



**Asia-Pacific
Economic Cooperation**

Advancing Free Trade
for Asia-Pacific **Prosperity**

Workshop on Manufacturing-Related Services and Environmental Services: Contribution to the Final Review of Manufacturing-Related Services Action Plan (MSAP) and Environmental Services Action Plan (ESAP)

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1 Executive Summary

The workshop was held in two parts on Wednesday, 19 August, 2020. The intention of this workshop was to convene a diverse group of stakeholders to discuss APEC efforts to liberalize trade in manufacturing-related services and environmental services. These efforts have been realized through the Manufacturing-related Services Action Plan (MSAP) and Environmental Services Action Plan (ESAP), respectively. The workshop had originally been scheduled to take place in Malaysia but, due to the Coronavirus Disease 2019 (COVID-19) pandemic, the event was held online, with participants and attendees logging in from around the globe. The MSAP portion of the workshop was completed first, with the ESAP portion beginning around 7 hours later. Audience members were invited to ask questions either by sending a message to the organizers or by virtually raising their hands.

The workshop was designed to complement studies commissioned by APEC to support the Final Reviews of both MSAP and ESAP. APEC contracted researchers from a US-based consulting firm, Washington CORE, to carry out both of these studies, and also to support the Ministry of Economy, Trade and Industry (METI) - Japan, in organizing the workshop. Researchers joined representatives from government agencies, private firms, professional groups, and academia, all of whom provided critical insights into how APEC could support more seamless trade in services vital to economic recovery and prosperity.

In their presentations, the researchers described the progress achieved under the respective action plans, and shared results of the studies relating to trade negotiations, service categorizations, domestic regulations, and capacity building measures. Distinguished expert speakers then provided the audience with insights into ongoing initiatives within international organizations, existing cooperation between APEC economies, experiences of firms delivering relevant services, and trends regarding the scale and form of trade in these services.

The MSAP panel discussion was centered around efforts within APEC to foster collaboration on the delivery of manufacturing-related services. An underlying theme of the ESAP panel was how regulatory authorities in APEC economies could optimize domestic regulations, particularly licensing and approval measures, to create environments more conducive to trade.

2 Opening Remarks

The opening remarks were delivered by Mr NIIKURA Takayuki, Director for the APEC office, Trade Policy Bureau Ministry of Economy, Trade and Industry (METI) - Japan.

Mr Niikura welcomed the speakers and attendees to the workshop, and provided a brief summary of the MSAP and ESAP initiatives to support manufacturing-related services and environmental services.

For MSAP, he explained that APEC ministers endorsed the MSAP in 2015 as an initiative to support manufacturing-related services in supply chains as a next generation trade and investment issue. MSAP contributes to a number of key APEC initiatives, including the shared commitment through the Bogor Goals to achieve free and open trade and investment in the Asia-Pacific, and in defining, shaping, and addressing the next generation trade and investment issues, which might be included in the prospective free trade area of the Asia-Pacific. The workshop on MSAP was designed to provide a forum for stakeholders from the public and private sectors to share ideas on key issues for the MSAP agenda, including topics such as how to liberalize trade in manufacturing-

related services, and how to develop an indicative menu of capacity building measures.

Mr Niikura noted that ESAP also has potential to boost the economy in the Asia-Pacific region. APEC has been encouraging regional cooperation regarding the utilization of trade in environmental goods and services for over a decade. ESAP itself began in 2015, and is now in its third and final phase. The first phase consisted of a number of studies from the APEC Policy Support Unit (PSU) about the environmental services sector in the region. During the next phase, APEC summarized these findings and identified key challenges. Now, APEC is striving to develop solutions for these challenges.

The speaker then introduced the expert speakers and panelists for both parts of the workshop, and thanked the active participants and audience members for their participation. Mr Niikura expressed his hope that the workshops would provide an opportunity to share knowledge on the challenges faced by the respective industries, and to hear about good practices and opportunities for development.

3 Workshop Summary: Manufacturing-related Services Action Plan

3.1 Study for Final Review of MSAP Report

This session was moderated by Takahiro Nakamura, Senior Research Analyst at Washington CORE. The speaker presented for approximately 20 minutes, and the presentation was followed by a Q&A session with members of the audience.

The contractor presentation was conducted by:

- Mr James Tetlow
Senior Research Analyst, Washington CORE

Mr Tetlow began with an overview of the importance of manufacturing-related services to the economic recovery of manufacturing firms during the COVID-19 pandemic. He noted that these services contribute to manufacturing industries that are combating the COVID-19 pandemic in a number of ways, such as manufacturing of personal protective equipment, healthcare equipment, and equipment involved in delivery of a vaccine for the virus.

Mr Tetlow then summarized the past APEC actions on MSAP, such as the APEC PSU studies in 2014 and 2015 that identified some manufacturing-related services as well as regulatory measures that may be hurting their trade, and the MSAP Interim Report in 2018, which identified the current progress in six categories of regulatory regimes and policy environments in the APEC region.

He described the purpose and study items for the Study for Final Review of MSAP, which were to identify how the sectors of manufacturing-related services are classified in the current version of the UN Central Product Classification (CPC), and to identify best practices in the liberalization of manufacturing-related services in recent free trade agreements (FTAs).

Mr Tetlow then provided a summary of each of the project components, and discussed some of the key findings from the three case study economies of Australia, Canada, and Peru regarding challenges in areas such as restrictions in foreign direct investment (FDI), mutual recognition of professional qualifications, and supporting cross-border data flows.

Concerning future MSAP activities, Mr Tetlow described a survey that Japan's Ministry of Economy, Trade, and Industry (METI) conducted in June 2020, which collected responses from APEC member economies on their progress in meeting various MSAP goals and in their collaborative activities regarding trade in services. He also noted the upcoming Workshop on The Growing Importance of Manufacturing-related Services, proposed by Malaysia, which is currently set to be held in New Zealand in the first half of 2021.

Summary of Q&A

The moderator started the Q&A by asking Mr Tetlow about what useful resources international organizations like APEC could put together for researchers that could be helpful for future studies on manufacturing-related services.

Mr Tetlow suggested that it would be helpful if APEC could put together a further review of some of the existing laws and regulations on manufacturing-related services in APEC economies, which could complement some of the study's research on FTAs. He suggested that the shift to more online work, especially with the pandemic, is affecting the norms for companies in these sectors, and therefore it may be valuable to look at how new technologies are changing the situation, and whether it is feasible for APEC economies to collaborate on setting standards for sectors or modes of trade that might help to further liberalize the services in those areas.

An audience member from the Ministry of Industry and Trade of the Russian Federation asked how reducing customs barriers may promote manufacturing-related services, and what the macroeconomic implications of liberalizing those services' policies were in the subject economies. Mr Tetlow explained that customs can be difficult for manufacturing firms to understand, and that they often still require support from customs brokers to help them navigate difficult processes, so reducing barriers will help impact manufacturing firms in general, many of which are taking on more and more services components as part of their work, in a trend referred to as the 'servicification' of manufacturing firms.

Regarding the second question, Mr Tetlow stated that the study did not consider the macroeconomic implications of liberalizing manufacturing-related services policies, but in general manufacturing-related services see a higher number of trade regulatory barriers in place than for the manufacturing goods themselves, in part because goods have been prioritized in past trade negotiations over the services sectors. Therefore, there is significant room for future liberalization of services.

An attendee from Global Affairs Canada asked why the study created the database on the basis of CPC 2.1, when General Agreement on Trade in Services (GATS) and other FTAs are based on the Provisional CPC. Mr Tetlow explained that the study used CPC 2.0 as a starting point because it was the version used in the prior studies on this topic by the APEC PSU. The researchers then created crosswalks between older and newer CPC versions so that future research by APEC or the World Trade Organization (WTO) would have references to compare to the Provisional CPC.

The same attendee followed-up by asking whether there is anything particular to manufacturing-related services, as opposed to agricultural or environmental services, which requires specific attention in trade negotiations. Mr Tetlow stated that many manufacturing-related services involve work that requires certification and a high level of knowledge that must be transferred across economies by visiting workers, such as architects, engineers, or consultants. Since that is a major component of services

trade, one of the workshop panel speakers will present on certification procedures and mutual recognition agreements (MRAs).

The final question of the Q&A session was asked by an audience member from Indonesia, who asked if the researchers had seen any cases in which cross border data flows were related to specific manufacturing-related services, or if they were only addressed in trade commitments that applied to all services sectors. Mr Tetlow replied that all of the commitments studied in the FTAs had applied equally to all services sectors. The study team included the topic in their research because cross border data flows will be of increasing importance for all services as APEC economies focus more on online connectivity in trade, especially due to the effects of the COVID-19 pandemic.

3.2 Expert Speaker Session

The session was moderated by Takahiro Nakamura, Senior Research Analyst at Washington CORE. Each speaker presented for approximately 15 minutes, and the presentations were followed by a Q&A session with members of the audience.

