eswatini, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tunisia, Uganda, Zambia, and Zimbabwe).

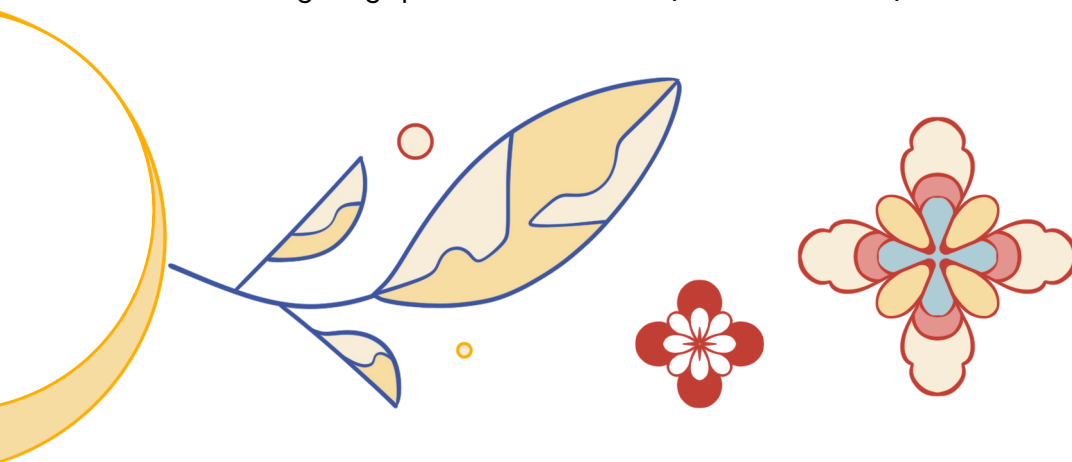
<sup>4</sup>TradeWaltz, <https://www.tradewaltz.com/en/>

Platform based on the Regional Digital Trade Connectivity initiative (NTT Data Institute of Management Consulting, 2021). The preliminary group of countries in the platform comprises Japan (i.e. TradeWaltz), Singapore (i.e. Networked Trade Platform), and Thailand (i.e. National Digital Trade Platform), improving international data interoperability and security through blockchain infrastructure.

In January 2022, TradeWaltz and the National Digital Trade Platform (Thailand) signed terms of reference based on the International Platform Connection Plan (TradeWaltz, 2022a).<sup>5</sup> This collaboration is expected to facilitate the visualisation of supply chains and to enhance the search for necessary items (e.g. relief goods) while identifying alternative distribution routes during emergency events (e.g. pandemics). The successful linkage is also expected to facilitate electronic certificates of origin (COO) for firms to use a free trade agreement (FTA) or an economic partnership agreement (EPA), thereby promoting cross-border trade. This development is also expected to enhance the efficiency and ease of applying for other FTAs or EPAs.

During the Trade DX Symposium in 2022, TradeWaltz announced the successful establishment of connections between five trading platforms in Australia, New Zealand, Japan, Singapore, and Thailand (TradeWaltz, 2022b). Furthermore, TradeWaltz has demonstrated the ability to interface with an external location information platform to enable real-time tracking of packages, potentially enabling accurate lead times in transport and faster response to goods shortages (TradeWaltz, 2021b).

There are several other private-sector trading platforms in the world. For instance, Maersk Line – the largest global shipping company, which is based in the Netherlands – collaborated with IBM in the United States (US) to develop TradeLens, a digital open platform that also utilises blockchain technology. The platform underwent demonstration tests in 2016 and has been introduced to some AMS, including Singapore and Thailand (TradeLens, 2019).



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<sup>5</sup>This agreement, proposed by ASEAN and Asia-Pacific Economic Cooperation (APEC), was introduced during the Asia-Japan Investing for the Future Initiative.

### 4.2.3. Import and Export Systems for Disaster Supplies

#### 4.2.3.1. Single Market Emergency Instrument

In 1993, the EU implemented a single market system, thereby eliminating cross-border barriers and enabling EU citizens to study, reside, work, and retire in any EU member state with the same privileges that they would have in their home countries (EC, 2022a).<sup>6</sup> In the same vein, in 2022, the EC introduced the Single Market Emergency Instrument (SMEI) as part of a crisis governance framework designed to preserve the unhindered movement of goods, services, and people across EU member states during times of emergency, including the recent COVID-19 pandemic.<sup>7</sup> Although the single market has demonstrated some effectiveness in such situations, it became evident that the existing framework required enhancement to support ad-hoc operations and a more standardised system during emergencies.

The SMEI thus serves as a supplementary mechanism to other EU legislative frameworks for crisis management, such as the Civil Protection Mechanism. A novel feature is the identification of distinct levels of risk, with an appropriate mode of response tailored to each level. Specifically, these levels are contingency, vigilance, and emergency, with each level indicating a progressively greater risk level. During the contingency mode, the EC and member states collaborate to establish a coordination and communication network, intended to enhance preparedness. Subsequently, in the vigilance mode, the EC and member states shift their strategic focus towards supply chains, goods, and services that require stocking up in anticipation of potential emergencies. The final stage – the emergency mode – involves an advisory group making suggestions that are most relevant to the specific situation at hand. As of November 2022, member states are currently evaluating the SMEI to assess its adequacy as a supplementary framework for future emergencies.

#### 4.2.3.2. Japan

During the COVID-19 pandemic in Japan, customs duties and domestic consumption taxes were waived for goods pertaining to countermeasures against COVID-19, provided that such goods were donated.<sup>8</sup> Similarly, in the aftermath of the 2011 Tōhoku earthquake and tsunami, the Customs and Tariff Bureau implemented four major procedural changes related to relief goods, including the exemption of tariffs and consumption taxes on relief goods as well as simplifying customs declaration procedures for them. Procedures related to food and beverages

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<sup>6</sup>EC, Mutual Recognition Agreement, European Migration Network (EMN), [https://home-affairs.ec.europa.eu/pages/glossary/mutual-recognition-agreement\\_en](https://home-affairs.ec.europa.eu/pages/glossary/mutual-recognition-agreement_en)

<sup>7</sup>EC, Single Market, Priorities and Actions [https://european-union.europa.eu/priorities-and-actions/actions-topic/single-market\\_en](https://european-union.europa.eu/priorities-and-actions/actions-topic/single-market_en)

<sup>8</sup>Government of Japan, Ministry of Finance, Customs and Tariff Bureau, Customs Clearance Procedures, etc., Relating to Countermeasures to the COVID-19, Japan Customs, <https://www.customs.go.jp/english/news/covid-19/index.htm>

under the Food Sanitation Act, foreign vessels carrying aid, and the importation of pharmaceutical aid supplies were streamlined to facilitate relief efforts (JETRO Australia, 2011).

The EU is transitioning to a new phase of integrating NSWs within its region. In the EU, customs clearance operations are partially standardised across member states, and efforts are underway to establish paperless windows in each member states to enhance operational efficiency. The EU aims to establish NSWs in all of its member states and to connect them to a centralised platform, an initial step towards the eventual creation of a single regional window. This effort parallels the initiatives of the ASEAN Single Window, which has already implemented a single window linking NSWs through a limited scope in the region. The digitalisation of paper-based COO and bills of lading is also a priority for AMS, and their expeditious implementation is expected.

