

出國報告（出國類別：出席國際會議）

出席 2019 年亞太經濟合作(APEC)
第 14 次科技創新政策夥伴會議
(PPSTI)出國報告

服務機關：經濟部技術處、科技部科教發展及國際合作司

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派赴國家：智利

出國期間：108 年 8 月 22 日至 8 月 31 日

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壹、會議緣起

APEC 工作之推動主要是在不同的工作小組中，以提出計畫來解決現在 APEC 經濟體間優先關切之各項議題，領域範圍涉及各個層面，但無論是農業、糧食安全、健康、能源，抑或是環境等議題，都會涉及科技研究合作層面。因此，2012 年 APEC 提出將「工業科技工作小組(ISTWG)」轉型改組為「科技創新政策夥伴工作小組(PPSTI - POLICY PARTNERSHIP ON SCIENCE, TECHNOLOGY AND INNOVATION)，由過去重於工業科技分享交流之核心方向，轉為更強調政策工具能在推動科技創新中發揮的效益，並突顯建構科技政策平台的重要性，使各經濟體能夠特別在科技創新方面之「能力建構、創新環境及連結」等方面，進行交流、分享及合作。

參與 APEC PPSTI 的各會員體會針對特定議題進行計畫提案，舉辦各種會議，進行科學技術培訓、最佳範例 (BEST PRACTICE) 之經驗分享，或是整合各會員體科研發展經驗歸納出重要原則方針 (GUIDELINE)，以協助政策落實與應用。各經濟體所派出參與 APEC PPSTI 會議的代表除科技部會官員外，尚有主要科研機構的科技政策及推動實際技術研發提案的專家學者與研究人員，這使得 PPSTI 會議不光僅限於科技政策研擬層級之討論上，也能提升到科技政策落實作法，以及更進一步的科技創新能力分享上。

PPSTI 是 APEC 「經濟暨技術合作指導委員會(SCE)」下屬的工作小組之一，以強化科研能量、提供鼓勵創新科學環境並強化區域科技連結性為三大主要項目，期於 2023 年促成亞太地區達成創新成長之目標。PPSTI 下設一名主席、兩名副主席和 ABAC 首席顧問組成，每年配合各主辦會員體召開 2 次例行會議，討論 APEC 科技與創新領域合作議題。

貳、會議辦理情形

APEC PPSTI 第 14 次會議業於本(108)年 8 月 25 至 27 日於智利(Chile)巴拉斯港(Puerto Varas)舉行，議程如附件 1。PPSTI 第 14 次會議，共計有 15 個會員體(澳大利亞、加拿大、智利、中國大陸、日本、韓國、馬來西亞、紐西

蘭、秘魯、菲律賓、俄羅斯、中華台北、泰國、美國及越南)出席。

本年度 APEC PPSTI 會議主軸「聯結人群，建構未來(Connecting people, building the future)」，及以「數位社會(Digital Society)」、「整合 4.0(Integration 4.0)」、「婦女、中小企業及包容性成長(Women, SMEs, and Inclusive Growth)」及「永續成長(Sustainable Growth)」等四大項目作為年度優先工作重點領域。

本次會議主席為秘魯 Leon-Velarde Servetto 博士、副主席為中國大陸科技部副司長陳霖豪先生及智利 Nicole Ehrenfeld 博士、APEC 秘書處 PPSTI Program Director Ms. Eva Nakamura (日本)及上開會員體代表出席本次會議，此外，大會亦邀請 APEC 企業諮詢委員會(ABAC)、APEC 願景小組(AVG)、婦女經濟政策夥伴關係工作小組(PPWE)、反貪腐暨透明化工作小組(ACTWG)、化學對話(CD)、APEC 秘書處公共事務辦公室及緊急應變工作小組(EPWG，由我國災防中心李維森博士以該工作小組主席身分出席)至本組分享工作進度及未來跨分組可合作之議題。我國由經濟部技術處林德生副處長擔任團長，與科技部、工業技術研究院、塑膠工業技術發展中心、金屬工業研究發展中心、逢甲大學及國家災害防救科技中心等單位赴智利參加會議，團員名單如附件 2。

參、重要討論及決議事項

- 一、 ABAC 代表 Mr. Guillermo Ferreyros 強調企業資訊委員會欲強化與 PPSTI 在數位經濟領域之合作，並邀請 PPSTI 主席參加本年 11 月將於聖地牙哥舉辦之第 4 次企業諮詢委員會會議。
- 二、 本年度 PPSTI 會議強調應強化與各工作小組之互動與跨分組合作，本次會議邀請各分組代表出席，參與情形如下：
 1. APEC 願景小組 APEC Vision Group (AVG)代表 Allan Wagner 受邀至 PPSTI，表示數位經濟的重要性，是一充滿挑戰和機會的領域，也提到 PPSTI 的貢獻將為 APEC 投入此一領域的成功關鍵。
 2. APEC 婦女經濟政策夥伴關係工作小組 Policy Partnership on Women and the Economy (PPWE)代表 Ms. Stefania Doebbel 受邀出席 PPSTI，

