

出國報告（出國類別：出席國際會議）

出席 2020 年亞太經濟合作(APEC)
第 15 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

姓名職稱：(經濟部)林德生副處長、(科技部)李佩育科長、(經濟部)
趙俊迪辦事員

派赴國家：馬來西亞

出國期間：109 年 2 月 12 日至 2 月 15 日

報告日期：109 年 3 月 31 日

目次

壹、 會議緣起	1
貳、 會議辦理情形	2
參、 重要討論及決議事項	3
肆、 後續我方應配合辦理之工作	8
伍、 結論與建議	8
陸、 會議活動照片	10
附件 1：第 15 次 PPSTI 會議議程	144
附件 2：我方代表團名單	211
附件 3：PPSTI 第 15 次會議之計畫摘要審查結果與建議	282
附件 4：PPSTI 摘要決議總結報告	288

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(ISTWGW)」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 的各經濟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及更進一步的科技創新能力分享。

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，每年配合各主辦經濟體召開 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 15 次會議業於 2020 年 2 月 14 至 2 月 15 日於馬來西亞布城舉行，議程詳如附件 1。本次共計有 15 個會員體出席，包含澳大利亞、加拿大、智利、印尼、韓國、馬來西亞、秘魯、菲律賓、俄羅斯、中華台北、泰國、美國、越南、中國大陸及紐西蘭參加，其中中國大陸及紐西蘭以視訊方式參與會議。

2020 年 APEC 會議主題「優化人民潛力，共享繁榮未來(Optimizing Human Potential towards a Future of Shared Prosperity)」，優先領域為「強化貿易與投資之論述(Improving the Narrative of Trade and Investment)」，「透過數位經濟與科技促進包容性經濟參與(Inclusive Economic Participation through Digital Economy and Technology)」與「驅動創新永續(Driving Innovative Sustainability)」共三項；本年度 APEC PPSTI 優先領域為「推進科學、技術和創新的永續性(Advancing STI for Sustainability)」，「商業化議題研究連通性(Research Connectivity for Commercialization)」與「科學包容性(Inclusivity in Science)」等三項工作目標與重點領域。

本次會議主席為加拿大創新科學及經濟發展部科學政策處處長 Daneil Dufour，副主席為中國大陸科技部副司長陳霖豪先生及馬來西亞能源科學技術環境與氣候變化部國際處秘書長 Teoh Phi Li，APEC 秘書處 PPSTI Program Director 為日本籍 Ms. Eva Nakamura，並邀請 ABAC 企業諮詢委員會 Nicholas Brooke 擔任首席顧問。

此次 PPSTI 會議為強化公私部門與跨分組參與，邀請經濟合作暨發展組織(OECD)、APEC 環太平洋大學協會(APRU)、人力資源發展工作小組(HRDWG)、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前主席身分視訊出席)、海洋與漁業工作小組(OFWG)、化學對話(CD)、能源工作小組(EWG，由我國能源局陳炯曉科長以主席身分出席)、世界銀行、馬來西亞綠色科技與氣候變遷中心等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、工業技術研究院區域

與兩岸工作小組、工業技術研究院服科中心、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馬來西亞參加會議，團員名單如附件 2。

另為因應近期在全球迅速蔓延的新型冠狀病毒肺炎疫情，主辦經濟體馬來西亞加強各國代表入境健康狀況申明與檢疫，基於公共衛生及防疫考量，取消原定 Field Trip 行程，同時開放各國代表以視訊連線方式參與會議，以利保障各國代表團之健康與安全。

參、重要討論及決議事項

- 一、 PPSTI 領導層級呼應今年度 APEC 主題「優化人民潛力，共享繁榮未來」，PPSTI 應朝向包容性、共榮發展為工作方向，PPSTI 副主席陳霖豪先生強調 PPSTI 以科技創新政策為主軸的工作任務，PPSTI 主席 Daneil Dufour 更提及 PPSTI 可結合相關科技創新政策研究進行能力建構、風險因應與評估等倡議與活動。
- 二、 本次會議邀請資深官員會議(SOM)主席辦公室代表出席，肯定 PPSTI 長期以科技創新協助各經濟體朝向永續與包容的經濟發展，並表示強化「不拋下任何人(Leave no one behind)」的人本核心價值，提升新世代的人類優質生活與經濟整合性。
- 三、 PPSTI 持續強調公私部門參與及跨分組合作之重要性，主辦經濟體馬來西亞邀請各 APEC 工作小組與公私部門出席，針對本年度 PPSTI 優先領域，分別以四項議題進行經驗分享：
 - (一) 「數位科技與工業 4.0 的衝擊」，為優先領域 1 「推進科學、技術和創新的永續性」議題，由經濟合作暨發展組織(OECD)、人力資源發展工作小組(HRDWG)，以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前主席身分視訊出席)，以促進永續發展科技創新為主軸，探討數位科技的影響及掌握數位經濟發展優勢。