TradeWaltz highlights the potential for other APEC or ASEAN nations to engage in collaborative platforms that facilitate trade information dissemination. The proliferation of private-sector trading windows and their multilateral linkages – which hinge on linkages with NSWs – will help alleviate the challenges that companies face in trade operations throughout the ASEAN region. By enhancing connectivity between NSWs and private-sector trading platforms, the tracking of components and customs clearance statuses will improve, helping facilitate trade.

Although estimating lead times has been historically challenging, the improved interconnectivity amongst trading platforms should enable firms to predict them more easily. Furthermore, the application of Harmonized System (HS) codes, which has been a manual process in some customs offices throughout the region, may become more digitised as the system implementation advances. As the need for human involvement decreases, face-to-face interactions required for facilitation payments are also likely to lessen, boosting efficiency.

In the context of disaster relief supplies and services during emergencies, the primary focus should be on streamlining the systems to ensure efficiency and expediency in delivering the requisite goods and services to the affected areas. As mentioned, the EU employs a unified market structure that facilitates the reduction of administrative barriers concerning general privileges throughout the region. The SMEI aims to complement existing systems to enhance emergency response capabilities. Similarly, in Japan, the 2011 Tōhoku earthquake and tsunami prompted revisions to importation procedures for essential disaster relief supplies and services.

The development of emergency guidelines can have broad implications for the supply of crucial goods between ASEAN and Japan. As both face the frequent occurrence of disasters, they must grapple with devising effective strategies for

managing emergency relief supplies in the face of unforeseeable circumstances. The formulation of such guidelines would help facilitate the timely delivery of medical and daily necessities when critical.

### **4.3. Human Resources Development**

The cultivation of skilled white-collar and middle-management professionals capable of responding to the demands of Industry 4.0 is vital for sustaining the economic growth of ASEAN and Japan. Achieving this goal entails identifying the requisite skill sets in the new digital age to bridge the gap between existing skills and those required by companies. Additionally, inclusive education initiatives must be implemented to establish a diverse pool of human resources, ensuring ongoing production and enhancing regional mobility. This section features case studies that highlight efforts to define these skill sets, establish inclusive education programmes, and improve human resources mobility.

#### **4.3.1. Defining Regional Skills Standards**

##### **4.3.1.1. International Labour Organization**

The International Labour Organization (ILO) created the *Global Framework on Core Skills for Life and Work in the 21st Century* to guide today's workers in enhancing their capacity to capitalise on opportunities for decent work, as global requirements for work continue to evolve (ILO, 2021). It is aligned with Sustainable Development Goals 4 and 8, *ILO Centenary Declaration on the Future of Work*, Human Resources Development Convention (1975), and Human Resources Development Recommendation (1975). The framework was developed after a rigorous review of core skills frameworks, a study on the impact of global drivers on the world of work, and consultations with professionals from different sectors. It groups 19 core skills into 4 categories – social and emotional skills, cognitive and metacognitive skills, basic digital skills, and basic skills for green jobs. The four categories are designed to enable the ease of transferability between occupations and low- and high-level jobs; they deemed essential for individuals to become productive citizens and to contribute to their own well-being and community.

Social and emotional skills encompass the ability to regulate one's cognition, emotions, and behaviour, which are fundamental to effective social interaction in the workplace and an individual's learning process (ILO and OECD, 2018). These skills serve as a guide for the development and application of the next category – cognitive and metacognitive skills – which refers to the brain's ability to process novel information, and to comprehend, recall, and utilise it. These skills enable individuals to identify the most appropriate strategies and problem-solving methods for specific situations and become particularly evident when individuals apply their own beliefs and values to evaluate the motivations and intentions of those around them within their respective environments.



The fundamental digital skills category refers to an individual's aptitude to operate digital assets – including hardware, software, and online applications – to carry out basic tasks. These proficiencies aim to promote digital literacy amongst individuals and to enable them to excel in their respective workplaces and society. Lastly, basic skills for green jobs, which constitute the fourth category, encompass proficiencies for individuals to acclimate to environmental regulations and requirements to combat climate change.

Subsequent to a future survey administered amongst specialists and experts, two pivotal products are necessary to facilitate the implementation of the framework. These include a digital tool kit that enables the seamless integration of the policy across diverse learning platforms and the creation of massive open online courses that facilitate the capacity building for both teachers and students who will utilise the framework.

#### **4.3.1.2. European Union**

In 2013, the Grand Coalition for Digital Jobs was launched, with a focus on e-skills and education to enhance digital skills at the national, regional, and local levels within EU member states. At that time, the EU sought to promote information and communications technology (ICT) professionalism and to generate a more extensive pool of entrepreneurs, business leaders, managers, and advanced users through a specific emphasis on new ICT. Consequently, e-skills were defined and implemented on a regional scale.

E-skills refer to the competencies required to optimise the utilisation and development of ICT. These skills are grouped into three primary categories: ICT practitioner skills, ICT user skills, and e-business skills. ICT practitioner skills target individuals who work directly with ICT systems and require capabilities that include researching, designing, producing, integrating, maintaining, and servicing ICT systems. ICT user skills encompass the digital literacy skills necessary to use common and specialised tools that support business functions within various industries. Lastly, e-business skills comprise the abilities necessary to maximise the potential of ICT, enabling organisations to conduct their businesses more efficiently and effectively.<sup>9</sup>

To facilitate the acquisition and advancement of e-skills in the EU, E-Skills Match was established in 2021.<sup>10</sup> It affords individuals and businesses access to a technology demonstration platform, which delivers training and support services that enable them to remain competitive in the ICT sector. The initiative caters to various user groups, including ICT professionals seeking to acquire new skills or

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<sup>9</sup>Eurostat, Glossary: E-Skills, <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:E-skills#:~:text=E%2Dskills%20or%20electronic%20skills,to%20apply%20and%20develop%20them>

<sup>10</sup>EC, E-Skills Match, <https://www.eskillsmatch.eu/en/>

to enhance existing ones, technical and vocational education and training (TVET) institutions, higher education institutions, certification providers, and any other parties interested in integrating online courses into their educational programmes.

#### **4.3.1.3. Japan**

Japan's Ministry of Economy, Trade and Industry (METI) is spearheading efforts to define the competencies to promote digital utilisation within enterprises. This skill set encompasses not only knowledge and technical skills but also a specific mind-set. METI aims to develop a framework that can be applied to executive and general professionals.<sup>11</sup>

The Information-Technology Promotion Agency developed a standardised skills framework to cultivate world-class ICT human resources in Japan as well.<sup>12</sup> The framework was developed with reference to the Information Technology Engineers Examination (ITEE) and three skills standards for ICT, user information systems, and embedded technology. The Japan International Cooperation Agency (JICA) supported Bangladesh in a similar endeavour as well, where ICT skills for engineers to implement the ITEE were lacking (JICA, 2019).

