行政院所屬各機關因公出國人員出國報告書

（出國類別：出國考察）

赴菲律賓參加
城市清潔空氣夥伴專案工作會議

服務機關：行政院環境保護署

姓名職稱：儲簡任技正雯娣

陳環境技術師秋幸

楊佳樺約聘人員

派赴國家：菲律賓－馬尼拉

（**Philippines，Manila**）

出國期間：**104**年**11**月**8**至**11**月**11**日

報告日期：**105**年**1**月**20**日

摘要

為檢視本年度（104）本署贊助亞洲清潔空氣中心（Clean Air Asia，CAA）執行「國際環境夥伴計畫－城市清潔空氣夥伴計畫（Cities Clean Air Partnership，CCAP）」之辦理成果，本署應美國環保署邀請，奉署長指示，指派本署永續發展室及空保處同仁，赴菲律賓馬尼拉 CAA 總部參加「城市清潔空氣夥伴專案工作會議」，與美國環保署代表共同督導 CCAP 計畫執行成果，查核該計畫工作項目及經費使用事宜。

「城市清潔空氣夥伴專案工作會議」會議時間自 104 年 11 月 9 日至 10 日，討論議題包括：計畫利害關係人說明/諮商過程（Consultation Process）、計劃管理（Program Management）、城市認證（City Certification）、城市合作（C^3，City-by-City Review）、資訊平台（Knowledge Platform）及專家學者資料庫（Expert's Database）、2015 年 CCAP 計畫預算及達成度說明（Budget & Funding）、訊息及溝通（Messaging & Communication）等，進行討論。

本次出國亦安排本署、美國環保署及菲律賓環境管理局（Environmental Management Bureau）餐敘，三方政府部門彼此間聯絡情誼，為「國際環境夥伴計畫－城市清潔空氣夥伴計畫」，奠下未來合作基礎。另本署於「城市清潔空氣夥伴專案工作會議」後，拜會我國駐菲律賓代表處，說明「國際環境夥伴計畫－城市清潔空氣夥伴計畫」辦理成果，及後續須請該處協助部分。

本年度 CCAP 計畫 3 大重點係設計「城市認證（City Certification）」制度、增加參與該計畫之「夥伴城市（City Partnering）」、發展「資訊平台（Knowledge Platform）」。有關城市認證部分，其四大組成包含「認證規範（Certification Criteria）」、「治理架構（Governance Structure）」、「誘因制度（Incentives Package）」、「審核制度（Accountability Mechanisms）」，現階段僅治理結構（Governance Structure）部分為具體。城市夥伴部分則已有 8 個城市辦理配對，包含臺北市與菲律賓帕西格市（Pasig City）；臺中市與美國聖荷西市（San Jose）；泰國曼

谷對美國聖地牙哥（San Diego）； 越南海防市（ Haiphong ）及日本北九州市（Kitakyushu City）。另網路資訊平台部分，現階段已發展網站介面及部分 CCAP 計劃資訊查詢，未來仍需更新網站資訊，及拓展相關功能，俾利未來使用。

此外，為有效管理整體 CCAP 計畫，公開透明資源及經費使用情形，CAA 欲成立完善管理架構，配合推動 CCAP 計畫，另徵募一位計畫總監，強化利害關係人溝通協商。

另本署於 11 月 12 日安排美國環保署 2 位專家完成工作會議後，赴本署分享美國空氣品質管理實務經驗，共同交流臺美空氣品質管理相關事務。

經這次會議，瞭解 2015 年城市清潔空氣夥伴計畫辦理情形外，另藉由臺美及亞洲清潔空氣中心三方會談，與美國環保署及該中心專家們共同討論交流，共同建議三方合作默契及未來執行計畫願景。

目錄

壹、前言

北美事務協調委員會及美國在台協會於 1993 年 6 月 21 日簽訂「駐美國臺北經濟文化代表處與美國在臺協會環境保護技術合作協定，簡稱『中美環境保護技術合作協定』」，執行單位分別為我國行政院環境保護署及美國環保署，自此開啟臺美緊密的環保合作與交流。本署與美國環保署在中美環保技術合作協定之下，截至 2013 年底共簽訂 10 號執行辦法，第 10 號執行辦法合作規劃為 2013 年至 2015 年。

為進一步改善全球環境，加強國際合作，提升我國在全球及區域國際環保的領導地位，拓展夥伴計畫參與國家，本署在美國環保署長吉娜 麥卡馨（Gina McCarthy）女士率團訪臺之際及我國馬總統見證下，魏署長 國彥於 103 年 4 月 14 日宣布成立「國際環境夥伴計畫（International Environment Partnership，IEP）」（如圖 1.1），另麥卡馨署長表示美國環保署將為該計畫之創始夥伴。我國透過國際環境夥伴計畫實施，與美國環保署共同推動各項國際環保合作，和世界各國環保官員及專家進行交流。有關 2015 年國際環境夥伴計畫，共分為四個子計劃，分別為「臺灣全球環保參與計畫」、「臺美雙邊環保優先事項」、「部長環境獎助金」與「贊助專案計畫」（如圖 1.2），領域涵蓋土壤及地下水污染場址整治與管理、空氣品質保護、溫室氣體排放減量、清淨港口空氣品質、永續姐妹學校、永續低碳社區、電子電器廢棄物品回收管理、環境執法、環境教育、氣候變遷調適等。

此外，為強化國際環保夥伴計畫內容，本署 魏署長及其代表團於 103 年 8 月訪美行程中，安排與美國環保署第 9 分署長布魯門菲（Mr. Jared Blumenfeld）在美國舊金山舉辦記者會，共同啟動「城市清潔空氣夥伴計畫（Cities Clean Air Partnership，CCAP）」（如圖 1.3 及圖 1.4）。該計畫執行目標係建立亞太城市空氣品質保護技術之交流平台，強化區域空氣品質管理與減少空氣污染源。亞洲空氣清潔中心（Clean Air Asia，CAA）係跨國性之非營利組織，總部設於馬尼拉，另在北京與德里設有辦公室，該組織以提升亞洲國家空氣品質、減少溫室氣體排放與提升人類福祉為目標，自 2007 年起，為聯合國認可之組織夥伴。

有關「城市清潔空氣夥伴專案工作會議」，本次本署指派永續發展室及空保處同仁派員同仁，自 104 年 11 月 8 日至 11 日前往菲律賓馬尼拉「亞洲清潔空氣中心（Clean Air Asia）」總部，參加「城市清潔空氣夥伴工作會議」。另美方代表係資深空氣品質顧問 Mr. Justin A. Spenillo 及區域諮商助理 Ms. Jeanhee Hong，偕同臺灣計畫經理 Mr. Justin Harris 參與本次會議。本次會議討論議題包括：計畫利害關係人說明/諮商過程(Consultation Process)、計劃管理(Program Management)、城市認證（City Certification）、城市合作（C^3，City-by-City Review）、資訊平台（Knowledge Platform）及專家學者資料庫（Expert’s Database）、2015 年 CCAP 計畫預算及達成度說明（Budget & Funding）、訊息及溝通（Messaging & Communication）等，進行討論。

本活動係 2015 年「國際環境夥伴計畫『贊助專案計畫』」之「城市清潔空氣夥伴計畫（Cities Clean Air Partnership）」相關活動，經這次會議，瞭解西元 2015 年城市清潔空氣夥伴計畫執行成果外，亦表達本署對於該案之想法及規劃，建立合作默契，另藉由臺美及亞洲清潔空氣中心三方會談，與美國環保署及該中心專家們共同討論交流，對於國際環保人才能力之培養，實有助益。

圖 1.1 魏署長宣讀「國際環境夥伴計畫（IEP）」成立聲明

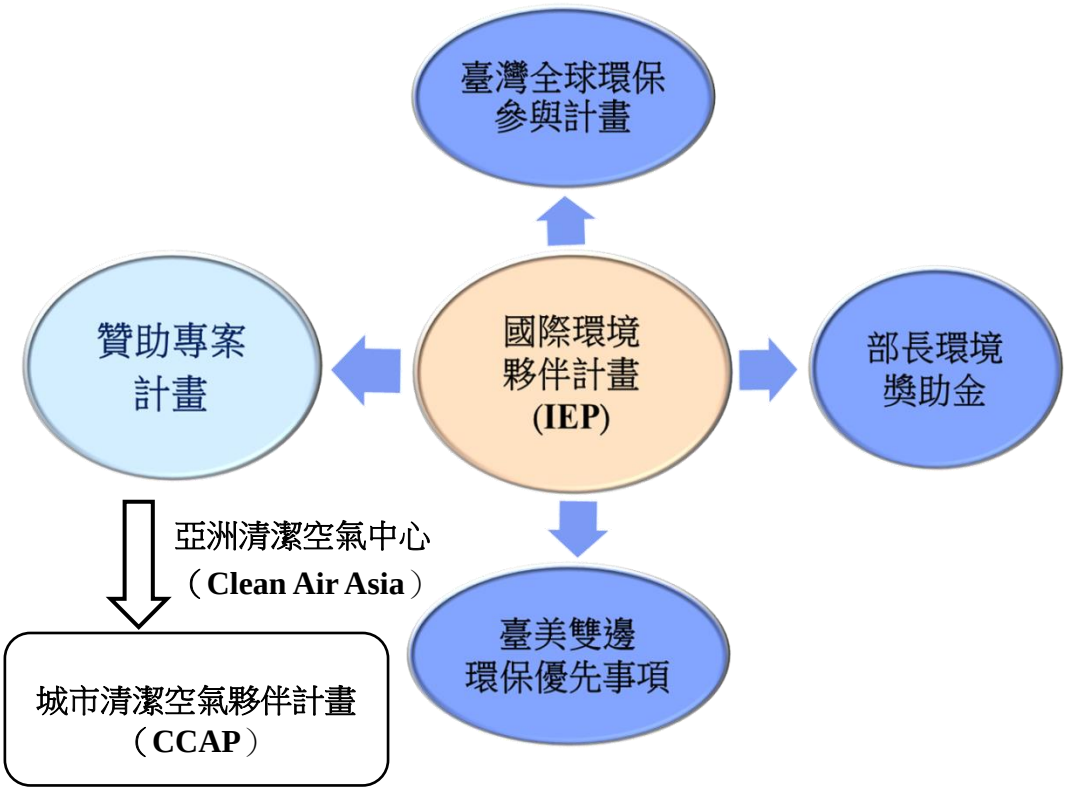


圖 1.2 「國際環境夥伴計畫」及「城市清潔空氣夥伴計畫」架構

圖 1.3 美國金門大橋國家公園「城市清潔空氣夥伴專案（Cities Clean Air Partnership）」記者會

圖 1.4 本署 魏署長於美國金門大橋國家公園「城市清潔空氣夥伴專案（Cities Clean Air Partnership）」記者會致詞

貳、出國人員名單

有關本次赴菲律賓參與「城市清潔空氣夥伴工作會議」，我國出國人員名單如表 2.1 所示。另表 2.2 係參與本次「城市清潔夥伴專案工作會議」與會人員名單。

表 2.1 我國出國人員名單

服務單位		姓名	職稱
行政院 環境保護署	永續發展室	儲雯娣	簡任技正
	空氣品質保護及 噪音管制處	陳秋幸	環境技術師
		楊佳樺	約聘人員

表 2.2 本次「城市清潔夥伴專案工作會議」與會人員名單

美國環保署 US Environmental Protection Agency（US EPA）	**臺灣環保署** Taiwan Environmental Protection Administration（EPAT）
Justin Harris，Taiwan Program Manager Justin Spenillo，Senior Air Quality Planner Jeanhee Hong，Assistant Regional Counsel	儲雯娣，簡任技正 陳秋幸，環境技術師 楊佳樺，約聘人員
亞洲清潔空氣中心 Clean Air Asia（CAA）	
Bjarne Pedersen，Executive Director Glynda Bathan，Deputy Executive Director Chee Anne Roño，CCAP Program manager Art Docena，Financial Manager Mia Lauengco Kaye Patdu Alvin Mejia Jerey Estrada	

參、出國行程

本次赴菲律賓馬尼拉出國行程自 104 年 11 月 8 日至 11 月 11 日，共計 4 日，其中 11 月 9 至 10 日為工作會議議程，出國行程如表 3.1 所示。

表 3.1 「城市清潔夥伴專案工作會議」出國行程

日期	行程規劃
11 月 8 日	• 啟程，自臺灣桃園機場出發飛往菲律賓
11 月 9 日	• 亞洲城市清潔空氣中心（CAA）總部，城市清潔空氣夥伴工作會議 • 臺美及菲律賓環境管理局餐敘
11 月 10 日	• 亞洲城市清潔空氣中心（CAA）總部，城市清潔空氣夥伴工作會議 • 拜會駐菲律賓代表處
11 月 11 日	• 返程，自菲律賓飛回臺灣桃園機場

肆、與會目的

一、 本（104）年度本署辦理「國際環境夥伴計畫（International Environmental Partnership，IEP）」，贊助亞洲清潔空氣中心（Clean Air Asia，CAA）執行「城市清潔空氣夥伴計畫（Cities Clean Air Partnership，CCAP）」，為檢視其辦理成果，已設有「馬尼拉城市清潔空氣夥伴專案」，由美國環保署指派 2 位專家，協助督導，查核該計畫執行成果。另應美國環保署邀請，奉署長指示，本署亦派員參加該工作會議，表達本署於該計畫想法及立場。

二、 城市清潔空氣夥伴專案工作會議期間，本署與美國環保署及菲律賓環境管理局（Environmental Management Bureau）於 104 年 11 月 9 日餐敘，三方政府部門彼此間聯絡情誼，共同為「國際環境夥伴計畫－城市清潔空氣夥伴計畫」，奠下未來合作基礎。

三、 本署於「城市清潔空氣夥伴專案工作會議」後，拜會我國駐菲律賓代表處，說明「國際環境夥伴計畫－城市清潔空氣夥伴計畫」辦理成果，及後續須請該處協助事宜。

四、 有關「城市清潔空氣夥伴專案工作會議」，本署指派永續發展室及空保處同仁派員至菲律賓馬尼拉「亞洲清潔空氣中心（Clean Air Asia）」總部，與美國環保署代表共同進行「城市清潔空氣夥伴計畫」之工作督導。經這次會議，瞭解西元 2015 年城市清潔空氣夥伴計畫執行成果外，亦表達本署對於該案之想法及規劃，建立合作默契，俾利辦理計畫後續事宜。

五、 藉由臺美及亞洲清潔空氣中心三方會談，與美國環保署及該中心專家們共同討論交流，有助於國際環保人才能力之培養。

伍、會議議程

一、「城市清潔空氣夥伴工作會議」議程

有關「城市清潔空氣夥伴專案工作會議」，本署永續發展室及本處同仁派員至菲律賓馬尼拉「亞洲清潔空氣中心（Clean Air Asia）」總部，與美國環保署代表共同進行「城市清潔空氣夥伴計畫」之工作督導，時間自104 年 11 月 9 日至 10 日，共計 2 天。經這次會議，了解 2015 年城市清潔空氣夥伴計畫執行成果外，亦表達本署執行該案之想法及規劃。

該工作會議議程如表 5.1 至表 5.2，會議主題包括計畫利害關係人說明/諮商過程（Consultation Process）、計劃管理（Program Management）、城市認證（City Certification）、城市合作（C^3，City-by-City Review）、資訊平台 （Knowledge Platform）及專家學者資料庫（Expert’s Database）、2015 年 CCAP 計畫預算及達成度說明（Budget & Funding）、訊息及溝通（Messaging & Communication）等，進行討論。

圖 5.1 亞洲清潔空氣中心（Clean Air Asia）總部外觀

表 5.1 11 月 9 日「城市清潔空氣夥伴工作會議」議程表

Time	Item	Lead	Documents
10：00	**Introductions & Open Discussion**	CAA	Annex4–Progress Update
10：30	**Consultation Process** Who are the stakeholders: • Funders (national, foundation & multilateral) • National partners • Cities • CAA Board of Trustees • Community of experts How is the buy-in of each of these stakeholders being secured and sustained? Stakeholder process balancing the expectations of each of the five categories above Transparency of the Consultation process	EPA/CAA	
12：00	Lunch		
13：30	**Program Management** Process for recruiting individual with the depth of experience to manage stakeholder process and the delivery of technical support to cities What is criteria for this individual, timeline Selection Committee make-up Presentation of job description/requirements/criteria/ timeline	CAA	Annex5–Job Description
14：30	**City Certification** Discussion of Governance Structure Criteria for experts group and selection Is all of this actually appealing to cities?	EPA/ EPAT	Annex6–Governance Document Annex7–Certification Criteria Overview
17：00	**Conclude**		
18：00	Dinner （本署、美國環保署及菲律賓環境管理局）		