- (二) 「邁向循環經濟」，為優先領域 1「推進科學、技術和創新的永續性」議題，就科技創新永續發展，探討實踐循環經濟策略下之經濟和環境效益，由海洋與漁業工作小組(OFWG)、化學對話(CD)、馬來西亞住房與地方政府部、APEC 前瞻科技中心(CTF)，以及塑膠中心代表我國進行發表。
- (三) 「綠色技術融資的挑戰、機遇和最佳實踐」，為優先領域 1「推進科學、技術和創新的永續性」議題，由能源工作小組(EWG，由我國能源局陳炯曉科長以主席身分出席)、世界銀行，以及馬來西亞綠色科技與氣候變遷中心(MGCC)出席，議題聚焦科技創新促進永續發展，全球大量投資綠色科技的增長趨勢，以及融資模式等案例分享，促進各經濟體進行跨領域，強化私部門合作。
- (四) 「大數據和開放科學如何改變研究範疇和政策制定」，為優先領域 2「商業化議題研究連通性」議題，由科技數據委員會(CODATA)、澳洲數據研究共享組織(ARDC)、經濟合作暨發展組織(OECD)、馬來西亞行業標準委員會亞太地區辦事處(ISC ROAP)進行分享，探討大數據和開放科學，對研究與政策制定之影響，以及導致之社會經濟問題，達到促進創新與創造經濟利益。

四、由馬來西亞「能源、科學、科技、變化及環境部」與中國大陸科技部於 2 月 12 日共同辦理「Public-Private Dialogue on Science, Technology and Innovation: Capitalize on Research and Development (科學技術創新公私部門對話：研發的充分運用)」，為推動科技創新研發與商業化，強化科技加速器與金融機構生態系，研討會透過公私部門對話，探討創新經濟、公私部門合作之產業未來技術等議題，促進 APEC 區域經濟整合與包容性發展。

五、本次會議針對 PPSTI 「2016-2025 策略計畫(Strategic Plan)」架構下，由各分組主席進行提案評估檢視，我國本年度持續由臺北科技大學蘇評揮教授擔任 PPSTI 分組 C 之主席，就該分組各計畫推動成果進行檢視與策略分析報告。

- 六、有關 PPSTI 於 Project Session I 試行之「計畫摘要審查制度」一節，此次會議草擬「Protocol for PPSTI Review Panel (PPSTI 審查小組協議)」作法，各經濟體針對審查工作小組 (Review Panel) 設置之必要性及運作機制仍有極大分歧，會議決議請各會員體於會後針對審查機制草案提供意見。
- 七、今年度 ASPIRE Award(APEC 年輕科學家獎)徵選主題為「生物多樣性促進經濟繁榮(Biodiversity for a Prosperous Economy)」，強調功能良好的生態系統，如保護民生、糧食與水資源供應安全、水災與疾病預防、確保穩定氣候，以及傳統與現代醫學等。
- 八、有關 PPSTI 第 16 次會議，預定於 SOM3 期間(8 月 1 日至 8 月 13 日)假檳城(Penang)舉行正式會議，並與 ART Workshop、ASPIRE Award 一同舉辦，此次會議主題，建議可朝開放科學(Open Science)之政策研討會，並邀請企業諮詢委員會(ABAC)、私部門與學術團體共同參與。
- 九、計畫報告情形：PPSTI 下設三個分組，分別為：分組 A「Building Science Capacity」由馬來西亞擔任主席、中國大陸為副主席；分組 B「Promoting Enabling Environment for Innovation」由菲律賓擔任主席、秘魯為副主席；分組 C「Enhancing Regional Science and Technology Connectivity」由我方擔任主席、美國為副主席。由各國提出計畫納入 PPSTI 優先領域與議題進行發表，各項計畫分別如下：
- (一)[Report by APEC Center] ACABT annual report 2019 (ACABT)
 - (二)[Report by APEC Center] Report on AMGS in 2019 (AMGS)
 - (三)[CN] APEC Young Scientist Program and Responsible Conduct of Research (MAS)
 - (四)[CN] Symposium on APEC Capacity Building of Cybersecurity Educators with Required Knowledge and Skills for Industry 4.0 (MAS)
 - (五)[CN] Capacity Building in Commercialisation for APEC Early Career Researchers (MAS)

- (六)APEC Symposium on Utilization Renewable Energy in Isolated/ Remote Area with Intelligence Energy Management System (INA)
- (七)Building Regional Capacity and Knowledge in Earth Observations Using Data Cube Technology (AUS)
- (八)[CN] Enhancing the potentiality of quality control for ionizing radiation metrology in Asia-Pacific region(THA)
- (九)Earth and Marine Observations - APEC Framework, Economic Value and Future Work (AUS)
- (十)Inclusive Science Leadership Program for Early-and-Mid-Career Researchers in APEC (THA)
- (十一) Presentation on Malaysian Commercialization Year (MAS)
- (十二) Presentation on Nanotechnology Ecosystem for the Fourth Industrial Revolution (MAS)
- (十三) [CN]Workshop on STEM Practitioners Development in APEC Region (MAS)
- (十四) [CN]Sustainable Green Framework for Property Maintenance (MAS)
- (十五) [CN]APEC Symposium on Enhancing Research Market Connectivity in the Commercialization Ecosystem (MAS)
- (十六) [CN]Forum on Facilitating Technology Commercialization Using Big Data (MAS)
- (十七) [CN]Enabling Policy Cooperation for the Air Pollution in the Asia Pacific with the Digital Innovative Technologies (ROK)
- (十八) [CN] APEC Extended Producer Responsibility (EPR) in Circular Economy Plastic Conference (MAS)

