

出國報告（出國類別：國際會議）

出席APEC 2025第三次資深官員會議 化學對話暨緊急應變工作小組

服務機關：環境部化學物質管理署
姓名職稱：連琬玟高級環境技術師、李偉專員
派赴國家：韓國仁川
出國期間：2025年7月29日至8月7日
報告日期：2025年9月8日

摘要

亞太經濟合作 (Asia-Pacific Economic Cooperation, APEC) 成立於1989年，為一區域性經濟合作論壇，目前會員經濟體為21個，旨在提升亞太地區的地區性互助合作發展，加速區域整合，提供更為多元安全創新且穩定發展的經濟成長環境。

我國於1991年以中華台北 (Chinese Taipei) 的名義，與中國及香港同時加入 APEC，是我國參加國際經濟合作重要的管道與平臺；設置於貿易暨投資委員會 (Committee on Trade and Investment, CTI) 下的化學對話 (Chemical Dialogue, CD)，起源於2000年汶萊的部長級年會，與會成員對於設立由產官界代表組成的化學對話表示歡迎後，應運而生。

環境部化學物質管理署，自2020年起出席化學對話，迄今已參與12屆（第24屆至第35屆）化學對話全體會議暨相關會議。

2025年 APEC 主辦國為韓國，其中，第三次資深官員會議 (The First Senior Officials' Meeting, SOM3) 於仁川舉行，本團於 SOM3會議期間，出席以下會議：

- 第35屆化學對話全體會議；
- 化學對話產業預備會議 (Industry Pre-Meeting, IPM)；
- 化學對話工作坊：塑膠回收最新技術及其政策應用；
- 化學對話工作坊：建構 APEC 化學產業供應鏈韌性；
- 第21屆緊急應變小組 (Emergency Preparedness Working Group, EPWG) 全體會議；
- 第18屆災害管理資深官員論壇 (Senior Disaster Management Officials' Forum, SDMOF)。

另一方面，由於 CD 的職權範圍 (Terms of Reference, ToR) 將於2025年12月31日到期；在長期參與 CD 的美國政府代表堅持下，CD 的 ToR 到期後不再延長；換言之，CD 即將落日 (sunset)。面對此 CD 成立25年以來的重大變化，目前多個經濟體的產業代表傾向以「開路者倡議」(Path Finder Initiative, PFI) 模式，延續化學相關領域未來於 APEC 的討論場域。由於「開路者倡議」相關規劃尚在討論階段，我國後續的參與型態，將視「開路者倡議」發展而進一步決定。

目次

摘要	1
目次	2
目的	4
過程	5
一、第21屆緊急應變小組全體會議	6
二、第18屆災害管理資深官員論壇	7
三、緊急應變小組暨災害管理資深官員論壇實地考察	9
四、緊急應變小組工作坊：賦能、包容性、韌性城市與社區，以促進永續發展	11
五、標準及符合性次級委員會工作坊：人工智慧標準—建構永續 AI 生態系統	13
六、化學對話工作坊：塑膠回收最新技術及其政策應用	14
七、化學對話工作坊：建構 APEC 化學產業供應鏈韌性	17
八、化學對話產業預備會議	19
九、第35屆化學對話全體會議	20
心得與建議	23
一、觀察與心得	23
二、建議	23
附錄	26
一、第21屆緊急應變小組全體會議議程	26
二、第21屆緊急應變小組全體會議—化學署緊急應變簡報	30
三、第18屆災害管理資深官員論壇議程	33
四、緊急應變小組工作坊：賦能、包容性、韌性城市與社區，以促進永	

續發展議程	37
五、標準及符合性次級委員會工作坊：人工智慧標準—建構永續 AI 生態系統議程	47
六、化學對話工作坊：塑膠回收最新技術及其政策應用議程	49
七、化學對話工作坊：建構 APEC 化學產業供應鏈韌性議程	51
八、化學對話產業預備會議議程	55
九、第35屆化學對話全體會議議程	57
十、第35屆化學對話全體會議—化學署法規更新簡報	63
十一、第35屆化學對話全體會議—化學署緊急應變簡報	65

目的

環境部化學物質管理署自2020年起參與化學對話，累積已參與12屆（第24屆至第35屆）的化學對話會議，逐步熟悉 APEC 次級論壇運作。

惟化學署業務除與 APEC 化學對話有所連結以外，亦與緊急應變、相關國際標準息息相關，因此，此次會議除出席固定與會的化學對話產業預備會議 (IPM)、化學對話全體會議 (Chemical Dialogue Plenary Meeting)，由化學對話經濟體舉辦的工作坊以外，此次首次出席緊急應變小組 (EPWG)，以及災害管理資深官員論壇 (SDMOF)，藉由不同面向的次級論壇，除掌握國際間化學物質管理相關議題外，亦能瞭解與化學署密切相關的緊急應變、標準制定，以及跨部門合作等議題，拓展參與範疇。

透過此會議，掌握國際化學物質品動態，參酌相關政策經驗，協助推動國內相關措施，目的如下：

- 掌握國際間最新化學物質管理政策、發展及趨勢；
- 傳遞我國化學物質管理及緊急應變作法至國際社會；
- 建立化學管理及緊急應變利害關係人的國際網絡；
- 促進我國化學及緊急應變相關的國際人才養成。

整體而言，經由多方交流，加強與各經濟體及 APEC 工作小組合作，提升國際能見度。

過程

本次出國時間共10日，行程如下：

表1 韓國仁川 APEC 會議行程

日期	天數	地點	行程
7/29（二）	第1天	臺北→韓國仁川	啟程
7/30（三）	第2天	韓國仁川	第21屆緊急應變小組全體會議
7/31（四）	第3天	韓國仁川	第18屆災害管理資深官員論壇
8/1（五）	第4天	韓國仁川	緊急應變小組暨災害管理資深官員論壇實地考察
8/2（六）	第5天	韓國仁川	緊急應變小組工作坊：賦能、包容性、韌性城市與社區，以促進永續發展 第1天
8/3（日）	第6天	韓國仁川	緊急應變小組工作坊：賦能、包容性、韌性城市與社區，以促進永續發展 第2天
8/4（一）	第7天	韓國仁川	化學對話工作坊：塑膠回收最新技術及其政策應用
8/5（二）	第8天	韓國仁川	化學對話工作坊：建構 APEC 化學產業供應鏈韌性、化學對話產業預備會議
8/6（三）	第9天	韓國仁川	第35屆化學對話全體會議
8/7（四）	第10天	韓國仁川→臺北	返程

此次前往出席會議的本團成員，計5人，名單見下表。

表2 出席 APEC 會議之本團成員

成員	所屬單位 / 職稱
連琬彤	環境部化學物質管理署 / 高級環境技術師
李偉	環境部化學物質管理署 / 技士
陳政任	南區毒災應變諮詢中心 / 主任 國立高雄科技大學 環境與安全衛生工程系 / 特聘教授
林俊旭	財團法人中華經濟研究院綠色經濟研究中心 / 主任
薛翔之	財團法人中華經濟研究院綠色經濟研究中心 / 分析師

以下按照會議時間先後順序，詳細說明此次出席會議的會議重點。

一、第21屆緊急應變小組全體會議

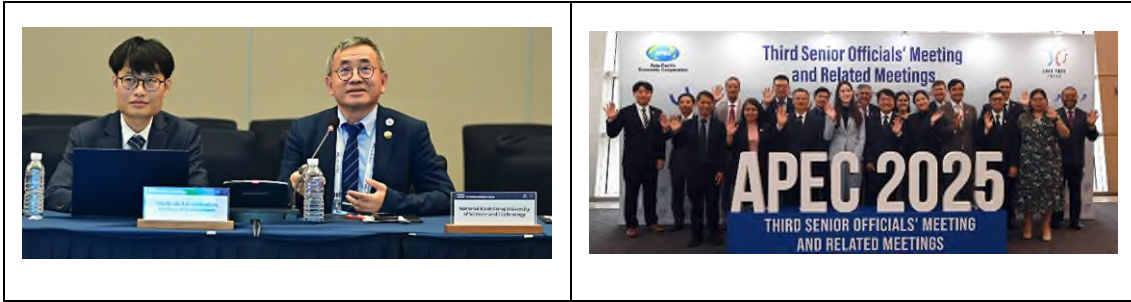
(一) 時間：2025年7月30日

(二) 主軸：第21屆 EPWG 全體會議聚焦在社區韌性、跨部門合作及科技應用等議題，並回顧EPWG過去兩年的工作成果，以訂定2025-2027年的策略。

(三) 討論議題

1. 社區為核心：災害應變需依賴基層，強化社區領導力是提升韌性的關鍵。
2. 科技應用：AI、大數據、衛星監測、物聯網已成為災害風險管理主流工具，但需克服數據資訊零碎與標準不一致問題。
3. 跨部門合作：地方—中央—區域—國際需建立制度化合作，避免執行的盲點與中央過度集權。
4. 教育與培訓：多個經濟體強調持續訓練與知識分享，並將青年與弱勢群體納入防災教育。
5. 國際合作：將新興風險治理與科技應用納入 APEC 2025-2027年 EPWG 策略，並持續與聯合國防災減災辦公室 (United Nations Office for Disaster Risk Reduction, UNDRR) 及東協 (Association of Southeast Asian Nation, ASEAN) 等機制合作。

(四) 化學署發言：提案成果：我國環境部化學物質管理署李偉技士和國立高雄科技大學陳政任主任共同說明2024年執行 APEC 自籌經費提案—「化學緊急應變能力建構培訓計畫」(Capacity Building for Chemical Emergency Preparedness) 的成果，並預告將申請 APEC 補助經費提案。



資料來源：APEC 官網；左圖為環境部化學物質管理署李偉技士和國立高雄科技大學陳政任主任、右圖為各經濟體團長合照

圖1 出席第21屆緊急應變工作小組

（五）未來建議：EPWG 強調應變不是終點、而是過程；透過制度、科技與社區的結合，持續提升 APEC 防災韌性，並經由更新版「災害風險減災架構與行動計畫」，以及新一期的工作任務，持續推動工作。後續推動方向包括：

1. 早期預警系統量能與差距評估。
2. 建立社區領導力最佳實務資料庫。
3. 持續跨論壇合作，例如：化學對話 (CD)、政策夥伴關係—科學、技術與創新 (Policy Partnership on Science, Technology and Innovation, PPSTI)、亞太氣候中心 (APEC Climate Center, APCC)。
4. 規劃 EPWG 模擬演練計畫，測試跨境合作與創新概念。

二、第18屆災害管理資深官員論壇

（一）時間：2025年7月31日

（二）主軸：第18屆災害管理資深官員論壇 (SDMOF) 聚焦於新興風險辨識、早期預警系統、以及數位科技應用，並強調多層級治理與跨部門合作，以提升亞太地區的災害韌性。討論涵蓋：

1. 氣候變遷與都市化帶來的複合型災害。
2. 太空天氣與新型科技風險。
3. 社區參與與公私合作。
4. 數據治理、AI 與大數據在災害管理中的應用。

（三）共識

1. 新興風險日益加劇：氣候變遷、科技依賴與基礎設施老化，使災害更複雜難測。
2. 法制與制度需改革：現行法律多不足以涵蓋跨界風險，例如：地下設施火災、電網中斷。
3. 數據與科技應用：各國普遍發展 AI、地理資訊系統、衛星監測，但仍需解決資訊標準不一致問題。
4. 社區與公私合作：多個經濟體強調「人本導向」，必須將民眾、社區、企業納入風險治理。
5. 國際合作：與會者支持將新興風險治理納入 APEC 2025-2027年策略，並與聯合國防災減災辦公室及東協等強化合作。

（四）未來建議

1. 建立標準化的新興風險通報與數據平台。
2. 推動跨部門、跨層級治理模式，涵蓋社區到國家層級。
3. 投資 AI 與數位科技，提升預警與決策能力。
4. 強化保險與風險轉移機制，分散財務風險。
5. 擴大跨區域演練與培訓，提升聯合應變能力。



