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Discussion Paper on APEC Strategy for Green, Sustainable and Innovative MSMEs

Purpose: Information
Submitted by: Thailand, Peru



**Third Senior Officials' Meeting
Ho Chi Minh City, Viet Nam
29-30 August 2017**

Discussion Paper
APEC Strategy for Green, Sustainable and Innovative MSMEs
Discussion Paper
(Submitted by SMEWG)

Background

- 1 At the 23rd APEC SME Ministerial Meeting and the 28th APEC Ministerial Meeting held in Lima, Peru in 2016, APEC Ministers welcomed the initiative to develop an APEC Strategy for Green and Sustainable MSMEs, and encouraged the public-private partnership approach as a means to create an enabling environment where MSMEs can participate in green activities in a cost-effective manner, and to enhance green awareness and necessary skills of MSMEs and other stakeholders, such as government officers, to foster green MSME production processes develop accessible green technologies, and enhance market opportunities for green MSMEs;
- 2 At the 24th APEC Economic Leaders Meeting in Lima, 2016, the Leaders also recognized the potential of greening MSMEs for sustainable development in APEC and encouraged officials to carry out additional work on this topic in 2017.

Opportunities and Challenges

- 3 We recognize the benefits of greening MSMEs. On one hand, it can help reduce carbon emissions, decrease contribution of MSMEs to environmental degradation, improve energy and resource efficiency, as well as enhance food security. Greening MSMEs can also help APEC meet the target of reducing our energy intensity by 45 percent by 2035 and help create low-carbon societies in our region.
- 4 On the other hand, greening MSMEs in the APEC region can help enhance their competitiveness through the use of green production processes, accessible and applicable modern technologies, improving organizational reputation, and thus enhancing MSMEs' marketability and sustainability. Greening MSMEs also strategically provides excellent opportunities for MSMEs including young entrepreneurs and start-ups to participate in e-commerce and or in green procurement practices of large companies.
- 5 We also agree that promotion of competitive green clusters (i.e., industry associations and farmer association, producer cooperatives) would provide another supporting factor to enable MSMEs to engage more in Global Value Chains (GVCs), as well as improve their market access, especially in meeting the emerging international environmental standards through capacity building programs undertaken collectively by these clusters.
- 6 We acknowledge that greening MSMEs could contribute to the growth of green jobs. According to the United Nations Environment Programme (UNEP), de-carbonization would lead to an increase of about 22.9 million green jobs by 2030.
- 7 Innovation is an important driver of growth in the context of the Fourth Industrial Revolution and the emerging digital age, not only via its role in spurring investment in physical and intangible capital (the latter including such things as R&D, software, data and firm-specific

skills), but also through its role in reorienting resources towards more productive and dynamic firms. Given that small- and medium-sized enterprises account for a large share of employment and job creation in APEC member economies, it is critical that they play a full role in economies' innovation systems - if not, the goal of achieving sustainable innovation-led growth is much harder.

- 8 However, we recognize that there are certain challenges that MSMEs in the region must address in order to adopt green and sustainable business practices. These include a lack of awareness on the benefits of the green economy, lack of skills in developing green technologies, limited access to financial resources and lack of regulatory capacity.
- 9 At the same time, the demand for green products is growing among consumers, but is still insufficient to guarantee the success due to lack of good understanding green values and environmental issues, as well as the perception of high purchasing cost.
- 10 In this light, setting a strategy for green, sustainable and innovative MSMEs is a valuable step towards creating an environment for MSMEs to thrive and play their full role in driving innovation.

Related Initiatives in APEC and Alignment with the United Nations' Sustainable Development Goals (SDGs)

- 11 The APEC Growth Strategy was adopted by Leaders in 2010. It indicates that moving toward a more sustainable and green growth model provides both significant challenges and opportunities for APEC member economies and that APEC economies should encourage new green industries and jobs.
- 12 Following the adoption of the Growth Strategy, efforts have been made to promote the green economy and sustainable development, such as promoting low-carbon and energy efficient technologies and improving natural disaster resilience to mitigate climate-related risks in order to facilitate MSMEs engagement in GVCs.
- 13 In 2011, an APEC SME Green Innovation Conference was held in Korea and an APEC Green Initiative was endorsed by member economies, having the SMEWG as the key proponent.
- 14 Other forums and workshops under the APEC SME Working Group (SMEWG) were held during 2012 – 2016 such as an APEC Green Business Forum - Preparing SMEs for International Green Supply Chain hosted by Korea; an APEC Forum and Brainstorming Workshop on Green MSMEs: A Pathway Towards Sustainable Economic Growth in the Region hosted by Thailand; and, a Workshop on Green and Sustainable MSMEs held by Peru, among others.
- 15 Moreover, an APEC Cooperation Network on Green Supply Chain (GSCNET) proposed by China was established in 2014 under the Committee of Trade and Investment (CTI) to facilitate greater cooperation in the areas such as green supply chain, green production and consumption, and green trade.