### **4.3.2. Providing Inclusive Education**

#### **4.3.2.1. European Union**

The EU4Digital Facility, launched in 2019 as part of the EU4Digital Initiative, exemplifies the EU's efforts towards a resilient transformation in the Eastern Partnership region.<sup>13</sup> Its objective is to promote the integration of the six Eastern European partner countries with the EU single market. To this end, the EU4Digital Broadband Strategies project was established to help bridge the digital divide between urban and rural areas while supporting the diversification and reconstruction of broadband networks in these countries. The project's objective is to provide access to internet infrastructure and services in a coordinated and centralised manner (EU4Digital, 2022). As an example, the programme contributed recommendations on 5G deployment in Belarus, which were incorporated into the country's overall broadband strategy in 2021 (EU4Digital, 2021).

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<sup>11</sup>METI, Digital Skill Standards, [https://www.meti.go.jp/policy/it\\_policy/jinzai/skill\\_standard/main.html](https://www.meti.go.jp/policy/it_policy/jinzai/skill_standard/main.html) [in Japanese].

<sup>12</sup>IPA, Common Career/Skill Framework, <https://www.ipa.go.jp/en/it-talents/skill-standard/skill-framework.html>

<sup>13</sup>The Eastern Partnership is a joint initiative between the EU and six East European partner countries (i.e. Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine).

### 4.3.2.2. Public–Private Partnerships

Public–private partnerships are becoming increasingly common, with cloud provisioning being an example. CloudSwyft, a private company established in 2015, collaborated with the Philippine Department of Education to create a cloud-based educational solution. CloudSwyft provides campus lab infrastructure and software tools to students, along with round-the-clock remote lab access and customisable requirements, which can be accessed from mobile devices. This solution is being implemented in universities, including De La Salle University, and has also been extended to higher education institutions in Indonesia, Malaysia, and Singapore.<sup>14</sup>

Further, in Indonesia, CloudSwyft has partnered with the government's Program Kartu Prakerja, which aims to address the unemployment caused by the economic impact of the COVID–19 pandemic. This labour capacity development programme is designed for local citizens who are over age 18 years, secondary school or TVET graduates, job seekers, and laid-off employees. Participants can choose from a variety of online courses offered by CloudSwyft, including data analysis, artificial intelligence (AI), and data science, as well as various certification programmes. The programme aims to offer a diverse range of job opportunities, such as data analysts, cloud support, system operations, and software engineering positions.<sup>15</sup>

### 4.3.3. Improving Human Resources Mobility

#### 4.3.3.1. Mutual Compatibility of Qualifications

**Mutual recognition agreement.** The EU has established that certain professions can be transported easily amongst EU member states, including medical practitioners, medical specialists, dentists, veterinarians, pharmacists, nurses, midwives, and architects.<sup>16</sup> Under this system, a professional qualification obtained in one EU member state is considered valid across all EU member states.<sup>17</sup> This recognition applies to professionals who seek employment or wish to start their own businesses in another EU member state. To avail themselves of this system, professionals can submit the necessary documents electronically to the authorities of the host country through a common EU-wide system.<sup>18</sup> To ensure the

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<sup>14</sup>CloudSwyft, <https://cloudswyft.co/>

<sup>15</sup>CloudSwyft, Finding Your Career amidst the Covid-19 Pandemic, <https://cloudswyft.co/finding-your-career-amidst-the-pandemic/>

<sup>16</sup>Anerkennung in Deutschland, EU Recognition Directive, <https://www.anererkennung-in-deutschland.de/html/en/pro/eu-recognition-directive.php#>

<sup>17</sup>EC, Mutual Recognition Agreement, European Migration Network (EMN), [https://home-affairs.ec.europa.eu/pages/glossary/mutual-recognition-agreement\\_en](https://home-affairs.ec.europa.eu/pages/glossary/mutual-recognition-agreement_en)

<sup>18</sup>EC, Automatic Recognition, Internal Market, Industry, Entrepreneurship and SMEs, [https://single-market-economy.ec.europa.eu/single-market/services/free-movement-professionals/recognition-professional-qualifications-practice/automatic-recognition\\_en](https://single-market-economy.ec.europa.eu/single-market/services/free-movement-professionals/recognition-professional-qualifications-practice/automatic-recognition_en)

quality of professional qualifications, certain conditions have been established for mutual recognition. For example, physicians must have a minimum of 5,500 hours of medical education and a minimum of 5 years of work experience to be eligible for mutual recognition within the EU.<sup>19</sup> These stipulations have been put in place to maintain high standards across professions and to ensure consistency in the recognition process.

**European Credit Transfer and Accumulation System.** The European Higher Education Area (EHEA) devised the European Credit Transfer and Accumulation System (ECTS) to enhance the transparency of studies across all 48 member countries of the EHEA, 27 of which are EU member states, with the remainder comprising non-EU countries such as Armenia, Georgia, Montenegro, and Switzerland.<sup>20</sup> The goals of the ECTS are to facilitate student mobility amongst member countries and to ensure that academic credits are fully recognised and transferable. Given the differences in national higher education systems across the EHEA, the ECTS promotes uniformity and mitigates potential issues related to the recognition of academic requirements and study periods abroad. Moreover, the ECTS allows for the seamless combination of different learning styles or programmes, including work-based learning such as apprenticeships or on-the-job training.

**European Qualifications Framework.** In 2008, the European Qualifications Framework (EQF) was established to enhance transparency and mutual trust of various qualifications across Europe (EC, 2018). In addition to the 27 EU member states, 11 other countries have either implemented or are potential adopters of the EQF.<sup>21</sup> The EQF is an eight-level learning outcomes-based framework that serves as a translation guide amongst the various qualification frameworks implemented by member countries. The framework facilitates comparisons of qualifications, as it is closely linked to the national qualifications of the member countries. Ranging from level 1, which indicates the lowest level of proficiency, to level 8, which indicates the highest, the EQF provides a clear indication of an individual's knowledge and competencies. It enables employers to evaluate an applicant's level of qualifications, given that it is standardised. Secondly, it serves as a means of communication between employers and education and training providers, by specifying the desired learning outcomes for various professions at different levels.

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<sup>19</sup>EC, Recognition of Professional Qualifications in Practice, Internal Market, Industry, Entrepreneurship and SMEs, [https://single-market-economy.ec.europa.eu/single-market/services/free-movement-professionals/recognition-professional-qualifications-practice\\_en](https://single-market-economy.ec.europa.eu/single-market/services/free-movement-professionals/recognition-professional-qualifications-practice_en)

<sup>20</sup>EC, European Credit Transfer and Accumulation System (ECTS), European Education Area, <https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/european-credit-transfer-and-accumulation-system>

<sup>21</sup>These include Iceland, Liechtenstein, and Norway, which are part of the European Economic Area and currently apply the EQF, as well as Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia, Switzerland, and Turkey, which are potential or candidate countries.