The experts involved were:

- Mr Andre Wirjo
Analyst, APEC Policy Support Unit (PSU)
- Mr Juan Navarro
Associate Faculty, School of Business, Royal Roads University

3.2.1 Presentation by Mr Andre Wirjo

Manufacturing-Related Services: Insights from PSU Study

Mr Wirjo's presentation shared the insights from *Services in Global Value Chains: Manufacturing-Related Services*, a study conducted by the PSU in 2015 that collected firm-specific insights on the contribution of manufacturing-related services in their supply/value chain operations using a case-study approach.¹

His presentation began by showcasing the ubiquity of manufacturing-related services throughout the global value chain (GVC), from supporting GVCs in the case of transport and distribution services, to boosting sales in the case of branding and leasing services. While the role of services was previously difficult to capture in data due to in-house services work being undervalued, modularization and outsourcing have allowed services' contributions to be better understood in the context of manufacturing. Mr Wirjo then showed the share of services' value added in manufacturing exports in each APEC economy, as well as services' contribution in manufacturing exports by sector, and he explained how services can support more efficient labor productivity.

Mr Wirjo then provided an overview of the 2015 PSU study. For this work, case studies involving 22 firms based in 12 APEC economies were compiled, covering sectors ranging from automotive components and mining equipment to electrical appliances and watches. By grouping the services according to the stage of the value chain in which they were involved, the PSU observed that the bulk of services can be found in

¹ Services in Global Value Chains: Manufacturing-Related Services. APEC Policy Support Unit, November 2015. URL: <https://www.apec.org/Publications/2015/11/Services-in-Global-Value-Chains-Manufacturing-Related-Services>

the back-office, followed by manufacturing, pre-manufacturing, and then post manufacturing stages. The share of outsourced services ranged from 39 to 91%.

He then shared some policy implications from the study. The PSU found that there was investment policy incoherence in many economies, where FDI equity restrictions are higher for services relative to all sectors. In addition, services sectors are often impacted by policies that restrict access to labor, through mechanisms such as quotas, economic needs tests, complex entry requirements, and policies pertaining to the recognition of qualifications. These policies can create an uneven playing field for different players. Other challenges identified by the study included localization and human capital constraints, a lack of clear policies pertaining to intellectual property protection and technology transfer, and the presence of infrastructure bottlenecks. He also noted general trade issues that impact services firms, such as non-transparency and non-predictability of regulations, and the existence of multiple layers of authority, which collectively increase firms' cost of operations.

Mr Wirjo summarized that the growth in manufacturing competitiveness needs efficient services, and understanding the role of manufacturing-related services in different firms is imperative to better understand the close linkage between services and manufacturing, especially regarding what these services are and how they enter the value chains.

Policymakers should therefore carefully consider the implications of policies, particularly unintended ones, as they work to improve their economies in terms of growth, jobs, and development. Overcoming some of these policies will require economies to undertake a multi-pronged approach, including unilateral actions as well as actions carried out in a spirit of cooperation, such as trade agreements and mutual recognition arrangements. Efforts will also require better coordination among domestic agencies, including those with broader mandates, considering that policies affecting services tend to be cross-sectoral in nature and usually span multiple agencies.

Finally, in light of the COVID-19 pandemic, Mr Wirjo stressed that it is important to look at the pandemic's implications for services access and provision by firms. It is critical to understand the impact of government containment measures, such as movement control orders and social distancing guidelines, on services access and provision. As governments move towards supporting the recovery of the services sector, it will be imperative to explore and learn from one another how the recovery can be facilitated, including possibly by relaxing regulations that typically apply to some services sectors in normal time, or facilitating the transition by providers to provide services in other modes of supply for certain services (e.g. remote monitoring and repair services, as opposed to onsite services).

Summary of Q&A

A participant from the Ministry of Industry and Trade of the Russian Federation asked if Mr Wirjo could specify what kinds of services were factored into the subject model, and whether the manufacturing-related services were distinguished from other services in the same service category, since manufacturing-related services are integrated into other groups of services, both with regards to the CPC and the WTO classifications. Mr Wirjo responded that the intent of the study was not to call for a separation of services into those relevant to manufacturing and those which are not relevant to manufacturing, but instead to see how services contribute to manufacturing and how manufacturing requires services to be competitive, and what kind of services are important in that respect. He also noted that there is some overlap

in the services needed for manufacturing and for other sectors, such as agriculture, though some services may be more important for some sectors than others.

3.2.2 Presentation by Mr Juan Navarro

Review of the MSAP in the context of the CPTPP

Mr Navarro began by emphasizing the economic uncertainty that has been created by the COVID-19 pandemic, which has modified each APEC economy's planning, and tested both resilience and the commitment to free and open trade and investment. However, as the COVID-19 report presented by the APEC Business Advisory Council (ABAC) states, "No single economy has the solution to the pandemic and its public health, social and economic consequences, but sharing experiences, keeping markets open, and working together will achieve the best outcomes for us all. For this reason, remaining true to the APEC values will be critical to overcome this global crisis."

In this spirit, Mr Navarro offered some elements to consider for the MSAP against the backdrop of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which is considered a next-generation trade accord, and an important pathway to achieve the eventual Free Trade Area of the Asia Pacific (FTAAP).

He first highlighted the relevance of services to international trade, noting that services are a source of competitiveness and productivity for manufacturing due to their strong integration that has a positive impact all along regional and global supply chains; that open, strong, and competitive service sectors are important drivers of creation of employment and economic development; and that contribution of services in international trade is meaningful, providing 51% of APEC total exports measured by value added terms, and underpinning every stage of the production process.

He then provided a comparative analysis between the MSAP and the CPTPP, comparing commitments to liberalization in the CPTPP to the key elements of the MSAP and the APEC Principles for Cross-Border Trade in Services. Mr Navarro described how elements of the CPTPP seek to address different issues raised in the 2015 APEC PSU study such as FDI restrictions, labor-related restrictions, and predictability in trade rules.

Mr Navarro concluded with three recommendations to support the goal of liberalization of services in manufacturing post-2020.

First, services trade, including manufacturing-related services, should be continuously discussed beyond 2020. The discussion should incorporate strong elements to promote a free, open, fair, nondiscriminatory, transparent, and predictable trade and investment environment by leveraging digital connectivity, refraining from imposing new obstacles to trade and investments, facilitating even more cross-border trading services, and supporting collective efforts to engineer a more resilient and inclusive multilateral trading system.

Second, the current global pandemic has had high levels of uncertainty, but it has also carried with it an opportunity for APEC economies to lead and come together to make use of their vast experience and resilience in order to overcome this emergency. APEC economies need to continue working together to identify and address more policy implications affecting services related to manufacturing that should be emphasized in the agenda. Mr Navarro emphasized that it is crucial to understand that APEC's future depends on the decisions and policy actions that it is taking now. APEC economies may want to define together a specific set of indicators that could be utilized to measure progress and capture the impact of services and manufacturing in the region.

Third, APEC should work to understand the different kinds of business models that service suppliers are using to operate in global markets. Services are evolving as the digital economy does, and APEC economies should be sensitive to this digital transition in some services and anticipate potential obstacles and solutions. Addressing issues of services in manufacturing need to be taken seriously, keeping in mind that high standard regulations in manufacturing-related services might contribute to economic recovery and lay the foundation for the eventual FTAAP.

Summary of Q&A

A member of the Support Council for ABAC Japan asked about Mr Navarro's evaluation of the importance of supply chain resilience, since COVID-19 has had a heavy negative impact on the supply chain. Mr Navarro responded that resilience is key for the future of the business system, and to achieve it, APEC economies must invest time in reviewing their domestic policies, and have senior leaders collaborate with other economies to meet capacity together. There are examples of economies that are signing agreements to keep their borders open, to keep promoting business, and allowing the flow of essential goods and of people. He warned that the need for flexibility must be taken seriously to protect jobs and small firms that are at the core of the local economies across the APEC region.

3.3 Panel Session

The session was moderated by James Tetlow, Senior Research Analyst at Washington CORE. Each panelist presented for approximately 10 minutes before the panel discussion, which lasted approximately 15 minutes.

The experts involved were:

- Mr ISHIDO Hikari
Professor, APEC Study Center, Chiba University
- Ms Gillian Pichler
Director, Registration, Engineers and Geoscientists British Columbia
- Ir Choo Kok Beng
CEO, Malaysian Service Providers Confederation (MSPC)

3.3.1 Presentation by Mr ISHIDO Hikari

MSAP as the Facilitator of Cross-Border Division of Production Processes in the Asia-Pacific Region

Mr Ishido began his presentation with an overview of the cross-border division of production processes in international trade. While conventional production might involve a one-time activity of manufacturing followed by shipment, many services are provided on a consistent basis, providing a constant two-way flow of goods, ideas, and technology between economies. This is why initiatives like MSAP have become very important.

Trade flows in goods are disproportionately discouraged by distance between economies and are also significantly impacted by the differences in GDP between economies. However, trade in services is relatively unaffected by market size or distance between economies. This means that services trade can be expected to mitigate the distance effect in manufacturing activities, boosting overall trade flows.

Mr Ishido then provided an analysis of multiple FTA frameworks in the APEC region, noting that each FTA includes liberalization commitments for manufacturing-related services. He concluded his analysis by noting that the harmonization of the policy regimes for existing bilateral or plurilateral FTAs, such as ASEAN+X FTAs and CPTPP, is very important for supporting services trade.

3.3.2 Presentation by Ms Gillian Pichler

Mobility of Engineers between British Columbia/Canada and other Economies: Current Routes to Recognition and Future Enhancements

Ms Pichler presented on the mobility of engineers in British Columbia and in Canada overall, including the current routes to recognition of engineers, and some of the future enhancements under consideration.