資料來源：本團攝影

說明：我代表團合照

圖2 出席第18屆災害管理資深官員論壇

三、緊急應變小組暨災害管理資深官員論壇實地考察

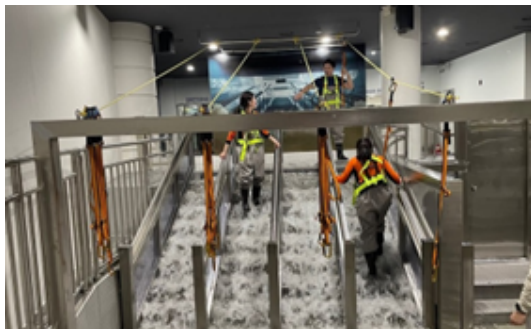
(一) 時間：2025年8月1日

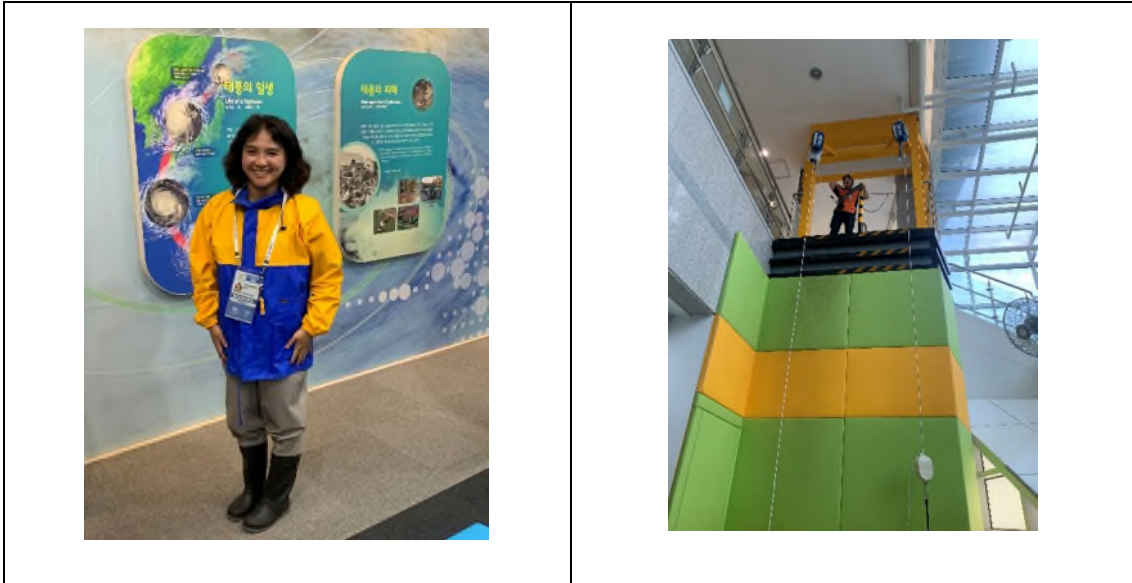
(二) 背景：隨緊急應變小組和災害管理資深官員論壇所安排的考察，前往位於首爾的安全體驗中心 (Boramae Safety Experience Center)，進行災害體驗，以及參訪仁川智慧城市綜合營運中心 (Incheon Smart City Integrated Operation Center)及 G-Tower 瞭望台。

(三) 摘要

1. 韓國首爾安全體驗中心：位於首爾的綜合防災教育館，透過模擬地震、火災、洪水及交通事故等情境，提供實際操作的體驗課程，提升應變與自我保護能力，是首爾市推動公共安全教育的重要設施。
2. 仁川智慧城市綜合營運中心：以物聯網、大數據與人工智慧技術整合交通、治安、消防、環境監測等城市管理系統，24小時監控並即時調度資源，落實智慧城市治理與市民安全保障。

3. G-Tower 瞭望台：座落於仁川松島國際業務區，是國際機構與智慧城市機構的核心辦公地。其瞭望台可俯瞰松島全景，展示韓國綠色建築與智慧城市發展成果，也是國際訪客瞭解仁川發展的象徵性地標。





資料來源：APEC 官網、本團攝影

圖3 出席緊急應變小組暨災害管理資深官員論壇實地考察

四、緊急應變小組工作坊：賦能、包容性、韌性城市與社區，以促進永續發展

（一）時間：2025年8月2日至8月3日

（二）主軸

1. 韌性思維主流化：強調從傳統「災後應變」轉向「災前預防」與「系統設計」，將韌性視為跨部門決策的基礎。
2. 科技與創新應用：推動數據共享、AI、衛星監測與模擬技術，加強早期預警與社區規劃能力。
3. 社區參與與包容性：注重弱勢群體（婦女、兒童、原住民、微中小企業）在減災及復原中的角色與需求。
4. 跨部門與跨經濟體合作：促進公共與私部門夥伴關係（PPP）。

（三）經濟體分享

1. 日本：分享大型地震災害經驗，強調設立復興廳及即將成立災害管理廳，以提升整合能力；運用無人機、行動藥局與臨時屋加速復原。
2. 紐西蘭：介紹與毛利社群合作的早期預警與社區自主方案，並建立「自然災害韌性夥伴關係」串連政府與保險部門，共同分擔災後恢復責任。

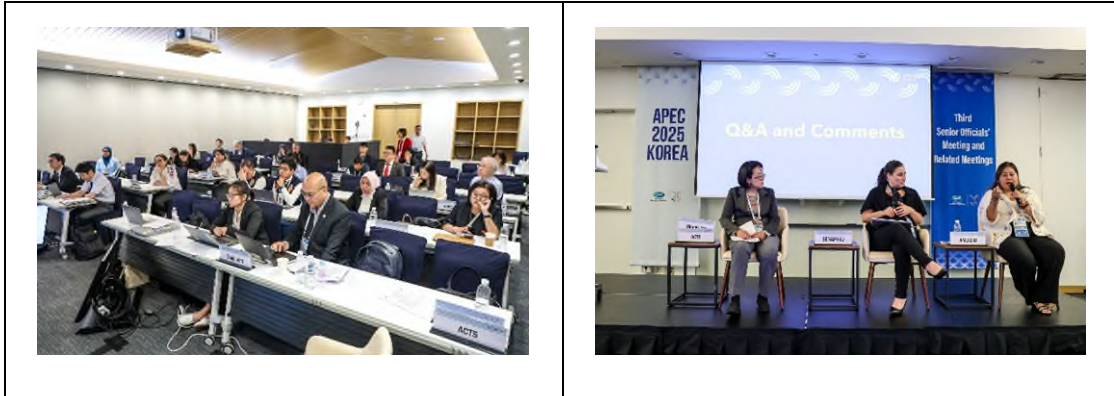
3. 印尼：提出性別與氣候變遷行動計畫，聚焦婦女、兒童與弱勢群體的災害因應能力。
4. 越南：推動智慧城市治理，應用 AI、衛星與大數據於都市防災與規劃。
5. 馬來西亞：透過「地方與特定區域規劃」整合減災，並導入社區參與及脆弱性分區圖。
6. 墨西哥：分享大地震經驗，強調早期警報系統、社區委員會及跨語言資訊傳遞的重要性。
7. 秘魯：發展科技移轉與創新平台，例如：技術成熟度等級 (Technology Readiness Level, TRL) 工具，促進公私部門合作。

（四）各經濟體高度關注議題

1. 如何在保護商業利益的同時，促進企業與政府共享數據以提升早期預警？
2. 如何建立永續財務機制，確保私部門參與減災系統建設，例如：警報器與通訊平台？
3. 如何強化婦女、兒童、身心障礙者及原住民的參與與保護？
4. 宗教場所與在地文化網絡在災害應變，可支援的功能？
5. 在斷電或網路中斷時，如何確保科技解決方案仍能運作，例如：傳統警報器與低成本工具？

（五）共識

1. 韌性需成為跨部門決策核心：不僅是技術問題，更關乎社會包容、經濟穩定與區域合作。
2. 早期投資具高報酬：強調在預警、基礎建設與社區培力上的前置投入，可減少生命與經濟損失。
3. 多元利害關係人合作：APEC 平台應促進政府、學術界、企業與社區的共同參與。
4. 知識共享與實際落地：應將工作坊成果轉化為可執行的專案、演練與合作機制，以確保持續性與可行性。
5. 未來方向：2027年日本仙台將舉辦亞洲部長級減災會議，將展示新技術、推廣最佳實務，並強化合作。



資料來源：APEC 官網

圖4 出席緊急應變小組工作坊

五、標準及符合性次級委員會工作坊：人工智慧標準—建構永續 AI 生態系統

（一）時間：2025年8月2日

（二）背景

1. 此為韓國提案。

2. 人工智慧 (AI) 正以前所未有的速度革新、影響全球各行各業。隨著 AI 技術快速發展，確保互通性的標準變得日益重要。這項由產業主導的提案，匯集 AI 科技公司、產業領袖及中小型企业 (SMEs)，以共同因應挑戰。

（三）目的：此提案旨在透過交流 AI 標準化的知識與最佳實踐，促進 APEC 經濟體 AI 服務與產品的貿易，並達成以下目標：加強合作、減少重複、提升 AI 標準制定過程中的互通性。透過會議，經由產業主導的討論、技術研討會及政策對話，促進 AI 標準化、監管及符合性評估相關的最佳實踐與經驗交流，以降低監管複雜性、促進貿易，並確保數位經濟的透明度，進而推動永續的經濟成長。



資料來源：本團攝影

圖5 出席標準及符合性次級委員會工作坊

六、化學對話工作坊：塑膠回收最新技術及其政策應用

（一）時間：2025年8月4日

（二）背景

1. 此為韓國提案。
2. 全球每年產生逾一億噸的塑膠，處理不當，將造成嚴重環境與健康問題，有賴跨國合作。

（三）現況

1. 全球：塑膠使用持續上升，回收率普遍偏低，全球僅約 9–12%被回收。
2. 印尼：年塑膠廢棄物約550萬噸，僅一成被回收，多由非正式部門完成。
3. 越南：每年約380萬噸塑膠廢棄物，回收率低於15%，一次性塑膠禁令逐步推行。
4. 菲律賓：每年270萬噸塑膠流入環境，已有法規（2022年） 要求大型

企業逐步達80%回收目標。

5. 歐盟 / 韓國：推動強制再生料含量標準（2030年10–35%，2040年25–65%）、相關禁令及稅制誘因。

（三）挑戰

1. 技術瓶頸：多層複合材料幾乎無法回收。
2. 數據缺口：各國缺乏一致且透明的塑膠流向與回收率數據，難以制定基線與追蹤成效。
3. 結構問題：非正式部門高度依賴塑膠回收維生，延伸生產者責任推行後可能受衝擊；地方政府回收能力不足。
4. 區域落差：回收設施集中於大城市或少數地區，例如：印尼爪哇島，其他地區收集能力不足。

（四）因應

1. 政策與標準：推動 APEC 塑膠廢棄物資訊平台，並制定區域統一標準，例如：再生含量、包裝厚度、可回收設計。
2. 技術與投資：發展 AI 自動分選、化學回收與創新再利用，例如：以混合塑膠製成建材。
3. 社會參與：強化教育與文化轉變，培養下一代分類與循環習慣；結合 PPP 模式（公私合作），支持社區與中小企業參與。
4. 區域合作：發展 APEC 層級循環經濟藍圖，並透過資金與技術轉移協助開發中經濟體。



資料來源：APEC 官網

圖6 出席化學對話工作坊

七、化學對話工作坊：建構 APEC 化學產業供應鏈韌性

（一）時間：2025年8月5日

（二）背景

1. 此為美國提案。
2. 化學品重要性不言而喻，應用遍及武器系統、能源、防護裝備與藥品等。供應鏈中斷將直接影響效能與安全，面對 COVID-19、大國競爭、網路攻擊與極端氣候等風險，需降低對單一來源依賴，建立多元、區域化與具韌性的供應網絡，因此，需透過跨部門合作與政策工具，例如：激勵措施，以強化供應鏈韌性、推動技術轉移並確保策略自主性。

（三）討論及因應

1. 供應鏈演變三階段：降低成本→提升可靠性→強調永續與韌性。
2. 數位化（AI、大數據）與國際合作是未來核心。
3. 中小企業常因符合法規成本過高而難以參與，需要政策支援。
4. 泰國經驗：聚焦塑膠及化工產業供應鏈，強調高值化產品開發與政策誘因，例如：延伸生產者責任。
5. 馬來西亞經驗：透過「產業大藍圖2030」推動數位平台，促進多元供應商策略，減少單一市場依賴。
6. 跨國產業經驗：需在上游（原料）與下游（終端產品）同時進行風險管理，並透過數位化提升透明度。
7. 橡膠與基礎化學品市場波動大，未來投資應轉向高附加價值與永續應用。
8. 未來面臨地緣政治衝突、環境政策趨嚴，以及基礎設施老化等挑戰。因此，宜盡速：（1）建立區域性「化學品供應鏈透明平台」；（2）推動 APEC 層級最佳實務指南，該指南涵蓋數位化、綠色供應鏈、風險管理；（3）強化跨境基礎建設投資，例如：高速鐵路、港口改善等；（4）促進教育與技術培訓，特別是中小企業與開發中經濟體。