表 5.2 11 月 10 日「城市清潔空氣夥伴工作會議」議程表

Time	Item	Lead	Documents
09：00	**C3 City-by-City Review**	ALL	Annex8—C^3 Bangkok – San Diego
	City-to-City Cooperation a. San Diego / Bangkok b. San Jose / Taichung c. Taipei / Iloilo d. Jakarta e. Delaware Valley Regional Planning Commission f. Others		Annex9—C^3 Kitakyushu–Haiphong Annex10—C^3 Taichung – San Jose Annex11—C^3 Taipei – Pasig
	Process & Steps. Lessons Learned in 2015. Next steps		
10：00	**Knowledge Platform**	CAA	
	Experts Database		
	C^3		
	Certification		
	Resources		
11：00	**Budget & Funding**	CAA/ EPAT	Budget Update
	Budget （Overview of 2015 deliverables and status）		
	Funding （Target date to begin funding for cities and for program management）		
12：30	Lunch		
13：30 15:30	**Messaging & Communication**	CAA/ EPA	Annex12–Outreach Activities Annex13– Donor Recognition Guidelines
15：30	**Conclude**		
17：00 19：00	**Visit TECO in the Philippines**		

二、臺美空氣品質管理實務經驗分享議程

美國環保署 2 位專家完成工作會議後，本署另於 11 月 12 日安排資深空氣品質顧問 Mr. Justin A. Spenillo 及區域諮商助理 Ms. Jeanhee Hong，以自身經驗美國空氣品質管理實務進行分享，並邀請本處同仁，共襄盛舉，共同交流臺美空氣品質管理相關經驗，會議議程如表 5.3 所示。表 5.4 係美國環保署兩位代表介紹。

表 5.3 空氣品質管理實務經驗分享會議程表

時間	報告主題	講者
10:00-10:40	Putting it all Together: Emissions Reductions in the Real World	Justin A Spenillo
10:40-11:30	Clean Air Act Citizen Suits：How the Public Shapes Federal Law	Jeanhee Hong
11:30-12:00	綜合討論	

表 5.4 美國兩位專家介紹

	Introduction
Technical lead Justin A Spenillo	工作經驗： Justin A. Spenillo 現任職於美國環保署第 10 分署，其辦公室地點位於華盛頓西雅圖，該員自 2003 年起至美國環保署服務約 12 年。任職期間主要從事美國各州及在地空氣品質保護相關業務，如法規及技術支援等，另致力於係空氣品質專案及西北太平洋政府之空氣品質發展之議題 (Tribal air quality programs and governments on developing air quality programs in the Pacific Northwest)。於華盛頓期間，從事美國環保署綠化及實驗設施工作。 學歷及經歷： ▪ Undergraduate degree in Biology from Franklin & Marshall College in Lancaster, PA ▪ Master's degree in Science, Technology, and Public Policy from the Elliott School of International Affairs at George

	Washington University in Washington DC ▪ Unique experience of taking coursework at Columbia University's Biosphere 2 Center programs and the National Outdoor Leadership School
Due diligence Jeanhee Hong	工作經驗： Jeanhee Hong 現任職於美國環保署第 9 分署，西北太平洋區域諮商助理，專攻環境法律。過去曾具推動清潔空氣法案（Clean Air Act）之經驗、州政府及當地空氣許可證審核之議題、空氣品質計畫(臭氧及懸浮微粒污染罰鍰)等。成為第 9 分署員工前，曾於美國第一分署擔任區域諮商助理，服務業務多樣，包含清潔空氣法案（Clean Air Act）、清潔水法案（Clean Water Act）、有毒物質控制法案（Toxic Substances Control Act）及深水港口法案（Deepwater Port Act）。 學歷及經歷： ▪ J.D from Cornell Law School ▪ B.A. and M.A. degrees in history from Stanford University

陸、會議內容及成果說明

本次出國工作會議討論議題包括:計畫利害關係人說明/諮商過程(Consultation Process）、計劃管理（Program Management）、城市認證（City Certification）、城市合作（C^3，City-by-City Review）、資訊平台 （Knowledge Platform）及專家學者資料庫（Expert’s Database）、西元 2015 年 CCAP 計畫預算及達成度說明（Budget & Funding)、訊息及溝通(Messaging & Communication)等，進行討論。，相關參與重點與成果茲說明如下：

一、計畫利害關係人說明／諮商過程（Consultation Process）

首先，亞洲空氣清潔中心介紹有關 CCAP 計畫之主要利害關係人（stakeholder）名單，並依其「影響力」其「執行力」類別，區分為不同的參與層級，分析其利害關係人參與整體計畫諮詢及努力的成果。

有關城市認證，主要架構分成四個面向，分別為「治理架構(governance structure)」、「認證規範(certification criteria)」、「誘因制度(incentives)」及「審核制度（accountability）」，目前持續辦理中。另亞洲空氣清潔中心目前規劃本署、美國環保署及亞洲城市清潔中心董事會等三方專家，透過正式諮商過程，投入城市認證相關設計，並倡議其示範機制。

本署及美國環保署先後接獲 CCAP 計畫相關資料，如認證架構（Certification Framework）、治理架構（Governance Structure）、治理選擇性研究（Governance Optional Analysis），已提交相關建議予亞洲城市清潔空氣中心參考。

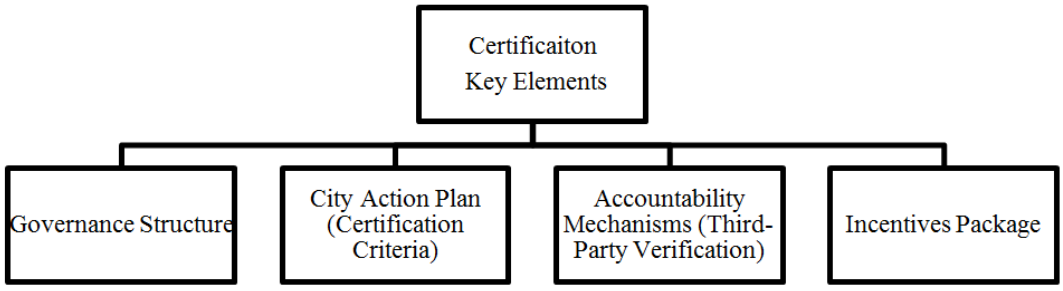


圖 6.1 CCAP/城市認證核心組成

另美國環保署認為，諮詢過程須達到一定的透明及能見度，為使城市清潔空氣夥伴計畫之利害關係人踴躍參與投入，亞洲空氣清潔中心將在西元 2016 年時，集結本署及美國環保署，一同確認 CCAP 主要利害關係人範疇。

藉此，為確認諮商過程之透明度，發展出彼此間信賴關係，亞洲空氣清潔中心將後續公開利害關係人參與和諮詢過程，及衍伸之利害關係人之名單，並持續地更新資料。

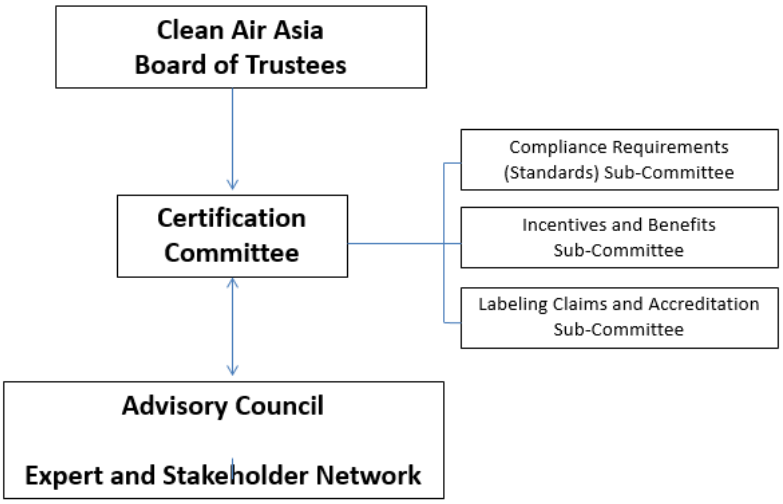


圖 6.2 CCAP/城市認證專案治理架構（會前資料）

圖 6.3 CCAP/城市認證專案治理架構（會前資料）

表 6.1 CAA 董事會成員介紹

Robert O'Keefe, Chair of Clean Air Asia's Board of Trustees, is also the Vice President of the Health Effects Institute (HEI), which assesses the health impacts of air pollution in developing countries. He is regularly called on to address prominent institutions, including the Executive Office of the U.S. President, U.S. Congress, the European Parliament, the National Research Council, the Institute of Medicine, Asian Development and World Banks and many other domestic and international bodies. A long-time environmental regulator, he also serves as a member of the USEPA's National Clean Air Act Advisory Committee and has been a Woodrow Center Scholar on the Hill.
Cornie Huizenga, Vice Chair, was instrumental in setting up Clean Air Asia and was its first Executive Director until December 2008. He currently is the Secretary General of the Partnership on Sustainable Low Carbon Transport (SLoCAT).
Francis Estrada, Treasurer, is the former Chairman of De La Salle University in the Philippines and former President of the Asian Institute of Management. For over thirty years, Francis has been a prominent international investment banker, financial adviser and financial entrepreneur, specializing in Asia-related financial operations. He has set up several Asia-related financial institutions and commercial enterprises around the world.
Elisea (Bebet) Gozun was the former Presidential Assistant II on Climate Change and the former Secretary of the Department of Environment and Natural Resources in the Philippines. In 2007, she was recognized by the United Nations Environment Programme (UNEP) as the Champion of the Earth for Asia and the Pacific.
Mary Jane Ortega is Special Advisor and the former Secretary-General of the Regional Network of Local Authorities for the Management of Human Settlements – CITYNET. She is also the Vice President of the Global Executive Committee of ICLEI. She served as the Mayor of San Fernando City of the Province of La Union, Philippines for three terms from 1998 to 2007. She was a member of the steering committee of the UN Habitat and United Nations Institute for Training and Research (UNITAR) as well as United Nations Advisory Committee of Local Authorities (UNACLA).
Shreekant Gupta is Professor at the Delhi School of Economics, University of Delhi

and Adjunct Professor at the Lee Kuan Yew School of Public Policy, National University of Singapore. He previously was Director of the National Institute of Urban Affairs at New Delhi, India and has also served as Coordinating Lead Author for IPCC. He specializes in environmental and natural resource economics, urban economics and public economics.
David Guerrero is the Chair & Chief Creative Officer of the BBDO Guerrero / Proximity Philippines. The agency is part of BBDO Worldwide and a member of Omnicom Group Inc., a global advertising, marketing and corporate communications company. His office is ranked as one of Asia's Top 10 Creatives by Campaign Brief Asia.
He Kebin is Professor of the Department of Environmental Science & Engineering at Tsinghua University. He specializes in air quality management with over 25 years experience. He sits on various committees to advice government and organizations on air quality and emissions management.
Yoshihiro Iwasaki has been President of Iwasaki Kigyo K.K., since February 2007 and Iwasaki Fudosan K.K., since June 2009. He was Director General of the South Asia Department at the Asian Development Bank. He also served as Senior Economist, Asia Bureau for the International Monetary Fund.

二、 計畫管理（**Program Management**）

有鑑於「城市清潔空氣夥伴計畫」為新穎型計畫，且計畫範疇甚廣，為了有效執行並管理城市清潔空氣夥伴計畫，亞洲空氣清潔中心因應美國環保署建議，決定另外徵募一位 CCAP 計畫總監（Director），聯合 CAA 董事會、CAA、本署、美國環保署及相關利害關係人，督導整體 CCAP 計畫執行，並定期回報計畫執行情形。CCAP 計畫總監（Director）主要工作係提出專案策略之外，需向城市們傳達 CCAP 計畫相關資訊，CAA 現已提出徵募相關條件，待本署及美國環保署確認後，便開始辦理徵募及篩選，有關 CCAP 計畫總監徵募條件，詳如附件五。

三、 城市認證（**City Certification**）

有關城市認證 4 大組成，包含「認證規範（Certification Criteria）」、「治理架構（Governance Structure）」、「誘因制度（Incentives Package）」、「審核制度（Accountability Mechanisms）」。現階段僅治理結構（Governance Structure）部分為具體，故本次會議以「治理架構」為主要討論範疇。

「治理架構」係城市認證最重要設計之一，本年度 CAA 提交資料有委員會組成及職責分工、管理模式之設計）。有關於管理模式之設計，本署及美國環保署一致同意使用「複合式模型（Hybrid Model）」，推動城市認證管理流程，並檢視其 CCAP 委員會設計，包含 CAA 董事會（CAA Board of Trustees）、認證委員會（Certification Committee）、專家及利害關係人小組（CCAP expert and stakeholder Network and Advisory Council）、設計總監及相關利害關係人之權責。

會中，美方建議「認證委員會」可朝向實質面向（排放清冊、空氣品質監測及空氣品質管理）辦理，透過另一個技術群組，取得認證、並發展誘因及溝通策略，也可透過審核機制或由第 3 方團體去執行。該會議結論一致認為，應由亞洲空氣清潔中心擔任該計畫管理者的角色。

此外，認證所採取的行動須為紮實步驟，且著重門檻較容易的項目去執行，例如設定前 5 項基本且必須執行的空氣品質行動策略，以取得銅牌、銀牌、金牌之認證。這些每一階層建議的行動，須於科學基礎(相關資料建構於排放清冊)完成、專家確認以及在城市相關法規授權下所採取的行為。

有關未來運作清潔城市空氣夥伴計畫認證系統，其相關會議及文件紀錄（溝通及誘因相關討論），CAA 必須提交組織清單，供 CCAP 利害關係人參考。另建議審核機制（第三方認證）係以 3 年為限，使城市們有足夠時間去實行空氣品質相關措施。

亞洲空氣清潔中心後續將提供治理架構（revised governance structure）修改版予本署及美國環保署參考，另相關利害關係人同意後，其文件將被提交至西元 2016 年 1 月 CCAP 董事會中討論，辦理後續事宜，有關城市認證治理架構資料，詳如附件六及附件七。

四、 城市合作（C^3，City-by-City Review）

藉首先由 CAA 說明近期聯絡 4 對配對城市之概況，包含

1.臺北市與菲律賓帕西格市（Pasig City）

2.臺中市與美國聖荷西市（San Jose）

3.泰國曼谷對美國聖地牙哥（San Diego）

4.越南海防市（Haiphong）及日本北九州市（Kitakyushu City）

面臨不同國家及城市，CAA 提出辦理城市合作的阻礙與困難，如下：

- 城市所屬的政府機關核定及辦理 C^3 流程冗長
- 雙方配對城市無法進行有效溝通，阻礙後續合作議題的發展

目前 CAA 嘗試聘用當地人（以日本為例），作為一個溝通橋梁，協助 CAA 推動越南海防市及日本北九州市的城市合作案。CAA 認為該辦理方式若能有效解決語言溝通的障礙，將擴大聘用更多不同城市的夥伴，共同推動城市合作案。

美國環保署建議仍需招募更多專家學者及城市們一同參與城市合作案，透過專家與城市間緊密合作，才能達到城市合作應有的規模，同時也強化城市合作的效果，改善亞洲國家空氣品質。

CAA 目前雖已發展相關表格（C^3 表格）及配對合作流程（6 大步驟），惟後續配對合作方向及工作內容仍不明確，本署及美國環保署在此提醒 CAA，加強城市間溝通，並請 CAA 近期內提交配對城市之合作資訊與本署及美方參考。有關夥伴城市相關資料，詳如附件八至附件十一。