In Canada, each province or territory has its own licensing body to regulate engineering, and its own act of the provincial or territorial legislature that governs how licensing is done. However, there is a high degree of collaboration between provinces and territories to harmonize and share promising practices. In addition, Engineers Canada provides a central forum for the regulators to discuss issues, and coordinates and facilitates international mobility agreements as a signatory to several bilateral recognition agreements. Engineers Canada is also a signatory to multinational agreements, such as the International Professional Engineering Agreement (IPEA) and APEC Engineer, which emphasize recognition of the equivalency or substantial equivalency in engineering education among the economies and recognize engineering education and the competencies that are required of a professional engineer. Some regulatory bodies in Canada are currently exploring whether it is feasible to recognize IPEA and APEC Engineer as part of the licensure registration process to further streamline international applications.

Licensure in Canada requires an engineering education that must be substantially equivalent to graduation from a program that is accredited by the Engineers Canada accrediting body. Licensure also requires work experience, which previously had to be demonstrated through a year of Canadian environment experience, though now Engineers Canada has developed a set of Canadian environment competencies that can be demonstrated outside of Canada. Other requirements include language proficiency and a professional practice examination.

Due to COVID-19, British Columbia has been conducting examinations, seminars, and assessments online through Zoom, which has also made it easier for international candidates to obtain licensure. British Columbia will soon launch a program to allow internationally trained applicants to prove their competency to practice in Canada without working under the supervision of a licensed Canadian professional engineer.

3.3.3 Presentation by Ir Choo Kok Beng

Liberalization...a new norm

Ir Choo provided an overview of Malaysia's industrial planning, and then discussed the role of the Malaysian Service Providers Confederation (MSPC) in contributing to Malaysian GDP and productivity, and the impact of the COVID-19 pandemic on future economic operations and planning in Malaysia and across APEC.

He started by noting that the world is still in the midst of the pandemic, and regardless of when it will be over and the severity of the outcome, it is obvious that the world will no longer be the same. A new normal is now the trend for everything that is done to recover from the pandemic and the way of life afterwards. The changing

circumstances therefore make it important to consider the MSAP and determine how to make sure that it is still relevant in this new norm.

Since it began its industrialization program in 1996, Malaysia has increasingly embraced liberalization to become one of the most progressive and ambitious economies of APEC. Malaysia's efforts to develop its industries along the value chain are very dependent on pre-manufacturing and post-manufacturing process services. The bulk of these services activities driving higher productivity for manufacturing are comprised of highly skilled professional services providers, and most are also from the micro, small, and medium-sized enterprises (MSMEs). The development of these professional services in manufacturing has led to manufacturers incorporating more high-value services firms into their business models.

Civil society organizations such as the Federation of Malaysian Manufacturers (FMM) and the Malaysian Service Providers Confederation (MSPC), which was formed in 2010 and seeks to mobilize the professional services sector to contribute to the economy, are supporting the aforementioned industries. The MSPC is a member of the APEC Services Coalition and helped to develop the APEC Services Competitive Roadmap, which it is working to implement in Malaysia through initiatives such as driving the digitalization of technology.

The MSPC is also supporting the Malaysian Productivity Blueprint launched in 2017, which is an industry-led effort to improve productivity across nine sub-sectors, including professional services. The Blueprint has four main thrusts: (1) building the workforce of the future with an emphasis on professionalizing and internationalizing the workforce, (2) encouraging digitization and disruptive innovation, (3) making industry accountable for productivity, and (4) forging a robust ecosystem, which includes addressing regulatory constraints and developing a robust accountability system to ensure effective implementation of regulatory reviews by a strong, industry-led implementation mechanism.

COVID-19 significantly dampened the activities of the professional services-productivity nexus in March-June, due to requirements such as shifting most work to home. However, the service providers quickly adapted to the new norms. Overhead has dropped as a result of the shift to home-based work, and providers caught up in productivity very quickly in July and August. Most of the sub-sectors that are driving productivity in Malaysia have already experienced a V-shaped rapid recovery.

In conclusion, Ir Choo stated that Malaysia looks forward to more liberalization, but that they must be careful that it is done in a way that is fair and equitable to all. He also encouraged APEC economies to move forward with increased international mobility of relevant professionals, and to expand mobility agreements to cover all professions involved in engineering, including technologists and technicians as well as engineers.

3.3.4 Panel Discussion

The panel discussion began with a question from the moderator to Ms Pichler about how COVID-19 responses will impact future businesses, processes, and certification, such as moving testing online, and whether there might be opportunities to use the move towards digital processes to develop international collaboration on common practices. He also asked about her response to Ir Choo's final comments on the mobility of engineers.

Ms Pichler agreed that there are opportunities to increase online evaluations and online recognition, but warned that not every regulator and certification body is enabled in the same way, so it will require a lot of discussion, collaboration, and identification of opportunities along with trust between parties, especially since there is still significant suspicion about new technologies in today's world. She noted that while she agrees with encouraging international mobility and practice for engineers, her organization is constrained by legislation and its responsibility to the public of British Columbia and Canada, so decisions must respect those priorities. She also noted that engineering technicians and technologists in Canada are regulated separately from engineers, so while their organizations collaborate and learn from one another, their pathways to international recognition are separate.

An audience member from Malaysia then had a question for Mr Ishido about the gravity model in his presentation, to clarify some of the numbers provided in his slide presentation. Mr Ishido explained the significance of the figures.

An audience member from the Ministry of Industry and Trade of the Russian Federation asked a question for Mr Ishido, Ir Choo, and Mr Wirjo. He noted that there is no doubt that services play an important role in global manufacturing recovery after the pandemic, and the WTO initiative to liberalize certain types of services, such as those related to agriculture and the environment, has taken place recently, and different types of services often overlap. He asked the speakers to suggest a topic where further work to distinguish manufacturing-related services from other horizontal groups is required in this respect, both in terms of the multilateral trade system and regional trade agreements.

Mr Ishido explained that the subcomponents for manufacturing-related services are scattered across different subsectors, so it is quite difficult to try to systematically assess how liberal manufacturing-related services are. Since it depends on each subcomponent, there should be a systematic assessment for them.

Ir Choo agreed that it will be very difficult to clearly define the differences of professional services that are provided for the manufacturers rather than other industries. He suggested that an easier approach may be to consider the trend for professional service providers becoming increasingly able to multi-task across multiple service areas, which may avoid the problem of making them too specialized in their respective professional services, so less effort would be needed to define and codify them.

Mr Wirjo noted his concern that technologies are evolving very fast, and the list of manufacturing-related services must be flexible or else it may quickly become obsolete. For example, remote monitoring services have become very important due to the COVID-19 pandemic. Mr Wirjo emphasized that his study set out to demonstrate how embedded services are in manufacturing and their importance to the industry, and that a future list of manufacturing-related services should incorporate many different sources.

4 Workshop Summary: Environmental Services Action Plan

4.1 Study for Final Review of ESAP - Report

This session was moderated by Takahiro Nakamura, Senior Research Analyst at Washington CORE. The speaker presented for approximately 20 minutes, and the presentation was followed by a Q&A session with members of the audience.

The contractor presentation was conducted by:

- Mr Chimdi Obienu
Research Analyst, Washington CORE

Mr Obienu explained why APEC has devoted energy to environmental services in particular, and how the COVID-19 pandemic will serve to heighten the importance of realizing the ESAP agenda. He first explained APEC's prior work completed under ESAP, which includes a number of reports compiled by the APEC Policy Support Unit (PSU) as well as a workshop in environmental services that took place in Hanoi, Viet Nam, in 2017. The Review Study was split into three parts, each designed to address needs for environmental services providers identified by APEC through review of the PSU reports.

For the first section, the researcher highlighted the lack of concrete ways to define environmental services for the purposes of trade. The only definition in use, found in the UN Central Product Classification (CPC), has long been considered not to accurately reflect the scope of the environmental sector. The primary issue with the CPC is that it does not capture the entire range of services that environmental services providers use or provide, which is less than ideal for facilitating the liberalization of the sector.

To address this inadequacy, the European Commission in the year 2000 proposed to WTO a method known as the cluster approach. This approach sought to liberalize CPC services with purely environmental end uses (the core), as well as services critical to their delivery (the cluster). While this approach was popular with some economies, others found issues in the inclusion of certain services, and the potential for the approach leading to over-liberalization. The cluster approach was not accepted by the WTO, but it remains a viable option to enhance the ability of the CPC to foster deeper liberalization. No consensus has been reached on any other ways in which the CPC might be modified or supplemented regarding environmental services. The researcher proposed ways for APEC to re-enter negotiations regarding how to define environmental services. However, he highlighted that some limitations of the CPC would need to be addressed – namely, the fact that the classification cannot distinguish between environmentally-friendly or harmful services. For example, “engineering services for power projects” (CPC 2.1 code 83324) could relate to work on both renewable and fossil-fueled power plants.

For the second section, the researchers compiled a list of good regulatory practices that may apply to licensing and approval measures relevant to providers of environmental services. These practices were split into the categories of: Simplicity; Transparency; Accountability; Accessibility; and Cooperability. Regulatory measures in New Zealand, Singapore, and Japan were profiled in case studies. The researcher proposed that, in order to implement best practice regulatory measures, APEC economies should seek to first engage in thorough regulatory review, with stakeholder consultation, to allow focus on measures where the most gains can be made.