- (十九) [CN]Laboratory Sustainability Initiative: Formulating Best Practices in Minimizing Single-use Plastics in Laboratories (MAS)
- (二十) [CN] APEC Sustainability Coastal Cities Symposium (MAS)
- (二十一) [Report by APEC Center] Progress Report from the APCTP (APCTP)
- (二十二) Overview on the APEC Climate Symposium 2020 (APCC)
- (二十三) Presentation on Circular Economy Roadmap- Malaysia's Vision (MAS)
- (二十四) Presentation on Open Science Platform- Malaysia's Vision (MAS)
- (二十五) [CN] Research Network for Women in STEAM – Project PPSTI 01 2019A – Phase 2) (CHL)
- (二十六) Presentation on 2020 Activities: project PPSTI012019A and PPSTI052019 (CHL)
- (二十七) Enabling Policy Cooperation for the Air Pollution in the Asia Pacific with the Digital Innovative Technologies (ROK)
- (二十八) [CN] Workshop on APEC Joint Funding Research Program (INA)
- (二十九) [CN]Joint research on development of secure environmental radiation monitoring (RadMon) network among APEC Economies (INA)
- (三十) [CN]APEC Symposium on Blockchain technology applied to superfoods (PE)
- (三十一) [CN] Women mentoring training program in STI (PE)
- (三十二) [Report by APEC Center] ACTS annual report 2019 (ACTS)
- (三十三) [CN] APEC Forum on Digital Transformation: A Case study of AI BOX as a Service Model for Digital Healthcare and Smart

Manufacturing (CT)

肆、後續我方應配合辦理之工作

- 一、有關 PPSTI 「計畫摘要審查制度」仍需調整，秘書處於會後發送「PPSTI 審查小組建議案 (Protocol for PPSTI Review Panel)」，請各會員體針對旨揭建議案進行意見表述，秘書處彙整各會員體意見後將送主席、副主席審視。我國擬建議分組主席應為審查工作小組(Review Panel)當然成員，依據 PPSTI 策略規劃協助進行計畫構想書(Concept Note)之摘要內容評估，並建議自籌基金(Self-fund)提案維持原訂作法，不需納入審查工作小組(Review Panel)機制審查。
- 二、秘魯、韓國、泰國、馬來西亞邀請我國於 Project Session I 提案計畫擔任 Co-Sponsor，我國將於收到計畫構想書後進行評估與回覆。

伍、結論與建議

- 一、本年度第一階段 PPSTI 審查結果：計有 29 項計畫提案，經各分組主席於會議中討論，並由 PPSTI 領導層級確認後，通過其中 8 項計畫摘要，並按原第一階段提案時程進行後續作業，其餘提案得參照回覆意見修改或合併後延至第二階段提案，或調整至其他合適之工作小組進行倡議(詳如附件 3)。其中我國計 1 項計畫通過，係我國工研院服科中心提案「從智慧製造到健康照護：AI BOX 數位轉型之政策建議 (AI Policy Recommendation for Digital Transformation of AI Box from Smart Manufacturing to Healthcare)」後續將按 APEC 秘書處所訂時程進行第一階段提案作業。
- 二、我國工研院服科中心提出「從智慧製造到健康照護：AI BOX 數位轉型之政策建議 (AI Policy Recommendation for Digital Transformation of AI Box from Smart Manufacturing to Healthcare)」之計畫構想書摘要獲 PPSTI 審查工作小組原則性同意，以我國 AI 眼底鏡作為智慧醫療模組化之範

例，分享我國結合人工智慧及智慧製造創新技術以解決醫療資源不足之實際經驗，作為亞太各國推動醫療照護政策之重要參考。本案於2月28日遞交完整之計畫構想書，後續將與馬來西亞科技部就8月假檳城共同辦理數位健康照護相關論壇之可能性進行討論。

- 三、金屬中心本年度將以 Self-fund 辦理「Role of Policy Maker for Promoting Future Technology , Taking Autonomous Vehicle as Case Study」論壇，後續將持續就10月份活動針對各經濟體相關政策官員及專家、自駕車領域講師等對象進行邀請作業。
- 四、塑膠中心本次於 PPSTI 第 15 次會議在「循環經濟」專題以去年永續塑膠生態系成果進行報告，獲多國代表肯定，主辦經濟體馬來西亞表示後續共辦相關活動意願，亦邀請我國支持馬來西亞提案。建議塑膠中心可長期維繫與馬國相關研究單位及政府部門之互動，評估本案後續是否具雙邊合作之效益。
- 五、有關外交部請本處於109年APEC PPSTI 第15次會議期間與秘魯代表團就駐秘魯代表處與秘魯國家科技創新委員會(CONCYTEC)洽簽合作備忘錄之合作項目需求會談一案，會議辦理情形如下：
 - (一)CONCYTEC 之 Fabiola Leon-Velarde Servetto 主席未出席 PPSTI 第 15 次會議，由 CONCYTEC 國際合作處處長 Rocio Casildo 代表洽談，我方由 PPSTI 分組 C 主席臺北科技大學蘇評揮教授代表與秘魯代表進行溝通。
 - (二)會中本處將工業局提供我國在智慧城市政策推動經驗及相關成果之資料提供秘方參考，並轉達工業局邀請秘魯代表可於本年7月(暫定)來台參加智慧城市展。
 - (三)Rocio 女士提及秘魯相當重視智慧城市之發展，後續將持續與秘魯國內各單位溝通，確認較為明確之需求後，再與我方聯繫。
 - (四)會議結束返國後，本處已將秘方意見轉送工業局卓參。

陸、會議活動照片

一、APEC PPSTI 第 15 次會議大合照及與會情形



二、 我國金屬中心代表於「公私部門政策對話」論壇專題發表



三、 我國塑膠中心代表參與「循環經濟」專題發表



四、 我國工研院服科中心代表出席報告「AI 數位照護」提案



五、 我國災防中心代表遠端視訊出席報告案「ACTS annual report 2019」



六、 我國與祕魯國家科技創新委員會(CONCYTEC)洽商會談



附件 1：第 15 次 PPSTI 會議議程

15thAPEC Policy Partnership on Science, Technology and Innovation (PPSTI) Meeting Putrajaya, Malaysia 13-14 February 2020

Theme: Sustainable Innovation for Inclusive Growth

PPSTI 2020 Priorities:

- (1) Advancing STI for Sustainability – promote innovation for sustainability to support the transition to low carbon economy and circular economy through industry 4.0, digital technology and green technology, including green financing;
- (2) Research Connectivity for Commercialization – harness big data through open science initiatives to promote commercialization and to provide solutions for common challenges faced by APEC economies; and
- (3) Inclusivity in Science – promote social inclusion and gender equality in science; address STI advancement gap in APEC region by enhancing technological capacity in micro, small, and medium enterprises (MSMEs).