五、資訊平台（Knowledge Platform）及專家學者資料庫（Expert’s Database）

有關網路資訊平台 Beta 版，現階段已開放使用（www.cleanairasia.org/ccap），上傳資料包含城市認證系統說明、城市合作流程及表單、專家資料庫、新聞媒體、活動花絮等相關資訊，未來還會繼續上載及更新。本次會議就平台功能，提供建議，如下：

(一)有關該平台登入會員機制

1.請加速審查核可登記時間

2.新增訪客（Guest）權限，使一般訪客可以參觀

(二)有關平台上內容，目前雖置有國際環境夥伴(IEP)及 CCAP 相關資訊，但仍有不足的地方，有鑑於 IEP 與本署及美方間，有緊密的合作關係及淵源，建議另增專欄補充說明。本署後續將提供相關文字予 CAA 參考。

未來將利用該網路資訊平台，徵募更多夥伴城市及專家，強化城市間與專家之交流。有鑑於本署及美方建議，CAA 承諾未來將新增「關於我（About Us）」專欄，說明本署及美國環保署於 IEP 與 CCAP 相關貢獻及影響力。另強化登入介面，新增訪客瀏覽 CCAP 網站之權限，避免有商業廣告行銷於 CCAP 網站，誤導專家及城市會員。未來進一步擴張網站功能及更新 CCAP 相關資料及活動訊息。

六、 2015 年 CCAP 計畫預算及計畫達成度說明（Budget & Funding）

本署利用該工作會議，再次申明本案核銷規定，提醒 CAA 須依「2015 年國際環境夥伴計畫-贊助專案作業規範」辦理，包含提交時間、成果報告（含照片），相關報表及原始單據，收據及簽章注意事項等。依核定計畫書內容，本案勞資費用（Labour Costs）占本案經費約 70%，為有效管控該項目經費，本署要求 CAA 呈交勞資費用相關資料時，需提交支領清冊及其人員簡歷，且須說明參與本案之工作貢獻，另確保該人員如實收到該筆款項，本署要求支領清冊上需附上本人親筆簽名，於本署辦理核銷時，連同報表一同附上，以茲證明。

此外，截至 104 年 11 月 8 日止， 依 CAA 近期提交 CCAP 進度報告，對照本年度計畫書工作目標，尚有工作內容未辦理完成，故如何量化或質

化計畫達成度，乃是本署查核時思量的方向。為了避免臺美及 CAA 三方，未來結案時因認知不同有所爭議，本署藉由該次工作會議釐清並提醒各項工作內容達成度（如表 6.1），期望未來 CAA 繳交成果報告時，達到本署預期目標。

表 6.2 2015 年 CCAP 計畫執行成果說明

城市認證	
工作項目	進度說明
Governance Structure	1.提出認證模型 2.提出管理組織架構
Standard/ City Action Plan	提出本案流程及表格，並提出相關制度說明
Accountability mechanism	僅提出簡單說明，未提出相關規章及規範
Incentives	僅提出簡單說明，未提出相關規章及規範
至少五個城市承諾執行 2016 年城市認證計畫	目前無城市參與該計畫

夥伴城市(city partnering)/ 城市合作	
工作項目	進度說明
至少 3 個城市代表可以進行夥伴城市	目前有 8 個城市參與

資訊平台(Knowledge Platform)	
工作項目	進度說明
資訊平台建置	完成 Beta 版平台，並已開放使用
整合專家資料置於平台	部分專家已登記加入

其他	
工作項目	進度說明
發送電子新聞，更新活動資訊	部分資訊至於 CAA 官方網站及資訊平台上
宣傳及影印 CCAP 相關活動及理念	透過 CAA 自行舉辦之國際活動或是本署活動 (如 IEP 周年展及 CCAP 工作坊)，提出說明及發放文宣。
CCAP logo/label	已提供本署及美方參考。
城市認證 logo 及 label	無

七、訊息及溝通（Messaging & Communication）

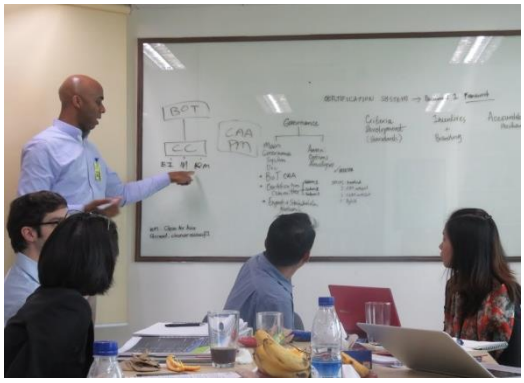
為達到本署推動國際環境夥伴計畫提升我國能見度之宗旨，考量 CCAP 計畫贊助者能有一定回饋於國際媒體及相關公開訊息上（如 CCAP 及 CAA 官網媒體資訊、手冊、文宣等），CAA 於 10 月 5 日時提出「贊助者識別規範」予本署及美國環保署參考，經本署檢視，仍有不足地方，爰於該次會議，重申本署三大主張：

1. CCAP 對外公開活動，包含新聞媒體及刊物等，應爭取標註 Taiwan Environmental Protection Administration（Taiwan EPA），避免使用 EPAT。
2. 有關國際環境夥伴計畫(IEP)及 CCAP 相關活動之刊物及網站資訊，應置入署徽。
3. 為加強 IEP/CCAP 贊助緣由及贊助者說明，強化 IEP 與本署關聯性與臺美友好關係，建議使用本署提供官方文字，置於相關版面上。

另外，現階段 CCAP 資訊平台網頁訊息，尚無詳盡本署及 IEP 相關資訊，爰建議及提醒 CAA 應於網站內容之「關於我們」（About Us），補充 CCAP 計畫與 IEP 及臺灣環保署之說明，提高本署之能見度。

經該會議討論，CAA 認同本署 3 大主張，並儘快修正「贊助者識別規範」（詳如附件十三），待本署及美國環保署確認同意後，將依循該內容辦理後續事宜。

八、活動照片

	
說明：開會實況 地點：馬尼拉亞洲清潔空氣中心總部	說明：研商 CCAP 計畫城市認證架構 地點：馬尼拉亞洲清潔空氣中心總部
	
說明：本署、美國環保署及 CAA 三方，會後大合照 地點：馬尼拉亞洲清潔空氣中心總部	說明：美國環保署介紹美國實行空氣品質管理制度 地點：本署
	
說明：空保處處長贈送紀念品給美國環保署 Justin A. Spenillo，表達誠摯歡迎 地點：本署	說明：空保處處長贈送紀念品國環保署 Jeanhee Hong，表達誠摯歡迎 地點：本署

柒、心得與建議

一、 本署與美國環保署共赴菲律賓馬尼拉亞洲空氣清潔中心總部，參加「城市清潔空氣夥伴專案工作會議」，會議定位為檢視、督導及修正 CCAP 計畫執行成果，另提醒 CAA 尚須辦理事項。透過三方意見交流，瞭解目前的計畫工作的進度及問題，集思廣益溝通、釐清及檢討目前已執行及未來將進行的事務，使工作得以更加具體化，有助於計畫後續順利推動。

二、 城市認證（Certification）係一份具挑戰性的工作，涉及大氣的特性、城市特色、文化背景、區域環境、認定基準及管理機制，期待亞洲空氣清潔中心能發揮整合量能，發展一套透明又合理的專業認證管理計畫。

三、 依今年度 8 月份「城市清潔夥伴工作坊」宣示結果，現已有 4 對配對城市成為相互學習的夥伴城市，惟限於政府制度上及語言差異上的挑戰，仍未規劃出具體城市合作細節，為了達到今年計畫目標，CAA 須加速辦理該項事務外，另考量後續城市合作，前期交流建議是否以「專家技術交流」取代發展「城市層級（city level）」之合作，以免該項工作擴展太大，無法達成原先預定目標。

四、 有關資訊平台及專家資料庫部分，現階段除了上載 CCAP 計畫及 CAA 相關活動訊息外，建議須補充說明國際環境夥伴計畫與 CCAP 計畫之關聯性，及強化本署對 CCAP 計畫之貢獻等資訊，以彰顯我國之國際能見度。

五、 本年度 CCAP 計畫 3 大重點係發展「城市認證」制度、增加「夥伴城市」及建立資訊平台，其中城市認證機制係透過城市參與認證，逐步達成空氣品質改善目標，需要多方專業及經驗整合，另夥伴城市則需克服城市所屬政府機關積極參與及語言溝通上的挑戰，才能達到一定程度效果。然而 CAA 對於上述因素掌握度有限，以至於推行上未如預期，未來若延續辦理 CCAP 計畫，建議需重新檢視計畫目標是否與實際狀況相符。

捌、附錄

一、 出國報告摘要版

二、 開會前進度說明

三、 城市清潔空氣夥伴專案工作會議議程

四、 **Progress Update CCAP Grant 2015**

五、 **Job Destcription Director CCAP**（修正前/修正後）

六、 **Governance Structure City Certification**（修正前/修正後）

七、 **Certification Criteria Overview**

八、 **Bangkok-San Diego C^3 (for internal circulation only)**

九、 **Kitakyushu-Haiphong C^3 (for internal circulation only)**

十、 **Taichung-San Jose C^3 (for internal circulation only)**

十一、 **Taipei-Pasig C^3 (for internal circulation only)**

十二、 **CCAP 2015 Outreach Activities**

十三、 **Donor Recognition Guidelines**（修正前/修正後）

十四、 **Incentives Package discussion paper**

十五、美國環保署兩位專家簡歷

十六、**11** 月 **12** 日美國環保署簡報資料

出國報告摘要

壹、 出國會議名稱：赴菲律賓馬尼拉參加「城市清潔空氣夥伴專案工作會議」

貳、 出國人員：

服務單位		姓名	職稱
行政院環境保護署	永續發展室	儲雯娣	簡任技正
	空氣品質保護及噪音管制處	陳秋幸	環境技術師
		楊佳樺	約聘人員

參、 出國日期：104 年 11 月 8 日至 11 月 11 日

肆、 行程紀要：

日期	行程規劃
11 月 8 日	• 啟程，自臺灣桃園機場出發飛往菲律賓
11 月 9 日	• 亞洲城市清潔空氣中心（CAA）總部，城市清潔空氣夥伴工作會議 • 臺美及菲律賓環境管理局餐敘
11 月 10 日	• 亞洲城市清潔空氣中心（CAA）總部，城市清潔空氣夥伴工作會議 • 拜會駐菲律賓代表處
11 月 11 日	• 返程，自菲律賓飛回臺灣桃園機場

伍、 背景說明

一、 本（104）年度本署辦理「國際環境夥伴計畫（International Environmental Partnership，IEP）」，贊助亞洲清潔空氣中心（Clean Air Asia，CAA）執行「城市清潔空氣夥伴計畫(Cities Clean Air Partnership，CCAP）」，為檢視其辦理成果，已設有「馬尼拉城市清潔空氣夥伴專案」,由美國環保署指派2位專家，

協助督導，查核該計畫執行成果。另應美國環保署邀請，奉署長指示，本署亦派員參加該工作會議，表達本署想法及立場。

二、 有關「城市清潔空氣夥伴專案工作會議」，會議時間自 104 年 11 月 9 日至 10 日，討論議題包括：計畫利害關係人說明/諮商過程（Consultation Process）、計劃管理（Program Management）、城市認證（City Certification）、城市合作（C^3，City-by-City Review）、資訊平台 （Knowledge Platform）及專家學者資料庫（Expert’s Database）、西元 2015 年 CCAP 計畫預算及達成度說明（Budget & Funding）、訊息及溝通（Messaging & Communication）等，進行討論。

三、 美國環保署亦安排本署及菲律賓環境管理局（Environmental Management Bureau）於 104 年 11 月 9 日餐敘，三方政府部門彼此間聯絡情誼，共同為「國際環境夥伴計畫－城市清潔空氣夥伴計畫」，奠下未來合作基礎。

四、 另本署於「城市清潔空氣夥伴專案工作會議」後，拜會我國駐菲律賓代表處，說明「國際環境夥伴計畫－城市清潔空氣夥伴計畫」辦理成果，及後續須請該處協助部分。

五、 有關「城市清潔空氣夥伴專案工作會議」，本署指派永續發展室及空保處同仁派員至菲律賓馬尼拉「亞洲清潔空氣中心（Clean Air Asia）」總部，與美國環保署代表共同進行「城市清潔空氣夥伴計畫」之工作督導。經這次會議，瞭解西元 2015 年城市清潔空氣夥伴計畫執行成果外，亦表達本署對於該案之想法及規

劃，建立合作默契，另藉由臺美及亞洲清潔空氣中心三方會談，與美國環保署及該中心專家們共同討論交流，對於國際環保人才能力之培養，實有助益。

陸、 會議內容及成果說明

一、 會議參與者及會議概要

本次會議係由本署、美國環保署及亞洲城市清潔空氣中心（CAA）三方共同討論及交流，會議參與者名單如表 1 所示。

表 1 「城市清潔夥伴專案工作會議」與會人員名單

美國環保署 US Environmental Protection Agency (US EPA)	臺灣環保署 Environmental Protection Administration Taiwan (EPAT)
• Justin Harris，Taiwan Program Manager • Justin Spenillo，Senior Air Quality Planner • Jeanhee Hong，Assistant Regional Counsel	• 儲雯娣，簡任技正 • 陳秋幸，環境技術師 • 楊佳樺，約聘人員
Clean Air Asia	
• Bjarne Pedersen，Executive Director • Glynda Bathan，Deputy Executive Director • Chee Anne Roño，CCAP Program manager • Art Docena，Financial Manager	• Mia Lauengco • Kaye Patdu • Alvin Mejia • Jerey Estrada

首先由 CAA 歡迎本署及美國環保署代表參與會議，並簡要概述本年度 CCAP 執行成果，包含 8 月份華盛頓特區「國際環境夥伴會議－城市清潔空氣夥伴

工作坊」、城市夥伴宣布、資訊平台設計及城市認證主要架構等。

美國環保署則表示重視 CCAP 計畫執行成果，以及未來辦理事宜，希望透過 CCAP 計畫，利用城市認證、城市合作及資訊平台等方式，建立世界各地專家及城市們緊密的網絡。

二、 計畫利害關係人說明/諮商過程（Consultation Process）

首先，亞洲空氣清潔中心介紹有關 CCAP 計畫之主要利害關係人（stakeholder）名單，並依其「影響力」其「執行力」類別，區分為不同的參與層級，分析其利害關係人參與整體計畫諮詢及努力的成果。

有關城市認證，主要架構分成四個面向，分別為「治理架構（governance structure）」、「認證規範（certification criteria）」、「誘因制度（incentives）」及「審核制度（accountability）」，目前持續辦理中。另亞洲空氣清潔中心目前規劃本署、美國環保署及亞洲城市清潔中心董事會等三方專家，透過正式諮商過程，投入城市認證相關設計，並倡議其示範機制。

本署及美國環保署先後接獲 CCAP 計畫相關資料，如認證架構（Certification Framework）、治理架構（Governance Structure）、治理選擇性研究（Governance Optional Analysis），已提交相關建議予亞洲城市清潔空氣中心參考。

另美國環保署認為，諮詢過程須達到一定的透明及能見度，為使城市清潔空氣夥伴計畫之利害關係人踴躍參與投入，亞洲空氣清潔中心將在西元 2016 年時，集結本署及美國環保署，一同確認 CCAP 主要利害關係人範疇。

藉此，為確認諮商過程之透明度，發展出彼此間信賴關係，亞洲空氣清潔中心將後續公開利害關係人參與和諮詢過程，及衍伸之利害關係人之名單，並持續地更新資料。

三、 計畫管理（Program Management）

有鑑於「城市清潔空氣夥伴計畫」為新穎型計畫，且計畫範疇甚廣，為了有效執行並管理城市清潔空氣夥伴計畫，亞洲空氣清潔中心因應美國環保署建議，決定另外徵募一位 CCAP 計畫總監（Director），聯合 CAA 董事會、CAA、本署、美國環保署及相關利害關係人，督導整體 CCAP 計畫執行，並定期回報計畫執行情形。CCAP 計畫總監（Director）主要工作係提出專案策略之外，需向城市們傳達 CCAP 計畫相關資訊，CAA 現已提出徵募相關條件，待本署及美國環保署確認後，便開始辦理徵募及篩選。