強調女性於經濟發展所扮演的重要角色，主辦國智利選擇為本年度優先工作重點領域之一，PPWE 與 PPSTI 將持續既有合作，並期待「APEC Women in STEM」原則成為共識。

3. APEC 反貪腐暨透明化工作小組 APEC Anti-Corruption and Transparency Working Group (ACTWG)主席 Ms. Carolina Ortega 表示應深化 ACTWG 與 PPSTI 於數位科技和工業 4.0 之相關領域合作，並強調落實透明化和開放政府之技術，加強治理和減少貪污率的重要性。
4. APEC 化學小組 Chemical Dialogue (CD)由美國代表 Ryan MacFarlane 參與 PPSTI，期待與 PPSTI 在海洋塑膠垃圾議題相關政策領域進行跨分組合作，共創新永續經濟機會。
5. APEC 秘書處行政部經理 Ms. Masyitha Baziad 強調將協助各會員體及計畫主持人運用一般民眾能理解的語言，向廣泛大眾傳遞各工作分組業務運作及活動成果。
6. APEC 緊急應變工作小組 APEC Emergency Preparedness Working Group (EPWG)主席—我國災防中心秘書長李維森博士受邀於本次會議中心進行發表，提及 EPWG 工作內容符合許多 PPSTI 工作項目與議題，利於制定聯合提案或相關活動。近年自然災害持續增加，為改善自然災害之應變性，EPWG 強調風險情境、投資、創新、資訊、互動、整合與實施之必要性。

三、本年度主席提出為讓未來 APEC 提案、行動計畫與其他活動對準 2019 PPSTI 優先工作領域，將由 PPSTI 成員經濟體進行三項優先工作領域之專題發表：數位經濟(Digital Economy，中國大陸)、永續成長(Sustainable Growth，智利)、與技術移轉(Technological Transfer，秘魯)。

四、本次會議已完成制定「在科學、技術、工程和數學領域中的 APEC 女性綱領及行動方案(Women in STEM Principles and Actions)」，將與 PPSTI 結論報告共同提交資深官員會議。

- 五、有關強化 PPSTI 計畫品質及成立專案執行小組一事，經討論後會員體決議採取強制性方法：各會員體窗口需於組內提案截止日期前 2 個月將計畫構想書提交秘書處，由 Program Director 先就計畫摘要(Summary)進行內部公告，各會員體應就各計畫摘要內容評估是否支持本提案計畫或可與其他計畫整合，提案會員體亦可藉此綜整其他會員體意見並修訂計畫書內容，強化計畫結構後，再提交完整計畫構想書送 APEC 秘書處。
- 六、本次 APEC 公私部門對話研討會 APEC Public-Private Dialogue(PPD)，為強化 APEC 運用數位轉型，達成建立經濟、金融與社會包容之目的，研討會聚焦於數位科技之政策制定以及創新與共享經濟之探討，強化 APEC 議題結合私部門經驗，以期有效促進經濟共榮發展。
- 七、本屆 ASPIRE Award(APEC 年輕科學家獎)徵選主題為「自然實驗室(Natural Laboratories)」，我國候選人為工研院量測中心林芳新研究員，經評選後獲獎人為香港城市大學副教授 Dr. Yun Hau NG，獲獎理由為其科學領域研發成果被多次運用，個人成就卓越。
- 八、馬來西亞為 2020 年 APEC 主辦會員體，宣布明年會議資訊如下：
1. 2020 年 APEC 會議優先工作領域為「改善貿易和投資的陳述(Improving the Narrative of Trade and Investment)」、「透過數位經濟和技術的包容性經濟參與(Inclusive Economic Participation Through Digital Economy and Technology)」及「推動創新永續性(Driving Innovative Sustainability)」，PPSTI 三項優先工作領域為「優化科技創新永續性(Advancing STI for Sustainability)」、「研究商業化鏈結性(Research Connectivity for Commercialization)」及「科學包容性(Inclusivity in Science)」。
 2. PPSTI 第 15 次會議預定於 2020 年 SOM1 期間(2 月中旬)假馬來西亞吉隆坡布城(Putrajaya)舉行正式會議，另公私部門對話會議(Public-Private Dialogue)以 Back-to-back 模式辦理；PPSTI 第 16 次會議預定於 SOM3 期間(8 月中旬)假檳城(Penang)舉行正式會議，將與