#### 4.3.3.2. Migration Mitigation for Skilled Workers

**United States–Mexico–Canada Agreement.** During the tenure of former US President Donald Trump, the North American Free Trade Agreement (NAFTA) was renegotiated and replaced by the United States–Mexico–Canada Agreement (USMCA) in July 2020.<sup>22</sup> The USMCA introduces a provision wherein certain professionals from the US and Mexico are eligible to apply for work permits in Canada, thus circumventing the requirement of obtaining a labour market impact assessment from a Canadian enterprise or a US/Mexican company operating in Canada. This provision encompasses 63 professions, including accountants, graphic designers, vocational counsellors, physicians, and veterinarians, and permits individuals possessing these qualifications to remain in Canada for up to 3 years if they hail from the member countries.

#### 4.3.4. Implications from Case Studies

Initiatives undertaken by ILO and the EU to define skill sets and to provide relevant e-learning courses can serve as a reference for ASEAN–Japan collaboration. In particular, ILO's integration and updating of global skill sets can guide the definition of basic human resources competencies for the ASEAN–Japan region. Moreover, the example of the EU's E-Skills Match programme could help refine these skill sets in the ASEAN–Japan region. Online learning programmes can be offered under the defined skill sets; collaboration with educational institutions and stakeholders will be necessary while considering the language diversity in the ASEAN–Japan region. Likewise, METI in Japan has developed digital skill standards that cover integrated business and digital skills for management to general business personnel, which can also serve as a useful reference for ASEAN–Japan collaboration.

For inclusive education, access to hard infrastructure – such as network environments, smartphones, and tablets to guarantee a conducive learning environment – is necessary, along with ways to provide content. EU4Digital provides insights on the development of broadband environments in the ASEAN–Japan region. The 5G high-speed network can be utilised in the educational environment, and the EU's efforts to install 5G networks in Eastern Partnership countries can serve as a reference for the construction of such infrastructure in the ASEAN–Japan region. CloudSwyft is also an effective model for the flourishing education technology industry in Japan and ASEAN.

To enhance the mobility of human resources, mutual recognition of qualifications must be promoted, and the utilisation of reference frameworks for qualifications and learning status must be expanded. The scope of occupational areas to be covered should grow, and the localised conditions required for qualifications

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<sup>22</sup>Office of the United States Trade Representative, United States–Mexico–Canada Agreement, Trade Agreements, <https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement>

in each AMS and Japan should be noted. Mutual recognition of qualifications throughout ASEAN requires standardisation of learning content required to obtain the qualification. Expanding the number of schools and faculties eligible for credit transfer in the ASEAN–Japan region is necessary to promote mutual recognition of qualifications.

## **4.4. Digital Economy**

To foster innovations that leverage cutting-edge technologies and disruptive business models, it is imperative to examine and potentially to modify existing regulations that hinder the innovation environment. Special applications and allowances may be implemented that facilitate the development of novel solutions. Case studies in this context comprise EU initiatives for multilateral patent unification, which aim to streamline and harmonise the patent system across participating countries. Additionally, regulatory sandbox programmes have been established in various countries to create a controlled environment that allows innovators to test their solutions under a temporary and tailored regulatory framework.

### **4.4.1. Unified Patent Court Agreement**

As a fundamental principle of patent law, the validity of a patent is restricted to the country where the patent is granted. Patent rights are conferred on a country-by-country basis, which is referred to as the principle of patent independence. To obtain the right to use a patent in another country, it is essential to secure patent rights in each desired country.

The EU has been striving to establish a unified patent scheme within the region, which is slated to become operational in 2023.<sup>23</sup> The Single European Patent System will allow a single patent to be protected in all EU member countries. This system will eliminate the previous requirement for validation in each European country, making patent applications more convenient, as patents can be registered in Europe on a one-stop basis.

As in other areas of law, the EU's current intellectual property law framework comprises a two-tier system, with one tier at the European level and another at the level of each member state. Intellectual property rights such as patents, trademarks, designs, copyrights, and trade secrets are safeguarded under the national law of each member country (with utility model rights protected in some nations). As the requirements and substance of such rights differ based on national laws, however, efforts have been made to harmonise them. Furthermore, a system to safeguard intellectual property rights based on treaties at the European level has been established and expanded.

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<sup>23</sup>Unified Patent Court, About the Unified Patent Court, <https://www.unified-patent-court.org/en>

#### **4.4.2. Regulatory Sandbox**

Regulatory sandboxes are limited initiatives within a single country. No effective bilateral or multilateral cases were identified.

##### **4.4.2.1. United Kingdom**

The Financial Conduct Authority of the United Kingdom (UK) established a regulatory sandbox in 2016, which received 501 applications as of June 2021, of which 159 were accepted.<sup>24</sup> In August 2021, the sandbox was modified to enhance its accessibility to a broader range of applicants. It also has launched a digital sandbox in collaboration with the City of London in 2021. To apply for the regulatory sandbox, firms must meet eligibility criteria and submit applications. Once approved, participating firms can provide financial services in the market without obtaining the requisite permits and licenses, subject to an agreed-upon limited scope with the Financial Conduct Authority.<sup>25</sup> The demonstration period within the sandbox may last up to 12 months, with shorter options of approximately 2 months. Additionally, applications are accepted continuously, allowing firms to conduct demonstrations as per their services development cycle from 2021.

##### **4.4.2.2. Spain**

In 2022, the EU launched its inaugural AI sandbox in Spain (EC, 2022b). The sandbox is intended to serve as a pilot project that will inform forthcoming European AI legislation. The Government of Spain initiated a demonstration to establish optimal practices to guide the future application of EU AI regulation. The EU intends to enact such legislation by the end of 2024 based on this demonstration. Concurrently, other EU member states are being urged to join or to adopt comparable initiatives to establish a pan-European AI sandbox system.

##### **4.4.2.3. Republic of Korea**

In April 2019, the Government of Korea enacted the Special Act on Financial Innovation Support, which established a regulatory sandbox for the financial sector. Under this initiative, firms can apply to the Financial Services Commission for entry.<sup>26</sup> Within 30 days, the Financial Services Commission will respond to the applicant, indicating any conflicts with regulations under its jurisdiction; it may also grant exemptions from these regulations subject to the provision of special insurance and clarification of liability.

The regulatory sandbox provides a platform for firms to test their financial services under specific conditions. From April 2019 to September 2021, over 150

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<sup>24</sup>FCA, <https://www.fca.org.uk/>

<sup>25</sup>It is a legal requirement for businesses offering financial services in the UK to be licensed or registered.

<sup>26</sup>FSC, <https://www.fsc.go.kr/eng/index>

applications were approved. According to the Fintech Center Korea (2021), the regulatory sandbox is available for up to 2 years, with an extension of 18 months upon request. Applications are open to enterprises that have registered their businesses in Korea.<sup>27</sup>

The regulatory sandbox offers various incentives to encourage participation. Except for certain parameters specified at the time of certification – such as maximum numbers of customers or transaction amounts – no restrictions exist.<sup>28</sup> Public authorities provide financial support for costs associated with implementing services designated in the sandbox system, premiums for insurance to protect users, and other expenses related to expanding business overseas.