四、 城市認證（City Certification）

有關城市認證 4 大組成，包含「認證規範（Certification Criteria）」、「治理架構（Governance Structure）」、「誘因制度（Incentives Package）」、

「審核制度（Accountability Mechanisms）」。現階段僅治理結構（Governance Structure）部分為具體，故本次會議以「治理架構」為主要討論範疇。

「治理架構」係城市認證最重要設計之一，本年度 CAA 提交資料有委員會組成及職責分工、管理模式之設計）。有關於管理模式之設計，本署及美國環保署一致同意使用「複合式模型（Hybrid Model）」，推動城市認證管理流程，並檢視其 CCAP 委員會設計，包含 CAA 董事會（CAA Board of Trustees）、認證委員會（Certification Committee）、專家及利害關係人小組（CCAP expert and stakeholder Network and Advisory Council）、設計總監及相關利害關係人之權責。

會中，美方建議「認證委員會」可朝向實質面向（排放清冊、空氣品質監測及空氣品質管理）辦理，透過另一個技術群組，取得認證、並發展誘因及溝通策略，也可透過審核機制或由第 3 方團體去執行。該會議結論一致認為，應由亞洲空氣清潔中心擔任該計畫管理者的角色。

此外，認證所採取的行動須為紮實的步驟，且著重門檻較容易的項目去執行，例如設定前 5 項基本且必須執行的空氣品質行動策略，以取得銅牌、銀牌、金牌之認證。這些每一階層建議的行動，須於科學基礎(相關資料建構於排放清冊)完成、專家確認以及在城市相關法規授權下所採取的行為。

有關未來運作清潔城市空氣夥伴計畫認證系統，其相關會議及文件紀錄(溝通及誘因相關討論)，CAA必須提交組織清單，供CCAP利害關係人參考。另建議審核機制（第三方認證）係以3年為限，使城市們有足夠時間去實行空氣品質相關措施。

亞洲空氣清潔中心後續將提供治理架構(revised governance structure）修改版予本署及美國環保署參考，另相關利害關係人同意後，其文件將被提交至西元2016年1月CCAP董事會中討論，辦理後續事宜。

五、 城市合作（C^3，City-by-City Review）

首先由CAA說明近期聯絡4對配對城市之概況，包含

1. 臺北市與菲律賓帕西格市（Pasig City）
2. 臺中市與美國聖荷西市（San Jose）
3. 泰國曼谷對美國聖地牙哥（San Diego）
4. 越南海防市（Haiphong）及日本北九州市（Kitakyushu City）。

面臨不同國家及城市，CAA 提出辦理城市合作的阻礙與困難，如下：

1. 城市所屬的政府機關核定及辦理C^3流程冗長
2. 雙方配對城市無法進行有效溝通，阻礙後續合作議題的發展

目前 CAA 嘗試聘用當地人（以日本為例），作為一個溝通橋梁，協助 CAA 推動越南海防市及日本北九州市的城市合作案。CAA 認為該辦理方式若能有效解決語言溝通的障礙，將擴大聘用更多不同城市的夥伴，共同推動城市合作案。

美國環保署建議仍需招募更多專家學者及城市們一同參與城市合作案，透過專家與城市間緊密合作，才能達到城市合作應有的規模，同時也強化城市合作的效果，改善亞洲國家空氣品質。

CAA 目前雖已發展相關表格（C^3 表格）及配對合作流程（6 大步驟），惟後續配對合作方向及工作內容仍不明確，本署及美國環保署在此提醒 CAA，加強城市間溝通，並請 CAA 近期內提交配對城市之合作資訊與本署及美方參考。

六、 資訊平台 （Knowledge Platform）及專家學者資料庫（Expert’s Database）

有關網路資訊平台 Beta 版，現階段已開放使用（www.cleanairasia.org/ccap），上傳資料包含城市認證系統說明、城市合作流程及表單、專家資料庫、新聞媒體、活動花絮等相關資訊，未來還會繼續上載及更新。本次會議就平台功能，提供建議，如下：

(一)有關該平台登入會員機制

1.請加速審查核可登記時間

2.新增訪客（Guest）權限，使一般訪客可以參觀

(二)有關平台上內容，目前雖置有國際環境夥伴(IEP)及 CCAP 相關資訊，但仍有不足的地方，有鑑於 IEP 與本署及美方間,有緊密的合作關係及淵源，建議另增專欄補充說明。本署後續將提供相關文字予 CAA 參考。

未來將利用該網路資訊平台，徵募更多夥伴城市及專家，強化城市間與專家之交流。有鑑於本署及美方建議，CAA 承諾未來將新增「關於我（About US）」專欄，說明本署及美國環保署於 IEP 與 CCAP 相關貢獻及影響力。另強化登入介面，新增訪客瀏覽 CCAP 網站之權限，避免有商業廣告行銷於 CCAP 網站，誤導專家及城市會員。未來進一步擴張網站功能及更新 CCAP 相關資料及活動訊息。

七、 2015 年 CCAP 計畫預算及計畫達成度說明（Budget & Funding）

本署利用該工作會議，再次申明本案核銷規定，提醒 CAA 須依「2015 年國際環境夥伴計畫-贊助專案作業規範」辦理，包含提交時間、成果報告（含照片），相關報表及原始單據，收據及簽章注意事項等。依核定計畫書內容，本案勞資費用（Labour Costs）占本案經費約 70%，為有效管控該項目經費，本署要求 CAA 呈交勞資費用相關資料時，需提交支領清冊及其人員簡歷，且須說明參與本案之工作貢獻，另確保

該人員如實收到該筆款項，本署要求支領清冊上需附上本人親筆簽名，於本署辦理核銷時，連同報表一同附上，以茲證明。

此外，截至 104 年 11 月 8 日止， 依 CAA 近期提交 CCAP 進度報告，對照本年度計畫書工作目標，尚有工作內容未辦理完成，故如何量化或質化計畫達成度，乃是本署查核時思量的方向。為了避免臺美及 CAA 三方，未來結案時因認知不同有所爭議，本署藉由該次工作會議釐清並提醒各項工作內容達成度（如表 2），期望未來 CAA 繳交成果報告時，達到本署預期目標。

表 2　2015 年 CCAP 計畫執行成果說明

城市認證	
工作項目	進度說明
Governance Structure	1.提出認證模型 2.提出管理組織架構
Standard/ City Action Plan	提出本案流程及表格，並提出相關制度說明
Accountability mechanism	僅提出簡單說明，未提出相關規章及規範
Incentives	僅提出簡單說明，未提出相關規章及規範
至少五個城市承諾執行 2016 年城市認證計畫	目前無城市參與該計畫

夥伴城市(city partnering)/ 城市合作	
工作項目	進度說明
至少 3 個城市代表可以進行夥伴城市	目前有 8 個城市參與

資訊平台(Knowledge Platform)	
工作項目	進度說明
資訊平台建置	完成 Beta 版平台，並已開放使用
整合專家資料置於平台	部分專家已登記加入

其他	
工作項目	進度說明
發送電子新聞，更新活動資訊	部分資訊至於 CAA 官方網站及資訊平台上
宣傳及影印 CCAP 相關活動及理念	透過 CAA 自行舉辦之國際活動或是本署活動 (如 IEP 周年展及 CCAP 工作坊)，提出說明及發放文宣。
CCAP logo/label	已提供本署及美方參考。
城市認證 logo 及 label	無

八、 訊息及溝通（Messaging & Communication）

為達到本署推動國際環境夥伴計畫提升我國能見度之宗旨，考量 CCAP 計畫贊助者能有一定回饋於國際媒體及相關公開訊息上（如 CCAP 及 CAA 官網媒體資訊、手冊、文宣等），CAA 於 10 月 5 日時提出「贊助者識別規範」予本署及美國環保署參考，經本署檢視，仍有不足地方，爰於該次會議，重申本署三大主張：

1. CCAP 對外公開活動，包含新聞媒體及刊物等，應爭取標註 Taiwan Environmental Protection Administration（Taiwan EPA），避免使用 EPAT。
2. 有關國際環境夥伴計畫（IEP）及 CCAP 相關活動之刊物及網站資訊，應置入署徽。

3. 為加強 IEP/CCAP 贊助緣由及贊助者說明，強化 IEP 與本署關聯性與臺美友好關係，建議使用本署提供官方文字，置於相關版面上。

另外，現階段 CCAP 資訊平台網頁訊息，尚無詳盡本署及 IEP 相關資訊，爰建議及提醒 CAA 應於網站內容之「關於我們」（About Us），補充 CCAP 計畫與 IEP 及臺灣環保署之說明，提高本署之能見度。

經該會議討論，CAA 認同本署 3 大主張，並儘快修正「贊助者識別規範」，待本署及美國環保署確認同意後，將依循該內容辦理後續事宜。

柒、 心得與建議

一、 本署與美國環保署共赴菲律賓馬尼拉亞洲空氣清潔中心總部，參加「城市清潔空氣夥伴專案工作會議」，會議定位為檢視、督導及修正 CCAP 計畫執行成果，另提醒 CAA 尚須辦理事項。透過三方意見交流，瞭解目前的計畫工作的進度及問題，集思廣益溝通、釐清及檢討目前已執行及未來將進行的事務，使工作得以更加具體化，有助於計畫後續順利推動。

二、 城市認證（Certification）係一份具挑戰性的工作，涉及大氣的特性、城市特色、文化背景、區域環境、認定基準及管理機制，期待亞洲空氣清潔中心能發揮整合量能，發展一套透明又合理的專業認證管理計畫。

三、 依今年度 8 月份「城市清潔夥伴工作坊」宣示結果，現已有 4 對配對城市成為相互學習的夥伴城市，惟限於政府制度上及語言差異上的挑戰，仍未規劃出具體城市合

作細節，為了達到今年計畫目標，CAA 須加速辦理該項事務外，另考量後續城市合作，前期交流建議是否以「專家技術交流」取代發展「城市層級（city level）」之合作，以免該項工作擴展太大，無法達成原先預定目標。

四、有關資訊平台及專家資料庫部分，現階段除了上載 CCAP 計畫及 CAA 相關活動訊息外，建議須補充說明國際環境夥伴計畫與 CCAP 計畫之關聯性，及強化本署對 CCAP 計畫之貢獻等資訊，以彰顯我國之國際能見度。

五、本年度 CCAP 計畫 3 大重點係發展「城市認證」制度、增加「夥伴城市」及建立資訊平台，其中城市認證機制係透過城市參與認證，逐步達成空氣品質改善目標，需要多方專業及經驗整合，另夥伴城市則需克服城市所屬政府機關積極參與及語言溝通上的挑戰，才能達到一定程度效果。然而 CAA 對於上述因素掌握度有限，以至於推行上未如預期，未來若延續辦理 CCAP 計畫，建議需重新檢視計畫目標是否與實際狀況相符。

Annex 2

CITY CERTIFICATION PROGRAM

GOAL: Create a certification program which provides a clear roadmap for cities to continually improve capacity to manage air pollution. The certification program offers international recognition through a "seal of approval" (or eco-label) for cities taking significant steps to improve their air quality management.

KEY ELEMENTS OF CITY CERTIFICATION SYSTEM BEING DEVELOPED BY CAA			
Governance Structure	**City Action Plan (Certification Criteria)**	**Accountability Mechanisms (Third-Party Verification)**	**Incentives Package**
Governance of the certification program is key to its **credibility**, there must be strict **governance policies** against financial, political, or other vested interests in the design and outcome of decisions regarding certification.	Cities may gain higher grade certification as they move from capacity-building to implementation of **specific actions** that result in measurable reductions in specific air pollutants, such as PM, toxic air pollutants, greenhouse gases, or a combination of pollutants.	Auditors who award **certificates of compliance** must have no stake in the success of the certification program, the tools and technology used as part of defining the standards or compliance requirements, or in the ultimate outcome of a city's effort to become certified.	Three general types of incentives are: 1) **technical assistance** to support capacity-building and sustainable infrastructure; 2) **marketing** and communications ; and 3) **access** to intergovernmental processes, global initiatives, and business development opportunities for cities.

Participant City vs Candidate City

1. CITY submits AQ Management profile to Clean Air Asia

Online Questionnaire

2. Clean Air Asia conducts a qualifying assessment for CITY

Participant City | Candidate City

3. Clean Air Asia and **CANDIDATE CITY** completes assessment and target certification

City Action Plan

Minimum AQM Profile of a Candidate City
AQ standards for selected air pollutants available *Ad hoc* air quality monitoring system check compliance Air quality data is provided to some stakeholders
First steps to emissions inventory (EI) approach - top-down, bottom-up - done but results not validated Receptor-based source apportionment (SA) conducted but results not validated First attempt to base policies and strategies on EI and SA data
Initial observation, low level of public awareness on health impacts Start of a health surveillance system (HSS) Capacity for HSS, health and environmental impact assessment
AQ monitoring data available only for research Low level of public awareness and low awareness of need for emission-exposure-impact
Outdoor AQ standards established, air pollution-specific policies adopted with *ad hoc* strategies for reduction of emissions Financial resources for AQ limited and rely on external support Rapid assessment approaches for EI and/ or SA provide inputs
Overlapping mandate and responsibilities for AQM Limited coordination among responsible ministries and agencies Inadequate political support for implementation of measures Limited understanding of level of enforcement Focus on command and control, *ad hoc* engagement of stakeholders

Bronze Certification (Tier 1)

Meets required criteria for Candidate City plus perform city-level actions to achieve:

Categories	AQM Profile of a Bronze-Certified City
Air Quality Standards and Monitoring	Phased approach for more stringent AQ standards and compliance is routinely monitored, pollutants of concern and hotspots covered Sufficient resources for AQ monitoring Links to other development plans are envisaged
Emissions Inventory (EI), Source Apportionment (SA) and Dispersion Modeling	Initial EI and SA available (results sometimes converge) plus Initial attempts to validate EI and SA results are performed Public understanding of EI and SA are becoming routinely considered First meteorological databases established AQ management strategies and measures are increasingly supported by results of EI and SA
Health and Environmental Impacts	Routine observation on health impacts more common, public awareness routinely considered Data for emission-exposure-impacts modeling becoming available Health surveillance system (HSS) delivers first reliable data, increasing capacity and training
Air Quality Communication	AQ monitoring data and health impacts communicated and accessible for selected stakeholder groups Publicly available information: online, use of one or two media/ channels, press releases Routine consideration of public awareness, efficient communication strategies
Clean Air Action Plan Development	Sector-specific development plans (e.g., industry, transport, energy, housing, land use) to consider air pollutant emission reduction AQ monitoring and emission estimates are used as a basis for CAAP Budget for the implementation of emission reduction measures available Air pollution control measures evidence-based
Governance	Clear mandate for AQM at various levels Growing political support for implementation of control measures Strategies for compliance evaluation and policy enforcement for specific sectors exist Financial support from national/local government Opportunities for capacity development on AQM Mechanisms for engagement of stakeholders are emerging

CITY CERTIFICATION PROGRAM DEVELOPMENT: NEXT STEPS

Important dates:
Oct 7: 2nd Experts Group Meeting
Oct 19-21: City consultations at the Asia-Pacific Urban Forum
Nov 11: 3rd Experts Group Meeting
Nov 16-20: Writeshop to finalize certification criteria, indicators (D. Schwela, G. Haq, CAA)
Nov 25-27: IBAQ Working Group meeting

SEPTEMBER 2015

- Finalize governance structure
- Finalize online questionnaire (Step 1)

OCTOBER 2015

- Pre-test online questionnaire to select CCAP cities, i.e. Baguio
- Develop indicators for each certification levels (bronze, silver, gold)
- Design certification logo (seal of approval)
- Preliminary city consultations at the Asia Pacific Urban Forum (APUF-6)

NOVEMBER 2015

- Finalize indicators for each certification criteria (bronze, silver, gold)
- Circulate the proposed certification criteria to members of the CCAP experts database for comments
- Introduce the city certification program to the Working Group members of the IBAQ Programme (supported by MOEJ)
- Pre-test the certification logo (seal of approval) to a range of key stakeholders

Experts Group Members

- Dieter Schwela and Gary Haq, Stockholm Environment Institute - York
- Leonor Tarrason and Bjarne Sivertsen, NILU – Norwegian Institute for Air Research
- Carolyn Cairns, Eco-Certification Expert
- Clean Air Asia
  - Bjarne Pedersen, Glynda Bathan, Chee Anne Roño, Kaye Patdu, Alvin Mejia
- EPAT
- US EPA

CITY-TO-CITY COOPERATION (C3)

www.cleanairasia.org/ccap/city-to-city.html

CITY-TO-CITY COOPERATION (C3)

- promotes city-to-city learning and collaboration by "twinning" of volunteer cities
- allows exchange of effective practices and innovative solutions to help address specific air quality management challenges
- aims to raise the visibility of the work of participant cities thereby attracting important resources

C3 Cooperation on air quality recognized in Washington DC, USA

US EPA Administrator Gina McCarthy at the announcement of partner cities under the City-to-City Cooperation (C^3) Program of the Cities Clean Air Partnership, a city initiative led by Clean Air Asia and supported by the International Environmental Partnership.