ART Workshop、ASPIRE Award 一同舉辦。

九、計畫報告情形：

1. 本年度第二階段提案共有 22 項計畫，其中 18 項通過提案，計 5 項計畫獲得基金補助，PPSTI 提案通過率為 28%。我國逢甲大學提案「Green Synergy Solutions in APEC Region」獲得「APEC Support Fund (ASF) – Sub-Fund：Energy Efficiency and Low-Carbon Measures」基金補助。
2. 各計畫納入 PPSTI 優先領域與議題進行發表，各項計畫分別如下：
 - (1) Workshop on Innovation and Cooperation of APEC Centers and Long Term Mechanisms (by APEC Center for Technology Center) (China)
 - (2) Transforming APEC Economies through Inclusive Collaboration of Industry 4.0 Tech (The Philippines)
 - (3) Green Synergy Solutions in APEC Region (Chinese Taipei)
 - (4) Capacity Building Workshop on Promoting Participation of Youth Female in STEM and Innovation Entrepreneurship (China)
 - (5) Innovation in Public Transportation (INPUT) Competition (China)
 - (6) Recent Progress of the APEC Cooperation for Earthquake Science (by ACES) (China)
 - (7) ACTS 2019 - Enhancing APEC Resilience Through Science, Technology and Innovation for APEC Sustainable and Inclusive Growth (Chinese Taipei)
 - (8) APEC Sustainable Plastics Eco System - Best Practice Sharing On Business Model Innovation and Technologies Implementation (Chinese Taipei)
 - (9) Investigation of the STI's Role by Introducing Autonomous Vehicle Policy for the Smart Transportation of the Smart City (Chinese Taipei)

- (10) Value of Earth and Marine Observing (EMO) to APEC (Australia)
- (11) Symposium and workshop: The approach of science and technology to the knowledge obtained from traditional and ancestral practices through conservation of biodiversity of the APEC economies (Peru)
- (12) Symposium on strategic foresight scenarios for sustainable development: Best practices, regulations and its improvements in the APEC region (Peru)
- (13) “APEC Climate Symposium-Pathway to Sustainable Growth under a Changing Climate - Enhancing Interaction between Climate Science and Society” (APEC Climate Center)
- (14) Facilitation Team Building for the Pioneer Science Leadership Program for Mid-Career Researchers in APEC (Thailand)
- (15) Agriculture Technology (Agtech) Startup Network in APEC (Thailand)
- (16) Enhancing the potentiality of quality control for ionizing radiation metrology in Asia-Pacific region (Thailand)

肆、後續我方應配合辦理之工作

- 一、APEC PPSTI 2016-2025 策略計畫(Strategic Plan)於本次會議進行詳細檢視，會議決議將由澳洲提供計畫執行成果調查表，Program Director 將電郵各會員體窗口填寫計畫執行現況及成果，各會員於收到後 1 個月內填寫完成回復秘書處，各計畫成果將由 Program Director 分別寄發給馬來西亞、中國大陸及我國三位分組主席，由各分組主席針對 2016-2019 各分組計畫進行成果統計與分析，並於 10 月底前提交秘書處，我國將依所訂時程配合繳交執行成果資料。
- 二、有關美國所提增加 PPSTI 提案 Co-sponsor 門檻，由原先至少 2 個會員體提高為至少 4 個，經本次會議討論尚無達成共識，本項議題後續納入明年度 PPSTI 第 15 次會議討論。為求 PPSTI 之和諧，不激化立場不同之

會員體對立情勢，我國暫不表示特定立場。惟我國歷來提案計畫之 Co-sponsor 均不低於 4 個，故若最後取得會員體共識將提案門檻提高至 4 個 Co-sponsors，對我國應無影響。

- 三、 本次會議與 2020 年 PPSTI 主辦會員體馬來西亞科技部代表團互動融洽，馬國代表對於我國塑膠中心所提海廢與永續塑膠循環計畫表示有興趣，我國藉此邀請馬國代表出席本年 11 月舉辦「亞太經濟合作永續塑膠生態系論壇(APEC Sustainable Plastics Eco System forum)」，馬方表示將派員出席與會。此外，本次亦協助營建署團隊鏈結馬來西亞明年主辦團隊及相關會員體代表，探詢該署於 PPSTI 研提社會住宅計畫的可行性。
- 四、 泰國國家科學院(NSTDA)所提之 APEC Young Scientist Forum 雖未獲 APEC fund，但將以自籌經費方式辦理，泰方代表藉本次會議感謝我國擔任 co-sponsor，預計本年 11 月舉辦論壇並邀請我國出席參加。

伍、 結論與建議

- 一、 我國代表團成員本次向 PPSTI 提出四項報告提案，分別為塑膠中心「亞太循環塑膠生態系(APEC Sustainable Plastics Eco System)」、金屬中心「科技創新在導入自駕車相關政策之角色研析(Investigation of the STI' s Role by Introducing Autonomous Vehicle Policy)」、逢甲大學「綠色偕同效應科技在亞太地區之應用(Green Synergy Solutions in APEC Region)」、災防中心「亞太防災韌性週(APEC Resilience Week)」等。另我國成功爭取繼續擔任 PPSTI 分組 C「強化區域科技連結(Enhancing Regional Science and Technology Connectivity)」之主席。
- 二、 本次以「亞太循環塑膠生態系(APEC Sustainable Plastics EcoSystem)」計畫與海委會海保署進行 PPSTI 與 OFWG 跨分組提案，並受海保署邀請赴化學對話工作小組(Cheical Dialogue)針對永續塑膠循環議題進行專題報告，獲得 CD 工作小組會員體代表(如日本、馬來西亞等)正面響應。
- 三、 2020 年 APEC 主辦會員體馬來西亞宣布 PPSTI 三項優先領域為「優化科技創新永續性(Advancing STI for Sustainability)」、「研究商業化鏈結性