AGENDA	
Wednesday February 12th	
Venue: Putrajaya Ballroom II, Putrajaya Marriott Hotel	
09:00-18:00	APEC PUBLIC-PRIVATE DIALOGUE ON SCIENCE, TECHNOLOGY AND INNOVATION: CAPITALIZE ON RESEARCH AND DEVELOPMENT (PPSTI 01 2018 A)
08:30-09:00	Registration
09:00-09:30	OPENING & KEYNOTE ADDRESS by Datuk Ir. Dr. Siti Hamisah Binti Tapsir, Secretary General, Ministry of Energy, Science, Technology, Environment and Climate Change, Malaysia
09:30-10:00	Group Photo & Coffee Break
SESSION I Building the Innovation Economy Through Collaborative Networks Moderator: Mdm. Hazami Habib, CEO, Academy of Sciences Malaysia	
10:00-10:20	Emerging Technologies and STI Outlook by Mr. Michael Keenan, Senior Policy Analyst, Organisation for Economic Co-operation and Development (OECD)
10:20-10:40	Future of Work by Ms. Christina Schoenleber, Director (Policy & Programs) Association of Pacific Rim Universities (APRU)
10:40-11:20	STI Policy Governance i. Mr. Chen Linhao, Deputy Director-General, Department of International Cooperation, Ministry of Science and Technology (MOST), China ii. Mr. James Pitman, Department of Industry, Innovation and Science, Australia
11:20-11:40	Amplifying the Impact of Research in the 21 st Century by Professor Datuk Dr. Asma Ismail, President, Academy of Sciences Malaysia

AGENDA

	11.40-12:00	Enabling Research Connectivity Through Open Science by Professor Emerita Datuk Dr Mazlan Othman, Director of International Science Council Regional Office for Asia and the Pacific (ISC ROAP)
	12:00-12:30	Q & A
	12:30-14:00	Lunch Break
SESSION II Enterprising Future Technologies: Public-Private Partnership in STI		
Moderator: Dr. Rezal Khairi Ahmad, CEO of NanoMalaysia Berhad		
	14:00-14:20	Business Model and Prospects for Emerging Technologies by Mr. Nicholas Brooke, ABAC Principal Advisor for APEC PPSTI
	14:20-14:40	Role of Policy Maker for Promoting Future Technology Taking Autonomous Vehicle as Case Study by Ms. Nai Chi Shieu, Deputy Chief Metals Industry Research and Development Center (MIRDC)
	14:40-15:00	MSME and National Economic Development by Dr. Per Stenius, Founder, Chairman, CEO and CTO of Reddal Inc.
	15:00-15:20	Value Creation Through Academia-Industry Linkages by Mr. Jaffri Ibrahim, CEO of Collaborative Research in Engineering, Science and Technology (CREST)
	15:20-15:50	Q & A
	15:50-16:00	Coffee Break
Moderator: Mr. Jaffri Ibrahim, CEO of CREST		
	16:00-16:40	Financing and Incentivizing Green STI i. Mr. Shamsul Bahar Mohd Nor, CEO of Malaysia Green Climate Change (MGCC) ii. Ms. Surayu Susah, Director Malaysia Investment Development Authority (MIDA)
	16:40-17:20	R&D in Enterprises i. Mr. Sabran Samsuri, COO of Inari Amertron Bhd. on Industry 4.0 ii. Ir. Mohamad Adan Yusof, Founder and Advisor, Syngas Sdn. Bhd. on waste to energy
	17:20-17:40	Q & A
	17:40-17:50	Concluding Remarks by PPSTI 01 2018 A Project Overseer
	17:50-18:00	Closing Remarks by Dato' Parang Abai @Thomas Senior Undersecretary of Strategic Planning, Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), Malaysia

Thursday February 13th (Plenary Meeting - Day 1)
Venue: Adenium and Begonia Room, Palm Garden Hotel

09:00-10:00	OPENING SESSION	
	1. Welcoming, Opening Remarks and Introductions	
	1.1	Welcoming Message by Malaysia, Host of APEC Meeting
	1.2	Opening remarks by PPSTI Chair, Vice Chairs, and Principal Advisor
	1.3	Presentation on APEC 2020 Priorities (Malaysia SOM Office)