In the final section, the research identifies reasons for why and ways in which economies can build capacity of their domestic workers to deliver environmental services. These capacity building measures can fall into the broad categories of developing a large, skilled, employment base, and providing support for existing workers. Existing useful measures utilized by APEC economies, such as the APEC engineer database, were identified, as well as smaller-scale initiatives in place throughout the region.

Summary of Q&A

The moderator asked if there has been much discussion about how regulations relating to the environmental services sector could be aligned between economies. Mr Obienu responded that, while trade agreements can include provisions to promote good regulatory practices, he had not seen much evidence of efforts to align policies between economies. This, however, could be an APEC goal in the future, which could potentially be achieved under ESAP.

The moderator also asked whether the speaker had any advice about how economies could improve the system of mutual recognition for engineering qualifications in APEC. Mr Obienu's primary suggestion was that economies not already part of initiatives such as APEC Engineer or the Washington Accord could seek to implement domestic training programs in line with the requirements of existing initiatives. Some FTAs already address this need.

An audience member from the United States Trade Representative (USTR) asked whether there had been efforts to categorize limitations on liberalization that are inconsistent with GATS principles rather than to categorize the services to be covered. Mr Obienu hadn't seen any evidence of reports or databases containing such information, but he agreed that this would be a useful tool for policymakers and researchers.

A representative from the Ministry of Industry and Trade of the Russian Federation asked about whether the speaker believed these efforts to distinguish environmental services in the GATS obligations of APEC member states would be useful for liberalization. Mr Obienu responded that, while distinguishing these services has proven difficult, distinguishing obligations related to environmental services providers is important. A complaint of service providers is that there is real confusion even about the policies that relate to the sector. Therefore, distinguishing the services, at least, allows for a review of all of the measures and limitations that are affecting these firms.

4.2 Expert Speaker Session

The session was moderated by Takahiro Nakamura, Senior Research Analyst at Washington CORE. Each speaker presented for approximately 15 minutes, and the presentations were followed by a Q&A session with members of the audience.

The experts involved were:

- Mrs Inese Rozensteine
Policy Analyst, Trade and Agriculture Directorate / Trade in Services Division,
Organisation for Economic Co-operation and Development (OECD)
- Mr Aik Hoe Lim
Director, Trade and Environment Division, WTO
- Ms Marie Isabelle Pellan
Counsellor, Trade in Services and Investment Division, WTO

4.2.1 Presentation by Mrs Inese Rozensteine

Liberalisation of Trade in Environmental Services

Mrs Rozensteine is a Policy Analyst at the OECD. Research from OECD and other organizations has shown the benefits of the liberalizing trade in services in the environmental sector, which helps prevent and mitigate environmental harm. This

liberalization can lower costs for domestic importers, while also encouraging exporters to become more competitive and productive.

She reiterated the point made by the previous speaker that the scope of environmental services has been a contention and that the sector cannot be liberalized without consideration of related services. Considering only traditional environmental services is not appropriate, due to their dependence on related services (e.g. environmental consulting, engineering, and construction) and importance of other services such as legal and accounting.

The OECD has plans to extend the Services Trade Restrictiveness Index (STRI) to cover environmental services. Measures to be assessed will include discriminatory taxes and subsidies; access to public procurement; recognition of standards; and issues related to movement of professionals and recognition of their qualification. Mrs Rozensteine noted that, for the environmental services sector, regulatory transparency will be a key issue, since most regulations applicable to environmental services are adopted at local or municipality level. The goal is for OECD assessments of these measures to be analyzed and used in future trade negotiations.

Mrs Rozensteine also explained a trend seen in international trade agreements in recent years, in that specific provisions on environmental services are usually included in some segments of an agreement – usually in the chapter on environment, but sometimes others, such as chapters on sustainable development. Still, the need for an expanded scope of environmental services is made clear in some agreements that have only liberalized environmental consulting services, for example.

The speaker concluded the presentation by again noting the importance of trade liberalization, as well as the inherent difficulty in separating environmental services from other sectors. This complexity can be dealt with in bilateral and plurilateral trade agreements.

Summary of Q&A

Mrs Rozensteine was asked about how OECD plans to define environmental services for use in the STRI. She explained that the idea is to cover core environmental services, but also to add categories such as environmental consulting, engineering, and construction. The index will also consider horizontal measures, such as the movement and screening of people. The process of defining exactly what will be included in the STRI will be long and will include workshops as well as discussions with experts.

4.2.2 Presentation by Mr Aik Hoe Lim & Ms Marie Isabelle Pellan

Trade in Environmental Services: A WTO Perspective

Mr Lim is Director of the Trade and Environment Division at the WTO. Ms Pellan is a Counsellor in the Trade in Services and Investment Division of WTO. The two experts delivered a joint presentation, with Mr Lim speaking first. Mr Lim built on some sentiments touched upon by previous speakers and focused on the fact that environmental goods and services cannot easily be discussed separately. Technologies (embedded in goods and services) must be deployed and operated for them to yield benefits on the ground, and this cannot happen without services. He used the example of wind turbines to illustrate that services are needed to ensure that environmental goods are properly installed, managed, maintained, and repaired. However, not all services are always available domestically and this is one reason why services trade is needed to help disseminate technology.

Mr Lim discussed the bottlenecks that can negatively impact the supply chain for environmental goods, using the example of solar photovoltaics. Referring to a study of the solar photovoltaic supply chain he discussed the bottlenecks that can occur in transport and distribution, onsite integration and installation, operation and maintenance, and disposal and recycling. The fact that these bottlenecks often related services it highlights the importance of sector, as well as the availability of human resources and services suppliers, to the use of environmental technology. Despite this importance, environmental services are one of the least-committed sectors under the GATS. Over the years, a big gap has emerged between scheduled commitments in GATS and provisions related to these services that have been negotiated in FTAs and regional trade agreements (RTAs). There is thus considerable scope for improving on GATS commitments for environmental services.

He explained the WTO framework for trade and environment and existing negotiating mandates for environmental services. He noted that in the Environmental Goods Agreement (EGA) there was broad recognition of the role that services could play in improving the environmental impact of that agreement. Currently, the WTO Committee on Trade and Environment (CTE) is engaged in sharing policies and experiences related to concepts such as the circular economy, how to disseminate green technologies, and how to address issues such as plastic pollution and natural disasters. There is growing interest in how trade negotiations and commitments could support environmental objectives and the services sector features prominently in this regard.

Ms Pellan briefed participants on recent work on environmental services undertaken by WTO Members in the Council for Trade in Services in Special Session (CTS SS) . Five WTO member economies – Australia, Canada, Mexico, New Zealand and Switzerland – co-sponsored a communication that sought to address the level of multilateral commitments in environmental services, which is one of the least-committed sectors under the GATS. These Members consider that there are benefits in exploring a broadened scope outside the "core" environmental services sector, as many services end up feeding into environmental projects, including as part of integrated business solutions. Further discussions on environmental services market access were expected to take place in the CTS SS in the Fall of 2020.

Building upon the issue of scope discussed by other speakers, Ms Pellan acknowledged that the W/120 Services Sectoral Classification List and CPC Provisional reflect a more traditional conceptualization of environmental services. Such classification focuses on infrastructure-based services and gives particular emphasis to waste management and pollution control. While the W/120 list and CPC Prov. are often criticized, it should be understood that these were the main classification tools available in the 1990s when most Members undertook their commitments under the GATS. Although these classification tools have been broadly used by Members for the purpose of scheduling their GATS commitments, there is no mandatory classification system in the WTO. Over the years, some Members submitted proposals concerning the scope of environmental services, suggesting for instance to focus on services that could help achieve particular environmental objectives, such as mitigating the effects of climate change. She noted that classification is not an obstacle for further liberalization in this sector. The main objective is that any future commitments result in stable and secure markets for environmental services.

Summary of Q&A

The moderator asked about what the ESAP Study researchers could potentially consider adding to the existing report. Mr Lim suggested that there could be two useful

topics to cover. One is how the gap between FTA and GATS commitments in environmental services could be reduced. The other is about how good regulatory practices relevant to environmental services could be better expressed in multilateral trade agreements. Ms Pellan added that inter-economy experience sharing is also vitally important and can help stimulate discussions on services that can contribute to environmental and sustainable development goals.

4.3 Panel Session

The session was moderated by Chimdi Obienu, Research Analyst at Washington CORE. Each panelist presented for approximately 10 minutes before the panel discussion, which lasted approximately 15 minutes.

The experts involved were:

- Dr Joachim Monkelbaan
Independent Consultant
- Mr NAKAMURA Yasuaki
Director for Development Cooperation, International Affairs Bureau, City of Yokohama
- Mr KONISHI Takeshi
Senior Managing Director, GUUN CO., Ltd
- Ms Jennifer Powell
Lead International Trade Analyst, Services Division,
United States International Trade Commission

4.3.1 Presentation by Dr Joachim Monkelbaan

Reducing barriers to trade in environmental services: a bird's-eye view

Dr Monkelbaan is an Independent Consultant on trade and sustainability, and mainly works with the Quaker United Nations Office (QUONO) in Geneva. He expounded the benefits of trade in environmental services, mentioning the economic size of the environmental sector, and the magnitude of annual trade in environmental services (\$50 billion USD). This figure is relatively small compared to the size of the global environmental sector (\$1.3 trillion USD), which means there is much potential for growth. There are a number of barriers to trade in environmental services, which become especially clear when speaking to owners of small and medium-sized enterprises (SMEs).