(Research Connectivity for Commercialization)」及「科學包容性(Inclusivity in Science)」，建議我國提案單位預先與馬國相關單位進行鏈結，以籌備下年度合作計畫或在兩次會議期間舉辦 back-to-back 論壇。

- 四、有關我國參與 ASPIRE Award，建議可評估歷年「APEC 年輕科學家獎」獲獎者相關研究經歷與條件，作為後續我國調整候選人提名方向之參考，加強我國培育科學人才之實力。
- 五、有鑒於本年度 PPSTI 會議多次提及優化計畫內容品質與提案程序，PPSTI 已擬定成立專案執行小組改善計畫品質，為強化我國未來 APEC 提案內容質量、契合優先工作領域及提升獲得基金補助通過率，建議幕僚團隊分析過去 APEC 各項基金提案通過情形與申請機制，並提出我國未來 PPSTI 提案精進之策略作法。

陸、會議活動照片

一、APEC PPSTI 第 14 次會議大合照及與會情形



二、我國逢甲大學代表報告提案「Green Synergy Solutions in APEC Region」



三、我國災防中心代表報告提案「ACTS 2019 - Enhancing APEC Resilience Through Science, Technology and Innovation for APEC Sustainable and Inclusive Growth」



四、我國塑膠中心代表報告提案「APEC Sustainable Plastics Eco System - Best Practice Sharing On Business Model Innovation and Technologies Implementation」



五、我國金屬中心代表報告提案「Investigation of the STI's Role by Introducing Autonomous Vehicle Policy for the Smart Transportation of the Smart City」



附件 1：第 14 次 PPSTI 會議議程

14th APEC Policy Partnership on Science, Technology and Innovation (PPSTI) Meeting
Puerto Varas, Crumbress Hotel
25-27 August, 2019

2019 THEME :

Motto A New Vision to Connect people with Science, towards inclusive innovation.

In line with Chile’s priority, PPSTI will focus on Innovation for Sustainable Growth through the following topics:

- 1) Digital transformation and integration 4.0 – digital technology, usage and storage of big data, smart cities and sustainable development, etc.;
- 2) Women in STEAM – empowerment of women in STEAM areas to contribute to gender gap closure; and,
- 3) Monitoring global change – scientific and technological advances related to climate change monitoring and control, including research on natural laboratories.

AGENDA	
Sunday August 25th	
9:00 – 10:30	Policy Workshop on Women in Entrepreneurship
11:00 – 13:00	<p>Pre-negotiation session on APEC Women in STEM Principles and Actions</p> <p><i>All PPSTI and delegates from other relevant working groups are invited to attend. This session will build on the drafts developed intercessional.</i></p> <p><i>This session will allow for time for discussion amongst PPSTI and non-PPSTI stakeholders on key remaining issues so that there is sufficient time for to come to agreed text on Principles and Actions during limited time in the PPSTI plenary. The goal is to come to endorsed text at PPSTI so that the Principles and Actions can be launched at the WEF and potentially referenced in the 2019 WEF statement, the WEF roadmap, and the Leaders Statement.</i></p>
13:00 – 18:00	Field Trip
Monday August 26th	
9:00 – 9:30	OPENING SESSION
	1. Welcoming, Opening Remarks and Introductions

	<p>1.1 Opening remarks by PPSTI Chair, Vice Chairs, and ABAC Advisor (ABAC Peru)</p> <p>2. Adoption of the Agenda</p> <p>3. Business arrangements for PPSTI 14 (Host Vice Chair)</p>
09:30-10:50	INTERSESSIONAL UPDATES
	<p>4. Involvement in other Fora</p> <p>4.1 Participation of representative of the PPWE (Stefania Doebbel)</p> <p>4.2 Participation APEC Vision Group Chair (Amb Alan Wagner Tizón.)</p> <p>4.3 Developments and Perspective of PPSTI (Guillermo Ferreyros (ABAC Peru))</p> <p>4.4 Chemical Dialogue Presentation (US delegation member) (Ryan MacFarlane)</p>
	<p>5. 2019 Enhancing PPSTI communications and outreach APEC Community Manager Ms. Masyitha Baziad.</p> <p>6. APEC Project updates (APEC Secretariat)</p> <p>7. 2019 Review of Progress PPSTI Strategic Plan 2016-2025 (Introduction Chair)</p> <p>-Revision and Report on the Agreed Priorities (Chair)</p> <p>-Sub Groups definition and mechanism for future activities: Building Science Capacity, Promoting Enabling Environment for Innovation, Enhancing Regional Science and Technology Connectivity (Economies propose to lead one Sub Group with an initiative to present during this Meeting)</p>
	8. Next Steps from Task Force on PPSTI Projects (Host Vice-Chair)
10:50 - 11:20	<i>Group Photo and Coffee break</i>