AGENDA	
	<p>2. Adoption of the Agenda</p> <p>3. Endorsement on PPSTI Work Plan for 2020</p> <p>4. Discussion and Possible Endorsement of PPSTI Backgrounder</p> <p>5. Business Arrangements for PPSTI 15 Day 1</p>
10:00-10:30	<i>Group Photo and Coffee Break</i>
10:30-11:15	<p>INTERSESSIONAL UPDATES</p> <p>6. APEC Project Updates (APEC Secretariat)</p> <p>7. Next Steps from Task Force on PPSTI Projects and review process (Chair)</p>
11:15-11:30	8. Presentation by Association of Pacific Rim Universities (APRU)
11:30-11:40	9. Presentation on APEC Centers Cooperation (APCTP) initiatives
11:40-12:00	<p>10. Report on Public-Private Dialogue Outcomes 10.a APEC Public-Private Dialogue On Science, Technology And Innovation: Capitalize On Research And Development (AUS)</p>
12:00-12:45	<p>11. PPSTI 2020 Priority (1): The Impact of Digital Technology and Industry 4.0 <i>This is a sub-topic under Priority 1 - Advancing STI for Sustainability. Presentations will explore the impact of digital technologies and how to seize the benefits of the digital economy for development (10 minutes per presentation).</i></p> <p>11.1 Presentation on digital connectivity by Organization for Economic Cooperation and Development (OECD)</p> <p>11.2 Cross-Fora Collaboration in Future of Works by Human Resource Development Working Group (HRDWG)</p> <p>11.3 Cross-for a collaboration on Resilient and sustainable developments in the APEC region by Emergency Preparedness Working Group (EPWG).</p> <p>11.4 Discussion: Potential PPSTI activities/actions to advance STI sustainability with Digital Technology</p>
12:45-14:00	Lunch Break
14:00-15:00	<p>12. PPSTI 2020 Priority (1): Towards a Circular Economy <i>This is a sub-topic under Priority 1 - Advancing STI for Sustainability. Presentations will explore the economic and environmental benefits of adopting</i></p>

AGENDA	
	<i>circular-economy strategies (10 minutes per presentation).</i>
	12.1 Cross-Fora Collaboration in Marine Litter by Oceans and Fisheries Working Group (OFWG) and Chemical Dialogue (CD)
	12.2 Presentation on Multi-year Policy Dialogue on Innovative Waste Management by Malaysia
	12.3 Presentation on Research and Innovation Roadmap for Circular Economy by APEC Center for Technology Foresight (CTF)
	12.4 Summary Report on APEC Self-funded Project of APEC Sustainable Plastic Eco-System: the Best Practice Sharing on Business Model Innovation and Technologies Implementation (endorsed by OFWG and PPSTI,CT)
	12.5 Discussion on PPSTI Actions in Circular Economy
15:00-16:00	<p>13. PPSTI 2020 Priority (1): The Challenges, Opportunities and Best Practices of Green Technology Financing <i>This is a sub-topic under Priority 1 - Advancing STI for Sustainability and a priority for the Host country. Presentations will explore the increasing world trend of making substantial investments in green technology and will focus on financing models (10 minutes per presentation).</i></p>
	13.1 Cross-Fora Collaboration in Financing Renewable Energy Technologies by Energy Working Group (EWG)
	13.2 Presentation on Best Practices Green Financing by World Bank
	13.3 Presentation on Green Technology Financing by Malaysia Green Technology and Climate Change Centre (MGCC)
	13.4 Discussion: Potential PPSTI activities/actions to advance STI sustainability through Green Technology Financing
16:00-16:30	<i>Coffee Break</i>
16:30-17:30	<p>14. Review of Progress PPSTI Strategic Plan 2016-2025 (Chair)</p>
	14.1 Report by Sub Group Leads on PPSTI activities analysis and way forward a. Report by Sub Group Leads on PPSTI activities analysis and way forward (PRC)
	14.2 Monitoring methods of activities in line with Strategic Plan
	14.3 Wrap up of Day 1 by PPSTI Chair

AGENDA	
Friday February 14th (Plenary Meeting Day 2) Venue: Adenium and Begonia Room, Palm Garden Hotel	
09:00-09:30	15. Business Arrangements for PPSTI 15 Day 2
09:30-11:30	<p>SUB-GROUP MEETINGS <i>Sub-groups will meet to hear updates on endorsed key projects and Centers as well as discuss ideas for policy recommendations and identify topics or any future CNs. - PO to propose presentation topics and Chair will assign to relevant Sub-group for evaluation. Each speaker will be given around 5 mins for sharing idea and 5 mins for collecting comments.</i></p>
	<p>16. Parallel 1: Building Science Capacity (Lead: Malaysia)</p> <ul style="list-style-type: none"> a. [Report by APEC Center] ACABT annual report 2019 (ACABT) b. [Report by APEC Center] Report on AMGS in 2019 (AMGS) c. [CN] APEC Young Scientist Program and Responsible Conduct of Research (MAS) d. [CN] Symposium on APEC Capacity Building of Cybersecurity Educators with Required Knowledge and Skills for Industry 4.0 (MAS) e. [CN] Capacity Building in Commercialisation for APEC Early Career Researchers (MAS) f. APEC Symposium on Utilization Renewable Energy in Isolated/ Remote Area with Intelligence Energy Management System (INA) g. Building regional capacity and knowledge in earth observations using data cube technology (AUS) h. [CN] Enhancing the potentiality of quality control for ionizing radiation metrology in Asia-Pacific region (THA) i. Earth and Marine Observations - APEC Framework, Economic Value and Future Work (AUS)
	<p>17. Parallel 2: Promoting Enabling Environment for Innovation (Lead: Philippines)</p> <ul style="list-style-type: none"> a. Presentation on Malaysian Commercialization Year (MAS) b. Presentation on Nanotechnology Ecosystem for the Fourth Industrial Revolution (MAS) c. [CN] Workshop on STEM Practitioners Development in APEC Region (MAS) d. [CN] Sustainable Green Framework for Property Maintenance (MAS) e. [CN] APEC Symposium on Enhancing Research Market Connectivity in the Commercialization Ecosystem (MAS) f. [CN] Forum on Facilitating Technology Commercialization Using Big Data (MAS) g. [CN] Enabling Policy Cooperation for the Air Pollution in the Asia Pacific with the Digital Innovative Technologies (ROK) h. [CN] APEC Extended Producer Responsibility (EPR) in Circular