More trade will increase the size of the sector, lead to more localization, and benefit SMEs. In addition, developing economies may be able to make use of their comparative advantages in some environmental services. In addition to mentioning some barriers to trade addressed in prior presentations, Dr Monkelbaan spoke about the issue of data limitations, as many economies have limited statistics on environmental services. He noted questions that must be asked to ensure that licensing and approval measures do not constitute undue barriers to trade. Some existing FTAs have provisions that attempt to ensure this.

Moving forwards, Dr Monkelbaan suggested that there needs to be more cross-referencing between WTO committees discussing environmental services. He also mentioned two plurilateral initiatives that could be useful: The Agreement on Climate Change, Trade, and Sustainability (ACCTS) which involves Switzerland, Norway,

Iceland, Fiji, Costa Rica, and New Zealand, and also the Friends of Advancing Sustainable Trades (FAST) group.

4.3.2 Presentation by Mr NAKAMURA Yasuaki & Mr KONISHI Takeshi Waste Plastic Recycling Project in Metro Cebu Through City to City Collaboration Between Yokohama and Cebu

Mr Nakamura is a Manager of the Japanese city of Yokohama's Partnership of Resources and Technologies (Y-PORT) Program, a project for international technical cooperation based on public private partnerships. Mr Konishi is the Senior Managing Director of GUUN Co., Ltd, a waste management and recycling firm headquartered in Yokohama. GUUN collaborates with the Y-PORT program to carry out recycling operations in the Philippines, and so the experts conducted a joint presentation, with Mr Nakamura speaking first.

Mr Nakamura introduced Y-PORT as a program that allows Yokohama-based firms and the city itself to share their expertise overseas. The Y-PORT project with GUUN takes place in the province of Cebu in the Philippines, and it involves cooperation with the province's Metro Cebu Development and Coordinating Board (MCDCCB). Solid waste management is a major priority for development in Cebu, and the Y-PORT team successfully proposed that partnering with GUUN could help Cebu reach its recycling goals. Although waste plastic recycling was a new technology in Cebu, the involvement of competent authorities allowed for its integration into an enhanced waste management plan for the city.

Mr Konishi provided more details about GUUN and the company's on-the-ground work in Cebu. The firm specializes in the conversion of plastic waste into fluff fuel, which can be used for combustion, wood waste recycling to produce alternative fuel, and waste management consulting. In Cebu, GUUN focuses on producing fluff fuel, the burning of which produces lower carbon dioxide emissions than coal. Before beginning commercial operations in July 2017, the firm acquired business permits, environmental compound licenses, and some others. The speaker focused on operations in Mandaue City in Cebu, where GUUN services have led to a recycling ratio of over 85%.

There are four main benefits of this work. The first is facilitating more sustainable waste management. The next is preventing flooding that sometimes occurs due to the buildup of plastic waste on roadsides. The third is reducing carbon dioxide emissions by substituting coal for fluff fuel. The last is creating local jobs and enhancing local education about the management of solid waste.

4.3.3 Presentation by Ms Jennifer Powell Global and U.S. Markets for Environmental Services

Ms Powell is a Lead International Trade Analyst at the United States International Trade Commission. She mainly presented data from a few sources on trends relating to trade in environmental services. These sources were Environmental Business International (EBI), Engineering News Record (ENR), and the United States Department of Commerce's Bureau of Economic Analysis (BEA). In all, data suggests an increase in environmental services revenue in recent years, although the growth has been uneven at times.

According to EBI data, solid waste management and water treatment works accounted for the largest shares of environmental services revenues, and most of the sector's revenues were gained in the US, Western Europe, and Asia (mainly China and Japan).

Outside these locations, Australia, Canada, and Brazil accounted for particularly large shares.

Ms Powell presented ENR data showing that revenues from the leading 200 environmental services firms have been increasing more quickly than the average annual growth rate of the past decade. The data also suggests that revenues in the sector are not particularly highly concentrated within the top 10 firms. Of those top 10 firms, most are located in the United States, two are in Canada and one is in Italy.

From BEA data, the speaker was able to report that cross-border trade in waste treatment and de-pollution services in the US represents a tiny fraction of total services. The same can be said of waste management and remediation services. Although both exports and imports have been growing evenly since 2006, US-affiliate imports have largely exceeded exports in years for which data is available.

4.3.4 Panel Discussion

A representative from the Ministry of Industry and Trade of the Russian Federation asked Dr Monkelbaan about potential risks of liberalization, from the perspective of economies. The speaker responded that one concern has been that purely private control of some environmental services could lead to some population segments being excluded. Effective administrative bodies may be required to put measures in place to ensure environmental quality and protect consumer interests.

An audience member from the Indonesia Ministry of Trade also asked Dr Monkelbaan about how developing economies can balance the need for regulatory obligations for private firms, such as licensing, against the need to attract these investors to supply services. Here, Dr Monkelbaan advanced the benefits of green industrial policies put in place by governments to support the environmental sector. These can provide good opportunities for developing economies and SMEs.

Mr Nakamura was asked about how the Y-PORT program develops relationships with foreign municipalities, and how they encourage partners that trade will be mutually beneficial. He responded that many Japanese cities have had to overcome similar issues related to urban development during the economy's rapid growth from 1950s through 1970s and that this experience makes these cities valuable partners to foreign cities undergoing rapid economic growth. In addition, focal points in the foreign cities, such as the MDCB, are useful to combine public and private sector actors. Mr Konishi was asked about any differential treatment that GUUN had received as a foreign service provider in the Philippines, and responded that, as the company's first experience abroad, it had been wholly positive thus far.

Ms Powell was asked about the extent to which the environmental sector may be affected as a result of the COVID-19 pandemic. Although the trends show that revenues have been increasing, she was not able to comment on how the pandemic might change things going forwards.

5 Closing Remarks

The closing remarks were also delivered by Mr NIIKURA Takayuki, Director for the APEC office, Trade Policy Bureau, METI - Japan. He reiterated that pursuing frictionless trade in environmental services is a worthwhile agenda to pursue, and that he hoped the workshop had allowed viewers from different perspectives to identify common areas of interest for potential collaboration. He also thanked all of the expert speakers for both the MSAP and ESAP portions of the workshop, before ending the event.

6 Outcomes & Recommendations

6.1 Manufacturing-related Services

The workshop provided a valuable forum for stakeholders from industry, government, and academia to discuss issues concerning manufacturing-related services and to consider new opportunities for collaborative activities for APEC member economies to consider to support the future liberalization of services trade across the Asia-Pacific region.

While the current global pandemic has had a devastating economic impact and has created high levels of uncertainty in trade, it has also carried with it an opportunity for APEC economies to lead and come together to make use of their vast experience and resilience in order to overcome this emergency.

During the presentation and Q&A for the Study for Final Review of MSAP, the research contractor noted that a further review of existing laws and regulations on manufacturing-related services in APEC economies could serve as a useful complement to the contractors' research on FTAs.

Once the 2020 MSAP implementation survey is completed, then it would be good to act on the capacity building needs that have been reported by APEC economies in the survey. The 2020 workshop hosted by Malaysia will include a discussion on capacity-building activities, so that may lead to additional action items that will be beneficial for pursuing the MSAP agenda.

The expert speaker sessions covered a wide range of policy challenges for manufacturing-related services. Overcoming some of the policies that have hindered manufacturing-related services will require economies to undertake a multi-pronged approach, including unilateral actions as well as actions carried out in a spirit of cooperation, such as trade agreements and mutual recognition arrangements. Efforts will also require better coordination among domestic agencies, including those with broader mandates, considering that policies affecting services tend to be cross-sectoral in nature and usually span multiple agencies.

In light of the COVID-19 pandemic, it is important to look at the pandemic's implications for services access and provision by firms. It is critical to understand the impact of government containment measures, such as movement control orders and social distancing guidelines, on services access and provision. As governments move towards supporting the recovery of the services sector, it will be imperative to explore and learn from one another how the recovery can be facilitated, including possibly by relaxing regulations that typically apply to some services sectors in normal time, or facilitating the transition by providers to provide services in other modes of supply for certain services (e.g. remote monitoring and repair services, as opposed to onsite services).

Several speakers noted that the rapid development of technology, especially online/remote technologies that have become critical for many firms during the COVID-19 pandemic, may have a significant effect on manufacturing and services trade. Services are evolving as the digital economy does, and APEC economies should be sensitive to this digital transition in some services and anticipate potential obstacles and solutions. Future work on MSAP should therefore be flexible in creating any definitions for services, so that the rapid development of technology does not make the definitions obsolete in a short time. In addition, it may be valuable to conduct

research to explore the rapid development in technology and its implications on liberalizing and facilitating trade in manufacturing-related services.