11:20 - 12:20	Report Main Tasks PPSTI
12:20 - 13:50	<i>Lunch Break</i>
13:50- 14:00	9. Presentation about ASPIRE Prize

14:00- 14:10	10. Presentation by the Assistant of the Chair of the ACTWG. Claudia Ortega.
14:10– 14:40	11. Presentations on 2019 PPSTI Priorities 11.1 Peru Report on APEC Initiative: Technology Transfer 11.2 Chile Report on APEC Initiative: Innovation towards growth sustainable 11.3 China Report on APEC Initiative: Digital technology and digital economy (Specific topic to be determined)
14:40 -17:30	12. Projects and Initiatives Economies present projects related to PPSTI. Economies are invited to share their ideas on their future concept notes preferably with PowerPoint. No more than 5-6 minutes per idea. 12.1 Workshop on Innovation and Cooperation of APEC Centers and Long Term Mechanisms(by APEC Center for Technology Center) (China) 12.2 Transforming APEC Economies through Inclusive Collaboration of Industry 4.0 Tech. (The Philippines) 12.3 “Green Synergy Solutions in APEC Region” (Chinese Taipei) 12.4 Capacity Building Workshop on Promoting Participation of Youth Female in STEM and Innovation Entrepreneurship (China) 12.5 Innovation in Public Transportation (INPUT) Competition (China) 12.6 Recent Progress of the APEC Cooperation for Earthquake Science (by ACES) (China) 12.7 “ACTS 2019 - Enhancing APEC Resilience Through Science, Technology and Innovation for APEC Sustainable and Inclusive Growth” (Chinese Taipei) 12.8 “APEC Sustainable Plastics Eco System - Best Practice Sharing On Business Model Innovation and Technologies Implementation” (Chinese Taipei) 12.9 “Investigation of the STI’s Role by Introducing Autonomous Vehicle Policy for the Smart Transportation of the Smart City”(Chinese Taipei) 12.10 Value of Earth and Marine Observing (EMO) to APEC (Australia) 12.11 Symposium and workshop: The approach of science and technology to the knowledge obtained from traditional and ancestral practices through conservation of biodiversity of the APEC economies (Peru) 12.12 Symposium on strategic foresight scenarios for sustainable development: Best practices, regulations and its improvements in the APEC region (Peru) 12.13 "APEC Climate Symposium-Pathway to Sustainable Growth under a Changing Climate - Enhancing Interaction between Climate Science and Society". (APEC Climate Center) 12.14 Facilitation Team Building for the Pioneer Science Leadership Program

	<p>for Mid-Career Researchers in APEC (Thailand)</p> <p>12.15 "Agriculture Technology (Agtech) Startup Network in APEC" (Thailand)</p> <p>12.16 Enhancing the potentiality of quality control for ionizing radiation metrology in Asia-Pacific region (Thailand)</p>
15:30-15:45	Coffee break
18:00 -19: 30	<p>ASPIRE CEREMONY</p> <p>Remarks by PPSTI Chair(10 min)</p> <p>Words by Yun Hao Ng, awardee 2019 (3 min)</p> <p>Dinner</p>
Tuesday August 27th	
9:00 – 9:10	13. Remarks by PPSTI Chair and Vice Chair
9:10 – 9:50	<p>14. Leader’s statement drafting</p> <p>2019 PPSTI Policy Statement for AMM (Chair)</p> <p>The board committee distributed intersessional a draft with voluntary APEC economies mentioned in the last meeting.</p>
9:50 – 10:30	<p>15. Women in STEM Principles Drafting</p> <p>-Building off the pre-negotiation session, this time will be spent finalizing the Principles for endorsement.</p>
10:30 – 10:40	<p>16. Presentation of OECD study: BRIDGING THE DIGITAL GENDER GAP THROUGH EDUCATION</p> <p>Mrs. Tamara Drove, APEC Chile Priority 3 team</p>
10:40 – 11:10	Coffee break
11:10-11:30	<p>17. Selection of New Chair 2020- Election of new PPSTI Chair 2020</p> <p>Introduction of Terms of Reference (APEC Secretariat)</p> <p>18. Announcement by the Host Economy (Malaysia)</p>
11:30–12:00	<p>19. Summary Report</p> <p>20. Closing Remarks</p>
12:00-14:30	Lunch Break
14:30- 18: 30	Public-Private Dialogue Workshop: APEC Public Private Dialogue on Science Technology and Innovation

附件 2：我方代表團名單

No.	Name	Title
1.	林德生 DER-SHENG, LIN	Deputy Director General Dept. of Industrial Technology, Ministry of Economic Affairs
2.	趙俊迪 CHUN-TI, CHAO	Clerk Dept. of Industrial Technology, Ministry of Economic Affairs
3.	鄭慧娟 HUI-CHUAN, CHENG	Researcher Department of International Cooperation and Science Education, Ministry of Science and Technology
4.	張培仁 PEI-ZEN, CHANG	Executive Vice President Industrial Technology Research Institute
5.	徐基生 CHI-SHENG, HSU	Director Headquarter, Industrial Technology Research Institute
6.	黃琬婷 WAN-TING, HUANG	Project Manager Headquarter, Industrial Technology Research Institute
7.	沈郁婷 YU-TING, SHEN	Researcher Headquarter, Industrial Technology Research Institute
8.	吳石乙 SHU-YII, WU	Dean of College of Engineering Feng Chia University
9.	李維森 WEI-SEN, LI	Secretary General National Science and Technology Center for Disaster Reduction
10.	蔡政修 CHENG-HSIU, TSAI	Leader, Sustainable Enterprise Group Plastics Industry Development Center
11.	雷震台 CHENG-TAI, LEI	Director Metal Industries Research and Development Centre