#### 4.4.2.4. Australia

The Australian regulatory sandbox was introduced in 2016 (Financial Services Council, 2016) and underwent significant revision in 2020, which included expanding the services covered, lengthening the demonstration period to a maximum of 24 months, and not limiting the number of service uses. It operates under the assumption that the services of operators are subject to financial and other regulations. In the sandbox, adopting firms receive a temporary exemption from regulatory compliance to test their financial services in the market, subject to specific conditions. Foreign-affiliated companies registered in Australia may apply for registration in the sandbox, as authorised by the Australian Securities and Investments Commission (ASIC).<sup>29</sup> Firms intending to utilise the regulatory sandbox must provide ASIC with a notification, which is reviewed within 30 days. Feedback is provided on the approval or rejection of the licensing exemption.

#### 4.4.2.5. Japan

In June 2018, METI introduced a regulatory sandbox that focusses on innovative technologies such as Internet of Things (IoT), blockchain, and robotics, as well as novel business models like platform-based businesses and the sharing economy.<sup>30</sup> The regulatory sandbox allows firms to conduct demonstrations, with regulatory approval, in cases where the social implementation of technologies and business models is hindered by current regulations. The data gathered during these demonstrations are used to inform regulatory reviews. As of 2022, 18 cases received approval, covering various industries and themes such as blockchain, robotics, and home electronics with IoT technologies.

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<sup>27</sup>Fintech Center Korea, Introduction, Sandbox Korea, [https://sandbox.fintech.or.kr/quickcheck/quickcheck\\_Introduction.do?lang=en](https://sandbox.fintech.or.kr/quickcheck/quickcheck_Introduction.do?lang=en)

<sup>28</sup>Fintech Center Korea, Post-Designation Support Guide, Sandbox Korea, <https://sandbox.fintech.or.kr/financial/support.do?lang=en>

<sup>29</sup>ASIC, Enhanced Regulatory Sandbox, Innovation Hub, [https://asic.gov.au/for-business/innovation-hub/enhanced-regulatory-sandbox/#:~:text=The%20sandbox%20allows%20natural%20persons,credit%20licence%20\(credit%20licence\)](https://asic.gov.au/for-business/innovation-hub/enhanced-regulatory-sandbox/#:~:text=The%20sandbox%20allows%20natural%20persons,credit%20licence%20(credit%20licence))

<sup>30</sup>METI, Gray Zone Elimination System, Project-Based 'Regulatory Sandbox' and Special Exception System for New Businesses, [https://www.meti.go.jp/policy/jigyousaisei/kyousouryoku\\_kyouka/shinjigyo-kaitakusedosuishin/](https://www.meti.go.jp/policy/jigyousaisei/kyousouryoku_kyouka/shinjigyo-kaitakusedosuishin/) [in Japanese].



Japan has also supported schemes that enable enterprises to assess whether their business plans are subject to specific regulations.

#### 4.4.3. Implications from Case Studies

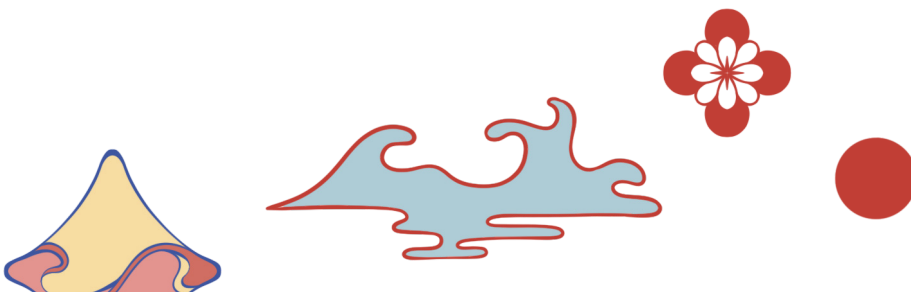
Europe is a significant market for start-ups aiming to expand globally over the medium to long term. Hence, implementing a single European patent scheme is an essential step for enterprises to safeguard their intellectual property rights in the entire region. The region is also a leader in environmental, social, and governance (ESG) initiatives, which have gained increased recognition in recent years.

The EU's single patent system is expected to enable start-ups to file international patent applications that they had previously abandoned due to financial or other constraints. This is expected to result in more patent applications – not only by large enterprises but also by start-ups. The establishment of a unified patent system in the ASEAN–Japan region would also be expected to facilitate the registration of patents by foreign companies and to contribute to improving the business environment for start-ups, as in the EU.

Regulatory sandboxes have been primarily introduced in the financial industry, while Japan has been expanding its coverage to various industries. Demonstrations of actual service provision to users have been widely accepted, particularly in the UK and Korea. To encourage use, regulatory sandboxes should first be introduced in specific industries; expanding the number of authorised firms will foster momentum.

Positioning the demonstration of a specific country as a pilot project in a regional association and linking it to the future deregulation of the entire region can promote innovation within the region, as demonstrated in Spain. Providing a minimum period of a few weeks and a maximum period of years enables diverse types of applications. In some countries, sandboxes are only open for applications at certain times of the year; however, as in Korea and Australia, leaving the application windows open for companies without a specific application period promotes use, as the sandbox application timing may not necessarily coincide with a company's new service or product development process.

It would also be beneficial to offer official support, such as financial or financial-related incentives for businesses, as in Korea. The possibility of receiving public support for market deployment upon certification of an applicant's new business as an innovative service would encourage participation.



## 4.5. Sustainability

To achieve carbon neutrality in the ASEAN–Japan region, it is crucial to undertake efforts aimed at establishing regulatory frameworks and optimising electricity consumption. The case studies expound on initiatives to formulate international protocols, develop an intra-regional electricity network, and enforce carbon-pricing policies.

### 4.5.1. Carbon Credits

During the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change, Japan announced the launch of the Paris Agreement Article 6<sup>31</sup> Implementation Partnership, a programme intended to invigorate decarbonisation markets and private investment, facilitate the reduction of greenhouse gas (GHG) emissions, and stimulate economic growth (MOE, 2022). It aims to support capacity building by promoting an understanding of the Paris Agreement's rules and providing training, as well as facilitating the implementation of Article 6 and linkages with nationally determined contributions (NDCs).<sup>32</sup> It includes areas of work such as sharing good practices, developing an informational platform for Article 6 implementation, supporting baseline methodology, and designing high-integrity carbon markets.

Japan has been at the forefront of GHG reduction trading, having introduced a unique trading system, the Bilateral Credit Mechanism, in 2013. Under this mechanism, known as the Joint Crediting Mechanism (JCM), Japan has partnered with 22 countries in Asia, Africa, and Latin America, carrying out over 200 projects, including support for the early stages of renewable energy production. Many Japanese companies are also participating in the programme.

As of the launch in November 2022, the Paris Agreement Article 6 Implementation Partnership has had participation from 23 organisations from 40 countries, including Cambodia, the Philippines, Singapore, and Thailand (MOE, 2022). The initiative aims to involve more than 100 countries. Amongst the numerous individual credit initiatives worldwide, the bilateral credits that Japan has been promoting are expected to become a global standard.

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<sup>31</sup>GHG reduction trading is a mechanism in which developed countries provide developing countries with funds and technologies that lead to GHG reductions, with a portion of the reduced amount credited to developed countries' reductions. This mechanism is stipulated in Article 6 of the Paris Agreement, which was adopted in 2015. Guidelines for its implementation were agreed upon in 2021.