<u>Confirmed</u> Partner Cities for 2015:

- Bangkok-San Diego
- Taipei-Pasig
- Taichung-San Jose
- Kitakyushu-Haiphong

The first set of partnering cities from both Asia and the US, was presented on 11 August 2015 in Washington D.C. during the Cities Clean Air Partnership (CCAP) Workshop hosted by the United States Environmental Protection Agency (US EPA).

Source: http://cleanairasia.org/city-to-city-cooperation-on-air-quality-recognized-in-washington-dc/

C^3 Partners: Bangkok-San Diego

- San Diego submitted the C3 Registration Form and provided information about the city's current AQ priority areas
- Bangkok is still processing the approval by Governor to officially participate in C3; registration form is yet to be submitted.

NEXT STEPS

- US EPA (Rakhi Kasat) to visit Bangkok Metropolitan Authority (BMA) on 9/22 or 9/23 for follow-up discussions
- Clean Air Asia to continue the follow-up with BMA focal points for the C3 registration

After the C3 Registration Form is submitted:

- Clean Air Asia to facilitate the process of determining the specific topic or area of cooperation
- Clean Air Asia to schedule launch meeting and help develop action list for both cities

C^3 Partners: Taichung-San Jose

- Taichung accomplished the C3 Registration form; San Jose has yet to submit
- Clean Air Asia shared Taichung's C3 Registration Form with San Jose

NEXT STEPS

- Clean Air Asia to follow up San Jose's C3 Registration Form with support from Green Cities California
- Clarify the priority learning area of Taichung

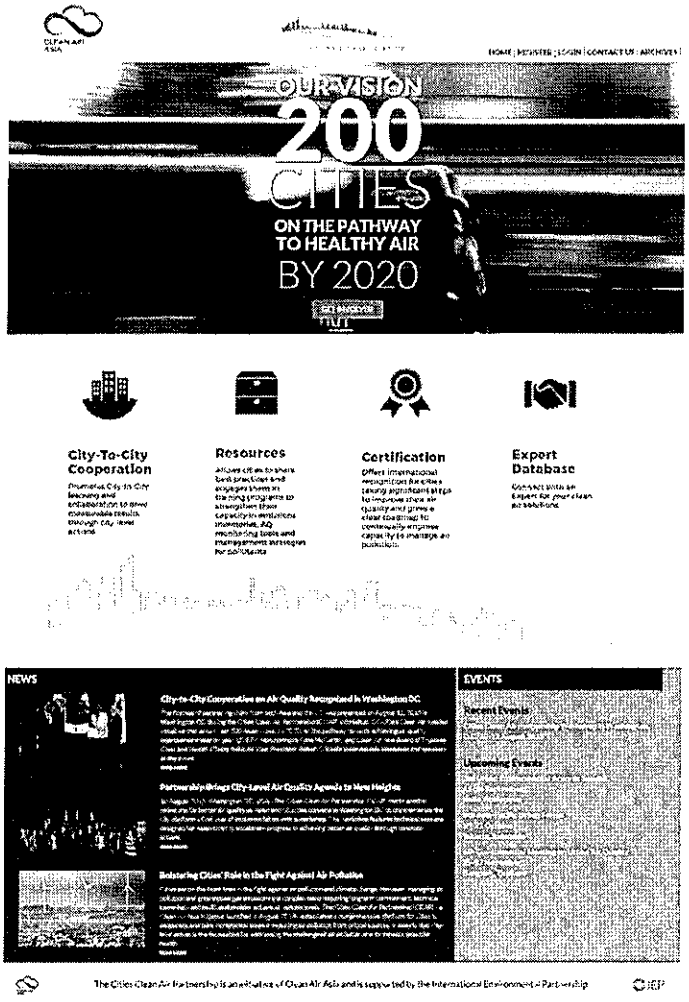
Other cities interested in C3...

CITY	EXPERTISE	LEARNING AREA
Kaohsiung	• Emissions control for loading/ unloading operations in ports • Public bike sharing system	• VOC emission control strategies for yacht-making industries, petro-chemical factories and underground gas pipelines
Tainan	• Successfully developed an inter-bureau action plan to control sources of pollution. This participatory measure resulted to 20% reduction in PM_{10} annual mean concentration, and 15% reduction in $PM_{2.5}$ annual mean concentration compared with the same period in 2014	• Effective measures to reduce $PM_{2.5}$ and NO_x emissions from diesel engines and vehicles
Keelung	• Policy for and active public participation in the control of fugitive pollution sources, especially from collective burning of ritual paper money and incense in temples • Developed a program to replace 10,573 two-stroke motorcycles with e-bikes through government subsidy. • Applied a car plate identification system to prohibit sand loading/ unloading vehicles without Fugitive Management Measures from entering port areas	How to effectively control emissions from : a) diesel engines and vehicles through low-sulfur fuels, emissions control technologies and scrappage scheme b) power plants and industries through policy measures such as fuel use (low sulfur oil, natural gas, renewable energy, etc. c) ports specific to diesel vehicles in freight transport, sand unloading/loading, and marine vessels (fuel use and exhaust control)

KNOWLEDGE PLATFORM
http://cleanairasia.org/ccap/index.html

KNOWLEDGE PLATFORM

- A platform that allows sharing of best practices among CCAP cities
- Provides networking opportunities, including an online Experts Database accessible to CCAP cities
- Includes city training programs to strengthen capacity of cities on emissions inventory, air quality monitoring tools and management strategies for pollutants of concern



INDEX PAGE

Home Page where users can immediately access links to the following:

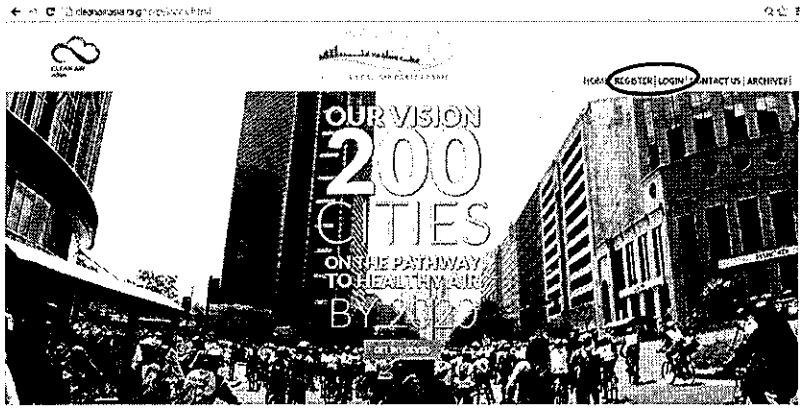
- About CCAP
- News and Events
- City Certification
- City-to-City Cooperation
- Resources
- Experts Database
- Archives

IMPLEMENTATION STATUS

- Beta version launched August 2015

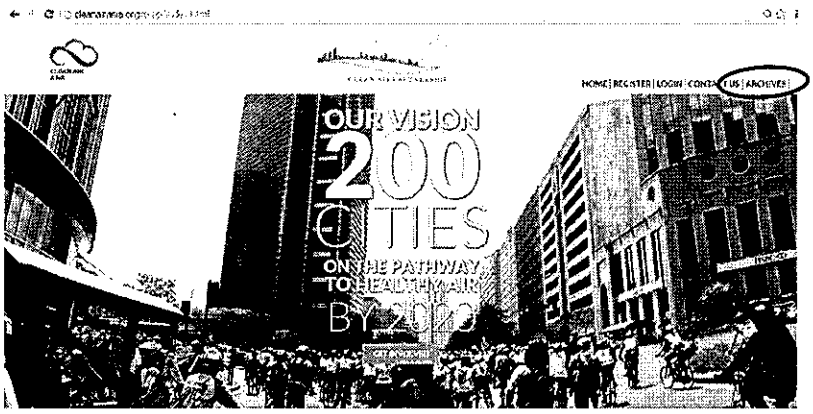
NEXT STEPS:

- Clean Air Asia to continue to improve website interface and ease of navigation
- Content writing



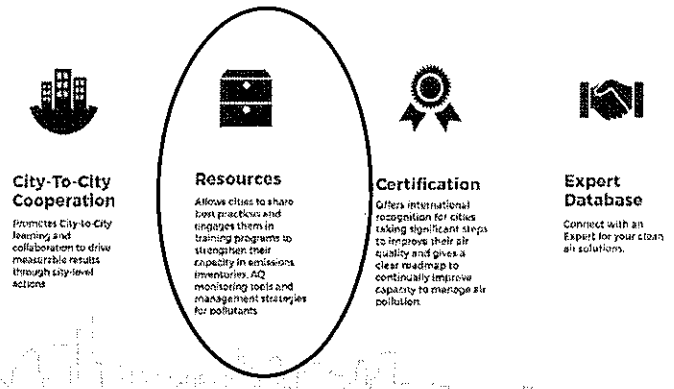
REGISTRATION/ LOG- IN PAGE

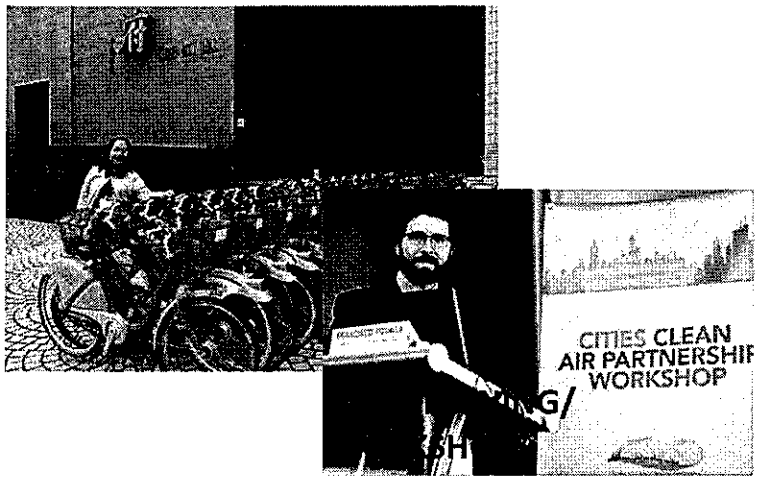
Page where city members could register and officially become members of the Cities Clean Air Partnership



ARCHIVES

Visitors can view past news articles, events, web postings on Cities Clean Air Partnership





RESOURCES

Features ONLINE RESOURCES including

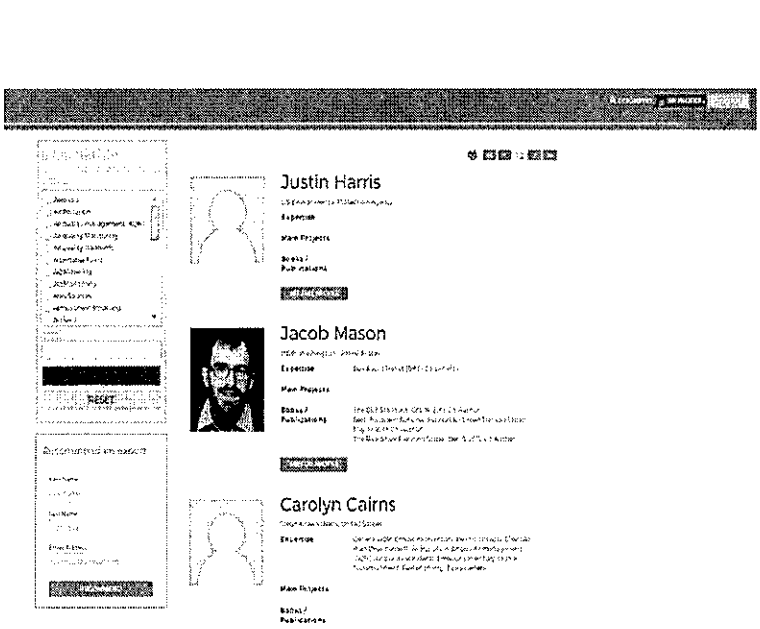
- Case studies
- Best practices
- Air Quality Management Tools
- C^3 Action Lists

and information about relevant

- Study Tours
- City Trainings/ Workshops

IMPLEMENTATION STATUS

- Action Lists have already been developed
- Several case studies have been compiled by Clean Air Asia
- Page design ongoing



EXPERTS DATABASE

A comprehensive listing of global experts who specialize in solutions for better air quality

Experts will contribute to:

- Development of criteria for certification (or list of actions)
- Support the design of action list for City-to-City Cooperation topics
- On-the-ground project implementation support
- Outreach and city recruitment (if interested)

IMPLEMENTATION STATUS

- Beta version of the online Experts Database launched in June 2015
- Registered CCAP cities can now gain access to an international pool of experts
- Clean Air Asia to continue to recommend and invite more experts to sign up

Board of Trustees Meeting
28 September 2015 (4-6pm) 29 Sep 2015 (9am-6pm)
Venue: 5F Nostalg 3, Oakwood Premier Joy-Nostalg Center

5a – Governance Structure for Certification – For Approval

The Cities Clean Air Partnership (CCAP), a Clean Air Asia initiative launched in August 2014, is focused on empowering and helping cities to improve air quality year by year and step by step. Through a voluntary city eco-certification (eco-label),[1] city-to-city cooperation, and an experts' network as part of a city knowledge platform, CCAP will stimulate the mainstreaming of clean air roadmaps and actions in cities.

The attached note is an updated governance structure for the certification program. It incorporates the comments received from the BoT in July. Amendments to the original document have been underlined. The proposed governance bodies and their roles are: the Clean Air Asia Board of Trustees (to have oversight functions), the Certification Committee (to be responsible for developing the certification program and its day-to-day operations), and the external Advisory Council (to take an active role in securing expert and stakeholder feedback to the Certification Committee). **The Clean Air Asia Board of Trustees is requested to approve the Governance Structure.**

This updated governance structure is accompanied by an Annex on the Analysis of Governance Options.

The following governance strategy proposal presents a schema for the certification program that aligns with the ISEAL Credibility Principles,[2] and is designed to conform with the ISEAL Codes of Good Practice for Standards-setting, Impacts and Assurance, as these elements are further developed. The governance structure establishes the core operating principles for the program and provides the foundational credibility that drives the success of all environmental assurance programs. This is especially important given that public trust in air quality monitoring reports in many Asian cities is strikingly low, due in large part to the lack of publicly accepted assurance mechanisms for reporting air pollutant levels and related health risks.[3] Strong governance is critical to building confidence necessary to engage stakeholder support in changing the unsustainable business practices and consumer choices that undermine progress. The transparency, reliability, consistency and accountability that come with good governance also will ensure participants due process and reliable, evenly applied incentives and supportive tools needed to achieve the sustainability objectives.