- 16 The greening of MSMEs is relevant to the SDG no. 9, which targets the building of resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation; as well as SDG no. 12 which targets sustainable consumption and production patterns.

The 2017 APEC Strategy for Green, Sustainable and Innovative MSMEs

- 17 The APEC Strategy for Green Sustainable, and Innovative MSMEs will serve as guidance for APEC policymakers to create an enabling environment for MSMEs to engage in activities, such as the adoption of green technologies, the use of eco-friendly packaging materials and design, the compliance with international environmental standards and socially responsible investment, which would lead to the sustainable and inclusive Asia-Pacific. The Strategy will also outline future plans for activities on promoting green and sustainable MSMEs by different APEC fora.
- 18 We encourage APEC member economies to take the following prioritized actions into consideration.

a) Raising green awareness for enhancing competitiveness among stakeholders

We are aware that most of the smaller enterprises tend to focus mainly on economic benefits, while ignoring social and environmental impacts. We recommend member economies to promote green awareness among stakeholders by:

- Providing appropriate information and guidance on the benefits and ways of going green to MSMEs;
- Encouraging larger companies and successful green companies to share best practices on adopting a green business model to MSMEs to increase their opportunities in engaging in international markets where green standards are widely accepted; and,
- Educating the younger generation on the green economy, environmental awareness and sustainable development to enhance their understanding and demand for green products and services.

b) Providing training and skills development for MSMEs and government officials

We recognize that most MSMEs lack the capacity for adopting green economy practices. In addition, for the majority there exists insufficient skills to adopt green and innovative technologies coupled with low levels of digital literacy. At the same time, governments play an important role in enhancing MSMEs' capacity to better access to innovation and technologies and compete internationally and engaging in GVCs, as well governments play a role in bridging the digital divide by offering necessary training programs and courses, as well as assisting green MSMEs to establish online and offline marketing strategies to effectively communicate the unique attributes of their eco-friendly products and services to potential consumers.

We also recognize that a number of MSMEs are suppliers to large enterprises, possibly through green procurement programs. We thus welcome the engagement of larger companies in offering mentoring schemes to support the greening of MSMEs. Moreover, we encourage such companies and universities to arrange Train-the-Trainer programs for relevant government officials to improve their knowledge and capacity to nurture future green MSMEs.

c) *Promoting the compliance with related international standards and the development of an integrated policy framework, at the regional and domestic levels*

We support APEC member economies in launching policy instruments for creating an enabling environment for MSMEs to engage in green activities. These instruments can include the establishment of green standards and certifications, eco-labeling schemes as well as the effective implementation of environmental laws. We also encourage APEC member economies to ensure the successful implementation of related international standards among MSMEs including ISO 14001. Moreover, we support policies and regulatory frameworks that facilitate the export of green products by MSMEs and to help green MSMEs invest abroad.

Partnerships among multi-stakeholders, including different concerned agencies, the private sector and academia, should also be strengthened to push forward green business policies.

d) *Financing and providing economic incentives; and promoting science, technology and innovation (STI)*

We encourage APEC member economies to create economic incentives to facilitate MSMEs' shift towards the green economy by providing tax deductions and establishing soft loan schemes to allow MSMEs access to green equipment, facilities and technologies.

We welcome research institutes as the sources of green technologies. We encourage universities and research institutes in the APEC region to conduct joint research to promote green innovation that is applicable to MSMEs.

We recognize the importance of e-commerce platforms as the pathway to increase the sales of green products and services, as well as to allow green products to be more accessible to the purchasing population. We also welcome APEC members' support for MSMEs' innovation with the focus on development and commercialization of highly applicable products and capacity building programs that support MSMEs' innovation in term of products, procedure, marketing and management, etc.

We urge APEC members to foster incentives for innovation awards, initiatives and creative and green industries; share best practices on appropriate technology adoption among MSMEs to support higher production; coordinate the policies, regulatory practices that can maximize the potential of MSMEs to contribute to innovation and green growth; and strengthen public – private partnership to support MSMEs' innovation.