附件 3：PPSTI 總結報告

Summary Report

On August 26th and 27th in Puerto Varas, 15 economies (Australia, Canada, Chile, China, Japan, Korea, Malaysia, New Zealand, Peru, The Philippines, Russia, Chinese Taipei, Thailand, The United States, Viet Nam) met to attend 14th PPSTI meeting. Macao, China attended as a guest. Apart from economies representatives, the PPSTI meeting had participation from AVG Chair and representatives from ABAC, PPWE, ACTWG, EPWG, the Chemical Dialogue, APEC Communications and Public Affairs Office.

The following topics, included in the agenda were discussed:

1. CROSS – FORA COLLABORATION:

- 1.1. The meeting encouraged private sector to engage in PPSTI activities and suggested to have a further discussion in order to enhance the cross-fora collaboration with ABAC. In line with this priority, ABAC member from Peru, Guillermo Ferreyros discussed the initiatives carried out by ABAC and stressed the importance of collaborating with PPSTI in the field of digital economy. Furthermore, on behalf of ABAC, Mr. Ferreyros extended an invitation to PPSTI Chair to attend ABAC's 4th meeting to be held in Santiago in November 2019. Additionally, Mr. Ferreyros mentioned examples for possible cooperation with PPSTI through the following ABAC on-going activities:
 - a. single window on cross-border sharing of trade data;
 - b. APEC cross border privacy Rules Systems (CBPR) to Enhance Collaboration;
 - c. Connecting MSMEs around the world through a Global B2B Marketplace; and,
 - d. APEC Women Connect.
- 1.2. Representative of the PPWE, Stefania Doebbel, has expressed the importance of the role of women for economic development that lead Chile to choose it as one of the priority for APEC Chile 2019. PPWE and PPSTI have existing cooperation and PPWE look forward to endorsement of Women in STEM Principles and Actions.
- 1.3. Ambassador Allan Wagner, APEC Vision Group (AVG) Chair, stressed the importance of digital economy, an area full of challenges and opportunities. He considered PPSTI's contributions to APEC in this field would be pivotal for APEC's success. He highlighted the current areas of focus on the AVG:
 - a. Advanced Regional Integration;
 - b. Inclusion – economic growth that provides better standards of living for all; and,
 - c. Digital economy – important opportunities for economic development, but at the same time challenges that affect societies and economies.
- 1.4. The representative from the US Delegation to APEC Chemical Dialogue, Ryan MacFarlane considered there is a big potential for cooperation with PPSTI that can create new sustainable economic opportunities.
- 1.5. APEC's Communication Manager, Ms. Masyitha Baziad stressed the importance to get fora's message across by using a language that could be understood by everyone and telling them how

the fora works for the benefit of a broader public. She highlighted the relevance of strategic communications to address stakeholders who could partner with PPSTI.

- 1.6. Ms. Carolina Ortega, Assistant to APEC Anti-Corruption and Transparency Working Group (ACTWG) Chair, considered digital technology and industry 4.0 are areas in which ACTWG group could deepen cooperation with PPSTI. She stressed that technologies which enable transparency and open government are crucial for enhancing governance and reducing the incidence of corruption.
- 1.7. Dr. Wei-sen Li, EPWG Chair, has introduced the group and pointed out that the group is aligned with various PPSTI activities and it is for benefit of both groups to develop joint proposals and/or other activities between two foras. Natural disasters have increased last years, so today it is a new normal. EPWG has spoken about risky scenarios. Investment, Innovation, Information, Interaction, Integration, Implementation and Improvement are necessary to improve our response to natural disasters.
- 1.8. Ms. Tamara Drove, APEC Chile Priority 3 team member, has presented the OECD study on Bridging the Digital Gender Gap through Education that examines existing digital gap in different age timeframe. The study recommended for action to bridge the gender digital divide; Advancing educational curricula, Infrastructure, literacy and skills, Access and affordability.

2. APEC INITIATIVES RELATED TO 2019 PPSTI PRIORITY

At the proposal of the Chair Office, the economies, members of the PPSTI Board Committee presented three initiatives aiming to align future APEC projects, action plans and other activities with 2019 PPSTI priorities. The following initiatives were presented: Digital Economy (China), Sustainable Growth (Chile) and Technological Transfer (Peru).