AGENDA	
	<p>Economy Plastic Conference (MAS)</p> <ul style="list-style-type: none"> i. [CN] Laboratory Sustainability Initiative: Formulating Best Practices in Minimizing Single-use Plastics in Laboratories (MAS) j. [CN] APEC Sustainability Coastal Cities Symposium (MAS) k. Report by Sub Group Leads on PPSTI activities analysis and way forward(PRC)
	<p>18. Parallel 3: Enhancing Regional Science and Technology Connectivity (Lead: Chinese Taipei)</p> <ul style="list-style-type: none"> a. [Report by APEC Center] Progress Report from the APCTP (APCTP) b. Overview on the APEC Climate Symposium 2020 (APCC) c. Presentation on Circular Economy Roadmap- Malaysia’s Practice (MAS) d. Presentation on Open Science Platform- Malaysia’s Vision (MAS) e. [CN] Research Network for Women in STEAM – Project PPSTI 01 2019A – Phase 2) (CHL) f. Presentation on 2020 Activities: project PPSTI012019A and PPSTI052019 (CHL) g. [CN] Workshop on APEC Joint Funding Research Program (INA) h. [CN] Joint research on development of secure environmental radiation monitoring (RadMon) network among APEC Economies (INA) i. [CN]APEC Symposium on Blockchain technology applied to superfoods (PE) j. [CN] Women mentoring training program in STI (PE) k. [Report by APEC Center] ACTS annual report 2019 (ACTS) l. [CN] APEC Forum on Digital Transformation: A Case study of AI BOX as a Service Model for Digital Healthcare and Smart Manufacturing (CT)
	<i>Coffee Break runs during the Parallel Sessions</i>
11:30-12:30	19. Sub Group Leads report to PPSTI Chair
12:30-14:30	<i>Lunch Break</i>
14:30-15:30	<p>20. PPSTI 2020 Priority (2): How Big Data and Open Science is transforming the research landscape and policy-making.</p> <p><i>This is a sub-topic under Priority 2 - Research Connectivity for Commercialization. Presentations will explore how big data and open science are transforming research, impacting policy-making and our understanding of the socio-economic issues that affect humanity. Presentations will also explain how big data and open science spurs innovation and creates economic benefits (10 minutes per presentation).</i></p>

AGENDA	
	20.1 Presentation on Data Sharing by Committee on Data for Science and Technology (CODATA)
	20.2 Presentation on Research Connectivity by Dr. Ross Wilkinson
	20.3 Presentation on Open Science, Data Sharing and Digitalisation by Organization for Economic Cooperation and Development (OECD)
	20.4 Presentation on Joint Statement on Open Science by Malaysia
	20.5 Discussion: Potential PPSTI activities/actions to harness research connectivity for Commercialization with Big Data and Open Science
15:30-16:30	21. Way Forward for PPSTI 16 Meeting
	21.1 Update on the progress of 2020 APEC Science Prize for Innovation, Research, and Education (ASPIRE) by the US
	21.2 Setting agenda and deliverables for PPSTI 16 Meeting
	22. Women in STEM
	22.1 La Serena Roadmap
	22.2 Presentation on Women in STEM Principles and Actions Launch by the US
16:30-17:00	<i>Coffee Break</i>
17:00-17:30	23. Endorsement of Key Decisions of Summary Report (Chair)
	24. Closing Remarks by PPSTI Chair
End of PPSTI 15	

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.	李佩育 PEI YU, LEE	Section Chief Department of International Cooperation and Science Education, Ministry of Science and Technology
4.	蘇評揮 PING-HUEI, SHU	Advisor Headquarter, Industrial Technology Research Institute
5.	徐基生 CHI-SHENG, HSU	Director Headquarter, Industrial Technology Research Institute
6.	張傳育 CHUAN-YU CHANG	Chief Technology Officer Service Systems Technology Center, Industrial Technology Research Institute(SSTC, ITRI)
7.	黃琬婷 WAN-TING, HUANG	Project Manager Headquarter, Industrial Technology Research Institute
8.	沈郁婷 YU-TING, SHEN	Researcher Headquarter, Industrial Technology Research Institute
9.	朱正永 CHEN-YEON, CHU	Associate Professor, Feng Chia University Executive Secretary, APEC Research Center for Advanced Biohydrogen Technology
10.	關佩云 PEI-YING KWAN	Manager Feng Chia University
11.	李維森 WEI-SEN, LI	Secretary General National Science and Technology Center for Disaster Reduction
12.	薛乃綺 NAI-CHI SHIEU	Deputy Chief Metal Industries Research and Development Centre
13.	蔡政修 CHENG-HSIU, TSAI	Leader, Sustainable Enterprise Group Plastics Industry Development Center

附件 3：PPSTI 第 15 次會議之計畫摘要審查結果與建議

PPSTI 15 Project Summaries – Results and Comments

Project summaries to move to the full concept note phase in this cycle:

	Economy	Project Title	Comments
1.	NZ	Strengthening the interface between indigenous knowledge and national science systems	Project supported. But Review Panel notes that New Zealand has identified that it will not progress the proposal until the next funding round. Peru was also suggested to contact New Zealand to discuss possible cooperation and incorporation of their CN into this proposal.
2.	CT	APEC Forum on Digital Transformation – A Case study of AI BOX as a Service Model for Digital Healthcare and Smart Manufacturing	Suggestions for the full CN: <ul style="list-style-type: none"> • Currently project is very narrowly focused on one company’s single technology solution rather than a suite of technology solutions that could be expanded upon. Expanding the focus to a suite of technology to make it more applicable to a broader range. • Pleased that the project is cross collaborating with HWG, recommend to consider collaborating with TELWG.
3.	MAS1	APEC Symposium on Enhancing Research-Market Connectivity in the Commercialization Ecosystem	Suggestions for the full CN: <ul style="list-style-type: none"> • Identify a strong and clear role for private sector and academic partners, in addition to governments. • Identify a long-term policy goal/output. • MUST remove reference to technology transfer and replace it with technology commercialization. • Define “capability-limited stakeholder”.
4.	PE4	APEC Symposium on Blockchain technology applied to superfoods	Suggestions for the full CN: <ul style="list-style-type: none"> • Clearly define or delete “superfoods”.
5.	ROK1	APEC Climate Symposium 2020	Suggestions for the full CN: <ul style="list-style-type: none"> • The question of what this symposia builds on from the past was mentioned (to build on the lack of a communication strategy on climate change) but this needs to be further explained in details. • Pleased that the PO has connected with EPWG, and that the PO is seeking funding from both PPSTI and the APEC Human Security Fund.
6.	ROK2	Enabling Policy Cooperation for the Air Pollution in the Asia Pacific with the	Suggestions for the full CN: <ul style="list-style-type: none"> • The timeline of the project is an issue as our understanding of APEC

		Digital Innovative Technologies	<p>projects is that they must be completed within one year. Suggest to identify a specific part of the project that could go forward in one year.</p> <ul style="list-style-type: none"> • An assessment of current risks could be developed and then a workshop held on sharing digital technologies and research priorities related to the specific risks identified. • Include a clear opportunity for PPSTI to bring together governments, the private sector, and academic communities to discuss policy recommendations related to application of technologies to address air pollution.
7.	PRC1	APEC Capacity Building Training on Digital Transformation	<p>Suggestions for the full CN: Proposal needs to build a stronger tie to PPSTI’s activities. While STEM education and use of technology is important and much work has already been done in the area, the PO will have to think beyond this proposal and focus on how this impacts the science and technology enterprise. Suggest that this proposal should connect with HRDWG and EDNET. Rather than an online activities, suggest that PO consider an event sharing best practices and developing a report or policy recommendation based on practices in this area around the region for others to reference, rather than a course. That report or policy could be integrated by many different organizations in economies as they develop their own curricula.</p>
8.	MAS8	Forum on Facilitating Technology Commercialization using Big Data in APEC Member Economies	<p>Suggestions for the full CN: This is an interesting concept, but requires reconsideration of the term “technology transfer” (suggest “technology commercialization”?). Suggest that a policy tie be clearly articulated. Focus is heavily on teaching a certain type of professional how to mine big data rather than on a policy or ecosystem to support information sharing. This would need to be addressed.</p>

Self-funded project summaries move to the full concept note phase in this cycle:

1.	AUS	Building regional capacity and knowledge in earth observations using data cube technology	Supported.
2.	ROK	Air pollution workshop	PO should ensure no duplication between this project and ROK2 or merge to one project.

Projects that can be resubmitted in the next cycle:

	Econom	Project Title	Comments/Suggestions	Comments
--	--------	---------------	----------------------	----------

	y			
1.	CHL	Research Network for Women in STEAM – Project Phase 2	Suggest deferring to round 2	Not ready for Phase 2 since Phase 1 has not been completed.
2.	PE3	Women's mentoring training program at STI volunteers	Suggest deferring to round 2	Needs significant work and unclear if this is relevant to APEC activities. Need clearer idea of what policies or more long-term products will be resulting
3.	MAS9	Capacity Building on Digital Practices in the Construction Industry	Send to another WG; unclear which one.	While we recognize the role of technology in this, we believe that PPSTI's work should be focused on more cross-cutting science and technology infrastructure policies or practices and not in niche fields or applications. This is a bit too focused on one industry and not broader PPSTI-relevant policies and so cannot endorse. Suggest considering another fora to collaborate with.
4.	MAS11	Workshop on STEM Practitioners Development in APEC Region	Suggest deferring to round 2	While there is value in this type of training, but there needs to be a product that can be used again or a stronger policy angle to this project.
5.	MAS4	APEC Extended Producer Responsibility (EPR) in Circular Economy Plastic Conference	Send to OFWG and CD	There are multiple ongoing conversations in different APEC fora regarding circular economy and plastics. While science and technology has a role in this, it is unclear whether PPSTI should be the lead/proposer on this topic unless the focus is more narrowly on the research and development of technologies that inform this.
6.	MAS5	APEC Sustainable Coastal Cities Symposium	Send to OFWG	While the project idea has support, it requires a strong connections and endorsement to the Ocean and Fisheries Working Group and their ongoing work stream. The OFWG has an ongoing self-funded concept note in this same area with the Ocean Conservancy.
7.	MAS6	Symposium on APEC Capacity Building of Cybersecurity Educators with Required Knowledge and Skills for Industry 4.0 in the Institutions of Higher Learnings	Send to HRDWG/EDNET, potentially as a jointly endorsed project	Suggest connecting with the SCSC and HRDWG/EDNET to ensure this doesn't duplicate work ongoing in very similar lines of effort. Recommend that a redefined scope is needed before this proposal could be considered again. The proposal needs to articulate how APEC economies beyond Malaysia would benefit. Need to articulate why the CN is focused on older researchers rather than new