We encourage the formation of proper mechanisms for technology diffusion and facilitation in APEC in order to foster the transition to green technologies for MSMEs"

e) *Promoting green supply chain development and establishing the networks for green, sustainable and innovative MSMEs*

We support green government procurement and green procurement policies by large companies to encourage MSME suppliers to provide environmentally sustainable goods

and services. We also encourage partnerships among green, sustainable and innovative MSMEs. We support the establishment of green sustainable and innovative MSMEs' networks and encourage the use of e-commerce as a means to expand the green supply chain.

We encourage APEC member economies to build global and regional networks of MSMEs innovators and accelerators, (e.g. internship consortium, APEC SME Service Alliance [ASSA], innovation centers, supply chain institutes, women and youth networks) as part of an ecosystem which supports enterprise creation, increases the innovative capabilities of MSMEs and joint collaboration among MSMEs, large enterprises and academia.

We encourage discussions and partnerships between green and non-green MSMEs and further support the efforts to turn non-green MSMEs to green MSMEs as well.

19 The above-mentioned prioritized actions for greening MSMEs should be based on the Public-Private Partnership (PPP) approach.

20 Five sectors can be considered, at an initial stage, by the Strategy to be prioritized, namely

- Bio-commerce
- Infrastructure
- Tourism
- Food industries
- Textile

We encourage member economies to volunteer as the champion economies to take lead in promoting green and sustainable MSMEs in the suggested pilot sectors; for example, by initiating the projects or organizing relevant activities,

21 Also, in developing the Strategy, member economies must come to an understanding on the parameters that can help define or identify what a green and sustainable MSME is, taking into account the existing green growth indicators developed by other organizations including OECD and UNEP

Implementation

22 As a cross-cutting issue, cross-fora collaboration will be required. Aside from the APEC SMEWG, efforts to promote green and sustainable MSMEs should be expanded to other APEC fora including the Committee on Trade and Investment (CTI) on encouraging MSMEs' participation in green value chains; the Economic Committee on structural reform towards a green economy; the Human Resources Development Working Group (HRDWG) on education, skills development and training on green economy values; the Energy Group, Urbanization Group, Transportation Group, PPSTI, PPFS, Tourism Group among others; as well as the APEC Business Advisory Council (ABAC) on strengthening PPP in greening MSMEs.

23 As a first step, the SMEWG and the APEC Secretariat can undertake a stock-take and review of related APEC projects and literature, with a view to consolidate all previous and on-going efforts and initiatives that APEC has embarked on as far as green MSMEs or green growth is concerned. Engagement and close collaboration with relevant organizations and experts including OECD, UNIDO and UNEP, will be advisable.

24 An Action Plan to promote green and sustainable MSMEs, to be implemented during 2018-2022, must be developed once the Strategy has been endorsed. APEC member economies may consider taking a mid-term review of the Action Plan in 2020 to monitor the progress and to ensure effective implementation of the Strategy.

Proposed timeline

SMEWG 1/2017: Economies to discuss the paper in Sydney and identify the process of drafting the Strategy

March – April 2017: The paper to be circulated to other related groups/fora for comments inter-sessionally

SOM2/2017: Presentation of the first draft of the Strategy. Intersessional discussion.

June – July 2017: The 1st draft of the Strategy to be circulated to other related groups/fora for comments inter-sessionally

SOM3/2017: Senior Officials to be updated on the draft Strategy

SMEWG 2/2017: Economies to finalize the Strategy for endorsement Ministers' endorsement.

SMEMM 2017: Ministers to endorse the Strategy.

Work undertaken by APEC as regards to green growth and sustainable development

Area	Work Undertaken (Initiative/Project) since 2010	Objectives/goals	Sub-fora, Committee, Working Group	Timeline
Green Growth and sustainable development	<p>2012 Leaders' Commitment to Reduce Applied Tariff Rates on the 54 products in the APEC List of Environmental Goods (the EGs List) to five per cent or less by 2015</p> <ol style="list-style-type: none"> 1. Detailed Implementation Plan by each economies was published on the APEC Website in January 2016, which serve to enhance transparency for businesses including SMEs and other stakeholders on tariff reductions under the EGs List. 2. CTI continues to monitor the progress of implementing this commitment, with a view to realize its full implementation 		CTI/MAG	2012-
	<p>APEC Cooperation Network on Green Supply Chain (GSCNET)</p> <p>Progress Achieved [2016]</p> <ol style="list-style-type: none"> 1) the website on GSC has been launched; 2) Expert Group has been set up; 3) more pilot centers on Green Supply Chain was built in Korea, Australia and Chile; 4) 1st Annual Conference was held. <p>Plans [2017]</p> <ol style="list-style-type: none"> a) Organize the working group meetings of the Expert Group 	<p>In 2014, APEC Economic Leaders' Meeting agreed to establish the APEC Cooperation Network on Green Supply Chain (GSCNET), and endorsed the establishment of the first pilot center of APEC Cooperation Network on Green Supply Chain in Tianjin, China, and encouraged other economies to establish</p>	CTI	2014-