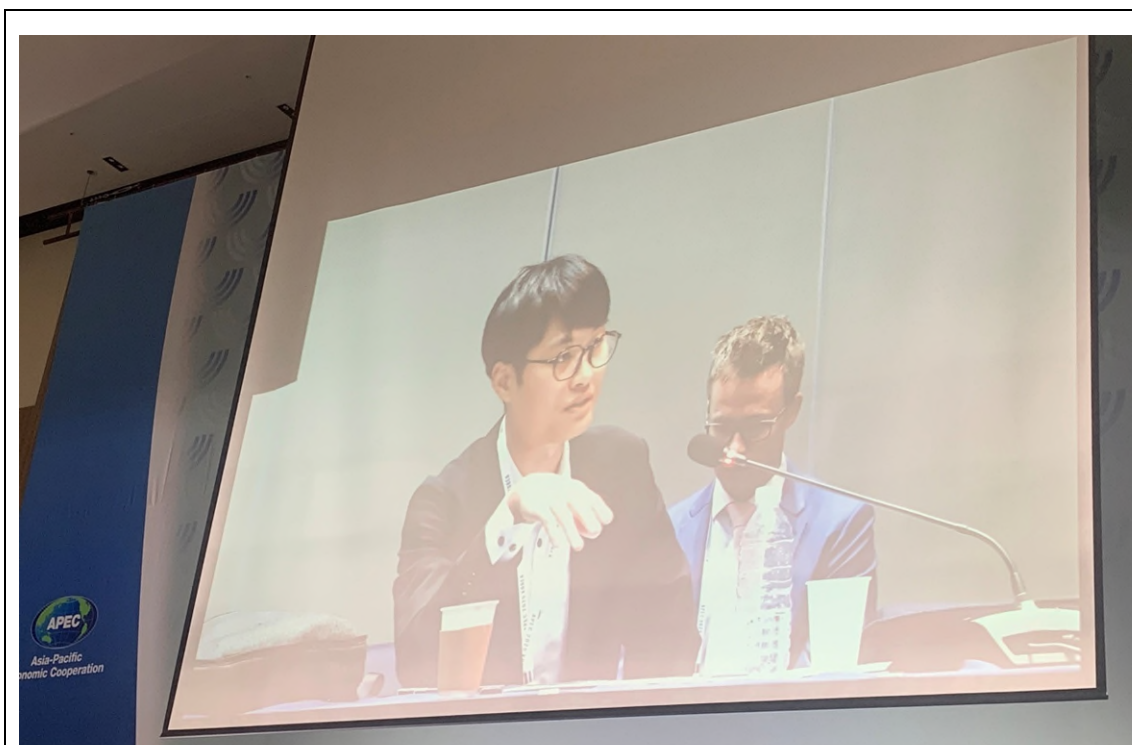
（四）化學署發言

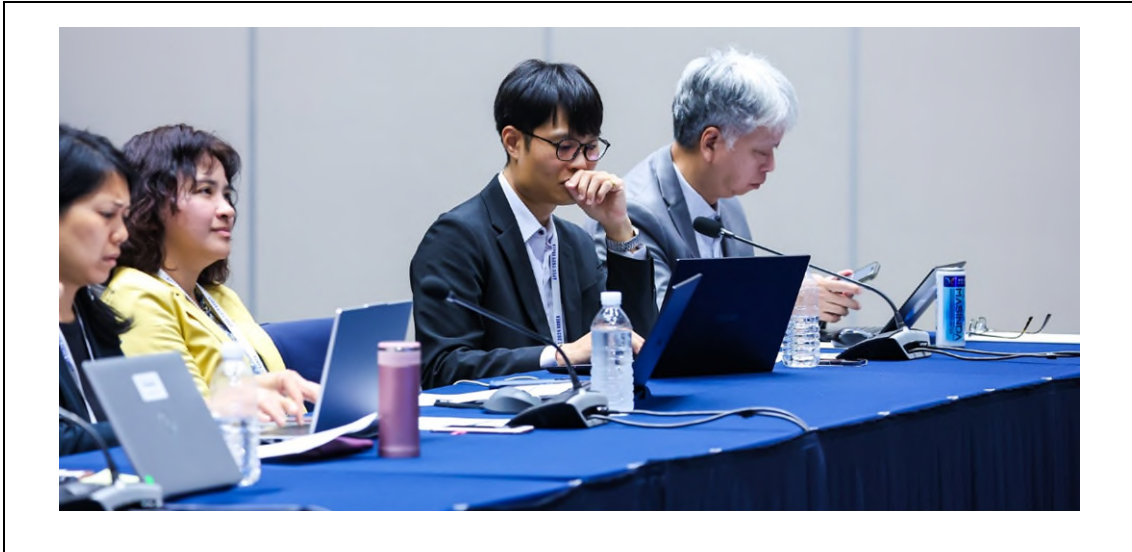
該工作坊於經驗分享後，進行分組討論；討論的議題涵蓋：

1. 辨識供應鏈中的多種化學物質。

2. 對化學供應鏈的建議。
3. 促進化學品供應鏈彈性的誘因等。

本團成員環境部化學物質管理署李偉技士於分組報告時，代表所屬組別說明討論成果。





資料來源：APEC 官網

說明：上圖為本團成員環境部化學物質管理署李偉技士於分組報告時，代表所屬組別說明討論成果；中圖為工作坊合影；下圖為本團成員

圖7 出席化學對話工作坊

八、化學對話產業預備會議

（一）時間：2025年8月5日

（二）出席狀況：韓國、馬來西亞、墨西哥、俄羅斯、新加坡、美國，以及我國等7個經濟體。

（三）化學對話存續議題

1. 因應化學對話將於2025年底落日，會議探討可能的三種情境：

（1）情境1：目前化學對話架構獲得全面接受並延續，11月前獲 APEC 背書。

（2）情境2：職權範圍草案繼續，11月前獲 APEC 背書。

（3）情境3（最可行）：採取「開路者倡議」(PFI) 模式：此模式在 APEC 下，由3個經濟體發起，1個主導、2個支持，無須 CTI 一致同意即可成立，參與經濟體可在3至10個之間，11個以上則會直接轉為正式倡議。

2. 結論及共識

（1）建議（8月6日）正式會議，於6.1節「25週年回顧」與「未來規劃」議程，提出支持延續的意見。

- (2) 強調產官合作精神，維持業界參與。
- (3) 會後持續協調主導與支持經濟體，為「開路者倡議」鋪路。



資料來源：APEC 官網

圖8 出席化學對話產業預備會議

九、第35屆化學對話全體會議

- (一) 時間：2025年8月6日
- (二) 出席狀況：澳洲、加拿大、智利、日本、韓國、馬來西亞、墨西哥、祕魯、菲律賓、俄羅斯、新加坡、我、泰國、美國、越南等15個經濟體；達到出席門檻的14個。
- (三) 化學署發言
 1. 法規更新：發言：我國環境部化學署連珖玢高級環境技術師說明我國全氟及多氟烷基物質 (PFAS) 規範及國際接軌進度。
 2. 提案成果及提案預告：我國環境部化學署李偉技士以及國立高雄科技大學陳政任主任共同說明2024年執行 APEC 自籌經費提案—「化學緊急應變能力建構培訓計畫」(Capacity Building for Chemical Emergency Preparedness) 的執行成果，並預告將申請 APEC 補助經費提案。
- (四) 化學對話存續議題
 1. 背景：聚焦於化學對話過去25年的成果回顧與未來走向，尤其是美方

有意於2025年底讓 CD 落日。

2. 發言

(1) 美國政府代表重申立場，強調化學對話將於今年底結束，不宜延長，但是，願意支持已在進行中的提案完成。

(2) 與會各經濟體與產業界對於如何延續相關合作、例如：透過「開路者倡議」或其他 APEC 工作小組的銜接，展開廣泛討論；其中，包括馬來西亞、墨西哥、菲律賓、韓國，以及我國支持延續合作，以維持公私部門的對話。

3. 後續：將視「開路者倡議」執行細節，與環境部討論如何持續參與 APEC。



資料來源：APEC 官網、本團攝影

圖9 出席第35屆化學對話全體會議

心得與建議

一、觀察與心得

本次會議確認化學對話 (CD) 將於2025年底依職權範圍 (ToR) 到期後落日。美方立場明確，認為既有化學品治理機制已可透過《全球化學品框架》(Global Framework on Chemicals, GFC) 承接，因此不支持化學對話延續。然而，包括我國在內的多數經濟體與產業界，仍認為化學對話長年累積的跨部門交流與產業參與價值，不應輕易中斷。

根據目前觀察，各經濟體產業代表傾向於透過「開路者倡議」(PFI) 模式，由有意願的經濟體延續特定合作議題，並同步尋求與 APEC 其他次級論壇的連結。

對化學物質管理署而言，這代表未來參與 APEC 平台的方式將有重大的轉變。我國可從「化學物質管理者」的定位，持續參與後續討論，並視 PFI 的進展與環境部研議是否透過相關主管機關協調，選擇合適的論壇或工作小組銜接參與。例如：災害應變、供應鏈韌性、化學物質循環再利用等議題，皆可作為後續切入點，避免因化學對話落日而中斷我國在國際化學治理的交流。

另外，本次首次出席緊急應變工作小組 (EPWG)，會中討論的社區韌性、科技應用與跨部門治理，與化學物質管理及事故應變密切相關。未來環境部化學署可規劃長期性參與 EPWG，透過該平台促進化學事故應變能力建構。

然而，因 EPWG 既有主政單位為我國災害防救中心，未來參與模式須與其充分協調，建立清晰分工與合作架構，方能有效發揮跨部門優勢。

二、建議

(一) 持續關注「開路者倡議」(PFI) 發展

化學對話落日後，後續化學相關討論能否延續，恐怕高度依賴「開路者倡議」(PFI) 的進展。化學署將密切追蹤潛在主導及支持的經濟體，例如：馬來西亞、韓國、墨西哥、智利、新加坡等對 PFI 的推動，並掌握可能的議題和範疇，包括：供應鏈韌性、化學物質循環利用，皆為我國政策與產業發展息息相關的重點，若 PFI 聚焦於上述領域，可及早表態並積極參與。此外建議同步展開國內溝通，包含環境部內部跨部門合作，以及與產業界的請益諮詢，確立方向，避免 PFI 成立後臨時協調而喪失主動權。藉由預先盤點議題、屬意的擬定路徑，我國可在新架構下維持交流。

(二) 思考化學署於 APEC 的長期角色

化學對話落日象徵 APEC 化學領域專屬平台的消失，未來化學署若要維持參與需重新定位。建議在 APEC 強化「化學物質管理者」的角色，以公共政策與監

管經驗為基礎，透過緊急應變工作小組 (EPWG)、科學技術與創新政策夥伴關係 (PPSTI) 等平台，持續提出與化學相關的議題。舉例來說：可以發起跨國共同研究，例如：供應鏈轉移時代的化學品貿易便利化與監理合作，或可聚焦於半導體產業或其他重大產業，既可發揚我國優勢，又可以依附國際熱潮，同時也提高議題的層級；推估至少貿易暨投資委員會引發興趣。

化學署亦可藉由提案與共同主辦國際工作坊的方式，將國內政策實踐經驗帶入 APEC 論述，並與其他次級論壇跨領域合作。此舉不僅能維持我國在 APEC 架構下的交流，也有助於確保化學署在國際治理，持續扮演積極角色，而非僅只於被動參與者。

(三) 深化 EPWG 參與並與災防中心協調

EPWG 討論的核心議題包含社區韌性、科技應用及跨部門治理，與化學署推動的化學物質管理與事故應變高度相關。未來化學署可規劃將 EPWG 視為長期參與平台，並透過該平台推廣相關作法。然而，EPWG 既有主政單位為國家災害防救科技中心，因此，未來化學署可與該中心建立制度化合作模式：

- 分工專案主題：自然災害議題，由災防中心領銜；複合型災害等主題，由化學署主責；
- 建立定期溝通管道：於出席 EPWG 及 SDMOF 前，透過協調會議溝通，避免議題重疊與資源浪費，提升合作效率，並呈現國家整合形象。

如此不僅能增進國內協調，也能展現跨部門治理實力，符合 APEC 在災害風險管理上的合作精神。

(四) 推動跨論壇議題銜接

化學對話落日後，化學署不能侷限於單一平台，而應積極尋求跨論壇的合作機會，初步構想，可朝下列方向推動：

- EPWG：持續推動「事故與韌性建構」提案，延續化學署既有培訓計畫與國際交流。
- PPSTI：結合創新與技術轉移，推動創新化學物質循環再利用或安全替代等相關議題，呼應全球永續發展趨勢。
- SCSC：結合國際標準與符合性評估，推動化學品分類與標示調和 (GHS)、綠色化學或化學物質相關風險管理指標等議題，以降低貿易技術障礙，並強化國際規範對接。
- CTI：作為 APEC 次級論壇的上層平台，CTI 是所有產業與跨部門議題的政策

承接與決策核心。化學署可透過 CTI 爭取支持相關提案，將化學品管理、供應鏈韌性與循環經濟納入 APEC 貿易與投資的優先議程。

- APCC：合作進行「氣候變遷下的化學風險評估」，結合科學數據與政策規劃。
- SMEWG：關注中小企業在化學供應鏈的挑戰，提出支持措施，擴大利害關係人參與度。

藉由跨論壇銜接，化學署不僅能延續原 CD 的討論基礎，也能藉由新平台，創造更多與國際合作的切入點。

附錄

一、第21屆緊急應變小組全體會議議程



Updated: 28 July 2025

21st Emergency Preparedness Working Group Meeting (EPWG 21)

July 30, 2025

Incheon, Korea

EPWG 21 AGENDA

Date: Wednesday, 30 July 2025
Time: 09:00 - 17:30 Korea Time (KST/UTC+8)
Venue: Premier Ballroom A, Songdo Convensia Incheon

DAY ONE: WEDNESDAY, 30 JULY 2025	
TIME	AGENDA ITEM
09:00 – 09:20 (20 minutes)	Session 1. Opening 1.1 Opening Remarks • EPWG Co-Chairs 1.2 Welcome Remarks • The host economy 1.3 Self-Introductions and Greetings 1.4 Adoption of the Agenda • EPWG Co-Chairs 1.5 group photo
09:20 – 09:30 (10 minutes)	Session 2. Review of EPWG’s Work in 2024 2.1 Review of EPWG’s Work in 2024 • EPWG Co-Chairs 2.2 2025 Sub-fora Assessment • Secretariat
09:30 – 09:50 (20 minutes)	Session 3. 2025 Outlook 3.1 Presentation on APEC 2025 Priorities and Key Deliverables • Ms. Jiyeon LEE, APEC Senior Official and Deputy Director-General for International Economic Affairs Bureau, Ministry of Foreign Affairs, Korea 3.2 EPWG Strategic Plan (2025-2027) • EPWG Co-Chairs 3.3 2025 EPWG Work Plan • EPWG Co-Chairs
09:50 – 10:10 (20 minutes)	Coffee Break
10:10 – 11:10 (60 minutes)	Session 4. EPWG Project Updates and Briefings