<sup>32</sup>NDCs are the efforts that each country aim to make to reduce national emissions and to adapt to the impacts of climate change.

#### 4.5.2. Regional Power Grid

An international power grid offers numerous benefits, including ensuring a reliable power supply during times of crises, promoting the integration of renewable energy, and providing access to cost-effective electricity. The EU power grid boasts the highest number of interconnections in the world.<sup>33</sup> Several EU member states have also established super grids, which facilitate high-capacity power transmission. Denmark, Germany, the Netherlands, and Norway, for instance, have established large transmission networks consisting of high-voltage or ultra-high-voltage direct current power lines as well as interconnection capabilities with neighbouring countries. Denmark's multilateral transmission network is an exemplary super grid that meets the country's peak electricity demand. This network leverages the benefits of the country's energy mix, which includes wind and hydroelectric power generation, and capitalises on its geographical advantages. Furthermore, surplus power is stored within each country, thanks to the flexibility of electricity exchange amongst countries. Some EU member states have high import rates (e.g. Belgium and Italy) or high export rates (e.g. France, Germany, Norway, and Sweden).

The UK, being an island surrounded by the sea, has been actively promoting offshore wind power and utilising international interconnection lines to import and to export electricity to secure a stable power supply, while phasing out old thermal power plants and reducing domestic electricity prices. The country has already connected to others through undersea transmission lines, and several additional international transmission lines are currently in the planning stages (IRENA, 2020). This development aligns with the growth of the pan-European wholesale electricity market.

#### 4.5.3. Carbon Pricing

Carbon pricing includes emissions trading and carbon taxes and other initiatives as per the World Bank.<sup>34</sup>

##### 4.5.3.1. European Union Emissions Trading System

The EU was the first global entity to introduce an emissions trading market through the establishment of the European Union Emissions Trading System (EU-ETS) in July 2012. The primary objective is to attain climate neutrality within the EU by 2050, with an intermediate goal of achieving a net reduction of at least 55% of GHG emissions by 2030.<sup>35</sup> The EU-ETS operates on the cap-and-trade principle, which entails setting a cap on the aggregate quantity of GHG emissions allowed by the installations covered by the scheme. This cap is progressively reduced over time

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<sup>33</sup>EC, Electricity Network Codes and Guidelines, Energy, [https://energy.ec.europa.eu/topics/markets-and-consumers/wholesale-energy-market/electricity-network-codes-and-guidelines\\_en](https://energy.ec.europa.eu/topics/markets-and-consumers/wholesale-energy-market/electricity-network-codes-and-guidelines_en)

<sup>34</sup>World Bank, What Is Carbon Pricing? Carbon Pricing Dashboard, <https://carbonpricingdashboard.worldbank.org/what-carbon-pricing>

<sup>35</sup>EC, EU Emissions Trading System (EU ETS), Climate Action, [https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets\\_en](https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en)

to ensure an overall reduction in emissions. However, since the installations have the option to purchase or to receive emission allowances that are exchangeable, the cap applies to the collective group. At the end of each year, the installations must surrender sufficient credits to cover their emissions or risk facing significant financial penalties.

The EU-ETS approach fosters the development of innovative, low-carbon technologies by stimulating investment. It covers several sectors and various gases, including carbon dioxide, nitrous oxide, and perfluorochemicals.

#### **4.5.3.2. Carbon Border Adjustment Mechanism**

In July 2021, the EU-ETS implemented the Carbon Border Adjustment Mechanism (CBAM) to counteract the phenomenon of carbon leakage, which involves shifting carbon-intensive economic activity to regions with lax climate policies (EC, 2021). The CBAM represents a nascent set of trade policy tools aimed at promoting climate mitigation while ensuring compatibility with World Trade Organization standards. The risk of carbon leakage undermining EU climate efforts is a key concern.

The CBAM involves imposing a carbon charge on imports from countries that lack adequate climate-change measures, thereby equalising trade terms and avoiding a competitive disadvantage for countries with more stringent climate policies. The implementation of a reporting system for high-risk products – such as iron and steel, cement, fertilizer, aluminium, and electricity – is planned for 2023 to facilitate discussion and to ensure a smooth roll-out. Importers of high-risk products will begin paying financial adjustments from 2026.

#### **4.5.4. Waste Disposal and Recycling Systems**

The extended producer responsibility (EPR) principle underpins several waste treatment and recycling systems, whereby producers are held partly accountable for the environmental impact of their products during the entire product life cycle, encompassing raw material selection, production processes, usage, and disposal. In 2001, the Organisation for Economic Co-operation and Development (OECD) introduced the concept of EPR in its *Guidance Manual on Extended Producer Responsibility*, and a revised definition was released in 2016.<sup>36</sup>

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<sup>36</sup>OECD, Extended Producer Responsibility, Environment, <https://www.oecd.org/env/tools-evaluation/extendedproducerresponsibility.htm>

<sup>37</sup>EU, EU Waste Management Law, EUR-Lex, <https://eur-lex.europa.eu/EN/legal-content/summary/eu-waste-management-law.html>

#### **4.5.4.1. European Union Waste Management Laws**

The EU employs Directive No. 2008/98/EC, also known as the EU Waste Management Law, as a legal framework for managing waste in the region.<sup>37</sup> The objective is to safeguard the environment and human health through appropriate waste management, recovery, and recycling techniques. The directive outlines a waste hierarchy that prioritises waste prevention; preparing for reuse, recycling, and other forms of recovery; and disposal. A notable principle is polluter pays, which holds companies liable for environmental damage that they cause and requires them to take necessary preventative or remedial action at their own expense. The EPR approach is highlighted in the directive, which places financial or physical responsibility on producers for the treatment or disposal of post-consumer products. In addition to these key points, the directive emphasises the development of waste-management plans and waste-prevention programmes.

In 2018, an amending directive, Directive No. 2018/851, was introduced as part of the circular economy package, which establishes the minimum operating requirements for EPR schemes and reinforces regulations on waste prevention and generation. This directive highlights supporting sustainable production and consumption models, encouraging the availability of spare parts, and stopping marine waste generation. The directive also sets new municipal waste recycling targets and encourages incentives for the waste hierarchy.

Although each EU member state has its own national waste disposal laws and regulations, all are required to comply with common EU legislation. Such legislation outlines actions that EU member states must take, such as promoting the design, manufacturing, and use of resource-efficient, durable, repairable, reusable, and upgradable products.

#### **4.5.4.2. Guide to European Union Practices on Waste Recycling Technologies**

In 2016, the EU funded the *Guide to European Union Practices on Waste Recycling Technologies*, which aims to promote waste disposal and recycling efforts within the region (EU and Waste Free Rivers for a Clean Black Sea Project, 2020). As part of this effort, EU member states are collaborating to achieve unified goals, such as recycling at least 55% of general waste by 2025, 60% by 2030, and 65% by 2035. These targets mark a significant shift from a linear economy to a circular economy, where reuse, repair, and recycling become the norm. The transition to a circular economy is expected to create approximately 580,000 new jobs and to reduce GHG emissions by 62 million tonnes by 2030, yielding both environmental and economic benefits.