	<p>of APEC GSCNET to discuss issues related to its operation and management;</p> <p>b) boost exchanges and cooperation in such areas as green supply chain, green production and consumption, and green trade, provide technical support to the APEC member economies in green supply chain management, as well as continue to welcome nomination from APEC member economies to join the Expert Group;</p> <p>c) Organize Annual Conference and capacity building workshop for 2017 on the APEC Green Supply Chain Network to be held in July - to share the progress on GSCNET, publish the research outcome, disseminate the best practices, and provide a platform with the pilot centers to share information</p> <p>d) Encourage APEC member economies to establish pilot centers and explore the innovative cooperation, introduce the experience of APEC GSCNET Pilot Centers in Tianjin, Australia and Republic of Korea, and promote information exchange.</p> <p>e) to link the website on green supply chain with the APEC official website (done)</p> <p>Environmental Services Action Plan (ESAP)</p> <p>(2016) Implementation of the initial part of Phase I - a survey conducted and finalized by the PSU on Regulatory Measures in Environmental Services, in which various regulatory aspects of environmental services in APEC economies classified under CPC 94 (Sewerage/ sewage treatment and septic tank cleaning services, Waste collection services, Waste treatment and disposal services, Sanitation and similar services, Remediation services, and Other environmental protection services) were analyzed, including institutional framework of regulations (central government/sub-central government), content and tendency</p>	<p>pilot centers and advance related work actively</p> <p>Endorsed by Ministers in 2015. ESAP envisages a number of actions in 2016-2020, including a survey of regulatory and/or policy measures on services under CPC94 in APEC economies; studies to build and enhance a common understanding of the roles of a wider range of services in environmental industries/businesses</p>	<p>CTI/GOS</p>	<p>2015-</p>
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	<p>of regulatory measures and liberalization of environmental services were highlighted.</p> <p>(2017) Second part of Phase I conducted in the margins of SOM2 2017 in Ha Noi - policy dialogue was held to build and enhance common understanding of the role of a wider range of environmental services, water related business, refuse disposal and recycling related business, renewable energy related business, energy efficiency related business, and environmental pollution control business</p> <p>(near future) ESAP further envisages identifying key challenges and compiling recommended actions to address those challenges and sharing good practices as a means to promote liberalization, facilitation and cooperation in this area in the succeeding years</p> <p>Sustainability in Building Construction (Commercial Building) - Efficiency and Conservation</p>	<p>(such as water business, recycling business, waste management, energy efficiency and renewable energy business); identifying key challenges and compiling recommended actions to address those challenges; and sharing good practices as a means to promote liberalization, facilitation and cooperation in this area.</p> <p>Project focused on the use of specific standards and codes for supporting sustainability and renewable technologies in green commercial buildings. It supported several energy conservation and efficiency initiatives/objectives within APEC.</p> <p>A project designed to</p>	<p>SCSC</p> <p>GOS</p>	<p>2010-2011</p> <p>On-going</p>
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	<p>APEC Environmental Goods and Services (EGSIE) - http://egs.apec.org (2010)</p>	<p>develop and implement concrete actions to promote APEC Environmental Goods and Services (EGS) Work Programme by exchanging the information on both liberalization and technology aspects on environmental services (ES) within APEC economies. Through implementing the project, 1) the APEC members will have chance to further discuss the classification of environmental services proposed by the Environmental Services Survey Report (CTI/31/2008T) and other related issues; 2) to learn the both the negotiations and research trends of trade liberalization in ES; 3) to share information on demand and supply in ES and ES-related technology.. In the long run, this project could be regarded as a positive response to promoting sustainable growth and handling the challenges</p>		
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Green Initiative

Ministers in 2010.
Is the Second Cycle of the Daegu Initiative. The purpose is to examine the state of sustainable SME growth policies and share information on 4 green related policy areas:
a) Overview of definitions and national policy frameworks
b) Financial and no financial support for green technology innovation and green management.
c) Fostering an eco-friendly economic environment
d) Creating green partnership

SMEWG

2011

Green Initiative Study and Workshop:
(SME 05 2011A, Thailand)

This project aimed to implement the first component of the Green Initiative through a two-step process: an in-depth study into the Green Initiative and a workshop to disseminate the findings of the study.