Elsewhere, uncertified claims or eco-labels launched without a reliable or transparent governance strategy not only fail in driving the intended environmental benefits, but are quickly categorized by the public as

[1] The city eco-certification will start with a pilot phase in 2016. CCAP will issue the call for ten (10) volunteer cities for the pilot phase in September/October of 2016 on www.cleanairasia.org/ccap
[2] ISEAL is the global leader in defining good practice for sustainability standards. ISEAL's set of core principles that define credibility in standards - the ISEAL Credibility Principles - are the result of global multi-stakeholder consultation and define what is essential for a standards system to deliver positive social or environmental impact.
[3] http://www.nytimes.com/2015/04/16/magazine/how-do-you-keep-your-kids-healthy-in-smog-choked-china.html?_r=0., and http://www.bloomberg.com/news/articles/2015-04-02/china-to-conduct-probe-of-faked-air-pollution-data-xinhua-says

manipulative "greenwashing," schemes designed to mislead. For example, the Sustainable Forestry Initiative (SFI) is a forestry certification scheme which has met with considerable controversy and dwindling participation due in part to its failure establish meaningful and progressive standards for forest stewardship and policies that protect against conflicts of interest.[4]

By contrast, certification schemes backed by a strong transparent governance structure have proven their value in catalyzing and accelerating verifiable environmental and sustainability achievements in many sectors around the world, with influence that reaches beyond the institutions awarded the certification, to the broader marketplace. Certification schemes often serve to bridge the gap between ad hoc, self-declared claims and national environmental standards by providing a mechanism to identify and incentivize market penetration of environmental innovations and standardize how their impact is measured and verified.

For example, in the US, the EnergyStar and EnergyGuide labels work together to provide consumers with a reliable, consistent way to compare appliance energy consumption, with the mandatory EnergyGuide label, and an easy way to identify the top-performers with the EnergyStar logo, awarded to products that meet specifications to provide significant energy savings than achievable with non-qualifying products in the marketplace. Similar certification programs in Japan, South Korea, the EU and other countries have had equally important impact on the marketplace, leading to faster market penetration of innovative technologies increasing efficiency and lowering costs.

In agriculture the organic certification has transformed agricultural practices around the world, as more acres of land are converted to certified crops, which in turn, has indirectly spurred improvements in conventional agriculture, as more organic growing practices prove not only environmentally superior, but economically viable as well.

1.0 Sustainability Objectives

General

The primary objective of the Clean Air City Certification Program is to stimulate and support significant, measurable improvement in urban air quality and build strong local institutional capacities to sustain these gains, and incentivize continuous improvement through awards of progressive levels of certification (e.g., bronze, silver or gold stars).

Specific objectives include the following:

- Secure critical partnerships, technical support, funding and accountability mechanisms that cities need to develop capabilities to identify the most significant sources of local and regional air pollution, assess risks, and establish and implement effective mitigation strategies.
- Foster coordination across institutions and government agencies

[4] http://stateimpact.npr.org/texas/2012/05/17/misleading-labels-and-greenwashing-whats-a-consumer-to-do/

- Generate tools to inventory emissions from transportation, power plants, and other industrial and commercial sources.
- Guide and incentivize the implementation of city-based actions to reduce pollutant emissions from the range of significant sources including production and distribution of goods and services, transportation and electric power generation distribution and use.
- Guide and assure expanded availability and use of proven clean technologies such as efficient vehicles and cleaner fuels; changes in the way land-use decisions are made; and long-term integration of air quality considerations in decision-making about investments in infrastructure such as roads, wastewater treatment facilities, and electric power generation.
- Provide standard accurate measures of air quality improvements and feedback mechanisms to recognize progress and incentivize a culture of continuous improvement.

2.0 Program Structure and Theory of Change

2.1 Program Structure

The Clean Air City Certification Program is an initiative of Clean Air Asia, a regional organization established in 2001 by the Asian Development Bank, World Bank, and USAID, with the mission to promote better air quality and livable cities. Since 2007, Clean Air Asia is a UN recognized partnership of almost 250 organizations in Asia and worldwide and 8 Country Networks (China, India, Indonesia, Nepal, Pakistan, Philippines, Sri Lanka, and Vietnam). The Clean Air Asia is a registered non-government organization headquartered in Manila, and with offices in Beijing and Delhi. The core of its work on urban air quality is administered under the auspices of CAA's signature Cities Clean Air Partnership (CCAP), a comprehensive platform for cities in the Asia-Pacific region to cooperate in the field of air pollution and greenhouse gas emissions management. CCAP provides a three-pronged structure of technical support and financial and other incentives to support city-based efforts to improve air quality:

- Virtual Knowledge Platform and international Experts Network;
- Coordinated city-to-city twinning and partnerships; and
- A progressive certification, assurance and recognition system to incentivize, measure and publicize independently verified levels of achievement in air quality mitigation.

These mechanisms offer cities several types of assistance, ranging from ad hoc technical support and capacity-building tools, to individual partnership opportunities to train and exchange experience with other cities on specific strategies, and more intensive, comprehensive assessment and action planning programs that offer exclusive technical, financial support and marketing and development opportunities, to cities as they adopt more advanced air quality management practices and meet specified air quality improvement goals.

CAA's overall governance structure is founded in the Board of Trustees which operates in partnership with a range of government, business, academic, nongovernmental organizations and citizen stakeholders. Through its pilot phase, the Clean Air City Certification Program will be governed by the Certification Committee, drawn mainly from CAA staff and leadership, partners and possibly also participation by members of the CAA Board of

Trustees. The CAA Board of Trustees will have ultimate oversight, and the governance structure will be designed to allow for some or all program elements to potentially shift to an independent organization or subsidiary of CAA, should that be of future benefit to the program's efficiency and effectiveness as it expands beyond the pilot phase. However, in its primary phase, CAA Board of Trustees will retain oversight, but delegate day-to-day activities and program development to the Certification Committee, which will, in turn, draw heavily on input actively sought from the Expert and Stakeholder Networks, its Advisory Council, and related task forces and subcommittees.

Programs are administered by CAA's highly qualified management team which includes air quality experts, environmental policy analysts and civil society leaders. Like other CAA programs, the finances of the certification program will be reviewed annually by an independent and qualified auditor. The Certification Committee will establish requirements for certification and develop the process and procedures for assessing compliance. A key part of this process will involve assessing the extent of appropriate oversight measures, ranging from city self-assessments to robust third party verification, necessary to achieve the desired outcomes. In its consideration of third party verification, the Committee will further consider the possible future merits of outsourcing such audit and assurance activities to a single or to multiple independent agencies, through a process of accreditation and oversight, based on a set of defined Key Performance Indicators (KPIs), to ensure that audits are consistent and credible.

2.2 Theory of Change

Studies consistently confirm huge economic, health, and social benefits of air quality management programs. In financial terms, returns on air quality investments can be as high as a factor of thirty, including improved health and productivity, as well as economic benefits of improved visibility and other measures of environmental quality.[5] Communities that take the lead stand to gain the greatest economic advantage in adopting air quality management strategies, and studies show that it is possible to de-couple environmental damage from economic development.[6]

However, without the technical capabilities to measure air quality impacts and their costs to society, and without tools to design and implement effective mitigation strategies, many governments have been unable to marshal the political will and financial and technical resources necessary to achieve meaningful air quality improvement in the context of advancing development challenges. This certification program is designed to reverse this trend using a series of mutually-reinforcing policies and development incentives and technical support that target the primary obstacles to change within local government, business, and residential communities and catalyze innovative action for substantive and ongoing air quality benefits.

3.0 Governance Structures

[5] http://www.epa.gov/cleanairactbenefits/prospective2.html and http://www.ehjournal.net/content/7/1/41

[6] UNEP (2011) Decoupling natural resource use and environmental impacts from economic growth, A Report of the Working Group on Decoupling to the International Resource Panel. Fischer-Kowalski, M., Swilling, M., von Weizsäcker, E.U., Ren, Y., Moriguchi, Y., Crane, W., Krausmann, F., Eisenmenger, N., Giljum, S., Hennicke, P., Romero Lankao, P., Siriban Manalang, A., Sewerin, S.

The primary governance structures include the CAA Board of Trustees and the Certification Committee. An external Advisory Council will also feature prominently in mechanisms for transparency, and accessibility for key stakeholders in dialogue, consensus-building and expert consultations. The certification program will be developed and administered by a group of staff, consultants, stakeholders and partners populating steering and advisory committees. These teams are assigned by the ED, and accountable to the CAA Trustees, who serve primarily to oversee, rather than execute the program's agenda.

3.1 CAA Board of Trustees

A 9-member Board of Trustees has oversight of Clean Air Asia and will create a series of committees and task groups that inform the development and growth of the Clean Air City Certification Program. The primary group will be the Certification Committee, and contributing subcommittees and working groups to support the development of the pilot certification program to be launched in 2016. While some board members may participate, these groups will mainly include other experts and stakeholders to carry out specific work plans, though all will remain fully accountable to the Board of Trustees.

3.1.2 Authority

In addition to its responsibilities for the operation and oversight of Clean Air Asia, the Trustees will also have the following responsibilities with respect to the Clean Air City Certification Program:

- Select the membership and guide outputs of the Certification Committee which will develop and oversee the Clean Air City Certification program (CACC).
- Provide financial direction, guidance and oversight of the CACC.
- Mediate or otherwise adjudicate disputes. Disputes and complaints which cannot be resolved by consensus in the Certification Committee, such as decisions and guidelines, accreditation and auditing, licensing and requirements, will be mediated or adjudicated by the Board of Trustees.

3.1.3 General Roles and Responsibilities

- Financial probity including income, budgets, expenditures, savings, fee structures, etc. pertaining to operations within the Certification program.
- Legal oversight and licensing policies for all aspects of the certification scheme, including policies to identify and appropriately manage potential conflicts of interest.
- Transparency and oversight of partnerships, standards and general policies of the certification process.

3.2 Certification Committee

The CAA Trustees will create a Certification Committee to oversee the development of the certification program. As the pilot program develops, consideration will be given to establishing an assurance/auditing function which could potentially transition to become an independent body separate from, or subsidiary to CAA, should it be advantageous.

3.2.1 Selection Process

- A minimum of five members shall be appointed by the Board of Trustees. The Chair and members of the Certification Committee should be people with gravitas and recognized experts and leaders in their field. It will include CAA management, experts and external advisors. The selection process will initially be driven mainly by recruitment and nominations by the CAA Executive Director, and will become more formalized to engage key stakeholders when the program is more established.
- The selection process will balance representation from key constituencies (business, NGO, government, consumer, citizen, academe, and development) with appropriate expertise in various elements of certification including, but not limited to the following:
    - air quality management (technical policy),
    - health,
    - eco-marketing,
    - communications and certification,
    - assurance,
    - finance,
    - business and community development, and
    - legal.
- Procedures will be established to identify and manage potential conflicts of interest to ensure that no constituencies are in a position to influence the certification policies in ways that benefit them financially, or that give special advantages to specific cities that may seek certification. The Board of Trustees will be tasked with oversight of the selection process to ensure balanced representation and to guard against inappropriate influence.

3.2.2 Authority

CAA Center management will establish Operating Guidelines with the guidance of the Board of Trustees and an official work plan for the Certification Committee including the membership selection process. The Committee will operate under the overall authority of the Board of Trustees with day-to-day management of the ED. The committee will be tasked with producing three primary outputs:

- Certification requirements and appropriate mechanisms for accreditation, assurance, and transparency, public comment, revision and dispute resolution.
- A tiered structure of progressive certification awards based on at least three levels of achievement in air quality management.
- An incentives package and related policies for public reporting and recognition for cities that achieve air quality milestones.

3.2.3 Roles and Responsibilities

- The Certification Committee will be launched first with a core team of CAA senior management team and ad hoc members recruited from the Expert and Stakeholder networks, and core group of advisors to be established as the external Advisory Council. As the program develops, it will be desirable to have a more formal nomination procedure than this.

- The Certification Committee will organize itself into three core subcommittees: Compliance Requirements (standards); Incentives and Benefits; and Labeling Claims and Accreditation. A chair for each subcommittee will be selected, draft work plans and schedules prepared, and outside experts recruited to serve for each subcommittee and the core Certification Committee.

The Board of Trustees will approve committee membership.

The Certification Committee will serve as the primary administrator of the program and its implementation, but remain accountable to the Board of Trustees and the ED as it moves from the pilot to full implementation phase with specific responsibilities to include

  - Financial probity (receive and manage funds)
  - Legal compliance
  - Professional indemnity (scope of liability protections to be determined)
  - Certification and accreditation policy creation, review, implementation and assurance.
  - Receive and review applications for city certification
  - Develop and maintain digital and other systems for public communication
  - Develop and administer grants and other financial incentives, and create marketing, development and technical support packages for cities that meet threshold requirements for different levels of certification

3.2.4 Meeting, Reporting and Management Schedule and Terms of Service

The Certification Committee will establish a formal work plan with a schedule of deliverables for completion of the operational structure and launch of the certification program, along with a calendar of key consultation processes including conferences and meetings and other forms of in-person and remote interaction via teleconference and internet. Committee members will work closely in day to day operations with the CAA staff and its partners and the broader CCAP platform.

3.3 CCAP Expert and Stakeholder Network and Advisory Council

In keeping with internationally-recognized requirements and expectations of public non-governmental organizations in general, and environmental standards and certification programs in particular, CAA will create formal mechanisms to solicit public comment, expert opinion and guidance from the full range of relevant external stakeholder and technical groups to inform program development, organizational governance oversight, transparency and rigorous scientific peer review. These advisory bodies include two primary, though not mutually exclusive groups:

- the Expert and Stakeholder Network, (not currently members of CAA), and
- Clean Air Asia Partnership membership and its Partnership Council

From these networks, the Certification Committee will establish a core group of representatives to be known as the Advisory Council, which will take an active role in securing expert and stakeholder feedback to the Certification Committee on all matters concerning the development and implementation of the certification program.

Through these broader networks groups, CAA will solicit general and specific feedback and organize formal dialogues with relevant experts and stakeholders and their representatives from local and national government agencies, non-government organizations, established and premier academic and research institutions, the business sectors, and development agencies and foundations.

3.3.1 Authority

The Expert/stakeholder network and its Advisory Council is a voluntary, non-binding group that will be called upon to engage with the Certification Committee to provide critical professional and community-level commentary guidance and transparency for the development and implementation of the Clean Air City Certification program. It will have no formal decision-making authority, but will provide a crucial mechanism for public input to the certification program. However, the network will have the ability to nominate representatives for positions on the certification committee and related working groups, and register formal complaints or challenges to committee decisions. The Certification Committee can provide a template of how these stakeholders and institutions can provide guidance and transparency.

3.3.2 Membership Selection Process

Members of the Expert and Stakeholder Network will vote on nominations for the Advisory Council from among candidates from within their identified stakeholder or expert group, to be recruited by CAA management

3.3.3 Roles and Responsibilities

- Respond to requests for advice and consultation in the development of the certification program.
- Provide peer review of scientific underpinnings of proposed certification requirements.
- Coordinate response to requests for comments on proposed certification requirements and other solicitations from the Certification Committee.
- Contribute case studies, scientific findings, and other important material to the Knowledge Platform and volunteer for opportunities to provide technical support and mentorship to cities seeking to fulfill requirements for certification.

3.3.4 Meeting, Reporting and Management Schedule and Terms of Service

Membership on the Advisory Council will be for three year terms, with a maximum of two consecutive terms.

Board of Trustees Meeting
28 September 2015 (4-6pm) 29 Sep 2015 (9am-6pm)
Venue: 5F Nostalg 3, Oakwood Premier Joy-Nostalg Center

Annex on Analysis of Governance Options

This document is an Annex to the Governance Structure for City Certification. It shows the governance models considered by Clean Air Asia (e.g., neutral, partnership-affiliated, organization-affiliated, hybrid) and concludes that the "hybrid model" provides the best fit. This analysis paper was prepared upon the request of USEPA.

Options Analysis: Organizational Framework for Governance of the City Certification Program

The Cities Clean Air Partnership (CCAP) is an initiative that aims to set 200 Asian cities on the pathway towards achieving air quality improvement over the next five years. Clean Air Asia leads the implementation of the CCAP initiative, which features a city-to-city cooperation program, a knowledge platform designed for cities and a voluntary city certification program for air quality management. The initiative gets funding support from the International Environmental Partnership (IEP).

The voluntary certification program for cities to be implemented under the CCAP initiative will guide cities in creating a clear roadmap to reduce air pollution and drive innovative movement towards better air quality and livable cities.

More specifically, the City Certification Program aims to: (1) identify and encourage good air quality management practices; (2) strengthen regional leadership on air quality management and its co-benefits of reduced greenhouse gas emissions; (3) broker incentives for cities to adopt good practices from the bottom-up; and (4) provide continuous support for progressive and sustainable advances in air quality. Specifications and benchmarks for progressive certification awards (e.g. bronze, silver gold) will be tied to innovative transformational actions at the local level, along with measurable reductions in emissions and ambient levels of air pollutants.