To achieve these goals, the EU has implemented several measures, including mandatory separate collection of food waste, revision of the EU Waste Management Law, compulsory collection of bio waste, and stricter producer responsibility regulations. Countries that have achieved their recycling targets, such as France,

are providing technical assistance to countries that require support, such as Spain, to meet the EU's 2030 goals.

#### **4.5.4.3. Containers and Packaging Recycling Law**

The Containers and Packaging Recycling Law is said to be the first law in Japan to incorporate the EPR concept (Aoki, 2017). Mass production, consumption, and disposal were rampant during the high-growth era in Japan; there were insufficient disposal sites to accommodate all the waste. To help address this issue, the government enacted the Containers and Packaging Recycling Law in 1997, which defines the roles and responsibilities of parties involved in the disposal of containers and packaging waste.<sup>38</sup>

The law designates three parties responsible for container and packaging waste management: consumers, municipalities, and businesses. Consumers are responsible for sorting and disposing of waste, municipalities for sorting and collecting waste, and businesses for recycling waste. The law mandates that the three parties work collaboratively to reduce container and packaging waste. Businesses must outsource recycling to designated corporations and bear the costs while making efforts to reduce packaging waste by using thinner and lighter containers, selling by weight, and charging for plastic bags. Consumers are not subjected to any cost burdens. Businesses involved in the use, manufacture, or import of containers and packaging are considered producers, and the law covers metal, glass, paper, and plastic containers.

Implementation has resulted in significant progress in sorted collection and recycling. There has been a decrease in the final disposal volume of general waste, and the lifespan of final disposal sites increased from 8.5 years in 1995 to 22.4 years in 2020.<sup>39</sup>

#### **4.5.4.4. Home Appliance Recycling Law**

Prior to the enactment of the law, nearly half of used home appliances from households in Japan were directly landfilled without any form of processing. In certain instances, metallic components, such as iron, were retrieved after undergoing shredding. Enacted in 1998, the Home Appliance Recycling Law aims to reduce waste and to promote efficient resource utilisation by recycling useful parts and materials from home appliances such as air conditioners, televisions, refrigerators/freezers, and washing machines/clothes dryers that are discarded from households and offices.<sup>40</sup> The legislation requires the take-back of used appliances by retailers and their recycling by manufacturers and importers.

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<sup>38</sup>MOE, What Is the Containers and Packaging Recycling Law, [https://www.env.go.jp/recycle/yoki/a\\_1\\_recycle/index.html](https://www.env.go.jp/recycle/yoki/a_1_recycle/index.html) [in Japanese].

<sup>39</sup>Japan Containers and Packaging Recycling Association, <https://www.jcpra.or.jp/english/tabid/603/index.php>

<sup>40</sup>MOE, Overview of Home Appliance Recycling Law, <https://www.env.go.jp/recycle/kaden/gaiyo.html> [in Japanese].

Consumers are required to pay a fee under the exclusive EPR scheme of this law when returning their used equipment to retailers, and the fee is determined by the producer (Gupt and Sahay, 2015). According to METI (2022), roughly 16 million units of eligible household equipment waste were collected in 2020, marking the sixth consecutive year of year-on-year growth for the programme.

Japan has been disseminating its waste management technologies and knowledge via international cooperation programmes. JICA provides support in three phases based on the recipient country's development stage: enhancement of public health, reduction of environmental burden and pollution prevention, and realisation of a recycling-oriented society via the 3Rs.<sup>41</sup> As an illustration of Japan's aid to ASEAN through JICA, the second phase was conducted in Thailand between 2011 and 2015.<sup>42</sup> Under the third phase, JICA also provided aid to Indonesia through a Japanese company in 2017. Furthermore, JICA has been sending human resources to countries in ASEAN for waste management and environmental education.<sup>43</sup>

#### 4.5.5. Regional Recycled Product Certification

EuCertPlast is an official certification body for companies that manufacture recycled products that comply with EU standards.<sup>44</sup> This scheme was developed through a 3-year project that was co-financed by the EC under the Eco-Innovation programme. The scheme focusses on the traceability of plastic materials and quality control of recycled content in end-products. The objectives are to recognise recyclers operating according to high standards and to implement best practices.

#### 4.5.6. Regional Information Exchange Platform

The technical assistance and information exchange instrument of the EC environmental implementation review peer-to-peer tool serves as a mechanism for knowledge transfer amongst environmental authorities. Its primary aim is to extend support to national authorities responsible for implementing environmental regulations and policies throughout the EU.<sup>45</sup> By facilitating information exchange, this tool promotes innovation, accelerates progress, and provides an opportunity for EU member states to learn from each other's best practices and policies. This technology emphasises various aspects of environmental governance, including access to justice, environmental liability, and compliance assurance. It offers four short-term activities – expert missions, study visits, workshops, and remote work – that can be availed by EU member states.

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<sup>41</sup> JICA, Environmental Management (JICA Clean City Initiative), JICA Activities, [https://www.jica.go.jp/english/our\\_work/thematic\\_issues/management/activity.html](https://www.jica.go.jp/english/our_work/thematic_issues/management/activity.html)

<sup>42</sup> JICA, Project for the Development of Basic Schemes for PRTR System in Kingdom of Thailand, Thailand, <https://www.jica.go.jp/project/english/thailand/013/index.html>

<sup>43</sup> JICA, Civil Participation, Types of Assistance, [https://www.jica.go.jp/english/our\\_work/types\\_of\\_assistance/citizen/volunteers.html](https://www.jica.go.jp/english/our_work/types_of_assistance/citizen/volunteers.html)

<sup>44</sup> EuCertPlast, <https://www.eucertplast.eu/>

<sup>45</sup> EC, TAIEX-EIR PEER 2 PEER Tool, Environmental Implementation Review, [https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review/peer-2-peer\\_en](https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review/peer-2-peer_en)

#### 4.5.7. Implications from Case Studies

Japan's extensive experience in implementing bilateral credits with various nations has resulted in four AMS agreeing to join the Paris Agreement Article 6 Implementation Partnership as of November 2022. All AMS are encouraged to participate in the effort to establish a global standard for bilateral credits, of which there are several examples. In addition, ASEAN's renewable energy initiatives should be promoted within the context of the current ASEAN Power Grid initiative, particularly for AMS with electricity pipelines that span multiple AMS (ACE, 2020).

The multilateral transmission technology realised in 2022 in the EU should be extended to AMS to improve connectivity.<sup>46</sup> A desirable approach would be to emulate Denmark's multilateral transmission model, which provides most domestic electricity capacity from a mix of clean energy sources. Indeed, Singapore began importing hydroelectric power from the Lao People's Democratic Republic in 2022 through an international power grid system involving Thailand and Malaysia – the first time that Singapore has imported renewable energy from outside of the country. Despite ASEAN having less contiguous land than the EU, this intercountry power grid system is a significant step towards ensuring a reliable electricity supply in the region.