SMEWG

2010-2011

APEC SME Green Innovation Conference
(SME 09 2010A, Korea)

The conference served as a venue for sharing relevant information and

	<p>Green Initiative Workshop II (SME 08 2011A, Brunei)</p>	<p>experiences to support green SMEs.</p> <p>The objective was to further develop the Green initiative as a follow-up to the First Green Initiative Workshop</p>	<p>SMEWG</p>	<p>2011-2012</p>
	<p>Greening Micro, Small and Medium Enterprises (MSMEs): A Pathway Towards Sustainable Economic Growth in the APEC Region (SME 02 2016S, Thailand)</p>	<p>Objectives: To raise awareness of MSMEs and government officials on the green economy including the benefits of green technologies, investments and standards; to disseminate best practices on the green economy in APEC; and; and to explore possible means for APEC members to collaborate on creating a conducive environment for MSMEs to adopt green practices.</p>	<p>SMEWG</p>	<p>2016</p>
	<p>Green and Sustainable MSMEs in the APEC Region (SME 07 2016S, Peru)</p>	<p>Objective: Share best practices and public policies developed that can enable the potential of Green and Sustainable MSMEs as well as successful cases that will</p>	<p>SMEWG</p>	<p>2016</p>

	<p>APEC-CANADA GROWING BUSINESS PARTNERSHIP (SME 09 2016S)</p>	<p>highlight the prospects and the existing potential for developing Green and Sustainable MSMEs, including the experience in other multilateral fora such as UNIDO and OECD.</p> <p>The project is intended to work in tandem with the SME Sub-Fund which has already been approved and is currently being administered by the APEC Secretariat to support small-scale projects that build the capacity of regional developing economy MSMEs. Both initiatives will closely collaborate to achieve their common goals.</p> <p>Crosscutting themes of both components include addressing gender equality, youth inclusion, and environmental sustainability, with particular attention given to: 1) Strengthening human capital,</p>	<p>SMEWG</p>	<p>2017-2020</p>
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		<p>2) Reducing barriers to market access, 3) Encouraging the use of technology and innovation, and 4) Investing in social entrepreneurship.</p>		
<p>Reduce carbon emissions, decrease environmental degradation, improve energy and resource efficiency</p>	<p>Sustainable Materials Management (SMM) (topic for 2016 ARCAM Dialogue)</p> <p>(2016) The 4th ARCAM Dialogue on Facilitating Trade and Investment in Sustainable Materials Management Solutions was held on 17 August in Lima, Peru in the margins of SOM3, attended by regulators, industry representatives, and other key stakeholders. The dialogue included issues such as the updates of the survey results, where gaps and divergences in APEC member economies' definitions of key SMM terms were observed including in waste and renewable energy, and that there is an opportunity to coordinate among member economies to better align those definitions to promote trade and investment in SMM solutions and services which in addition to spurring economic growth will also help to reduce marine litter among other tourism, environmental, and health benefits. In addition, discussions touched upon regulatory aspects including the importance of transparency of regulations, coordination among authorities, partnership with private sectors in promoting trade and investment in SMM solutions and technologies.</p> <p>(2017) At CTI2, 2017, the United States tabled a draft report on "Facilitating Trade and Investment in Sustainable Materials Management Solutions in the APEC". The draft report is under consideration by CTI members, which will be further discussed at CTI3 2017.</p>	<p>SMM is chosen as a topic for "Promoting APEC Regulatory Cooperation Advancement Mechanism on Trade Related Standards and Technical Regulations (ARCAM)" in 2016 at CTI.</p> <p>SMM is a systemic approach to using and reusing materials more productively over their entire lifecycles, from the point of resource extraction through material recycling or final disposal, to reduce environmental impacts, conserve resources, and reduce costs.</p>	<p>CTI</p>	<p>2016-</p>