Finally, multiple expert presentations explored the economic implications of liberalizing services trade through trade negotiations. Their research findings suggest that services trade should be continuously discussed beyond 2020. The discussion should incorporate strong elements to promote a free, open, fair, nondiscriminatory, transparent, and predictable trade and investment environment by leveraging on digital connectivity, refraining from imposing new obstacles to trade and investments, facilitating even more cross-border trading services, and supporting collective efforts to engineer a more resilient and inclusive multilateral trading system. These efforts must be done in a way that is fair to all and equitable. The harmonization of the policy regimes for existing bilateral or plurilateral FTAs, such as ASEAN+X FTAs and CPTPP, is very important for supporting services trade.

6.2 Environmental Services

The workshop revealed that both the OECD and WTO are engaged in initiatives that are in line with the ESAP agenda. WTO working groups are engaged in discussions about how to break stalemates in multilateral environmental services negotiations, while the OECD is looking to develop an index that will quantify measures that restrict trade in the sector, by economy. These are key actions that will help to bolster trade in environmental services as well as researchers conducting sectoral analyses.

Moving forward, APEC economies must collaborate to develop a common definition for environmental services, which will allow for deeper analysis of the conditions hindering trade in the sector. To this end, steps that APEC has taken related to MSAP, such as the in-depth case studies created for the PSU Global Value Chains study, could be replicated for environmental services.

The workshop also showed that, while defining the environmental services sector is vital, it also would be useful to develop a database of good practices in domestic measures implemented in APEC economies for the liberalization of environmental services, in order to provide useful benchmarks for economies to implement to ensure that their domestic policies are consistent with the principles of WTO agreements.

Another key workshop recommendation was that APEC should study how liberalization commitments for environmental services made in FTAs differ from those made in the multilateral GATS. Analysis like that carried out in the Study for Final Review of MSAP could be useful here. In this study, the GATS commitments of three APEC economies regarding various manufacturing-related services were compared to commitments regarding those same services in later FTAs involving other APEC economies.

An additional suggestion is for APEC to further assist economies, particularly developing ones, that must balance the need for regulatory oversight of the environmental sector with the need to attract significant amounts of foreign direct investment (FDI). Additional APEC workshops on domestic regulation, perhaps with added focus on environmental measures, could be critical next steps in this area.

Implementation efforts for ESAP could also be enhanced by regional surveys, like those conducted under MSAP, to gather the views of key officials in APEC economies regarding the liberalization of trade in environmental services. Furthermore, APEC economies should work to deliver joint capacity building measures for workers in the environmental services sector, and to produce common frameworks for the systematic review of regulatory measures in the environmental sector and others.

7 Observations & Analysis

7.1 Event Attendance

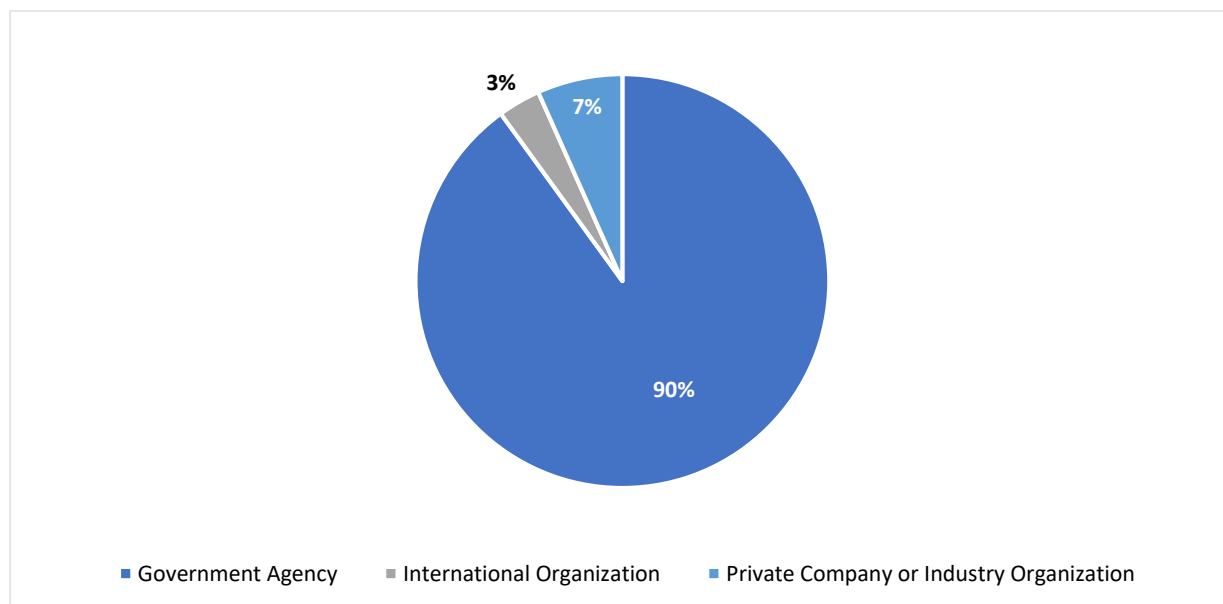
The MSAP workshop was attended by 57 people, and the ESAP workshop was attended by 62.² The total number of distinct attendees for the event was 74, 65% of whom were women. 16 APEC economies were represented in the audience: Australia; Canada; Chile; Hong Kong, China; Indonesia; Japan; Malaysia; Mexico; New Zealand; Peru; The Republic of the Philippines; The Russian Federation; Singapore; Chinese Taipei; The United States; and Viet Nam. There were also observers from the APEC Business Advisory Council (ABAC), APEC Secretariat, Costa Rica, and an international organization other than APEC. Of the economies and organizations listed, all were represented in both workshops, apart from the New Zealand and the international organization, which had attendees only at the ESAP workshop.

7.2 Survey Responses

7.2.1 Workshop Reception

Participant surveys were distributed to all attendees of the respective workshops (see Annexes E & F). Overall, 30 attendees from 14 APEC economies and 3 observer organizations provided survey responses, and the vast majority of the respondents hailed (90%) from government organizations. Participants were invited to respond to a number of prompts on a scale ranging from "Strongly Disagree" to "Strongly Agree" (see Figures below).

Figure 1: Survey Respondents by Affiliation



According to the survey responses, the workshops helped attendees to both understand the barriers to trade in the respective service sectors, and to identify solutions to address those barriers. Respondents universally agreed that facilitating trade in the respective service sectors would be beneficial for their economies. Most

² Attendance figures do not include the speakers and event organizers.

also noted that the workshops provided them with insight into what private firms deem to be market barriers.

89% of MSAP and 100% of ESAP workshop respondents agreed that the workshop was helpful for deepening their understanding of the respective sector and barriers to trade in those services. 94% of MSAP and 96% of ESAP workshop respondents acknowledged that the best practices and recommendations discussed could be effective for their economy and/or organization. 100% of MSAP and 77% of ESAP workshop respondents noted that the presentations provided valuable insights into how relevant trade barriers could be addressed.

Figure 2: The workshop was helpful for deepening my understanding on manufacturing-related/environmental services and barriers in trade of such services.

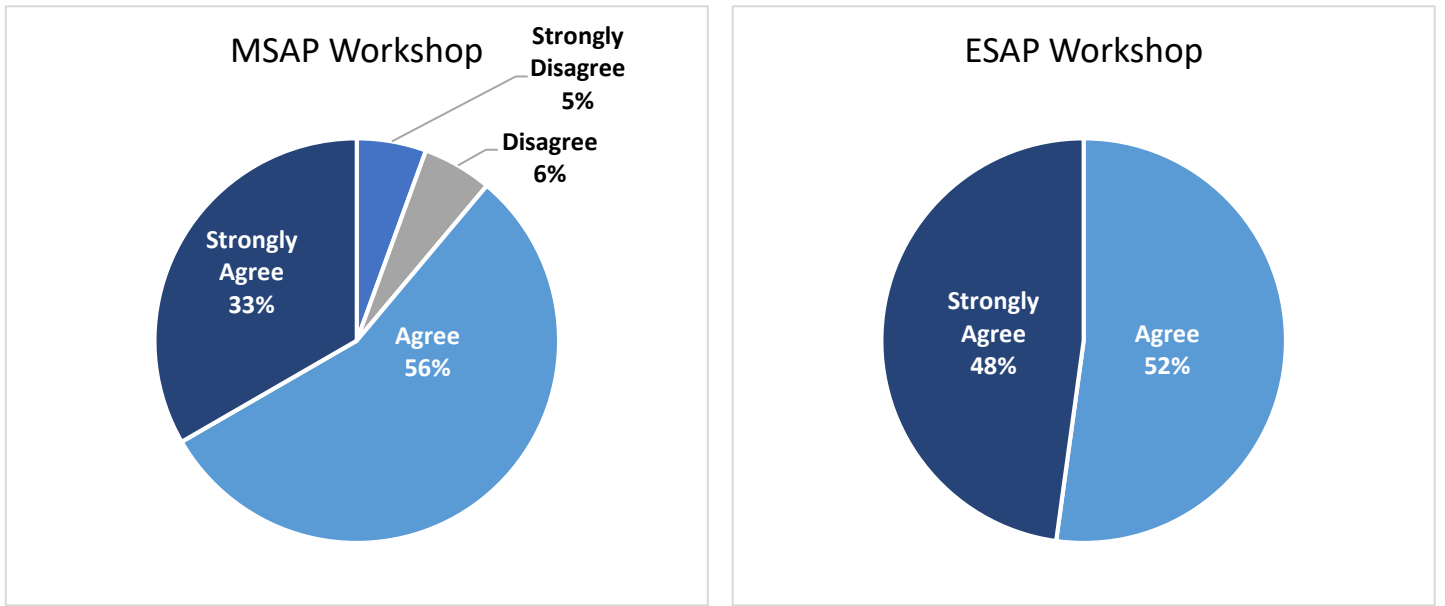


Figure 3: Facilitating trade in manufacturing-related / environmental services will be beneficial for my economy.