**Asia-Pacific
Economic Cooperation**

Updated: 28 July 2025

	<p>4.1 Korea (15 minutes): Ms. Byungim So, Ministry of the Interior and Safety, Korea</p> <ul style="list-style-type: none"> • EPWG_102_2025A: Enhanced dissemination and exchange of insights on Emerging Risks on Disasters <p>4.2 Chinese Taipei (15 minutes): Ms. Yanling Lee (Sophia), APEC Emergency Preparedness Capacity Building Center (EPCC)</p> <ul style="list-style-type: none"> • EPWG_101_2025: APEC Resilience Conference • EPWG_102_2024: APEC Resilience Week - APEC Workshop on Empowering Inclusive APEC Resilience City and Community for Sustainable Develop <p>4.3 Peru (15 minutes): Ms. Frances Valdivia</p> <ul style="list-style-type: none"> • EPWG_202_2023A: Workshop on enhancing prevention and risk reduction for climate change adaptation in vulnerable communities in the Asia-Pacific Region <p>Q&A</p>
<p>11:10 – 12:10 (60 minutes)</p>	<p>Session 5. Strategies for Cooperation in Digital-Based Disaster Risk Management</p> <p>The APEC Putrajaya Vision 2040 emphasizes digital technology and innovation, as crucial pillars of APEC's efforts, which include enhancing disaster risk management across Asia-Pacific. Utilizing digital technology in disaster risk management can help bridge information accessibility gaps, enabling faster and more effective responses. As a result, it can reduce loss of life and property and promote the prosperity of member economies. Therefore, it is essential to strengthen disaster response capabilities through data-driven early warning systems (e.g., earthquake and flood forecasting systems), AI, big data analysis, and technology utilizing drones for emergency response as well as to expand technological cooperation and information sharing among APEC member economies.</p> <p>5.1. Presentations</p> <ul style="list-style-type: none"> • Dr. Chi-hun Lee, NDMI, Korea – 10 minutes • Mr. Gerald Potutan, ADRC, Japan – 10 minutes • Mr. Néstor Alfonso Santamaria, OECD, France – 10 minutes <p>5.2. Q&A or Intervention (30 minutes)</p> <ul style="list-style-type: none"> • China, Mexico, Brunei Darussalam, Malaysia and other economies
<p>12:10 – 14:00 (110 minutes)</p>	<p>LUNCH</p>
<p>14:00 – 15:00 (60 minutes)</p>	<p>Session 6. Prioritizing Community Leadership in Responses to Complex Disasters</p> <p>Ensuring communities are leaders and drivers of policy responses to disasters is crucial to enhance disaster preparedness capabilities and establish social safety nets. This includes disaster simulation training, establishing networks and</p>

	<p>communication systems, implementing tailored disaster education and support policies to strengthen disaster resilience in APEC communities. At the APEC level, sharing best practices and fostering policy cooperation among member economies will contribute to safer communities that can influence the disaster management system, which aligns with the EPWG 2025-2027 Strategic Plan.</p> <p>6.1. Presentations (45 minutes)</p> <ul style="list-style-type: none"> • Dave Gawn, Chief Executive, NEMA, New Zealand – 7~8 minutes • Mr. Jong-sung Kim, Gyeongnam Institute, Korea –10 minutes • Aslam Perwaiz, ADPC, Thailand—10 minutes • Ms. Mercedes Frances Valdivia, Embassy of Peru -7~8 minutes • Mr. Mike Kangior, Federal Emergency Management Agency, the US –10 minutes <p>6.2. Interview Video (5 minutes)</p> <ul style="list-style-type: none"> • Citizen Corps Active in Disaster, Case of Korea – 5 minutes <p>6.3. Q&A or Intervention (10 minutes)</p> <ul style="list-style-type: none"> • Indonesia, Japan, Malaysia and other economies
<p>15:00 – 16:00 (60 minutes)</p>	<p>Session 7. Lessons Applied: Regional Disaster Risk Assessment and Case Studies</p> <p>A localized disaster management strategy extends beyond response efforts, focusing on strengthening preventive measures, establishing effective response systems, and ensuring rapid recovery and rehabilitation adapted to regional needs. It is particularly important to provide adequate outreach to all communities, including the elderly, persons with disabilities, and children, while also establishing safe evacuation spaces and implementing efficient post-disaster recovery systems. Ultimately, sustained support and cooperation are required to enhance the capacity of local communities to prepare for and respond to disasters, with joint efforts from governments, the private sector, and civil society.</p> <p>7.0. Moderator: Dr. Chi-hun LEE, NDMI, Korea</p> <p>7.1. Presentations (40minutes, 5-8 minutes each)</p> <ul style="list-style-type: none"> • China: Mr. LI Qun, Ministry of Emergency Management of China • Singapore: Mr. Wesley Ho, Director Planning and Organisation, Civil Defence Force, Singapore • Chinese Taipei: Mr. Wei-Sen Li, Secretary General, National Science and Technology Center for Disaster Reduction (NCDR) • Viet Nam: Ms. Dam Thi Hoa, Deputy Director of the Department of International Cooperation, VDDMA • Chinese Taipei: Ms. Wang Yi-Wen, Director-General of Office of Disaster Management, Chinese Taipei



**Asia-Pacific
Economic Cooperation**


Updated: 28 July 2025

	<p>7.2 Q&A or Intervention (20 minutes)</p> <ul style="list-style-type: none"> • All member economies: Member economies are encouraged to contribute their insights and lessons learned from recent significant disaster events, guided by the following inquiries, but not limited to: <ul style="list-style-type: none"> ○ Please share 1-2 specific examples of policy or program changes your economy has implemented in response to recent disasters, as well as any plans for future adjustments? ○ What successes have we experienced in our emergency preparedness efforts? ○ What areas have we identified for improvement, and how can we strengthen our preparedness strategies?
16:00 – 16:20 (20 minutes)	Coffee Break
16:20 – 17:20 (60 minutes)	<p>Session 8. Resilient Capacity Building through APEC Cross-Fora Collaboration</p> <p>8.1 Chinese Taipei (Chemical Dialogue): Mr. Wei Lee & Dr. Jenq-Renn Chen</p> <ul style="list-style-type: none"> • Enhancing Chemical Emergency Preparedness <p>8.2 APEC Climate Center (Policy Partnership on Science, Technology and Innovation, PPSTI): Ms. Sangwon Moon</p> <ul style="list-style-type: none"> • Connecting Science, Climate and Resilience <p>Q&A</p>
17:20 – 17:30 (10 minutes)	<p>Session 9: Closing</p> <ul style="list-style-type: none"> • Document Classification --Secretariat • Briefings on the Preparations of SDMOF and Field Trip -The Host Economy • Any Other Business (AOB) and Recap of To-Do List • Closing Remarks by EPWG Co-Chairs
18:00-20:00 (120 minutes)	<p>Welcome Dinner</p> <ul style="list-style-type: none"> • Place: Kyungbokkung – Hanok Village Branch • Address: 180, Techno park-ro, Yeonsu-gu, Incheon

18th APEC Senior Disaster Management Officials' Forum (SDMOF 18)

Theme: “Advancing Disaster Risk Reduction in Asia-Pacific:

二、第21屆緊急應變小組全體會議—化學署緊急應變簡報



Enhancing Chemical Emergency Preparedness



Presenter: Mr. Wei Lee
Technical Specialist, Hazard Control Division
Chemicals Administration
Ministry of Environment, Executive Yuan

Prof. Jenq-Renn Chen
Dept of Safety, Health and Environ. Eng.
Director, MOENV Southern Emergency Response Team (SERT)
National Kaohsiung University of Science and Technology

Chinese Taipei

Background




- The EPWG seeks to build capacity in the region so that APEC member economies can better mitigate, prepare for, respond to, and recover from emergencies and natural disasters.
- Although emergencies such as earthquakes and typhoons have the most impact on the societies and economies, emergencies from the improper handling of chemicals also have increasing. These chemical emergencies may range from toxic release, fire and explosion that may impact the economies, environment, and most importantly the responders.
- One recent example was a massive explosion from poor storage of organic peroxide in a golf ball manufacturing plant in Chinese Taipei causing a total of 10 fatalities, including 4 fire fighters, and more than 100 injuries.

The organic peroxide explosion in 9.22.2023



Training program for chemical emergency

- In Chemical Dialogue of SOM3 2023, a self-funded project "Capacity Building for Chemical Emergency Preparedness" from Chinese Taipei was approved by APEC economies to hold a five-day emergency response training course to strengthen the chemical safety network, free for the participation of APEC developing economies.
- The project aims to build the emergency preparedness capabilities of APEC economies in response to chemical incidents through knowledge and practical skills training such that economic or environmental losses and damages can be reduced.
- The training program was successfully implemented on September 22-29, 2024 in Southern Emergency Response Training Center (SERT) of Ministry of Environment, Chinese Taipei.
- The results of the training program is shared here for EPWG.

The host – Southern Emergency Response Training Center (SERT)


- SERT is fully funded by Ministry of Environment, Chinese Taipei, and built and operate by National Kaohsiung University of Science and Tech in their First Campus.
- SERT facilities was completed in Dec. 2020 and has been training since Aug. 2021.
- Between 2021-2023, more than 12,000 participants from industries and related government agencies have been trained.
- Number of incidents responded to by SERT drops by more than 50% in 2022-23, suggesting that the training has indeed raised the awareness and preparedness of handling chemicals.

Year	Number of incidents
2017	20
2018	18
2019	15
2020	12
2021	10
2022	8
2023	5

The participant

Through the APEC project invitation process, a total of six member economies have registered, with a total of 22 participants. To maximize the training benefits, representatives from other individuals have been invited to join at their own expense. Final number of participants is 25.








Country	Number	Affiliated Organization and Division
Pour	1	Société Nationale de Industries-SNI
Ministry of Environment	2	
Republic of Korea	3	National Fire Agency
Vietnam	4	Chemical Management Division, Vietnam Chemicals Agency
Malaysia	1	Ho Chi Minh City University of Transport
Malaysia	4	Department of Occupational Safety and Health
China	1	Chemicals Administration, Ministry of Environment
Chinese Taipei	1	Industrial Technology Research Institute
Thailand	3	Environmental Incident Specialist Team
Thailand	1	The Chemours (Thailand) Company Limited
Poland	2	Vite University, Warsaw
France	1	Cedex

The Course - Technician Level Training Course

- The training follows NFPA 472 Technician training, combining lecture and hands-on courses, all delivered in English.
- A total of 40 Hours training

Level	Hours	Course
Full-Scale Exercise and Table-top Drill	8	<ul style="list-style-type: none"> Communication, crisis management, Incident Command System and Table-top drill Group ER competition
Advanced Course	20	<ul style="list-style-type: none"> Transloading of toner, drum and tank truck ER of Tank truck, storage tanks, and pipeline leaks ER of gas cylinder and ton container Maze - Training for Experiencing ER Stresses Monitoring and Detection Equipment Implement Monitoring and Detection Equipment Introduction to toxic chemicals disaster response Emergency Response Information Search and Application Introduce Emergency response system On scene hazard identification and case studies Introduce to PPE and decontamination PPE and decontamination practice
Basic Course	12	

<div data-bbox="240 282 715 353"> <h3>Basic Course</h3> <ul style="list-style-type: none"> In first part of training, the focus is primarily on fundamental knowledge of hazmat. Each participant was provided with their own PPE set. This ensures throughout training, from initial exercises to practical applications and final completion, helping trainees become fully familiar with the operation of their assigned PPEs. </div> <div data-bbox="240 416 777 582">  <div data-bbox="703 443 762 472">Lectures</div> <div data-bbox="248 517 331 546">Hands-on lesson & Implement</div> </div>	<div data-bbox="810 282 1342 416"> <h3>Advanced Course</h3> <ul style="list-style-type: none"> Once trainees have acquired fundamental response knowledge and are familiar with donning PPE, the training extends to various advanced specialized courses, including: </div> <div data-bbox="810 416 1342 582">  <div data-bbox="1155 293 1262 315">Transloading Operations</div> <div data-bbox="1155 327 1315 349">Leak Sealing for Containers/Facilities</div> <div data-bbox="1155 360 1315 383">Advanced Detection and Monitoring Equipment</div> <div data-bbox="1155 394 1294 416">Maze for Experiencing ER Stress</div> <div data-bbox="818 506 901 573">Detection and Monitoring Equipment & Maze for ER Stress</div> <div data-bbox="1270 439 1337 506">Transloading & Leak Sealing</div> </div>
<div data-bbox="240 779 715 840"> <h3>Full-Scale Exercise – Group competition</h3> <ul style="list-style-type: none"> Real, multiple leaks were used to simulate an incident. The team must assign commander, assign members to conduct on-site inspections, and decide on different response operations based on the situation to complete the overall exercise. </div> <div data-bbox="240 891 777 1077">  <div data-bbox="288 976 371 999">Leak scenarios</div> <div data-bbox="576 965 624 987">Group A</div> <div data-bbox="576 1055 624 1077">Leakup B</div> </div>	<div data-bbox="810 779 1342 891"> <h3>Table Top Drill</h3> <ul style="list-style-type: none"> Each group is divided into On-scene operation team and Commander team, focusing on the role of the commander. Each group need to develop an on-scene safety action plan, and this exercise utilizes computer software to display the incident scenario and the response process. </div> <div data-bbox="810 891 1342 1077">  <div data-bbox="818 1021 1034 1066">Several 53 gallon drums containing Acrylonitrile were fallen from a truck. The drums were leaking with an irritating odor.</div> <div data-bbox="1086 965 1134 987">Group A</div> <div data-bbox="1086 1055 1302 1077">Group A - 2 Specimen Team (D1 & Commander Team) (right)</div> </div>
<div data-bbox="240 1279 777 1570"> <h3>Closing Ceremony & Feedbacks</h3> <ul style="list-style-type: none"> All participants gave positive feedbacks. Specific feedbacks were listed below: <ul style="list-style-type: none"> Class objective very useful to my job scope of work. All team demonstrated the knowledge in the topics. SERT is a good training center and professional course Materials provided in class is very helpful and clear. Training will be very useful for my job. Good hospitality by organizer. Thank you for providing HALAL food for muslim. The course satisfy our expectation. The course can help someone. The instructor showed us experience. The material was appropriate. The course was very interesting. I'm impressed by the level of training. As a professional teacher, I have a lot of respect to performance of our professors/professionals that obtained synergy between practical & theoretical aspects of the training & involved as well. Very available and clear interesting, perfect balance between theory and practice. Thanks! Instructor gave very clear explanation and competent to answer all questions. I highly appreciate the level of content of the lectures and the huge range of practical aspects (knowledge) in the field of chemical rescue. Great instructors, committed and passionate. </div> <div data-bbox="528 1279 777 1435">  </div>	<div data-bbox="810 1279 1342 1570"> <h3>Culture Tour</h3> <ul style="list-style-type: none"> A cultural tour was arranged for trainees to visit two of Kaohsiung famous attraction—Pier-2 Art Center and Kaohsiung Port—showcasing the historical charm and the modern allure of its harbor. Through sightseeing boat route, trainees experience the breathtaking views of Kaohsiung Port from the sea. </div> <div data-bbox="810 1413 1342 1570">  </div>