	<p>Most of the 158 APEC EWG projects undertaken since 2010 to support reliable, affordable and environmentally sustainable energy in the APEC region benefit MSMEs as significant energy consumers.</p> <p>Below are a few particularly relevant projects</p> <p>Energy Smart Communities Initiative (multiple APEC Projects and non-project activities 2011-2017)</p> <ul style="list-style-type: none"> • 2015 Energy Smart Community Initiative (ESCI) Best Practices Awards Program (EWG 03 2015S - Chinese Taipei; United States) • 2017 Energy Smart Communities Initiative (ESCI) Best Practices Awards Program (EWG 04 2016S - Chinese Taipei; United States) <p>Various projects boosting Energy Efficiency of Electrical Appliances – which lowers energy costs to MSMEs</p> <ul style="list-style-type: none"> • Survey of Market Compliance Mechanisms for Energy Efficiency Programs (EWG 07 2010A) • Engagement by APEC Economies in International Smart Appliance Standards for Air Conditioners and 	<p>All projects are in line with EWG's goal (from its Mission Statement) to: build the capacity of APEC members to strengthen domestic and regional energy security and lower the carbon intensity of energy supply and use across the region</p> <p>The energy smart innovations of various SMEs, and programs benefitting SMEs from around the APEC region have been recognized over the years through the APEC ESCI Knowledge Sharing Platform and the APEC ESCI Awards.</p> <p>Lower energy costs to businesses and consumers through improved energy efficiency in electrical appliances (including office equipment)</p>	<p>EWG</p> <p>EWG</p> <p>EWG (EGEEC – Energy Efficiency Experts, also with SCSC in the case of some projects)</p>	<p>2010-2017</p> <p>Multiple APEC Projects and non-project activities 2010-2017</p> <p>Multiple APEC Projects 2010-2017</p>
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	<p>Other Appliances (EWG 01 2011T - Australia)</p> <ul style="list-style-type: none"> • Catalysing Monitoring, Verification and Enforcement Best Practices Exchange and Building Compliance Capacity in the APEC Region (EWG 12 2013A - Australia) • Technical Reference on Harmonisation of Energy Efficiency Test Methods of Refrigerators Toward the New IEG 62552 among APEC Region (EWG 04 2014A - China) • APEC-ASEAN Harmonisation of Energy Efficiency Standards for Air Conditioners (Phase 1) (EWG 12 2012A - Japan) <p>Heating Applications of Bio-Pellet made from Ecological-Hazard Plant in Small and Medium Enterprises to Enhance Utilization of Renewable Energy in the APEC Region (EWG 18 2016A, Chinese Taipei)</p>	<p>To encourage small-and-medium enterprises to utilize renewable energy, the objectives of this project is to assess and demonstrate the utilization of bio-pellets, made from a common invasive species of tree, in existing boilers for green energy applications. The economic feasibility study of utilizing these bio-pellets instead of fossil fuel for boiler application, introduced to provide the economic benefits to the</p>	<p>EWG (EGNRET – Renewable Energy Experts)</p>	<p>2016-2017</p>
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	<p>Workshop on Improving Energy Resiliency in Off-Grid Areas in APEC Member Economies (EWG 09 2015A, Philippines)</p>	<p>small-and-medium enterprises is also evaluated.</p> <p>This project developed the “APEC Guidelines to Improve the Climate Change Resiliency of Energy Facilities in Off-Grid Areas”, providing policy makers with an important tool to strengthen energy resiliency by providing alternative off-grid solutions. Many of the energy consumers in these remote off-grid areas are MSMEs with business continuity usually requiring a reliable energy supply.</p>	<p>EWG (Energy Resiliency Taskforce)</p>	<p>2015-2017</p>
	<p>APEC Conference on Facilitating the Solar Supply Chain (EWG 23 2013A, Vietnam)</p>	<p>This project explored opportunities, challenges and potential cooperation opportunities among APEC member economies in facilitating the solar supply chain and came up with recommendations. The solar supply chain</p>	<p>EWG (EGNRET – Renewable Energy Experts)</p>	<p>2013-2014</p>

	<p>Capacity Building for Installers and System Designers for Solar PV Rooftop Installations (EWG 22 2013A – USA)</p>	<p>includes a large number of MSMEs whose interests actively considered through the project.</p> <p>This project built the competency of rooftop solar PV installers and system designers, many of which are MSMEs, through producing training and certification materials and programs. The comprehensive training materials produced, drew from best practices around APEC, and were transferred to competent training institutions in APEC economies. Those materials are being used by training institutions (SMEs) in developing APEC economies.</p>	<p>EWG (EGNRET – Renewable Energy Experts)</p>	<p>2013-2015</p>
<p>Enhance competitiveness through the use of green processes. Green procurement, green standards and</p>	<p>APEC Cooperation Network on Green Supply Chain (GSCNET) (The activities of GSC-NET covers activities under this column)</p> <p>Multilateral Recognition Arrangement (MLA) Readiness Project in Greenhouse Gas Validation and Verification (GHG)</p>	<p>This project aimed to contribute to the</p>	<p>CTI</p> <p>SCSC</p>	<p>2011-2012</p>