Voluntary environmental certification systems of this type can take many forms. The goal of this analysis is to determine the best model for the city certification's governance framework[1]

[1] "Governance Framework" refers to the general ownership and decision-making structure for the certification program, which forms the foundation for the more detailed governance strategy specifying the process and schedule for creating and revising certification requirements, funding and accountability mechanisms, etc. A

based on the organizational design of other certification schemes and published research on their success in achieving their environmental objectives. Keeping in mind the goals of CCAP and the city certification, this briefing paper evaluates the relative strengths of each of four possible models that may be adopted for the City Certification Program:

- **Neutral**
  A neutral model is not branded to any existing organization or coalition. Using this model, the City Certification Program would be marketed as a new initiative, with a title like "Clean Air Step by Step" to emphasize the progressive nature of the awards and incentives. Examples of the neutral model include Green Seal and USDA Organic.
- **Partnership affiliated**
  A partnership-affiliated model is administered under the auspices of a partnership organization, such as the Forest Stewardship Council (FSC) with authority shared by partnership members. For example, the FSC is governed by a diverse body of individual or organization members that apply to join one of three chambers (economic, social or environment), each having decision-making power that is weighted to achieve balanced representation extending from the General Assembly, to the Board of Directors and the Director General.[1] Using this model, the City Certification Program would have to establish a governance strategy that gives formally registered CCAP member cities representational decision-making authority within a strict legal framework. In this way, cities seeking certification would share authorship and decision-making authority over the design and administration of the certification program, as compared to a limited advisory role they would have in other models. In addition to FSC, other examples of the partnership model include the Marine Stewardship Council (MSC) and the Golf Environment Organization (GEO).
- **Organization-affiliated**
  In this model, the City Certification Program is a direct extension of the sponsoring organization (in this case, Clean Air Asia) and carries with it the same name recognition, reputation, leadership style and governance of the organization itself. Using this model, the certification scheme would remain completely under the auspices of Clean Air Asia, using its name, organization and governance strategy. Other examples of this model include Rainforest Alliance; Humane Society Certified; and the Audubon Society Golf Program.
- **Hybrid**
  In a hybrid model, various elements of some or all of the other three models are combined. Although detailed governance information is limited, the C40 Climate

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proposal for the city certification governance strategy is presented in the accompanying paper" Clean Air Asia Governance Strategy for Clean Air City Certification Program.6.24.15.finaldraft.doc."

Positive Development Programme could be considered an example of a hybrid model that encompasses elements of all three primary model types (organization-affiliated, partnership-affiliated, and neutral). C40 is a neutral brand that was founded by a coalition of megacities together with the Clinton Climate Initiative and the Green Building Council. Its primary governing authority is shared by a partnership of mayors from participating megacities who rotate their service on the organization's steering committee. However the certification process itself and related decision-making is largely ad hoc, administered by the C40 organization, its Vetting Committee, and a volunteer panel of experts and an advisory committee.[2] In this way, it functions as an organization-affiliated model.

Another hybrid example is the Sustainable Jersey program, which combines the neutral and partnership models as it's a neutral brand (not having any prior identity), administered by a new nonprofit organization established by a partnership between a philanthropic foundation, the state and membership of the New Jersey State League of Municipalities (Sustainable Jersey, 2015).

To assess the relative merits of each of these models, we reviewed the growing body of published studies that examine the environmental achievements of established eco-certification programs. Evidence was gleaned from a range of sources including the United Nations, US Agency for International Development (USAID), academic researchers, nongovernmental organizations and multi-stakeholder initiatives, including the Steering Committee of the State-of-Knowledge Assessment of Standards and Certification. Table 1 summarizes the anticipated strengths (+) and limitations (-) of each model type for the City Certification Program, in terms of their potential to inspire operational changes in target organizations and to achieve measurable improvements for human and environmental health. In addition we assessed the capacity for each model to: 1) attract and support participation from a wide range of candidate cities, 2) provide a simple and effective path to certification, and a streamlined process for expansion, and 3) establish an assurance mechanism that would be clear, meaningful and credible to an array of critical stakeholders including development agencies, air quality advocates, local citizens, government agencies and the business community.

KEY FINDINGS

- Although research on net environmental impacts of certification is still limited,[3,4] studies suggest that program success is more heavily influenced by the detailed elements of a certification program than by its overarching governance framework (e.g. neutral, organization-affiliated or partnership-affiliated model).

Factors that seem most crucial relate to the integrity of the standards and compliance assurance. These include relevant indicators, accurate methods for measuring and monitoring progress toward meaningful benchmarks, clear and consistent terms of reference; as well as the fairly applied consequences of non-compliance, opportunities for corrective actions, and standard procedures for investigating complaints.[5,6,7,8]

Many studies note the importance of striking a balance between scope of the program's influence and rigor of the certification requirements. Success depends on a number of factors besides the strength of the certification requirements alone. In the case of forest stewardship certification, for example, such factors include the extent of the authority that a company seeking certification has over a region's forest resource and the actions of other local, non-certified individuals, commercial enterprises and governments.[9] Size of an FSC-certified company or its relative share of the forest ownership or market for forest products does not guarantee substantial progress in sustainable forest management if the standards for certification are not sufficiently rigorous. On the other hand, if certification standards are not progressive, or are too rigorous, success will be limited by the system's exclusivity as fewer companies qualify for certification and lack a pathway to achieve compliance. [10,17]

The model for the City Certification Program should support compliance assurance mechanisms that are based on consequences that are meaningful to the candidate cities and that engage other key stakeholders in the most compelling ways possible. Compliance mechanisms which are effective and meaningful for city certification will likely be very different than those for corporate certification programs and product-based eco-labeling schemes, which are generally designed to measure eco-efficiency of consumer products and related production supply chains, rather than a company's operations.[11]

Some experts emphasize the importance of designing a compliance assurance system to meet the needs of the end users, matching the level of assurance to the specific conditions, capabilities, objectives and claims of the candidates for certification. For example, compliance mechanisms for the City Certification Program could take into account a city's administrative, technical and financial capabilities and commitment, as well as its level of effort implementing air quality management plans to specify actions needed to move a city to a higher level of certification. This approach could be an effective addition or alternative to a scheme that awards certification solely on the basis of progress in environmental outcome indicators such as specific reductions in ambient air pollutants.[12]

- The governance framework model for the city certification system should be designed to build air quality management (AQM) capacity in the greatest possible number of cities with the most serious air pollution profiles (including those not yet prepared to pursue for certification), and to keep cities on a path that maintains continuous and significant improvement over time.

  Programs designed to "lift all boats," seem to achieve the greatest success in terms of net environmental impact, especially when such impact depends on the coordinated efforts of many different stakeholders.[13] The more successful schemes are often based on a progressive system of compliance that recognizes capacity-building actions as well as progress on specific environmental indicators, and which engage and support other key actors. For example, in the apparel sector, Golden, et. al. attributed success of certification in part to their ability to coordinate a progressive set of standards of practice among key actors all along the chain of commerce. They also saw value in including all actions across the supply-chain- under a single label for the garment industry that could be easily understood by a broad audience of consumers, retailers, other stakeholders.

  Combining capacity-building instruments and incentives with environmental benchmarks has proven successful for schemes such as Energystar and LEED that combine various regulatory, fiscal and market building instruments with progressive benchmarks to guide, encourage and reward continuous improvement.[14] For example, LEED and Energystar have achieved advances in energy efficiency and conservation by rewarding and showcasing the benefits of high-performing companies. By demonstrating feasibility and benefits of energy saving innovations they also build support throughout entire sectors of the economy (in this case, appliance and building design, construction and sales), raising the bar of voluntary state-of-the-art and regulatory minimum performance standard. In the United States, higher standards for top-performance in LEED and Energystar certification often have triggered strengthening of minimum federal efficiency standards for appliances and equipment specifications for building codes.

  In its analysis of other industry schemes, Gruère (2013) further recognized the importance of establishing a progressive certification process that is tied to initiatives to help small producers in the supply chain overcome the technical and financial hurdles while encouraging participation and engagement in the program. [15] Such barriers to eco-certification can be numerous. Participation in the City Certification Program will undoubtedly incur costs for monitoring and compliance assurance, or purchase of new technology necessary to conduct pre-certification assessment, such as computer

software to collect and analyze emissions data. Likewise, substantial investments needed for emissions control equipment for electric utilities, manufacturing facilities, or motor vehicles is likely to be a formidable barrier to certification for many cities.

Recognizing progress in making these investments in equipment, infrastructure and technical capabilities at lower certification levels will likely prove important for cities to achieve the air pollution reduction goals necessary to qualify for higher levels of certification.

- Based on the findings to date about the impact of existing environmental certification programs, the most robust and effective approach for the city certification program would likely be a hybrid model that combines the best elements of the first three models under consideration.

  The existing organizational structure of Clean Air Asia (CAA) provides a firm foundation from which to launch the certification program. CAA currently has strong expertise, relevance of mission, and recruitment networks to target cities and regions, and important relationships with key intergovernmental and development agencies, foundations and advocacy groups. The city certification scheme could be established as a subsidiary, incorporating flexibility for possible future transition to an independent structure would provide a stable basis for growth, with potential for greater expansion, possibly to other regions, over time.

  By modifying its governance and membership structure, CAA could utilize CCAP and its existing Partnership Council (with modifications), as the main vehicle for effective stakeholder consultation. This would provide the necessary buy-in and support from candidate city governments and public interest groups and the business community that is a recognized pre-requisite for environmental change.[16] [17] Having CCAP assume this primary role would avoid complications that could emerge if CCAP had governing or other formal decision-making authority over the certification program.

  For branding purposes, there are benefits to establishing the certification program as a separate entity, from CAA or CCAP. This independence could help the program's credibility and allow for possible future expansion to other regions including Africa, and North and South America.[18] Yet, it would still allow for co-branding with CAA and/or CCAP when such bridging would help in recruiting new cities or engaging regional stakeholders.

  Recommendation

  The optimum model for the City Certification Program is a hybrid structure, drawing

from specific beneficial elements of the Neutral, Partnership, and Organization-affiliated models as follows:

- For **branding purposes, a logo and affiliation** based on the Neutral Model allows a broader association than the Clean Air Asia brand and offers flexibility for possible future expansion to other regions beyond Asia and transferability to an organizational structure that is independent of CAA, should that become advantageous;
- Developing the **program governance and funding structures** approximating the Organization-affiliated Model - under the auspices of Clean Air Asia, supports the possibility for the program to transition in the future to an independent organization.
- Building **processes for stakeholder and expert networking and advisory consultation** on the existing structures available through the Cities Clean Air Partnerships and Clean Air Asia Partnership Council will provide transparency, crucial stakeholder buy-in and feedback advantages of the Partnership Model without the membership registration and legal representational complexities and potential conflicts and other limitations associated with partnership-based governance.

Table 1. Strengths (+)/Limitations (-) of Different Models based on Published Case Studies:

Attribute	Neutral	Partnership	Organization
Fit for Purpose	**+** Appropriate for capacity-building and progressive mission - May be less helpful for incentives elements (e.g. marketing and fostering competitive advantages, or recruitment of cities and key influencers).	- Could create constraints on program design and impact depending on ambitions and cohesiveness of partners and level of governing authority. - May introduce complexities incongruent with program objectives. **+** May help engage a valuable diversity of stakeholders critical to achieving air quality objectives.	**+** CAA mission, expertise and staffing congruent with program goals. **+** CAA congruent in scale with AQM objectives, and could expand with reach of the program **+** CAA already in capacity-building role with focus on policy and human and economic development vs business, trade and competition
Time to launch	**+** Nimble and easy to initiate with no predetermined governance structure. - Marketing may require time to achieve awareness, support and acceptance	- Recruitment and governance complex, and lengthy - Revisions to standards more cumbersome with dispersed partnership authorities. - Marketing may take longer to demonstrate credibility	**+** Established name recognition, reputation and networks reduce launch time - Shifts in mission and scope of association may take time. -/+ Political position/reputation could impact recruitment time
City Recruitment	- Learning curve. Relationships must be established. **+** More inclusive, not limited by previous association; more engagement potential for smaller, more diverse cities (not exclusive).	- Exclusivity may inhibit recruitment of smaller, more diverse cities. - Majority rule governance may favor larger, more vocal members. **+** Good potential to engage larger, more significant and diverse influencers that can build momentum.	**+** Existing mission-relevant structure with broad geographical reach, engaging diverse group of cities. - Pre-existing impressions of CAA could influence recruitment or stakeholder support.
Independence/ credibility	**+** Not tied to any existing group. **+** Framework can be established with clear protections against conflicts	- Tied to partners' interests. Requires considerable conflict-management structures and governance - Tend to have less transparency, more	+/- This depends on extent of CAA's reputation as independent and transparently credible - Potential influence by

		perceived exclusivity and less assurance. - Prone to watered-down requirements. + Opportunity for multi-stakeholder buy-in, momentum from broader constituencies, and greater influence over key players (e.g. suppliers, citizenry, and others critical to success).	funding and other CAA priorities and related public perceptions.
Feasibility for expansion	- Depends on branding and name-recognition which may take more time to establish. + Modular design can easily be duplicated in other regions. + Capacity-building elements could help engage lowest performers.	- Bureaucracy of partnership governance and business interests could inhibit capacity-building that would engage more diverse cities and stakeholders. + Influence of highest-performing partners could influence government regulatory agencies to set minimum government standards.	- Adaptations needed to expand beyond Asia (e.g., Clean Air Africa) which could hamper harmonization and global name recognition. - Pre-existing perceptions about CAA could inhibit engagement of more diverse cities and stakeholders. + Intergovernmental networks could help drive mutually supportive regulations applicable to lowest performers.
Breadth of Influence	- Influence not already established. Must be developed through strong branding and networking, ideally with support from CAA and its partners + Once established, influence could expand beyond potential for CAA or CCAP alone. + Could hold greater influence over smaller, marginalized stakeholders with preconceived opinions	- Tendency toward less transparency, more exclusivity and less assurance. +/- Influence could be considerable, but may be with split interests. + Opportunity for multi-stakeholder buy-in, momentum from broader constituencies, and greater influence over some key players (e.g. suppliers, businesses, and others critical to success).	- Pre-determined opinions may inhibit influence with certain stakeholders. + Already engaged with diversity of stakeholders to have broad influence across sectors

	about CAA or CCAP.		
Competition/ name recognition	- Program could suffer obscurity in comparison to programs with established networks and better name recognition.	+ Involvement of a large partner community would ensure a minimum level of outreach and communication with key champions of urban air quality and the certification program. - Partnership members may be vulnerable to perceived conflicts of interest and credibility issues which could inspire emergence of competing programs.	+ CAA is the leading air quality institution in the region with good name recognition. Competition unlikely to be significant.

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END NOTES

[1] **Forest Stewardship Council website,** 2015."Members apply to join one of three chambers – environmental, social and economic – which are further sub-divided into northern and southern sub-chambers. Each chamber holds 33.3% of the weight in votes; and within each chamber votes are weighted to ensure that north and south each hold 50% of the votes. This guarantees that influence is shared equitably between different interest groups and levels of economic power. The General Assembly of Members is FSC's highest decision-making body. Motions are proposed by one member, and seconded by two more, voted on by members, weighted according to the north-south chamber structure…FSC Board of Directors is accountable to the FSC members. It is made up of twelve elected representatives, with four elected from each of the chambers for a four-year term."