<div data-bbox="240 280 715 353" data-label="Section-Header"> <h3>Training summary video</h3> </div> <div data-bbox="282 342 711 580" data-label="Image"> </div> <div data-bbox="751 555 778 580" data-label="Text"> <p>13</p> </div>	<div data-bbox="810 280 1284 353" data-label="Section-Header"> <h3>Proposal for 2026/2027 Training Program</h3> </div> <div data-bbox="834 342 1324 551" data-label="List-Group"> <ul style="list-style-type: none"> • The self-funded 2024 training program has built a successful link and cooperation between member economies and met the above goal. • To further strengthen the link and cooperation, Chinese Taipei propose to apply for a partially-funded training project in 2026/2027 with a total budget of US\$120,000, and Chinese Taipei Ministry of Environment has agreed to support half of the fund. • The 2026 training program aims to extend the successful 2024 course to include special topics including chemical emergency in the high-tech manufacturing processes. This will be a unique opportunity for member economies to facilitate the safe development of high-tech manufacturing capacity such as semiconductor, PV, and related industries. • SERT has been training TSMC, Winbond etc and has the state-of-the-art facilities. • Proposal will be submitted before 2026 SOM1. </div> <div data-bbox="895 551 1031 573" data-label="Text"> <p>SRI Semiconductor Specialty Chemical EIT Training Module</p> </div> <div data-bbox="1038 495 1347 580" data-label="Image"> </div>
<div data-bbox="240 779 756 1081" data-label="Complex-Block"> <div data-bbox="240 779 638 846" data-label="Image"> </div> <div data-bbox="276 857 483 913" data-label="Text"> <p>Thank you for your Attention!</p> </div> <div data-bbox="263 943 462 1028" data-label="Text"> <p>All comments/question welcome: Mr. Wei Lee Wei.lee@moenv.gov.tw Prof. Jenq-Renn Chen jrc@nkust.edu.tw</p> </div> <div data-bbox="248 1048 488 1081" data-label="Image"> </div> </div> <div data-bbox="478 779 756 1081" data-label="Image"> </div> <div data-bbox="751 1055 778 1081" data-label="Text"> <p>14</p> </div>	

三、第18屆災害管理資深官員論壇議程



Updated: 28 July 2025

Partnerships for a Resilient and Prosperous Future”

July 31, 2025
Incheon, Korea

SDMOF 18 AGENDA

Date: Thursday, 31 July 2025

Time: 09:00 - 17:00 Korea Time (KST/UTC+8)

Venue: Premier Ballroom A, Songdo Convensia Incheon

DAY TWO: THURSDAY, 31 JULY 2025	
TIME	AGENDA ITEM
09:00 – 09:20 (20 minutes)	Session 1. Opening 1.1 Opening Remarks • Mr. PARK Cheon Soo, Director General of Disaster Management Policy Bureau, MOIS, Korea 1.2 Congratulatory Remarks • H.E. Mr. Oh Joon, Former President of the UN Economic and Social Council (ECOSOC) 1.3 Recap of EPWG 21 meeting • EPWG Co-Chairs
09:20 – 10:40 (80 minutes)	Session 2. Roundtable: Resilient Response Systems for Emerging Risks With the increasing frequency of disasters related to environmental changes, pandemics, and cyber threats, existing response frameworks alone are insufficient to effectively mitigate economic and social damages. APEC member economies are encouraged to collaborate to establish a resilient disaster management system, bridge capability gaps, and share advanced response models. By integrating these efforts into the EPWG Strategic Plan (2025–2027), APEC can strengthen its leadership in disaster management and lay a solid foundation for protecting future generations. 2.1 Invited speaker Presentations (50 minutes) <ul style="list-style-type: none"> • Dr. Jae-hak Chung, NDMI, Korea – 15 minutes • Dr. Kyoung-jun Kim, NDMI, Korea – 15 minutes

	<ul style="list-style-type: none"> • Mr. Néstor Alfonzo Santamaria, OECD – 20 minutes <p>2.2 Economies Presentation (15 minutes)</p> <ul style="list-style-type: none"> • Dave Gawn, Chief Executive, NEMA, New Zealand <p>2.3 Q&A or Intervention (15 minutes)-<i>ALL economies are expected to participate</i></p> <ul style="list-style-type: none"> • Malaysia and other economies
10:40 – 11:00 (20 minutes)	Coffee Break
11:00 – 12:20 (80 minutes)	<p>Session 3. Bridging Gaps in Early Warning Systems</p> <p>Early Warning Systems (EWS) play a crucial role in minimizing damage to life and property; however, gaps persist in the access of information across regions and communities which can hinder timely warnings. To address this issue, it is crucial to leverage digital technologies to enhance EWS, establish multi-channel alert systems, and strengthen targeted communication strategies for all communities. Establishing robust measures to protect groups like children, persons with disabilities, and the elderly is essential as demographic shifts accelerate in the region. In particular, holistic warning mechanisms which are based on multi-hazard detection and risk-based approach should be established to ensure effective early response capabilities for all during disasters.</p> <p>3.0 Moderator</p> <ul style="list-style-type: none"> • Dave Gawn, Chief Executive, NEMA, New Zealand <p>3.1 Invited Speaker Presentation (30 minutes)</p> <ul style="list-style-type: none"> • Hyung-jin Kim, APCC (APEC Climate Center), Korea – 15 minutes • Yuichi Ono, IRIDeS (International Research Institute of Disaster Science), Tohoku University, Japan – 15 minutes <p>3.2 Economies Presentation (35 minutes)</p> <ul style="list-style-type: none"> • Korea – 15 minutes • Mexico – 10 minutes • The United States – 10 minutes <p>3.3 Intervention (15 minutes)</p> <ul style="list-style-type: none"> • Brunei Darussalam, Indonesia and other economies

12:20 – 14:00 (100 minutes)	LUNCH
14:00 – 15:15 (75 minutes)	<p>Session 4. Strengthening Multi-Layered Governance for Resilient Disaster Management</p> <p>Effective disaster response requires a strong multi-layered governance system that integrates central and local governments, the private sector, local communities, and international organizations. Collaborative governance supports disaster prevention, recovery and infrastructure development. A centralized response approach alone is inadequate for tackling complex disaster risks. Therefore, it is essential to enhance the capacities of local governments, expand public-private partnerships (PPP), and strengthen international cooperation to develop balanced and durable disaster management policies. APEC member economies are encouraged to share best practices regarding governance frameworks and discuss policy directions to foster collaboration.</p> <p>4.0 Moderator</p> <ul style="list-style-type: none"> • Viet Nam (Ms. Dam Thi Hoa, Deputy Director of the Department of International Cooperation, VDDMA) <p>4.1 Invited speaker Presentation (15 minutes)</p> <ul style="list-style-type: none"> • Dr. Tai-hoon Kim, NDMI, Korea <p>4.2 Economies Presentation (30 minutes)</p> <ul style="list-style-type: none"> • Malaysia –Mr. Abdulgapar Bin Abubakar 10 minutes • China, Mr. ZHANG Xuequan, National Disaster Reduction Center, Ministry of Emergency Management of China – 10 minutes • Peru– Ms. Frances Valdivia–10 minutes <p>4.3 Intervention (30 minutes)</p> <ul style="list-style-type: none"> • Singapore, Peru and other economies
15:15 – 15:35 (20 minutes)	Coffee Break
15:35 – 16:50 (75 minutes)	<p>Session 5. Harnessing Technology for Effective Disaster Leadership</p> <p>Strengthening disaster response leadership requires a precise understanding of how risk exposure and resilience differ across demographic changes. Such</p>



**Asia-Pacific
Economic Cooperation**

Updated: 28 July 2025

	<p>understanding must be underpinned by a data-driven approach to ensure evidence-based policy and decision-making. To support this understanding, it is necessary to utilize advanced technologies such as artificial intelligence (AI), big data, and satellite information for data collection and analysis. These technologies enable accurate decision-making and timely communication, thereby contributing to more effective leadership in disaster response. They serve as key tools in enhancing leadership capacity. The discussions in this session can serve as a cornerstone for accelerating the implementation of the APEC 2025 work plan and as a starting point for expanding cooperation among all communities across Asia-Pacific.</p> <p>5.0 Moderator</p> <ul style="list-style-type: none"> • Chinese Taipei, Hongey Chen, Director/Wei-Sen Li Secretary. General, NCDR <p>5.1 Invited speaker Presentations (30 minutes)</p> <ul style="list-style-type: none"> • Dr. Saebom Jin, National AI Research Lab, KAIST, Korea – 15 minutes • Dr. Ji-bum Chung, UNIST, Korea – 15 minutes <p>5.2 Economies Presentation (30 minutes)</p> <ul style="list-style-type: none"> • Japan – 15 minutes • Mexico – 15 minutes <p>5.3 Intervention (15 minutes)</p> <ul style="list-style-type: none"> • The Philippines and other economies
<p>16:50 – 17:00 (10 minutes)</p>	<p>Session 6. Wrap-up & Closing session</p> <ul style="list-style-type: none"> • Classification of documents • Secretariat • Summary and conclusions • The Host Economy -Mr. LEE Chi-hun • Farewell and closing remarks by host economy • The Host Economy- Mr. CHOI Young-soo

四、緊急應變小組工作坊：賦能、包容性、韌性城市與社區，以促進永續發展議程



APEC Resilience Week APEC Workshop on Empowering APEC Resilience City and Community for Sustainable Development



(EPWG 102 2024A)

2-3 August, Incheon, Korea

Meeting Room 115 – 1st Floor

Day 1 – Saturday 2 August, 2025

Registration

Opening

This section will provide a brief overview of the work undertaken in APEC to promote the resilience from Challenge to Action. This will involve the perspectives, work in progress as well as strategic approach for collaboration under APEC among EPWG, PPSTI, SMEWG.

09:00 – 09:10	1.1 Welcome Address by host Economy Young-Soo CHOI , Director, the APEC Disaster and Safety Support Group, Ministry of Interior and Safety, Korea
09:10 – 09:15	1.2 Opening Address George CHIOU , the representative of the Taipei Mission in Korea, Ministry of Foreign Affairs, Chinese Taipei
09:15 – 09:20	1.3 Recap of the 21st EPWG and 18th SDMOF Dayra CARVAJAL , EPWG Co-Chair, Portfolio Manager for Cross-Sector Partnerships International Affairs Division, Federal Emergency Management Agency (FEMA), The United States
09:20 – 09:25	1.4 Cross-fora Remark by host Economy Hwanil PARK , PPSTI Host Vice Chair, Directorate for Global Strategy, Korea Science, Technology and Innovation for Building a Sustainable Tomorrow
09:25 – 09:30	1.5 Remark by EPWG Delegation Katsuhiko KITA , Director, International Cooperation Division, Disaster Management, Bureau, Cabinet Office, Japan
09:30 – 09:35	1.6 Remark by EPWG Delegation Dave Gawn , Chief Executive, New Zealand's National Emergency Management Agency, New Zealand Resilient Society, Sustainable Economy
09:35 – 09:45	Group Photo

DRR High Level Policy Dialogue	
09:45-09:50	Team up for Resilience Through Public Private Partnership – Challenge and Strategy Moderator: Yanling LEE, Secretary General, APEC Emergency Preparedness Capacity Building Center (EPCC)
09:50-10:05 15 mins	DRR1.1 Plenary Speaker: Japan Katsuhiko KITA , Director, Disaster Management Bureau, Cabinet Office, Government of Japan Recovery and reconstruction following the Great East Japan Earthquake (2011) and the Noto Peninsula Earthquake (2024)
10:05-10:20 15 mins	DRR1.2 Plenary Speaker: New Zealand Dave Gawn , Chief Executive, New Zealand's National Emergency Management Agency Building Livelihoods - Supporting Public & Private Sector (TBC)
10:20-10:35 15 mins	DRR1.3 Plenary Speaker: Indonesia Ramatun Anggraini KIEMAS , Deputy Secretary for Development Policy, National Research and Innovation Agency (BRIN) Empowering APEC Resilience City & Community for Sustainable Development - Action Plan on Gender and Climate Change in Indonesia
10:35-10:55 20 mins	Q & A & Comments and Inputs Dayra CARVAJAL , EPWG Co-Chair, Portfolio Manager for Cross-Sector Partnerships International Affairs Division, Federal Emergency Management Agency (FEMA), The United States
10:55-11:00 5 mins	Wrap up Moderator: Yanling LEE, Secretary General, APEC Emergency Preparedness Capacity Building Center (EPCC)
11:00-11:10 10 mins	Tea Break