3. PROJECTS UPDATE

Ms. Eva Nakamura, Program Director for PPSTI, has announced that out of 22 projects submitted for the Session II 2019, only 18 were endorsed by the fora and 5 got funding. The approval rate for the PPSTI fora is low, only 28%, while the general approval rate for APEC projects is around 50%. The funded project for the Session II are the following:

- 1) Green Synergy Solutions in APEC Region (Chinese Taipei)
- 2) Capacity Building for Digital Innovation using Block-chain technology (China)
- 3) The Innovation in Public Transportation (INPUT) Competition (China)
- 4) A Workshop on Improving Technology Commercialization of University Research to Foster Economic Growth in APEC Economies (United States)
- 5) Integrated Water Resources Management (IWRM): Best Practices, Norms and Their Implementations within APEC Region (Chile)

4. PPSTI STRATEGIC PLAN 2016-2025

The Strategic Plan 2016-2025 was reviewed. The economies agreed to the following proposed procedures for reviewing the progress of the Strategic Plan:

- 4.1. Each economy will fill the table of the three sub-themes [2016-2019] of the plan and send it to the PD within a month after receiving the form;
- 4.2. PD will send the collected information to three lead economies (Sub theme 1: Malaysia; Sub-theme 2: China; Sub-theme 3: Chinese Taipei);

4.3. Three lead economies will analyze received data and will insert a paragraph or two before each sub-theme to be included in the updated Strategic Plan within 4 weeks after receiving the compiled data. Australia has offered its support to the three leading economies to analyze the data.

4.4. Three economies will submit their analysis with the project tables to PD who will share comprehensive (all three sub-themes) report with all economies.

5. TASK FORCE ON PPSTI PROJECTS

The PPSTI fora continued discussion on the document on Task Force on PPSTI Projects that outlines the concept notes submission procedures in order to improve the quality of the PPSTI concept notes, make them more relevant to PPSTI’s priorities, increase collaboration between economies and increase CNs approval rate. Prior to the meeting 5 options to proceed with the concept notes submission was distributed within PPSTI members. The 5 options were discussed again and the following option was endorsed by the fora (Russia is to consult for their decision and will let the fora know later):

Mandatory	The PPSTI Focal Point for each economy submits a brief summary of Concept Note (CN) 2 month before internal deadline to the Program Director (PD). PD shares a summary with the whole PPSTI members so that the members are able to consider merging or co-sponsoring the proposals. PPSTI members provide comments on summary of CNs to PPSTI Focal Point. Pos of approved CNs will be working on completing the CN form and send it to the PD through PPSTI focal point for circulation and endorsement.
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The Chair office will be consulting with all economies about requirement to have 4 or more co-sponsors in order to proceed to full CNs development stage intersessionally.

This mechanism will be in force from now and its effectiveness will be assessed at 16th PPSTI session in 2020.

6. PROJECTS AND INITIATIVES PRESENTATIONS

16 Projects and Initiatives were discussed from the following economies:

China:

- a. Workshop on Innovation and Cooperation of APEC Centers and Long Term Mechanisms (by APEC Center for Technology Center)
- b. Capacity Building Workshop on Promoting Participation of Youth Female in STEM and Innovation Entrepreneurship
- c. Innovation in Public Transportation (INPUT) Competition
- d. Recent Progress of the APEC Cooperation for Earthquake Science (by ACES)

Chinese Taipei:

- a. Green Synergy Solutions in APEC Region
- b. ACTS 2019 - Enhancing APEC Resilience Through Science, Technology and Innovation for APEC Sustainable and Inclusive Growth
- c. APEC Sustainable Plastics Eco System - Best Practice Sharing On Business Model Innovation and Technologies Implementation
- d. Investigation of the STI’s Role by Introducing Autonomous Vehicle Policy for the Smart Transportation of the Smart City

The Philippines:

- a. Transforming APEC Economies through Inclusive Collaboration of Industry 4.0 Tech.

Australia:

- a. Value of Earth and Marine Observing (EMO) to APEC

Peru:

- a. Symposium and workshop: The approach of science and technology to the knowledge obtained from traditional and ancestral practices through conservation of biodiversity of the APEC economies
- b. Symposium on strategic foresight scenarios for sustainable development: Best practices, regulations and its improvements in the APEC region

Thailand:

- a. Facilitation Team Building for the Pioneer Science Leadership Program for Mid-Career Researchers in APEC
- b. Agriculture Technology (Agtech) Startup Network in APEC
- c. Enhancing the potentiality of quality control for ionizing radiation metrology in Asia-Pacific region

APEC Climate Center

- a. APEC Climate Symposium-Pathway to Sustainable Growth under a Changing Climate - Enhancing Interaction between Climate Science and Society

7. ASPIRE PRIZE

The ASPIRE prize was presented to the fora. The topic for the current year chosen by Chile is Natural Laboratories. 15 nominations were received. The winner is Dr. Yun Hau NG, from Hong Kong, China.