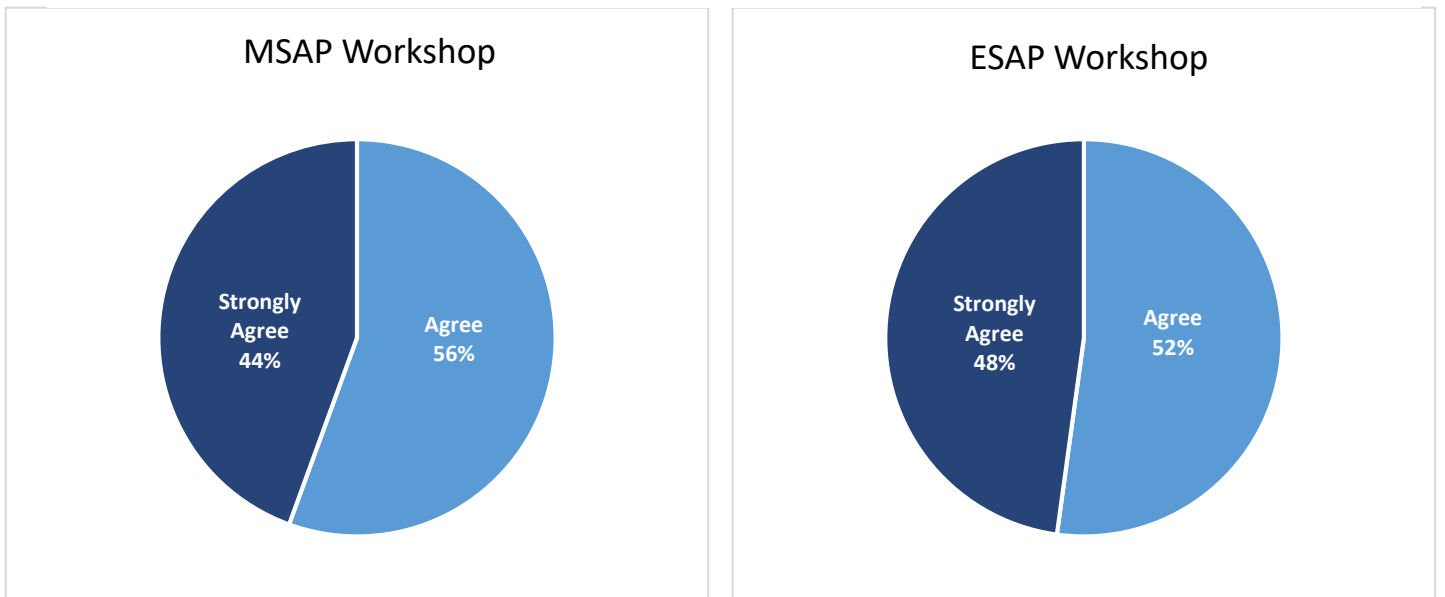


Figure 4: The best practices and recommendations discussed during the workshop could be effective for my economy and/or organization.

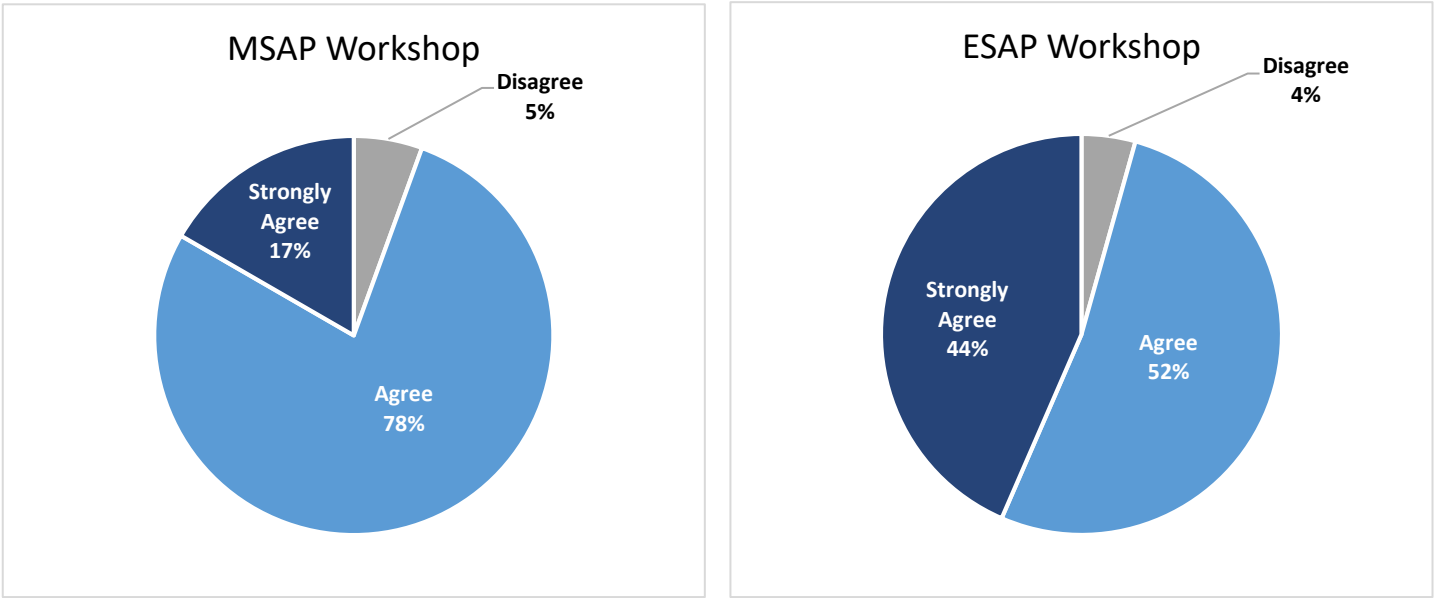


Figure 5: The presentations helped me understand what private providers of services consider to be market barriers.

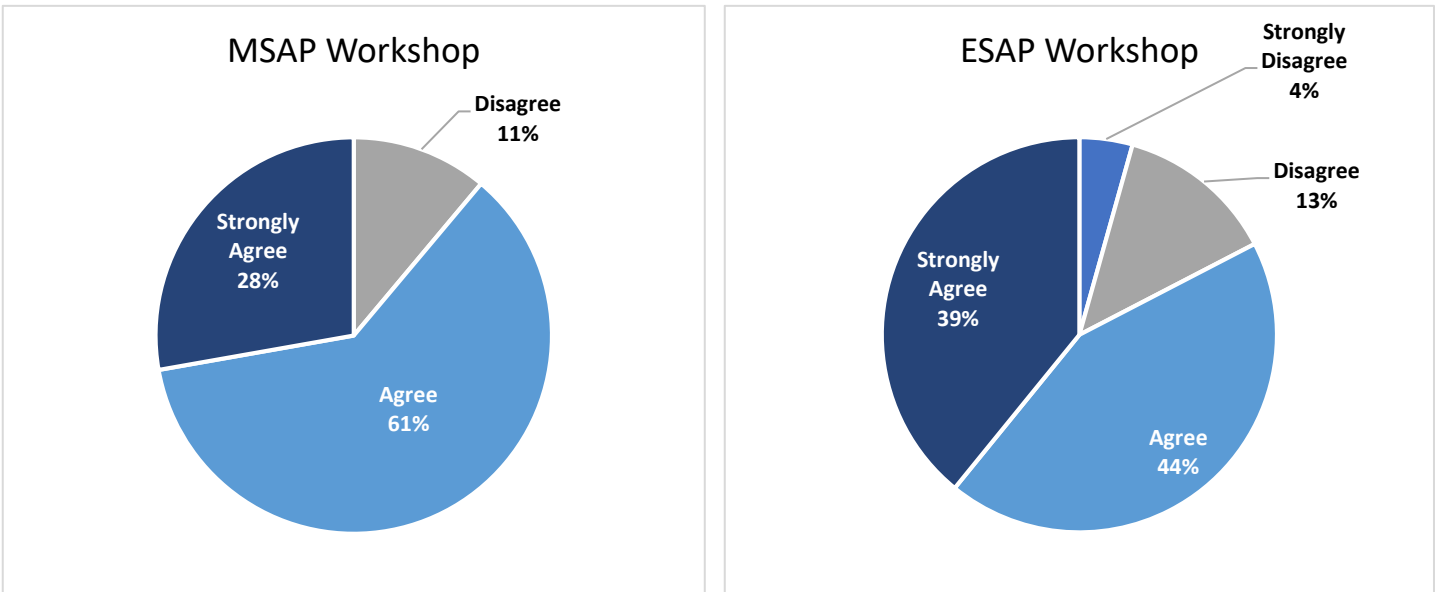
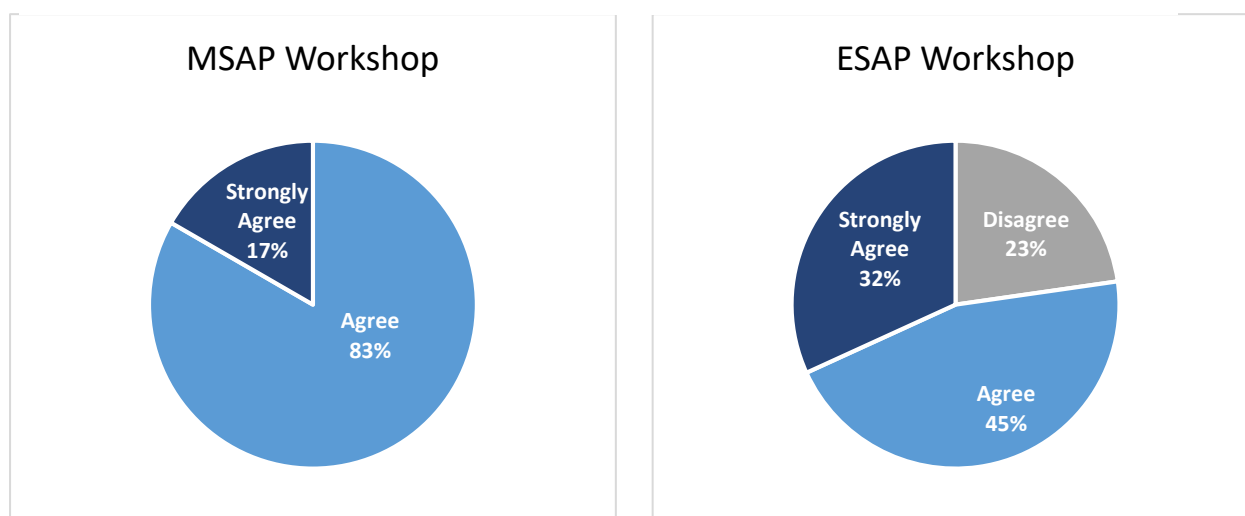