Panel 1 Managing the Risk	
11:10 – 11:05	Evidence-based STI Support for Information and Knowledge Sharing <ul style="list-style-type: none"> Exploring the risk associated with disasters and Werther extremes that affecting lives and economic development for sustainable growth Strengthening the collection and us of quality data via emergent technology such as AI and innovative technologies for coordinated and proactive countermeasures adaptation for effective and efficient emergency preparedness at central, local, untapped community, indigenous, and traditional knowledge; and risk knowledge providers across all of the society for networking. Sharing experience through public private partnership network for collaboration among stakeholders in multi-sectors to tackle the challenges. <p>Moderator: Hwanil PARK, PPSTI Host Vice Chair, Directorate for Global Strategy, Korea</p>
11:05 – 11:20 15 mins	P1.1 Plenary Speaker: Japan Akio SASAHARA , Executive Director, Asian Disaster Reduction Center (ADRC) Rethinking ICT & DRR beyond Japan
11:20 – 11:35 15 mins	P1.2 Plenary Speaker: Viet Nam Xuan Dien LUONG , Assoc. Prof, Vice Director, Center for Student Innovation and Entrepreneurship Senior Lecturer, Hanoi University of Science and Technology (HUST) WHAT VIET NAM CAN LEARN FROM APEC ECONOMIES - Leveraging Digital Technologies and Governance Models to Improve Disaster Forecasting and Urban Resilience
11:35– 11:50 15 mins	P1.3 Plenary Speaker: Japan Kenji WATANABE , Professor of Graduate School of Social Engineering Head of Disaster and Safety Management Build Interoperability and Enhance Resilience of Critical Infrastructures through Cascading Events Simulation for Disaster-sensitive Metropolitan Areas
11:50 – 12:05 15 mins	Q & A
12:05– 12:15 10 mins	Wrap up Moderator: Hwanil PARK , PPSTI Host Vice Chair, Directorate for Global Strategy, Korea
12:15– 13:30	Lunch

Panel 2 Best and Good Practices Sharing	
13:30 – 13:35	Engaging Meaningful Collaboration for Resilience for Business Continuity and Supply Chain Connectivity <ul style="list-style-type: none"> • Strengthening engagement across ministries, with local communities, and financial institutions through public private partnership • Enhancing disaster preparedness for effective response and to “Build Back Better” for quicker recovery, rehabilitation and reconstruction • Achieving end-to-end, people-centered, and multi-hazard early warning systems by learning from past disaster events and utilising existing partnerships. • Utilising the smart policies, solutions and newly emergent technologies as critical enablers in providing scientific evidence and solutions in responding to the risks. • Sharing experience through public private partnership network for collaboration among stakeholders in multi-sectors to tackle challenges. <p>Moderator: Ramatun Anggraini KIEMAS, Deputy Secretary for Development Policy, National Research and Innovation Agency (BRIN)(TBC)</p>
13:35-13:50 15 mins	P2.1 Plenary Speaker: Japan Miki KODAMA , Director, Research Department, Asian Disaster Reduction Center Engaging the Private Sector for a Balanced DRR Approach - The Case of Convenience Stores
13:50-14:05 15 mins	P2.2 Plenary Speaker: Chinese Taipei Yanling Lee (Sophia) Secretary General , APEC EPCC APEC Resilience Conference for Business Continuity Planning and Supply Chain Connectivity
14:05-14:20 15 mins	P2.3 Plenary Speaker: Canada Cross-fora Message from SMEWG Aaron SYDOR , Vice Chair of SMEWG, Director of Trade and Economic Analysis, Foreign Affairs and International Trade Canada Emergency Preparedness for Resilient Business
14:20-14:35 15 mins	Q & A
14:35 – 14:45 10 mins	Wrap up Moderator: Ramatun Anggraini KIEMAS , Deputy Secretary for Development Policy, National Research and Innovation Agency (BRIN)(TBC)

14:45-15:00 15 mins	Tea Break
Panel 3 Best and Good Practices Sharing	
15:00 – 15:05	Exploring Smart Policies or Solutions for APEC Resilient City and Community (ARC) to Resolve the Societal Challenges <ul style="list-style-type: none"> • How can we plan to manage the excessive concentration of flows of people, goods & services, money, and information in greater metropolitan areas? • What is the role of policy makers in disaster for planning of an APEC resilience city or community? • How to adopt dynamic cyber-physical security approach in critical infrastructure protections • How to enhance smart solutions to facility the quality decision-making of commanders and leaders in mitigation and adaptation in the public and private sector? • APEC Member Economies' Report • Cross-fora Engagements Moderator: Yanling Lee (Sophia) Secretary General, APEC EPCC, Chinese Taipei
15:05-15:20 15 mins	P3.1 Plenary Speaker: Japan Mitsuhiro YAO , Counsellor for Global Strategies, Ministry of Land, infrastructure, Transport and Tourism (MLIT) Overview - APEC Tokyo Conference on Quality Infrastructure Investments to address environmental challenges of the cities in APEC region (CTI 101 2024T), 17-18 June 2025, Tokyo Japan
15:20-15:35 15 mins	P3.2 Plenary Speaker: Chile (TBC) Natalia COFRÉ , Climate Change Adaptation Specialist, SENAPRED (TBC)
15:35-15:50 15 mins	P3.3 Plenary Speaker: Viet Nam(TBC) Truong Son NGUYEN , Deputy Director General, Viet Nam Disaster and Dyke Management Authority (TBC)
15:50-16:05 15 mins	Q & A
16:05-16:15 15 mins	Wrap up Moderator : Yanling Lee (Sophia) Secretary General, APEC EPCC, Chinese Taipei
16:15-16:30	Wrap up for Day 1 Highlight of the day 1 Key Area of the 2025 APECRW Resilience Week APEC Emergency Preparedness Capacity Building Center (EPCC), Chinese Taipei

	<p>To give a brief overview of the work undertaken in APEC for promote the resilience from Challenge to Action.</p> <p>Yanling Lee (Sophia) Secretary General, APEC EPCC, Chinese Taipei</p>
Day 2 – Sunday 3 August, 2025	
Registration	
09:00 – 09:15	<p>Recap of Day 1 EPCC, Chinese Taipei</p> <p>Yanling LEE, Secretary General, APEC Emergency Preparedness Capacity Building Center (EPCC)</p>
CCA Policy Dialogue	
Capacity Building for Sustainable Tomorrow	
09:15 – 09:20 15 mins	<p>Investing quality infrastructure to strengthen the economic growth and human security</p> <ul style="list-style-type: none"> • How can we measure the disaster impact on environment, livelihood and cultural heritage? • What elements shall be taken into account for formulating green and circular economy policy and strategy for disaster resilience • APEC Member Economies' Report • Cross-fora Engagements <p>Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei</p>
09:20-09:35 15 mins	<p>Plenary Speaker: Japan</p> <p>CCA1.1 Yuki YANADA, Director in charge, Cabinet Office</p> <p>Establishment of "Disaster Management Agency of Japan" (2026)</p>
09:35-09:50 15 mins	<p>CCA1.2 Plenary Speaker: Malaysia</p> <p>VIKNESWAREN JEYASIVAM, Town & Country Planning Officer, Department of Town & Country Planning (PLANMalaysia)</p> <p>Urban Planning And Development</p>
09:50-10:05 15 mins	<p>CCA 1.3 Plenary Speaker: Indonesia</p> <p>Ratih DAMAYANTI, Director of Environment, Maritime, Natural Resources and Nuclear Policy, National Research and Innovation Agency (BRIN)</p> <p>Wooden Houses for Disaster Resilient and Sustainable Environment - how the humble tree can become the foundation for a more resilient future</p>
10:05-10:20 15 mins	Q & A
10:20-10:30 10 mins	<p>Wrap up</p> <p>Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei</p>

10:30-10:45 15 mins	Tea Break
Panel 4 Best and Good Practices Sharing	
10:45-12:00	Public Private Partnership Cross Borders <ul style="list-style-type: none"> • partnership for “Build Back Better” for quicker recovery, rehabilitation and reconstruction • Information sharing through innovative research, science and technology for early warning through existing partnerships. • APEC Member Economies’ Report • Cross-fora Engagements Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei
10:50-11:05 15 mins	P4.1 Plenary Speaker: Korea Gaeun KIM , Researcher, APEC Climate Center A Pipeline from Testbed to Verification: Toward Operationalization and Systematic Validation of Climate Models
11:05-11:20 15 mins	P4.2 Plenary Speaker: Viet Nam (TBC) Thi Hoa DAM , Deputy Director, Department of International Cooperation, Viet Nam Disaster and Dyke Management Authority
11:20-11:35 15 mins	P4.3 Plenary Speaker: Peru Astrid Hassel Criales JOHNSON , Innovation Project Specialist, National Council for Science, Technology and Innovation (CONCYTEC) Vinculate Platform: Building Resilience through Public STI Policy Instruments
11:35-11:50 15 mins	Q & A
11:50-12:00 10 mins	Wrap up Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei
12:00-13:30	Lunch

Panel 5 Map out for APEC Resilience City and Community	
13:30-13:35 15 mins	<ul style="list-style-type: none"> How to ensure the effective capacity building for the next generation for building a resilient tomorrow? Introducing AMGS for APEC Youth Science Award in DRR APEC Member Economies' Report Cross-fora Engagements <p>Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei</p>
13:35-13:50 15 mins	<p>P5.1 Plenary Speaker: Chile (TBC) Jeniffer OLGUÍN, Head of Innovation and Development, Head of Innovation and Development, SENAPRED (TBC)</p>
13:50-14:05 15 mins	<p>P5.2 Plenary Speaker: Mexico Anyá TINAJERO VEGA, Director for Humanitarian Aid and Risk Management, AMEXCID</p>
14:05-14:20 15 mins	<p>P5.3 Plenary Speaker: Chinese Taipei Yanling LEE, Secretary General, APEC ACTS APEC Meeting on Resilient City - Navigating the Power of Science and Technology for Resilient APEC</p>
14:20-14:35 15 mins	<p>Q & A</p>
14:35-14:45 10 mins	<p>Wrap up Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei</p>
14:45-15:00 15 mins	<p>Tea Break</p>

Panel 6 Collaboration for APEC Resilient City and Community	
15:00-15:05	Cross-fora Engagements Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei
15:05-15:20 15 mins	P6.1 Plenary Speaker: Japan Naho FUKUSUMI, Deputy Director, Cabinet Office Japan's focus areas for Disaster Risk Reduction
15:20-15:35 15 mins	P6.2 Plenary Speaker: (TBC) Yanling LEE, Secretary General, APEC Emergency Preparedness Capacity Building Center (EPCC) to brief "APEC Guiding Principles on APEC Resilient City and Community" for "Join Action"
15:35-15:50 15 mins	Q & A
15:50-16:05 15 mins	Wrap up Wrap up the session discussions and identify the common interest under APEC for 2025 APECRW to move forward. These may include roadmap and recommendation on strategies, policy, countermeasure or regulatory aspects. The scope of the interactive session designed to refine the future public private collaboration in key areas. Moderator: Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei
Concluding Summary	
16:05-17:00 55 mins	Conclude the 2025 APEC resilience week and identify the common interests under APEC for resilience. These may include roadmap, recommendation, strategies, policy, countermeasure or regulatory aspects. The scope of the interactive session designed to refine the future public private collaboration from crisis to resilience. Yanling LEE, Secretary General, APEC EPCC, Chinese Taipei
Bringing the Highlights to the PPSTI 26	

五、標準及符合性次級委員會工作坊：人工智慧標準—建構永續 AI 生

APEC AI Standards Conference			
Saturday, 2 August 2025		Room : 104-106	
Day 1 : Connecting AI Standards and Industry through Practical Collaboration			
“Aligning Innovation and Practice: Putting AI Standards to Work across APEC Economies”			
A collaborative platform to share practical industrial experiences and standardization strategies across APEC economies, fostering mutual understanding and laying a foundation for action by leveraging international AI standards as tools for real-world implementation			
Time	Session	Title	Speaker
09:30-10:00 ('30)	Registration and Arrival		
10:00-10:05 ('5)	Opening Ceremony		KTL
10:05-10:10 ('5)	Welcome Remarks		Jinseok Bae (Director, KATS)
10:10-10:25 ('15)	Session 1: International AI Standardization	International Standards - Building trust, transparency and security for AI	Silvio Dulinsky (Deputy Secretary-General, ISO)
10:25-10:55 ('30)		International Standardization Strategies Bridging Policy and Industry	Wael William Diab (Chair, ISO/IEC JTC1 SC42)
10:55-11:10 ('15)	Session Break		
11:10-11:40 ('30)	Session 2: Industry Best Practices for Business Leaders	Industry Use Cases of Generative AI	Seoktae Ko (CEO, GENON)
11:40-12:10 ('30)		Redesigning Manufacturing with AI: From Standards to Execution	Kyusoon Hwang (Managing Director, WIZCORE)
12:10-12:20 ('10)		Q & A	-
12:20-13:40 ('80)	Photo Session and Lunch		
13:40-14:10 ('30)	Session 2: Industry Best Practices for Business Leaders	Learnings from Singapore’s Adoption of AI and Best Practices	Vinayak Prabhu (CEO, Senquire)
14:10-14:40 ('30)		Application and Use Cases of Artificial Intelligence in the Steel Industry	Jounghan Lee (Senior Manager, Hyundai Steel)
14:40-14:50 ('10)		Q & A	-
14:50-15:10 ('20)	Session Break		
15:10-16:40 ('90)	Session 3: Group Workshop - Enhancing AI Standards in Business	Group Discussion: What AI Standards Do Business Need, and What Are the Obstacles to Utilizing Existing AI Standards?	All Participants (Moderator: Hildegunn Kyvik Nordås Professor, Örebro University)
16:40-17:00 ('20)	Wrap-Up	Day 2 Training Session: Introduction and Closing	KTL