8. LEADERS STATEMENT

The PPSTI for a has endorsed the following PPSTI statement for the Leaders:

We commit to empower women and girls in the field of STEM, contributing to close the existing gender gap. We commit to enhance public-private dialogue with STI stakeholders on the importance of digital transformation and industry 4.0, by promoting the appropriate use of big data, the development of smart cities and the implementation of sustainable and inclusive economic development policies. WE reaffirm our commitment to foster scientific and technological advances related to climate change.

9. WOMEN IN STEM PRINCIPLES AND ACTIONS

PPSTI has endorsed the following Women in STEM Principles and Actions.

APEC Women in STEM Principles and Actions

Science, technology, engineering, and mathematics (STEM) capabilities and opportunities are critical to sustainable economic growth. APEC recognizes that women are underrepresented in STEM and their participation is vital in order to fully reach scientific, economic, and social potential. APEC is committed

to increasing women and girls participation in STEM education, careers, and entrepreneurship.

Women and girls' participation and leadership in STEM in the APEC region requires coordinated engagement and action from all pillars of the STEM ecosystem — governments, private sector, academia, and civil society. Building on work from the APEC Women in STEM Framework, APEC economies agree to the following APEC Women in STEM Principles and Actions and invite all STEM ecosystem actors to voluntarily adopt the Principles and Actions. Recognizing the culture and diversity of the region, these Principles and Actions aim to achieve full equity for women and girls in STEM fields and create a community of shared values, action, and collaboration in the Asia-Pacific region to support women and girls advancement in STEM.

We agree that in the APEC region:

Principle 1: Women in STEM Are Critical to Sustainable Economic Growth and Robust Science and Technology. Gender diversity in science and technology results in greater innovation and economic benefit to APEC economies and more robust science and technology overall.

We will support economic growth and robust science by undertaking actions such as:

- a. Inspire, encourage, and provide effective and appropriate education, training, mentorship and professional development for women and girls in STEM, beginning at an early age and throughout careers especially the underprivileged and those in rural and remote areas.
- b. Champion equity, equal opportunities, access, enabling environments, and infrastructure for women and girls to learn, progress, and re-enter STEM fields.
- c. Provide leadership to engage, recruit, retain and enable women and girls in STEM with a special focus on maintaining continuity in the women in STEM pipeline.
- d. Educate and encourage all people, including families and communities, on the values of promoting, supporting, and engaging women and girls in STEM.
- e. Publicly acknowledge and celebrate, with evidence and data, the contribution that women in STEM make to economic growth.
- f. Design and implement inclusive organizational and business practices, including increased funding and other support for enterprise development for women-owned STEM businesses and integration of services and products from women entrepreneurs into procurement.

Principle 2: Increased Representation of Women in STEM Matters. Gender gaps—in hiring, in pay, in funding, in training, in research, and in other aspects—exist in the APEC region in STEM education, careers, and entrepreneurship and keep us from reaching our full economic and social potential.

We will increase the representation of women and girls from diverse backgrounds in STEM by undertaking actions such as:

- a. Promote educational materials, programs, hiring panels, expert review panels, and other engagements that prioritize and value diverse representation and empower women and girls in STEM.

- b. Examine gender and other types of diversity in leadership at all levels, across all sectors and disciplines, and identify and correct barriers that may be contributing to gender gaps.
- c. Increase the creation, collection, evaluation, and sharing of gender-disaggregated data on STEM participation across all sectors and disciplines throughout the STEM pipeline.
- d. Engage, support, and amplify the accomplishments of women and girls from diverse backgrounds in STEM-related programs.
- e. Embed gender perspectives in the design and conduct of research.

Principle 3: Overcoming social, cultural, and economic barriers Women in STEM face is important.

Certain social and economic norms keep women and girls from fully engaging in STEM opportunities and limit access to critical resources such as education, technology, and capital funding. Until these norms are addressed, programs and policies alone will not address the challenges women and girls in STEM face in education, and later in careers, and entrepreneurship.

We will overcome social, cultural, and economic barriers to women and girls in STEM by undertaking actions such as:

- a. Promote the elimination of legal and structural barriers that inhibit women and girls in STEM as students, researchers, workers, entrepreneurs, and leaders.
- b. Address barriers that prevent men from fully sharing unpaid care and domestic work and supporting women in STEM.
- c. Promote the creation and implementation of laws, policies, regulations, programs, and partnerships that create enabling environments for lifelong STEM education and skill building for girls and women.
- d. Promote the creation and implementation of policies for equal pay, provision of childcare, equal leadership, equal opportunities, non-discrimination, gender-responsive workplaces and health, safety and well-being for women and girls in STEM.
- e. Create environments where women feel safe, including from sexual harassment.

10. 2020 APEC

Malaysia has presented an indicative theme for 2020 APEC Malaysia “APEC towards a future of shared prosperity” and priorities for APEC 2020:

1. Improve the Narrative of Trade and Investment
2. Inclusive Economic Participation through Digital Economy and Technology; and,
3. Driving Innovative Sustainability

PPSTI Theme 2020: Enhancing Innovation and Sustainability through Inclusive Collaboration:

1. Advancing STI for Sustainability
2. Research Connectivity for Commercialization
3. Inclusivity in Science