Japan has limited energy resources and has experienced large-scale power outages due to earthquakes throughout its history. Previously, each electrical firm supplied power to Japan's transmission and distribution network, which restricted the flow of electricity throughout the country. This problem can be prevented by using international interconnection lines (i.e. to ASEAN) for emergency power supply. This would be particularly effective in areas in Japan where the scale of interconnection lines with other areas is small. Furthermore, if Japan's energy mix is enhanced with renewable energy by connection to an international grid, multiple advantages are evident, such as reducing GHG emissions, improving energy self-sufficiency, and securing energy in emergencies.

The introduction of carbon pricing in ASEAN has varied. In general, emissions trading schemes in the ASEAN region are more advanced than carbon taxes. Since its enactment of a carbon tax in 2019, Singapore intends to considerably increase the tax amount from 2019 to 2030.<sup>47</sup> On the other hand, Thailand, Indonesia, the Philippines, and Viet Nam are planning to introduce emissions trading schemes for some industries and are conducting associated pilot projects (Liu and Nedopil Wang, 2021).

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<sup>46</sup> The USMCA has a transmission network between the US and Canada, but the total amount of electricity is only a few percentage points, far from that of the EU (Vine, 2017).

<sup>47</sup> National Climate Change Secretariat of Singapore, Carbon Tax, <https://www.nccs.gov.sg/singapores-climate-action/mitigation-efforts/carbontax/#:~:text=Singapore%20implemented%20a%20carbon%20tax,period%20for%20emitters%20to%20adjust>



Some countries in Asia have begun operating a unified national emissions trading market as of 2022. The Government of China estimates that the volume of emissions trading in China will eventually reach 8 billion tonnes, making it a huge emissions market (Liu and Nedopil Wang, 2021). In Japan, the Tokyo Stock Exchange also began a demonstration test of emissions trading in 2022 (Japan Exchange Group, 2022).

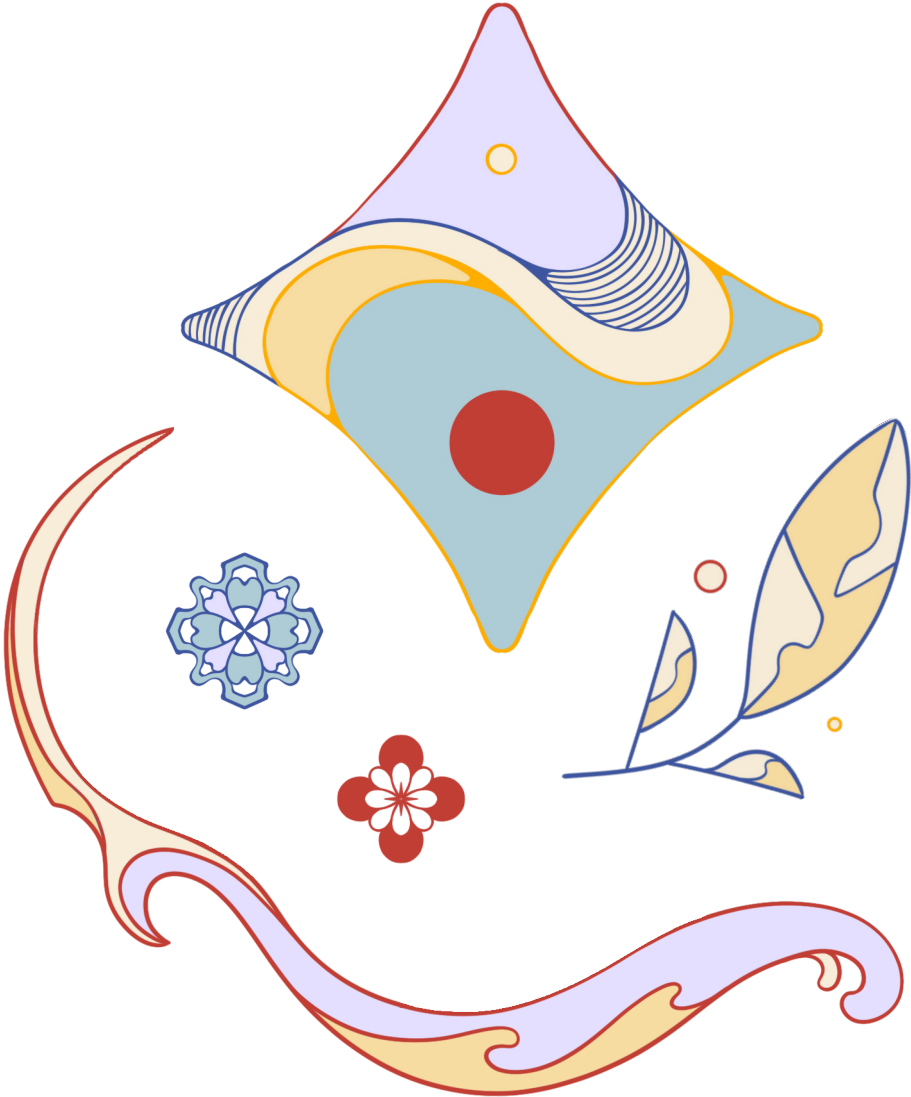
It is important to support these AMS efforts, which promote policies that support the overall lowering of GHG emissions amongst member states. Moreover, the initiatives of Singapore and Japan should be connected to other countries given their clear knowledge advantage and expertise in those fields.

EU carbon adjustment initiatives have featured more advanced studies where emissions trading markets are already operational and multilateral efforts are in progress. AMS should similarly research and evaluate carbon trading in each country before implementing it. It would be beneficial for AMS to observe how the EU carries out the CBAM as well.

A circular society can be formed by collecting waste, recycling it, and distributing recycled products to the market based on standards. It is desirable to expand the distribution market for such recycled products to the entire ASEAN–Japan region. The establishment of a large cross-national distribution market would provide an incentive for companies and other stakeholders to enter the recycling market. Moreover, EU efforts to establish standardised guidelines for waste disposal in the region as part of its efforts to realise a circular economy could be considered in ASEAN. The EU Waste Management Law provides a clear framework on organisational hierarchies that should be followed. The recycling model used by the EU, which emphasises both environmental and financial gains that can be made through the shift from a linear to a circular economy, is another method that ASEAN may adopt.

Currently, waste management is governed by different laws and regulations in Japan and ASEAN. EPR is growing as the fundamental rule for waste treatment around the globe. In ASEAN, waste treatment should be implemented by ensuring its reliable application, especially in least-developed countries. Further, recycling certification bodies should also be introduced to give more legitimacy to a future process in AMS. The EU initiative to establish a certification body for recycled products is a case study that can be referred to in the future when the ASEAN–Japan region is considered a single market for the distribution of recycled products. Establishing a common certification body within the region and having that body certify recycled products within the region based on common rules would promote market integration of recycled products. The historical knowledge of Japan will be key to developing the legislation, as Japan has developed domestic legislation based on EPR principles and updated it as needed.

Finally, peer-to-peer initiatives are helpful to advance regional initiatives if AMS review or provide input on laws, programmes, and systems that they experienced. This contributes to the promotion of private sector cooperation if the programmes are backed by official licensing bodies or trade blocs.



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