六、化學對話工作坊：塑膠回收最新技術及其政策應用議程



Agenda

“Latest Plastic Recycling Technologies and their Policy Applications”

Date: August 4, 2025

Location: Songdo Convensia, Songdo International City

Room: 116-117

SESSION	DESCRIPTION
8:30 – 9:00	Registration and Arrival
9:00 – 9:15	Welcome and Opening Remarks Speaker: Mr. Kent Shigetomi, Chemical Dialogue Government Co-Chair
9:15 – 9:20	Welcome message Speaker: Ph.D. Youngjin Suh, Director General in KATS
Session 1 9:20 – 10:00	Current status of recycling in Europe and future plans The speaker will present Europe's recycled plastics industry, technologies, related policies, and future development plans. Speaker: <ul style="list-style-type: none"> • Dr. Junbeum KIM, Professor of University of Technology of Troyes, France
Session 2 10:00 – 10:40	Physical, Chemical (Thermal) plastic recycling definition and latest technology The presentation will focus on recent advancements in plastic recycling technologies, with an emphasis on improving understanding and facilitating their broader adoption. Speaker: <ul style="list-style-type: none"> • Mr. Seungbin Park, Researcher of plastic recycling in Lotte Chemical
Session 3 10:40 – 11:20	Recycling cases of PET plastics in the Republic of Korea Korea's experience with PET recycling will be shared, including a detailed system and technologies as a case study. Speaker: <ul style="list-style-type: none"> • Mr. Jeungbin Kim, CEO of Superbin
11:20 – 11:30	Group Photo
11:30 – 12:40	Lunch

Session 4 12:40 – 13:20	Indonesia's marine debris problem, current status, and suggestions for APEC The presentation will address the challenges of plastic waste in Indonesia, focusing on its impact on the marine environment, and propose joint actions for APEC cooperation. Speaker: <ul style="list-style-type: none"> • Mrs. Francisca Maria Ernie, Expert Engineer of BRIN
13:20 – 13:30	Break
Session 5 13:30 – 14:10	Vietnam's plastic problem in field of packaging industries, current status and suggestion for APEC Plastic waste in Vietnam's packaging sector will be examined in terms of current trends and problems, followed by policy recommendations aimed at fostering a collective response through APEC. Speaker: <ul style="list-style-type: none"> • Dr. Quang Le Dang, Professor of IMS
14:10 – 14:30	Coffee Break
14:30 – 15:40	Group discussion Questions. <ol style="list-style-type: none"> 1. Please share your impressions, the positive aspects, and areas for improvement based on your participation in today's workshop. 2. What is the most significant plastic-related challenge currently facing APEC economies, and what potential solutions could address this issue? 3. From a policy perspective, what do you think is the most effective approach that APEC could take to address plastic-related challenges? 4. Based on the issues and insights raised during today's workshop, we would appreciate any suggestions offering practical technical support to economies urgently addressing the plastic waste problem. <p>Please briefly present and explain the opinions derived from each group</p>
15:40 – 16:00	Summary of Workshop and Closing Remarks

七、化學對話工作坊：建構 APEC 化學產業供應鏈韌性議程



Agenda

“Building Supply Chain Resilience in the APEC Chemical Sector”

Date: August 5, 2025

Location: Songdo Convensia, Songdo International City

Room: Grand Ballroom B

SESSION	DESCRIPTION
08:30-09:00	Registration and Arrival
09:00-09:15	Welcome and Opening Remarks Keynote: Ms. Patricia Underwood, Principal Director and Chief Toxicologist for Chemical and Material Risk Management, Office of the Assistant Secretary of Defense for Energy, Installations and Environment, United States Moderator: Olivia Burzynska-Hernandez, Project Co-Implementer
Session 1 09:15-10:00	Domestic, Regional, and Multilateral Initiatives: Supply Chain Resiliency, Connectivity, Sustainability Speakers will share notable supply chain initiatives that emphasize resiliency, connectivity, and sustainability, as prioritized by APEC, and relevant case studies (e.g. ASEAN, EU, U.S.-Japan, OECD, WTO etc.). Time will also be held for participants to learn about information sharing initiatives and crisis management tools within supply chain initiatives. Facilitator: Olivia Burzynska-Hernandez, Project Co-Implementer Speakers: <ul style="list-style-type: none"> Mr. Carlos Kuriyama, Director, APEC Policy Support Unit (virtual)
10:00-10:20	Coffee Break
Session 2 10:20-11:20	Government Perspective: Maintaining Resilient Supply Chains APEC economies will share challenges maintaining resilient supply chains, as well as strategies, if any, they implement to identify and address risk in supply chains. Facilitator: Ms. Tracy Gerstle, Sr Trade Specialist, International Trade Administration, Office of Materials Industries, Department of Commerce, United States Speakers: <ul style="list-style-type: none"> Mr. Kongsak Dokbua, Vice President, Plastics Market Intelligent Department, Plastics Institute of Thailand, Ministry of Industry, Thailand Mr. Faizal Mohd Yusof, Senior Director of the Industrial Development Division at the Ministry of Investment, Trade and Industry (MITI), Malaysia Ms. Leah Liston, Director Customs & Trade Affairs, Office of the U.S. Trade Representative, United States (TBC)

<p>Session 3 11:20-12:30</p>	<p>Business Perspective: Reassessing Supply Chain Risk in the Asia Pacific</p> <p>Supply chain leaders from companies that work in the Asia-Pacific will provide their experience reassessing supply chain risk in the region and raise key challenges and opportunities to share with government participants.</p> <p>Facilitator: Mr. Jason Bernstein, Director, Global Affairs, International Trade and Supply Chain, American Chemistry Council</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Ms. Jessica Huang, Global International Trade Operations Director, Asia Pacific Senior Supply Chain Director, Dow • Mr. Frederik Guttormsen, Managing Director, Stolt-Nielsen Limited ABAC • Ms. Emily Beline, Senior Counsel, FedEx • Mr. Paul Joo, Chemicals Insight Team, S&P Global Insights (Chemicals)
<p>12:30-13:30</p>	<p>Lunch Break</p>
<p>Session 4 13:30-14:45</p>	<p>Break Out Groups: Mapping the Role of Chemicals in Key Supply Chains</p> <p>Participants will engage in a tabletop scenario to explore characteristics of one or multiple critical chemical supply chains that support industries of import to APEC economies. Participants will work in groups to explore the characteristics and share their findings with the whole workshop.</p> <p>After the tabletop exercise, the breakout groups will reconvene in a plenary to share the outcomes of the exercise-including what was challenging and what they learned.</p> <p>Facilitator: Mr. Jason Bernstein, Director, Global Affairs, International Trade and Supply Chain, American Chemistry Council</p>
<p>Session 5 14:45-15:30</p>	<p>Panel Discussion: Recommendations to Improve Chemical Supply Chain Resiliency</p> <p>Speakers will provide lessons learned from specific case studies/examples from APEC economies, and project overseers will share input provided by participants from the pre-workshop survey.</p> <p>Potential solutions and recommendations will also be shared, including how digital technology can help support supply chain resiliency.</p> <p>Facilitator: Mr. Jason Bernstein, Director, Global Affairs (International Trade and Supply Chain, American Chemistry Council</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Faizal Mohd Yusof, Senior Director of the Industrial Development Division at the Ministry of Investment, Trade and Industry (MITI), Malaysia



Asia-Pacific
Economic Cooperation

	<ul style="list-style-type: none"> • Mr. Kongsak Dokbua, Vice President, Plastics Market Intelligent Department, Plastics Institute of Thailand, Ministry of Industry, Thailand • Mr. Craig Updyke, Director, Global Policy and International Trade, ASTM International, United States • Ms. Lisa Schroeter, Global Director of Trade & Investment Policy, Dow • Mr. John Richardson, Senior Executive Asia, ICIS
15:30– 15:45	Summary of Workshop and Closing Remarks

八、化學對話產業預備會議議程



**Asia-Pacific
Economic Cooperation**

APEC Chemical Dialogue: Industry Pre-Meeting

5 August 2025

Location: Songdo Convensia - Incheon, Korea

16:30– 18:00	Chemical Dialogue Industry Pre-Meeting
16:30 – 16:45 [15 min]	Welcome Remarks and Introductions <ul style="list-style-type: none"> ▪ Mr. Sergio Barrientos, Chemical Dialogue Industry Co-Chair <p>The Industry Co-Chair will introduce everyone to the Chemical Dialogue Industry Pre-Meeting and encourage participants to go around the room for introductions.</p>
16:45– 17:30 [45 min]	Ensuring Continuity of the Chemical Sector’s Engagement in APEC <p>With the current Chemical Dialogue terms of reference set to sunset on December 31, 2025 and no consensus yet on its renewal, this session will explore options to ensure continued engagement by the chemical sector within APEC. The discussion will include: 1) review of the revised terms of reference; 2) consideration of Korea’s proposal to establish a dedicated industry dialogue and how the chemical sector may contribute to it; 3) how the chemical industry can align ongoing and future work with other APEC sub-fora (e.g. the Sub-Committee on Customs Procedures (SCCP); the Sub-Committee on Standards and Conformance (SCSC); the Oceans and Fisheries Working Group (OFWG) etc.).</p>
17:15-17:30 [15 min]	Potential Future Project Topics and Strategic Priorities <p>This discussion will allow industry members to share ideas for future potential projects that can be introduced in APEC (i.e. waste management, trade facilitation). Considering the possible sunset of the Chemical Dialogue and ongoing discussions on its renewal, participants are encouraged to consider what the chemical sector’s priorities should be within APEC moving forward, and how these projects could be advanced through alternative sub-fora within APEC.</p>
17:45 – 18:00 [15 min]	Closing Remarks and Next Steps <ul style="list-style-type: none"> ▪ Mr. Sergio Barrientos, Chemical Dialogue Industry Co-Chair



**Asia-Pacific
Economic Cooperation**

35th Chemical Dialogue (“CD35”) AGENDA

Building a Sustainable Tomorrow

“Connect, Innovate, Prosper”

Location: Songdo Convensia, Incheon, Korea

Room: Grand Ballroom B

6 August 2025

Relevant documents may be found on the APEC Collaboration System (ACS): [here](#)

6 AUGUST 2025	
09:00 – 14:45 KST	35TH APEC Chemical Dialogue (CD)
09:00-09:30 [30 min]	1. Welcome and Introductions
09:00-09:05 [5 min]	1.1 Introduction from Government Co-Chair <ul style="list-style-type: none"> Kent Shigetomi, Chemical Dialogue Government Co-Chair <p>The Government Co-Chair will convene the 35th and final meeting of the Chemical Dialogue (CD) for 2025 and provide a brief outline of the objectives and operating procedures for the meeting.</p>
09:05 – 09:10 [5 min]	1.2 Welcome from Industry Co-Chair <ul style="list-style-type: none"> Sergio Barrientos, Chemical Dialogue Industry Co-Chair <p>The Industry Co-Chair will welcome delegates and provide a summary of industry-specific developments since CD34 and the industry pre-meeting on 5 August.</p>
09:10 – 09:25 [15 min]	1.3 Delegation Introduction and Adoption of Meeting Agenda <p>Economies will provide endorsement of the agenda and highlight their meeting priorities.</p> <ul style="list-style-type: none"> Kent Shigetomi, Chemical Dialogue Government Co-Chair Sergio Barrientos, Chemical Dialogue Industry Co-Chair <p>Each delegation will be asked to indicate:</p> <ol style="list-style-type: none"> 1. The economy they are representing 2. Whether they represent government or the private sector 3. Priorities for the meeting
9:25 – 9:30 [5 min]	1.4 Peru to update about the CTI initiative on: A way forward to implement the Ichma Statement on A New Look at the FTAAP

09:30 – 10:40 [70 min]	2. Regulatory Cooperation and Convergence <i>(Presenters are encouraged to reserve several minutes for questions following each presentation)</i>
09:30 – 09:55 [25 min]	<p>2.1 Regulatory Updates</p> <p>Potential Economy Interventions</p> <ul style="list-style-type: none"> • Brunei Darussalam • Canada • Chile • People's Republic of China • Indonesia • Japan • Republic of Korea • Malaysia • Mexico • New Zealand • Papua New Guinea • Peru • The Philippines • Russia • Singapore • Chinese Taipei • Thailand • The United States • Viet Nam <p>This session will allow for economies to briefly (5 min per economy) introduce any regulatory updates. If possible, please table your intervention in advance with the APEC Secretariat.</p>
09:55 – 10:05 [10 min]	<p>2.2 Virtual Working Group on Regulatory Cooperation and Convergence (VWGRCC)</p> <ul style="list-style-type: none"> ▪ Mr. Jason Bernstein, Representative, VWG on Regulatory Cooperation and Convergence ▪ Ms. Cissie Yeung, Representative, ASEAN Regulatory Cooperation Platform (ARCP) ▪ Mr. Guillermo Miller, Representative, USMCA Regulatory Cooperation Initiative <p><u>Meeting Documents</u></p> <ul style="list-style-type: none"> ▪ 2025/SOM3/CD/XX VWG on Regulatory Cooperation and Convergence <p>Representatives of the VWGRCC will provide updates regarding the implementation of the VWG work plan for 2025, including a Confidential Business Information (CBI) workshop, a resilient supply chain workshop, and regional work done in LATAM, ASEAN and North America.</p>