<p>certifications, eco-labeling schemes as well as the effective implementation of environmental laws.</p>	<p>(CTI 38 2011T, Japan)</p> <p>Aligning Energy Efficiency Regulations for ICT Products – Developing A Strategic Approach (CTI 15 2011T, United States)</p> <p>The Role of Standards and Conformity Assessment Measures in Enhancing the Performance and Energy Efficiency of the Commercial Building Sector (M CTI 02 2012A, United States)</p>	<p>enhancement of capability of GHG accreditation and Validation/Verification bodies of APEC economies.</p> <p>Promoting greater data sharing among APEC economies on energy performance of global ICT products to ensure greater consistency in methods for developing standards and regulatory limits; and examining the leveraging of existing international agreements on certification/testing to meet energy efficiency conformity assessment requirements.</p> <p>This project focused on four aspects of green building standardization: 1) building codes and use of green codes to achieve resource savings; 2) building information modelling to facilitate green building practices; 3) best practices in the testing and rating of products in the building</p>	<p>SCSC</p> <p>SCSC</p>	<p>2012-2013</p> <p>2012-2015</p>
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	<p>Workshop on Environmental Services in the 21st Century - Challenges and Opportunities (CTI 16 2013A, Malaysia)</p>	<p>envelope; and 4) mapping of building product testing requirements to identify and remove obstacles to trade.</p> <p>Objective: Highlight the relevance of environmental services regionally and how the 21st century has shaped the architecture and breadth/characterisation of the industry; Share experience and information on environmental services regime among economies on development of environmental services policies, coordination and implementation of strategies for current and future of the sector; discuss and understand the challenges and opportunities in developing, promoting and liberalising the environmental services sector, particularly in developing economies.</p>	<p>GOS</p> <p>GOS/CTI</p>	<p>2015</p> <p>On-going</p>
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	<p>Environmental Services Action Plan (ESAP)</p> <p>APEC Green Business Forum - Preparing SMEs for International</p>	<p>In 2015, Japan has proposed several key actions to be implemented in 2016-2020 to realize the vision. ESAP takes the following two-track approach: First, a survey will be undertaken to provide APEC economies with necessary information to gain greater insights about efficient regulatory and trade promotion policies in environmental services. Second, APEC economies will continue to consider and study broader environmental industries/businesses with a view to build and enhance a common understanding of the roles of services in these industries/businesses. This study is expected to contribute towards both the discussions on the scope of environmental services and identifying challenges relating to environmental businesses.</p>	<p>SMEWG</p>	<p>2013</p>
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	<p>Green Supply Chain SME 08 2013A 2013</p> <p>APEC Carbon-Labeling Workshop (SME 07 2012A, Korea)</p>	<p>Objective: to prepare SMEs for the international green supply chain by focusing on two issues: a.an enabling environment. b. capacity building.</p> <p>Workshop objectives: a. Enhance understanding of benefits and challenges of the carbon labeling scheme. b. Share experience and best practices on the carbon labeling scheme c. Build interest for further action including making collective action to reduce trade barrier for SMEs in APEC region.</p>	SMEWG	2012
<p>Adoption/ financing of green business models to engage more in the Global Value Chains (GVCs)</p>	<p>APEC SME Finance Forum (SME 03 2015, Philippines)</p>	<p>The objective of this project is to connect SMEs, SMEWG delegates and SME Ministers with the Asia-Pacific Financial Forum (APFF) members (financial institutions and finance experts) that have developed an entire platform of financial services for small and medium-sized firms.</p>	SMEWG	2015