				researchers – the subgroup presentation did not provide this information clearly.
8.	MAS2	APEC Government Green Procurement (GGP) Conference and Workshop	Send to EC or IEWG	This is not within the range of PPSTI's activities. Recommend sending to another group perhaps EC or IEWG.
9.	MAS3	APEC Sustainable Financing Conference & Workshop	Send to EC, Finance Min Track or IEWG	This is not within the range of PPSTI's activities. Recommend sending to another group perhaps EC, Finance Min Track, or IEWG.
10.	PRC2	Capacity Building Workshop on Promoting Participation of Youth Female in STEM and Innovation Entrepreneurship	Changes Suggested	Proposal needs to clearly tie to the work already done and how it will build on that work and not duplicate it. Suggest that there be strong policy outcome from the project.
11.	PRC3	Policy Workshop on New Emerging Technology in Digital Society	Changes Suggested	Note: the PO indicates more time will be needed for topic study and investigation of other WGs taking into consideration of the comments from the review panel and will consider submitting in next session. While discussing emerging technologies is an important consideration in the work of PPSTI, however several other APEC working groups are also involved in these technologies and would need to be consulted before moving this proposal forward. Some of those groups include the TELWG and the DESG. The proposal is too broad and ask that this concept note be focused more on one aspect of considerations for emerging technologies.
12.	MAS10	Laboratory Sustainability Initiative: Formulating Best Practices In Minimizing Single-Use Plastics In Laboratories	Changes Suggested	Request that this idea be developed together with the HWG because the same equipment is used in medical settings.
13.	MAS12	Capacity Building Workshop Towards Supporting Open Science For APEC	Changes Suggested	While there is support of this topic, the proposal could focus on best practices for data sharing or on technical challenges rather than platform building. While the proposal touches this it could be strengthened. It seems that these important discussions have not yet occurred before undertaking the development of a platform.
14.	PE1	Symposium and workshop: The approach of science and technology	Changes suggested	Suggest talking with NZ about combining.

		to the knowledge obtained from traditional and ancestral practices through conservation of biodiversity of the APEC economies.		
15.	MAS7	Capacity Building in Commercialization for APEC Early Career Researchers	Changes suggested	While the proposal is interesting the scope is too broad, lacks details about what is to be achieved and no articulation of how it would be rolled out across APEC economies. Resubmission requires major modification of the proposal.
16.	INA	APEC Symposium on Utilization Renewable Energy in Isolated/ Remote Area with Intelligence Energy Management System	Send to EWG	Suggest that the PO connect with EWG to review the proposal as PPSTI lacks the technical knowledge to endorse the project.
17.	INA	Workshop on APEC Joint Funding Research Program	Changes suggested	Needs more details, this seems to be a workshop to plan a joint funding research program. No project summary shared.
18.	INA	Joint research on development of secure environmental radiation monitoring (RadMon) network among APEC Economies	Send to another group	Unclear if this project falls under PPSTI or may need to be cross collaborated with another fora. Project summary was not submitted.
19.	Thailand	Ionised Radiation Metrology	Send to SCSC	Proposal needs to be clearly tied to PPSTI activities, otherwise suggest that it be considered by the SCSC.
20.	Thailand	WiSTEM	Suggest deferring to round 2	The presentation of the proposed project seems interesting, however the CN summary for the project was not circulated beforehand. Suggest submission of a full CN proposal. Feedback also indicated that the Project Overseer should consider asking for more APEC funding noting the high level of co-contribution.
21.	PE2	(PROSPECTA APEC) Symposium of Strategic Foresight Scenarios for sustainable development (FS): Best Practices in order to increase the development of the APEC Region	Changes suggested	Suggest connecting with Australia as the proposal's aim of fore sighting requirements may be covered in Australia's self-funded proposal for Earth and Marine Technologies The proposal would benefit from greater clarity on the linkages to STI Policy (i.e. STI for Sustainable Development). Greater clarity on the linkages with the "digitalization

				<p>of work” theme would strengthen this proposal. As well as greater clarity on the ‘tools’ to be studied. For further development of the CN, it would be beneficial to narrow the focus of this proposal to a few select challenges to ensure a feasible project timeline. To strengthen the proposal, suggest including a best practices document or list of policy recommendations that could be shared with PPSTI members.</p>
--	--	--	--	--

附件 4：PPSTI 摘要決議總結報告

Endorsement of Key Decisions of Summary Report

Endorsed Workplan 2020

Endorsed Backgrounder – to be published on the PPSTI website

Agreement to create a PPSTI Review Panel:

- A Review Panel will receive and review concept note summaries, provide feedback, and they will make their recommendations to the Governing Board
 - Session 1: Aus, US, and Canada comments + sub-group recommendations; GB will decide by Feb 18th.
 - Session 2: open for any economy that would be interested by April 1st

Creation of a PPSTI Concept Note Protocol document

- Provides a written guideline and checklist for project overseers
- Economies to review document by the Feb 28

Progress on the review of the Strategic Plan, moving forward

- The PPSTI Governing Board lead the review and consult with economies on proposed changes

Suggestion to APEC Secretariat

- To consider that projects be allowed to have be endorsed by multiple APEC working groups.

PPSTI 16 topics

- Multiple suggestions were made but general consensus to cover the topic of Open Science through a Policy Seminar which includes ABAC, private sector and academic engagement.