10:05 – 10:20 [15 min]	<p>2.3 Project Update - Building Supply Chain Resilience in the APEC Chemical Sector</p> <ul style="list-style-type: none"> ▪ Mr. Jason Bernstein, Representative, VWG on Regulatory Cooperation and Convergence <p>A representative for the APEC Project CD 201 2024A “Building Supply Chain Resilience in the APEC Chemical Sector” will provide a progress update, including a workshop that was hosted on 5 August 2025 on the margins of the 35th Chemical Dialogue in Incheon, Korea.</p>
10:20 – 10:30 [10 min]	<p>2.4 Draft Concept Note - Capacity Building on Effective Management of CBI During Inwards Customs Clearance</p> <ul style="list-style-type: none"> ▪ Fabien Henry, Industry Co-Chair, VWG on GHS <p>A representative for the project overseer will provide an overview of a potential project to be conducted in APEC – sub-working to be identified - for capacity building for CBI, building upon the work of the February 2025 CBI Workshop.</p>
10:30 – 10:40 [10 min]	<p>2.5 Draft Concept Note - Enhancing Chemical Emergency Preparedness: Building Cross-Sector Collaboration and Rapid Response Capacity</p> <ul style="list-style-type: none"> ▪ Wei LEE, Chemicals Administration, Ministry of Environment, Chinese Taipei ▪ Jenq-Renn Chen, Director, MOENV Southern Emergency Response Team (SERT), Chinese Taipei <p>Chinese Taipei will introduce a potential project to be conducted in APEC – to be potentially conducted in the EPWG - focusing on chemical emergency preparedness. This initiative builds upon and expands the achievements of the "Capacity Building for Chemical Emergency Preparedness" program, which was completed in 2024. It will also incorporate innovative technologies, cross-border incidents, emerging chemical risks and digital tools for rapid response.</p>
10:40 – 11:00	Coffee Break
11:00 – 11:30 [30 min]	<p>3. Globally Harmonized System for the Labelling and Classification of Chemicals (GHS) <i>(Presenters are encouraged to reserve several minutes for questions following each presentation)</i></p>
11:30– 11:15 [15 min]	<p>3.1 Status of the G.R.E.A.T. Project</p> <ul style="list-style-type: none"> ▪ Ellen Lin, Chinese Taipei <p><u>Meeting Documents</u></p> <ul style="list-style-type: none"> ▪ 2025/SOM1/CD/XX Status of the G.R.E.A.T. Project <p>Chinese Taipei will deliver a short update on the GHS Reference Exchange and Tool (“G.R.E.A.T.”) project and website.</p>
11:15 – 11:30 [15 min]	<p>3.2 Virtual Working Group on GHS</p> <ul style="list-style-type: none"> ▪ Fabien Henry, Industry Co-Chair, VWG on GHS <p><u>Meeting Documents</u></p> <ul style="list-style-type: none"> ▪ 2025/SOM1/CD/XX Virtual Working Group on GHS Update

	The Industry Co-Chair of the Virtual Working Group will provide an update regarding implementation of VWG on GHS 2025 workplan.
11:30 – 11:45 [15 min]	4. Data Exchange <i>(Presenters are encouraged to reserve several minutes for questions following each presentation)</i>
11:30 – 11:45 [15 min]	4.1 Virtual Working Group on Data Exchange – Progress Report <ul style="list-style-type: none"> ▪ Co-Chairs, Virtual Working Group on Data Exchange (Russian Federation) <u>Meeting Documents</u> <ul style="list-style-type: none"> ▪ 2025/SOM1/CD/XX VWG on Data Exchange <p>An update will be provided regarding implementation of the VWG on Data Exchange work plan, including the work stream update of the cooperation with international fora and the Interactive Guide update.</p>
11:45 – 12:10 [25 min]	5. Marine Debris and Sustainability <i>(Presenters are encouraged to reserve several minutes for questions following each presentation)</i>
11:45 – 12:00 [15 min]	5.1 Progress Report: APEC-Funded Project on the Latest Plastic Recycling Technologies and Their Policy Applications <ul style="list-style-type: none"> ▪ Representatives from Korea <p>Korea will present on the progress of the APEC-Funded project on plastic recycling technologies and their policy applications (CD 203 2024). This project included a workshop that was held on 4 August 2025. The workshop aimed to strengthen policy capacity in alignment with APEC's sustainable growth goals. The collaboration and knowledge sharing facilitated by this event are expected to lead to innovative solutions and more robust policy frameworks to combat plastic waste effectively.</p>
12:00 – 12:10 [10 min]	5.2 Virtual Working Group on Marine Debris <ul style="list-style-type: none"> ▪ Olivia Hernandez, Virtual Working Group on Marine Debris <u>Meeting Documents</u> <ul style="list-style-type: none"> ▪ 2025/SOM1/CD/XX Virtual Working Group on Marine Debris <p>The coordinator for the Virtual Working Group on Marine Debris will present on APEC's recent work on marine debris, including related work taking place in the CTI, OFWG, GOS, SCSC etc.</p>
12:10 – 13:30	Lunch Break
13:30 – 14:15 [45 min]	6. Chemical Dialogue Achievements & Sunset Guidance <i>(Presenters are encouraged to reserve several minutes for questions following each presentation)</i>
13:30 – 14:05 [35 min]	6.1 Chemical Dialogue: 25-year reflection <ul style="list-style-type: none"> ▪ Co-Chairs and CD Members <p>This is an opportunity for CD members to reflect on the CD's work over the past 25 years, focusing on key developments and achievements from its beginnings to the present. The CD Program Director will open the floor for members to discuss the Chemical Dialogue's sunset at the end of 2025.</p>

14:05 – 14:15 [10 min]	6.2 APEC Secretariat Update <ul style="list-style-type: none"> ▪ Nguyen Thu Tra, Program Director, APEC Secretariat <p>The APEC CD Secretariat will provide updates on the renewal process, implementing projects, and VWGs in preparation of the sunset process and ensuring that all CD projects have a clear path to completion by December 31, 2025 and identify a new APEC sub-working group to participate in 2026 and beyond if possible.</p>
14:15– 14:45 [30 min]	7. Meeting Summary and Next Steps
14:15– 14:30 [15 min]	7.1 Meeting Summary <ul style="list-style-type: none"> ▪ Ryan MacFarlane, Asia Pacific Chemical Industry Coalition (APCIC) <p>A representative from APCIC will summarize the day’s discussions and present the list of agreed upon action items for revision and endorsement by delegates.</p>
14:30 – 14:35 [5 min]	7.2 Document Classification <ul style="list-style-type: none"> ▪ Nguyen Thu Tra, Program Director, APEC Secretariat <p><u>Meeting Documents</u></p> <ul style="list-style-type: none"> ▪ 2025/SOM3/CD/XX Document Classification List <p>The APEC CD Secretariat will review the Document Classification List and ask delegates to endorse any revisions within the next two weeks.</p>
14:35 – 14:45 [10 min]	7.3 Closing Remarks <ul style="list-style-type: none"> ▪ Kent Shigetomi, Chemical Dialogue Government Co-Chair ▪ Sergio Barrientos, Chemical Dialogue Industry Co-Chair <p>The Government and Industry Co-Chairs will provide closing remarks for the 35th and final Chemical Dialogue meeting.</p>
END OF 35th CHEMICAL DIALOGUE	

十、第35屆化學對話全體會議—化學署法規更新簡報

 <p>Chemical Dialogue Regulatory Updates</p> <p>Chinese Taipei August 6 2025</p> <p>Chemicals Administration Ministry of Environment</p>	 <p>Regulatory Updates</p> <p>Add 5 PFOS and 352 PFOA-related compounds to the Toxic Chemical Substance List</p> <ul style="list-style-type: none"> In alignment with the UN Stockholm Convention Added to the Toxic Chemical Substance List, includes: <ul style="list-style-type: none"> 5 PFOS compounds 352 PFOA-related compounds  <p>Introducing Newly Regulated Chemicals</p> <p>Include Cybutryne (antifouling agent; chemical name: N-tert-butyl-N-cyclopropyl-6-(methylthio)-1,3,5-triazine-2,4-diamine) in the Concerned Chemical Substance List</p> <ul style="list-style-type: none"> Regulate all concentrations Control manufacture, import, sale, use, and storage Ban use in antifouling paints/systems and biocidal product manufacturing
 <p>Regulatory Updates</p> <p>Enhancing Safe Use of Existing Chemicals</p> <p>Focus</p> <ul style="list-style-type: none"> Support protection of human health and the environment Align with international chemical safety standards Encourage adoption of safer, greener industry practices  <p>Nonylphenol & Nonylphenol Ethoxylates</p> <ul style="list-style-type: none"> Recognized as endocrine-disrupting substances Lowered threshold from 5% to 0.1% Promoted safer use by limiting applications in: <ul style="list-style-type: none"> Industrial cleaning agents Other high-risk uses 	 <p>Regulatory Updates</p> <p>Promoting Green Chemistry through Awards and Innovation</p> <ul style="list-style-type: none"> Promote low-toxicity, low-waste, energy-saving, and safe chemical innovation Recognize 72 individuals and teams, including top enterprises, SMEs, and student innovators Engage leading corporations (e.g., TSMC, AUO) and emerging green-tech SMEs Showcase projects including: <ul style="list-style-type: none"> Green hydrolysis using water instead of chemical agents Eco-friendly disaster response process design Biochar from Casuarina fruit to absorb heavy metals with minimal pollutants 
 <p>Thank you</p>	

十一、第35屆化學對話全體會議—化學署緊急應變簡報

<div data-bbox="240 367 777 439"> </div> <div data-bbox="274 465 746 510"> <h3>Draft Concept Note for Enhancing Chemical Resilience in Chemical Dialogue</h3> </div> <div data-bbox="365 521 649 658"> <p>Presenter: Mr. Wei Lee Technical Specialist, Hazard Control Division Chemicals Administration Ministry of Environment, Executive Yuan</p> <p>Prof. Jenq-Renn Chen Dept of Safety, Health and Enviro. Eng. Director, MOENV Southern Emergency Response Team (SERT) National Kaohsiung University of Science and Technology</p> <p>Chinese Taipei</p> </div>
--

<h3>Regulations for Semiconductor Chemicals Supplies</h3>	<h3>Regulations for Semiconductor Chemicals Supplies</h3> <ul style="list-style-type: none"> Chemical is also heavily regulated by many international organizations, notably GHS/UNECE – Globally Harmonized System of Classification and Labelling of Chemicals for the workplace/package ADR/UNECE – Agreement concerning the International Carriage of Dangerous Goods by Road for the road transportation IMDG/IMO - The International Maritime Dangerous Goods (IMDG) Code for marine shipping of containers IBC/IMO - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk for marine shipping of bulk chemicals IGC/IMO - International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk for marine shipping of liquefied gases
<h3>Enhancing Chemical Resilience</h3> <ul style="list-style-type: none"> To enhancing the resilience of chemical supply, at least three layers of protections are proposed: Strict safety systems are needed for delivery. Better training and training system are required. Joint efforts needed between manufacturers, supply chain, government, and research institutions to develop a mutual aids system 	<h3>Global Framework on Chemicals (GFC)</h3> <ul style="list-style-type: none"> The Global Framework on Chemicals presents a comprehensive plan with 5 strategic objectives and 28 targets to guide economies and stakeholders in jointly addressing the lifecycle of chemicals, including products and waste. GFC provides a vision for a planet free of harm from chemicals and waste, for a safe, healthy and sustainable future. Although it is still possible to implement actions to enhance the chemical resilience under GFC framework, it will be difficult as the semiconductor chemical supplies rooted heavily in Asia-Pacific region. GFC also has limited and little interest in shipping in the road and ocean. APEC Chemical Dialogue can play a better role to achieve the required chemical resilience for semiconductor industries, and contribute to a better development not just in Asia-Pacific region but also the world.
<h3>Proposal for 2026/2027 Training Program</h3> <ul style="list-style-type: none"> The self-funded 2024 training program has built a successful link and cooperation between member economies and met the above goal. To further strengthen the link and cooperation, Chinese Taipei propose to apply for a partially-funded training project in 2026/2027 with a total budget of US\$120,000, and Chinese Taipei Ministry of Environment has agreed to support half of the fund. Korea and Singapore have already endorsed the project with more economies under invitation. The 2026 training program aims to extend the successful 2024 course to include special topics including chemical emergency in the high-tech manufacturing processes. This will be a unique opportunity for member economies to facilitate the safe development of high-tech manufacturing capacity such as semiconductor, PV, and related industries. SERT has been training TSMC, Winbond etc and has the state-of-the-art facilities. Proposal will be submitted before 2026 SOM1. 	<h3>Thank you for your Attention!</h3> <p>All comments/question welcome: Mr. Wei Lee Wei.lee@moenv.gov.tw Prof. Jenq-Renn Chen jrc@nkust.edu.tw</p>