Figure 6: The presentations provided valuable insights on how trade barriers can be addressed.



7.2.2 Additional Feedback

The survey also invited participants to submit free-form answers to a few questions (summarized in Tables 1 & 2 below).

During the MSAP workshop, a number of participants appear to have been particularly interested with the portion of Mr Navarro’s presentation in which he reflected upon how the CPTPP can be used to address challenges to trade in manufacturing-related services. Also, the impact of the pandemic was a recurring workshop theme, and a popular request from respondents was for APEC to organize future discussions on how the MSAP agenda may change due to the evolving economic and geopolitical conditions induced by COVID-19.

Attendees of the ESAP workshop appeared to take most from the discussions regarding how the environmental services sector is defined, and the ongoing negotiations about its liberalization. As with MSAP, stakeholders would like APEC to explore how the pandemic might influence the evolution of the ESAP agenda. In addition, participants are keen for APEC to provide more guidance on best practices and capacity building measures that economies may implement to support the development of the environmental services sector.

Table 1: Open Survey Questions & Responses - MSAP Workshop

Question	Main Topics
What were the most useful insights that you learned from today’s workshop?	<ul style="list-style-type: none"> The importance of services to trade in the manufacturing sector. The critical role of manufacturing-related services in the economic recovery. Provisions of the CPTPP provisions that are aligned with the MSAP agenda. How governments must manage and regulate the services sector in response to economic developments and disruptions.
Are there any additional topics that were not covered in this workshop that you would like to be addressed in future APEC	<ul style="list-style-type: none"> Further discussions regarding services related to manufacturing, as the workshop focused heavily on engineering.

Question	Main Topics
reports and/or events relating to manufacturing-related services?	<ul style="list-style-type: none"> • Servicification of the manufacturing sector and the bundling of services. • Additional coverage of how manufacturing-related services are classified in the CPC.
What further steps should APEC take to address member economy concerns on this subject?	<ul style="list-style-type: none"> • Additional workshops during which economies can share experiences and best practices on developing manufacturing sectors. • Dialogues that focus on changes to manufacturing-related services sectors as a result of the pandemic.

Table 2: Open Survey Questions & Responses - ESAP Workshop

Question	Main Topics
What were the most useful insights that you learned from today's workshop?	<ul style="list-style-type: none"> • The relationship between local government, technology and environmental services. • History, importance, and difficulty of classifying the environmental services sector for trade. • The state-of-play in current environmental services negotiations. • The interplay between domestic regulation and the need to liberalize the environmental services sector.
Are there any additional topics that were not covered in this workshop that you would like to be addressed in future APEC reports and/or events relating to environmental services?	<ul style="list-style-type: none"> • How economies can internally determine the scope of services that can help develop their own environmental services sector through liberalization. • Domestic regulation and transparency barriers to trade in environmental services. • Best regulatory practices from developing [economies] to increase competitiveness in the environmental services sector. • The impact of the COVID-19 pandemic on trade in environmental services.
What further steps should APEC take to address member economy concerns on this subject?	<ul style="list-style-type: none"> • Developing a common understanding of additional services sectors that may fall within the scope of environmental services. • Providing best practice examples of measures to promote environmental and related services.

Annex A: Workshop Agenda

Please find the complete workshop agenda via the link below:

http://mddb.apec.org/Documents/2020/GOS/WKSP3/20_gos_wksp3_001.pdf

Annex B: Speaker Biographies (Manufacturing-related Services)

Please find the speaker biographies at the following link:

http://mddb.apec.org/Documents/2020/GOS/WKSP3/20_gos_wksp3_001a.pdf

Annex C: Speaker Biographies (Environmental services)

Please find the speaker biographies at the following link:

http://mddb.apec.org/Documents/2020/GOS/WKSP3/20_gos_wksp3_001b.pdf

Annex D: Presentation Slides

Please find slides for all of the workshop presentations via the link below.

<http://mddb.apec.org/Pages/search.aspx?setting=ListMeetingGroup&DateRange=2020/08/01%2C2020/08/end&Name=Workshop%20on%20Manufacturing-Related%20Services%20and%20Environmental%20Services%20-%20Contribution%20to%20the%20Final%20Review%20of%20Manufacturing%20Related%20Services%20Action%20Plan%20and%20Environmental%20Services%20Action%20Plan%202020&APECGroup=%22Group%20on%20Services%20%28GOS%29%22>

Annex E: Audience Survey Questions (Manufacturing-related services)

1 Information learned from the workshop

Instructions: Please indicate your level of agreement with the statements listed in the table below by circling the number that applies. Please leave comments if any.

The workshop was helpful for deepening my understanding on manufacturing-related services and trade of such services.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

Facilitating trade in manufacturing-related services will be beneficial for my economy.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The best practices and recommendations discussed during the workshop could be effective for my economy and/or organization.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The presentations helped me understand what private providers of services consider to be market barriers.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The presentations provided valuable insights on how these trade barriers can be addressed.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

2 Findings and suggestions

What were the most useful insights that you learned from today's workshop?

Are there any additional topics that were not covered in this workshop that you would like to be addressed in future APEC reports and/or events relating to manufacturing-related services?

Annex F: Audience Survey Questions (Environmental services)

1 Information learned from the workshop

Instructions: Please indicate your level of agreement with the statements listed in the table below by circling the number that applies. Please leave comments if any.

The workshop was helpful for deepening my understanding on environmental services and trade of such services.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

Please leave comments to facilitate your above response, if any.

Facilitating trade in environmental services will be beneficial for my economy.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The best practices and recommendations discussed during the workshop could be effective for my economy and/or organization.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The presentations helped me understand what private providers of services consider to be market barriers.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The presentations provided valuable insights on how these trade barriers can be addressed.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

2 Findings and suggestions

What were the most useful insights that you learned from today's workshop?

Are there any additional topics that were not covered in this workshop that you would like to be addressed in future APEC reports and/or events relating to environmental services?

What further steps should APEC take to address member economy concerns on this subject?

3 Participant information

Economy: _____

Organization type: (Please select one that applies from below)

Government agency	International organization (APEC, etc.)	Private company or industry organization	Educational / Research institution	Others
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If "Others", please specify.

The following information is optional.

Name/position:

Organization name:

Email:

Gender: Male / Female / Other

Thank you. Your evaluation is important in helping us assess this project, improve project quality and plan next steps. If you have any questions or additional comments, please contact: takan@wcore.com / chimdi@wcore.com

Annex G: Key Acronyms

Acronym	Name
ABAC	APEC Business Advisory Council
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CPC	Central Product Classification
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CTI	Committee on Trade and Investment (APEC)
ESAP	Environmental Services Action Plan
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
FTAAP	Free Trade Area of Asia Pacific
GATS	General Agreement on Trade in Services
GOS	Group on Services (APEC)
GVC	Global Value Chains
METI	Ministry of Economy, Trade and Industry (Japan)
MSAP	Manufacturing-related Services Action Plan
OECD	Organisation for Economic Co-operation and Development
PSU	Policy Support Unit (APEC)
R&D	Research and Development
RTA	Regional Trade Agreement
UN	United Nations
US	United States
WTO	World Trade Organization