<p>Promotion of benefits of the green economy and sustainable development, green values and environmental issues</p>	<p>Systematic Design of Green Skills Development in Technical and Vocational Education and Training (TVET) (HRD 01 2014A, China)</p>	<p>Objective: To put forward the list of typical TVET new green skills specialties offering on the basis of green occupations or jobs' analysis. 2) To put forward general contents of "green skills" as essential part of teaching and learning objectives of TVET specialties. 3) To establish international cooperation and exchange network of green skills development among APEC economics.</p>	<p>HRDWG</p>	<p>2014-2015</p>
<p>Adoption of green technologies, use of eco-friendly packaging materials and design, compliance with international environmental standards and socially responsible investment</p>	<p>APEC Cooperation Network on Green Supply Chain (GSCNET) (The activities of GSC-NET covers activities under this column)</p> <p>Facilitating Trade In Information and Communication Technologies (ICT) Products through Encouragement of E-Labeling Best Practices (CTI 16 2016A, United States)</p> <p>Green Technology Initiative - Establishing Green Technology Innovation Network to Support SME Development (SME 04 2012A, Indonesia)</p>	<p>This project covers electronic labeling (e-labeling) best practices specifically for consumer ICT products and involve a workshop.</p> <p>The objective was: 1) to create green technology innovation network to support SMEs around APEC member</p>	<p>CTI</p> <p>SCSC</p> <p>SMEWG</p>	<p>2016-2017</p> <p>2012</p>

	<p>International Workshop and Training the Role of Business Incubators in Developing Green Technology-Based SMEs (SME 04 2011A, Indonesia)</p>	<p>economies to further enhance their competitiveness, 2) to develop technology network between green technology-based SMES and the technology innovation providers, and 3) to share best practices on the promotion and development of green technology-based SMES in APEC member economies.</p> <p>Objectives: developing recommendation for business incubator management in nurturing the development of newly green technology-based firms, strengthening the network and capacity of technology business incubator managers in the Asia Pacific region in order to provide better services to newly technology-based SMEs (its tenants), and offering opportunities for newly green technology-based SMEs (incubators' tenant) to find a new market and establish business partnership in</p>	<p>SMEWG</p>	<p>2011</p>
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	<p>Seminar on Developing Business Value Proposition through Innovation for Young Entrepreneurs (SME 07 2011A, Malaysia)</p> <p>APEC Workshop on Renewable Energy Potentials for SMEs (SME 05 2016A ,Viet Nam)</p>	<p>the region.</p> <p>Offered the opportunity to bring together young entrepreneurs including new SMEs and women from the Asia Pacific region to share expertise, best practices and explore business opportunities in common key areas namely ICT, green and emerging technology.</p> <p>The workshop to be held in the 4th quarter of 2017 seeks for finding opportunities as well as tackling challenges regarding renewable energy potentials for SMEs. Among others, the discussions may focus on renewable energy technologies and its attached policies and regulations that are applicable for or have impacts on SMEs.</p>	<p>SMEWG</p> <p>SMEWG</p>	<p>2011-2012</p> <p>2016-2017</p>
<p>Education the younger generation on the green economy,</p>	<p>Textbook Development for Energy Efficiency, Energy Security and Energy Resiliency: A Cross-border Education Cooperation through Lesson Study (HRD 03 2015A , Japan and Thailand)</p>	<p>The three-year projects aim to produce the innovative textbooks in mathematics and science</p>	<p>HRDWG</p>	<p>2015-2016</p>

<p>environmental awareness and sustainable development to enhance their understanding and demand for green products and services.</p>	<p>Youth Sustainable Water Resources Education and Hub Development in APEC Region (HRD 08 2015S, Chinese Taipei)</p>	<p>on the topic of Energy Efficiency (2016), Energy Security (2017) and Energy Resiliency (2018).</p> <p>Objective: To build best practices of water-responsible entrepreneurship for youth agriculturalists in the APEC region. Management of unpredictable water related risks is becoming more critical due to population growth, depletion of water resources and the phenomenon of climate change.</p>	<p>HRDWG</p>	<p>2015</p>
<p>Digital literacy. Training programs to establish online and offline marketing strategies to effectively communicate the attributes of eco-friendly products and services to potential consumers.</p>	<p>Simple Human Resources to Symbiotic Green Makers - An Education Platform for STI to SMEs (PPSTI 02 2016S, TBC)</p>	<p>HRD-based competition frame of social innovation through bio-energy technology application. Young entrepreneurial teams across APEC Economies will be motivated onto an O2O platform to tackle sustainability problems in their own community. Through a well-designed process of participatory learning by real-site training and virtual-site resourcing, co-created</p>	<p>PPSTI</p>	<p>2016-2017</p>

		values will be coded online and reported. The competition rules orient in promoting disadvantaged and female group targeting inclusive economy. Innovative MSME business models will be required in formative and summative reports. This facilitates massive information exchange and uncovers business opportunities across APEC economies.		
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