[2] **C40 Cities, Green Business Council, Clinton Climate Initiative, 2013**, p.9-11 "The Program seeks to reward Development Partners that demonstrate leadership in green design and that advance sustainable patterns of urban development towards Climate Positive outcomes. Therefore, it has devised a program requirement's platform to serve two needs: 1. Provide incremental verification that Development Partners are on-track with their emissions roadmap, executing their emission reduction plan en route to a viable Climate Positive outcome, and 2. Incentivize involvement by recognizing and rewarding success In addition, the recognition platform will help clarify the relationship between Development Partners and the Program by setting concrete goals for the developer to reach at co-determined stages. This will enable the Program to deliver targeted support to ensure that Development Partners attain their own paced milestones. While the organization of the recognition system is described below, details of its implementation and approved usage of Program marks (images) are addressed in the updated Climate Positive Communications Guidelines. The designations and corresponding Program marks described below are earned by the Development Partners themselves. With approval from the Program, Development Partners may refer to their association with Climate Positive in publicity materials, in alignment with the Climate Positive Communication Guidelines. All decisions to approve or deny a development admission or any stage of recognition will be made exclusively by the Climate Positive Vetting Committee."

[3] **Steering Committee of the State-of-Knowledge Assessment of Standards and Certification**, **2012**, p.14 "Little research has been done to determine which structural models are most effective in terms of performance and resulting impacts."

[4] **Blackman, A., L. Goff, M. Planter, 2015**, p.2 "Although forest certification has attracted considerable attention in the literature, rigorous empirical evaluations are scarce (Romero et al. 2013; Miteva et al. 2012; Milder et al. 2012; Blackman and Rivera 2011). At least three approaches have been used to shed light on the environmental effects of forest certification: quantitative evaluations based on direct observation, interviews with forest managers, and analyses of corrective action requests (CARs). Below, we discuss each type in turn. In general, the literature is thin and findings are mixed. Studies that do not control for self-selection effects (discussed below) and those that focus on the United States generally reach more optimistic conclusions about certification's benefits."

[5] **Steering Committee of the State-of-Knowledge Assessment of Standards and Certification**, **2012**, p.72 "Attention to the governance issues of transparency, accountability, and legitimacy remains critical for efforts aimed at improving the impacts of standards and certification systems." and p.102 "Standards and certification systems can most effectively contribute to positive outcomes if they include the following components or design principles: A clear standard that spurs better management practices and incorporates measurable outcomes; Certification processes that provide the appropriate level of assurance while helping to build capacity for achieving better practices and outcomes・Governance and stakeholder engagement structures that foster buy-in, while enabling the efficient operation of the standards and certification system・A sustainable financial model・An ability to reach and engage small and medium-sized enterprises as well as large ones ・Transparency in decision making, implementation, and evaluation, and mechanisms for preventing or addressing conflicts of interest・A strong monitoring and evaluation system that contributes data to measure impacts and that feeds learning and continuous improvement・Clear policies on claims and labeling that ensure the accuracy of claims being made."

[6]**Gruère, G. (2013),**p.32 “starting with a “soft” certification standard can be good to ensure critical volume, but according to Searle et al. (2004) it is important to increase the rigor of the certification over time to ensure validity among discerning consumers. The last point proposed by Searle is that retailers and ecolabeling organizations should assist producers in achieving certification. It benefits the small producer in overcoming a significant financial hurdle and it benefits the ecolabeling organization and retailers by ensuring a consistent supply that can meet a growing demand…. Over-stringent regulations may not gain mass adoption, and loose regulations can fail to influence environment or social change, resulting in negative press from consumers. Several successful ecolabeling organizations have set the bar low for entry while making strong claims as to how producers are expected to improve over time. Other successful labeling initiatives have provided a number of levels such as gold, silver, and bronze.”

[7]**Stanley, L., Roe, S., Broadhead, J., Parker, C., 2015**, p.10 “ambiguity about thresholds for deforestation and how they are monitored permits possible non-compliance while maintaining certification. Disseminating robust and consistent guidance on VSI criteria helps participants meet requirements and gauge non-compliance while also promoting consistency across the standard."

[8]**World Wildlife Fund, 2013**,p.21 “Multi-stakeholder schemes with active participation from different stakeholder groups at all levels of the scheme (from audits to governance) perform better in terms of ecological and social aspects. This means that the multi-stakeholder schemes will most likely result in better field-level implementation, as a solid governance structure, transparency and strong audit and accreditation requirements together increase the likelihood of field-level implementation.”

[9] **Stanley et. al, 2015**, p.19 “ While scale is important to effect change in global deforestation rates, the standards and requirements of VSIs are critical to producing REDD+ outcomes in relation to the actual commodity being purchased (assessed in section 3). As such, even if a VSI has a large market share and covers expansive areas but lacks the necessary provisions to protect forests, it still would not produce significant impact…. In general, the potential for VSIs to reduce deforestation and forest degradation at the national level is limited by companies’ lack of influence in areas outside their authority and a lack of influence over the “bottom of the market.” VSIs can have greater reach, impact and acceptance if they are supported by domestic legislation and initiatives.”

[10] **Ibid**.and **Wright, T., J.Carlton, Wall Street Journal, October 30, 2007**, “For the past 14 years, the FSC -- with diverse members, from environmental groups to big retailers -- has endorsed paper, furniture, tissues and other products. Initially, the label signified that 100% of the wood used in a product was harvested by sustainable methods. The original standard measured a company's performance in specific forest areas and its overall environmental record…..
But there weren't many takers. In 1993, the year it was founded, the FSC issued just three approvals and in the next few years not many more. To boost the supply of FSC-endorsed products, the organization in 1997 added a more relaxed labeling standard, allowing producers to use an FSC logo for paper in which just 50% of the pulp came from forests that that met the organization's original criteria…. The number of FSC endorsements soared. As of last year, it issued 6,276 certifications. In all, the FSC's logo now adorns about $5 billion in products a year, in terms of retail sales, the FSC says. Andre de Freitas,head of operations at the FSC. "I feel bad about it."”

[11] **Steering Committee of the State-of-Knowledge Assessment of Standards and Certification. (2012)**
p.14 “While third-party, independent certification is usually the most rigorous assurance approach, it is also often the most costly. The suitability of an assurance model depends on its fitness for purpose—that is, does the model meet the assurance needs of the intended audience at the least cost and bureaucracy? End users of a standards system often influence the type of assurance required; the more direct the message to consumers, the more formal the assurance model required.”

[12] **Steering Committee of the State-of-Knowledge Assessment of Standards and Certification. (2012)**
p.88 "These cases present examples of how the impacts of certification can be broader than the simple calculation

of the expected environmental and or social benefit per certified good, multiplied by their market uptake. In many of the examples, certification has acted as a kind of laboratory for learning about, and demonstrating, different kinds of best practices. It has also helped to build capacity, provided venues for dialogue, and altered problem definitions."

[13] **Golden, J.S., et al., 2010** p.42 The labels that have emerged or are emerging as leaders in this space have one key thing in common—they all aim to cover the entire supply chain for textiles and apparel, from raw materials through cut-and-sew operations. This is important, as it cuts out the need for a number of smaller labels that will certify the different steps of the supply chain. It also reduces the likelihood of consumer label fatigue.

[14] Steering **Committee of the State-of-Knowledge Assessment of Standards and Certification. (2012),** p.15 ".. standards can be used as a framework for capacity building or as implementation criteria for meeting certain regulatory requirements" P.85 "By demonstrating feasible solutions, a certification system can also offer proof of concept for new norms. (Of course, these are not, on their own, positive or negative outcomes. The test is whether new norms and standards are sufficient to achieve sustainability goals.)." p.76 LEED has also influenced policy by providing a venue for learning and enhancing regulatory capacity. The LEE D program has demonstrated many of the technologies required for green building, making it easier for governments to incorporate the concepts into their regulatory structures." p.83 "LEED and Energy Star provide venues through which firms are exposed to best practices. Certified firms that have invested in greener technologies or management programs can provide examples of success—or at least of basic technical and economic feasibility—that others can emulate. Certified firms can also demonstrate the value for participation."

[15] **Gruère, G. (2013),** p.32 "starting with a "soft" certification standard can be good to ensure critical volume, but according to Searle et al. (2004) it is important to increase the rigor of the certification over time to ensure validity among discerning consumers. The last point proposed by Searle is that retailers and ecolabeling organizations should assist producers in achieving certification. It benefits the small producer in overcoming a significant financial hurdle and it benefits the ecolabeling organization and retailers by ensuring a consistent supply that can meet a growing demand…. Over-stringent regulations may not gain mass adoption, and loose regulations can fail to influence environment or social change, resulting in negative press from consumers. Several successful ecolabeling organizations have set the bar low for entry while making strong claims as to how producers are expected to improve over time. Other successful labeling initiatives have provided a number of levels such as gold, silver, and bronze."

[16] **Kareiva, P., et al, 2015** p.7380 "Consensus on industry-specific environmental indicators, standardization of impact metrics, and strong incentives for MNCs to meet reporting requirements will be needed. Scientists, NGO organizations, and government entities can each contribute to creating these enabling conditions for companies to improve their practices. Indeed, scholars are calling for further coordination among these groups to advance big-brand sustainability and global environmental governance (92, 94)."

[17]**UNEP 2013** "Having the right government, civil society, and business partners is another prerequisite for the success of an ecolabel. John Polak, former Chair of the Global Ecolabelling Network (GEN) emphasized the difficulty of getting an ecolabel off the ground if the government partner is not strong and motivated. Trade dynamics also factor into the viability of a label, such as whether there are incentives for firms exporting to a given country to seek ecolabels for their products."

[18] **Steering Committee of the State-of-Knowledge Assessment of Standards and Certification. (2012)** p.22 "standards typically are housed in an organization created specifically to own or hold the standard. For maximum credibility, this organization usually is independent of the NGOs that might have driven its creation and from the industry players that will be evaluated against the standard."

附件三

CCAP Review Mission

09 November (10am-5PM) 10 November 2015 (9am – 4.00pm)

Venue: Clean Air Asia, 3505 Robinsons Equitable Tower, Ortigas Pasig City, Philippines

AGENDA

Time	Item		Documents
Day 1 – 09 November 2015 (10am – 5 pm)		**Lead**	
10.00	1. Introductions & Open Discussion	CAA	1 - Progress Update
10.30	2. Consultation Process 2. 1 Who are the stakeholders: • Funders (national, foundation & multilateral) • National partners • Cities • CAA Board of Trustees • Community of experts 2.2 How is the buy-in of each of these stakeholders being secured and sustained? 2.3 Stakeholder process balancing the expectations of each of the five categories above 2.4 Transparency of the Consultation process	EPA/CAA	
12.00	Lunch		
1.30	3. Program Management 3.1 Process for recruiting individual with the depth of experience to manage stakeholder process and the delivery of technical support to cities 3.2 What is criteria for this individual, timeline 3.3 Selection Committee make-up	CAA	3 - Job Description

	3.4 Presentation of job description/requirements/criteria/ timeline		
2.30	4. City Certification 4.1 Discussion of Governance Structure 4.2 Criteria for experts group and selection 4.3 Is all of this actually appealing to cities?	EPA/EPAT	4a - Governance Document 4b - Certification Criteria Overview
5.00	5. Conclude		
6.00	Dinner (to be confirmed with USEPA and EPAT)		
Day 2 – 10 November 2015 (9 am – 4.00 pm)			
9.00	6. C3 City-by-City Review 6.1 City-to-City Cooperation 6.1.a San Diego / Bangkok 6.1.b San Jose / Taichung 6.1.c Taipei / Iloilo 6.1.d Jakarta 6.1.e Delaware Valley Regional Planning Commission 6.1.f Others 6.2 Process & Steps. Lessons Learned in 2015. Next steps	ALL	6a - C3 Bangkok – San Diego 6b - C3 Kitakyushu – Haiphong 6c - C3 Taichung – San Jose 6d - C3 Taipei – Pasig
10.00	7. Knowledge Platform 7.1 Experts Database 7.2 C3 7.3 Certification 7.4 Resources	CAA	
11.00	8. Budget & Funding Budget 8.1 sOverview of 2015 deliverables and status Funding 8.2 Target date to begin funding for cities and for program management	CAA/EPAT	8 – Budget Update
12.30	Lunch		

1.30	9. Messaging & Communication	CAA/EPA	9a - Outreach Activities 9b - Donor Recognition Guidelines
2.30	10. 2016 Work Plan Outline & Key Deliverables 10.1 Work Plan with four sections for 2016 that sets out program implementation so that progress can be measured against that plan	CAA	10 - Proposed Work Plan 2016
3.30 / 4.00	11. Conclude		

附件四

PROGRESS UPDATE ON CCAP 2015 GRANT
as of 6 November 2015

PURPOSE OF THE NOTE: To provide an update on progress in implementing the 2015 grant from the International Environmental Partnership for the Cities Clean Air Partnership

BACKGROUND

In a letter dated 30 March 2015, Director General S. H. Chen of the Department of Air Quality Protection and Noise Control of EPAT informed Clean Air Asia (CAA) of the approval of the 2015 grant for CCAP to be carried out from 1 February to 30 November 2015 with a total budget of US$499,095. The table below provides the progress against the 2015 deliverables.

Deliverable	Progress in Implementation
1 - The main elements of the certification system, particularly (i) governance structure, (ii) standards, (iii) accountability mechanisms, and (iv) incentives, are completed through a 'best practice' comprehensive scoping, development and consultation process.	• **Finalized the elements of the proposed city certification framework.** In 2014, CAA drafted a consultation document on the proposed framework of the city certification system. It described the rationale for and the elements of the city certification system (i.e., governance, criteria, accountabilities, incentives and benefits). A stakeholder consultation on the framework was held at the CCAP session of the Better Air Quality 2014 conference in November 2014. Panelists from city associations (ICLEI, United Cities and Local Governments - Asia Pacific, CITYNET) and international air quality and climate experts (Norwegian Institute for Air Research, Stockholm Environment Institute, Climate and Clean Air Coalition) commented on the framework. ○ 2/04: CAA requested US EPA for comments on the consultation document ○ 2/21: US EPA provided comments on CAA's consultation document on the proposed framework for the city certification program ○ 3/03: CAA considered US EPA's comments and circulated the revised consultation document for the city certification program to US EPA and EPAT • **Proposed a governance structure for city certification based on an analysis of the strengths and limitations of various governance options**. CAA drafted a consultation document on the governance structure. It proposed these governance bodies - Clean Air Asia Board of Trustees, Certification Committee, CCAP Expert and Stakeholder Network and Advisory Council. It described the sustainability objectives of the certification system; program structure and theory of change; governance bodies, composition, membership selection process, authority and roles and responsibilities, meeting, reporting and management schedule and terms of service. In addition, an analysis paper looked at the pros and cons of four potential governance models (i.e., neutral, partnership-affiliated, organization-affiliated, hybrid). ○ 5/22: Clean Air Asia started work on the conceptual design of the governance structure for the certification program. ○ 6/12: A preliminary draft of the governance structure was produced after several rounds of internal discussions within Clean Air Asia. The draft recommends that the program initially will develop within Clean Air Asia's current structure (e.g., board of

directors, operating policies) but new structures will likely be built around the program to get inputs from stakeholder and expert networks, starting with the development of the standards and process for accreditation.

- 6/26: US EPA and EPAT received governance document; governance structure was presented to Mark Kasman at a programmatic meeting in Manila on 6/25. At that meeting Mark requested for an additional analysis paper on various governance options for certification because the choice of the governance structure also has implications on the certification label.
- 7/14: CAA Board of Trustees provided comments on the governance structure
- 8/25: US EPA received options analysis paper; EPAT received options analysis paper 8/26
- 9/16: US EPA's comments to the options analysis document were received by CAA and EPAT. US EPA found that some findings were less expected including that certification based on level of effort may be more effective than having certification based on clean air benchmarks.
- 9/29: Governance document was presented to the Clean Air Asia Board of Trustees (BoT) meeting. The BoT requested for a more succinct document backed up by a business plan. The BoT's preference was for an organization-affiliated governance model (in this case, Clean Air Asia). The revised governance structure for city certification will be presented for approval in the next BoT meeting in December or January 2016.
- 10/9: CAA sent US EPA revised options analysis paper with detailed responses to USEPA comments including an expanded section clarifying the basis for certification - whether city level action or air quality benchmarks. The governance strategy document was also re-circulated for comments by US EPA and EPAT.
- 10/30: US EPA requested for a "revised version of the actual governance framework with more specifics and a schedule and timeline showing when and how stakeholder consultations have been organized, communicated, followed-up on, up to this point, and into the future."

- **Developed a process flowchart for the city certification system with stakeholder inputs.**
  - 4/08: CAA developed an initial 10-step process for the city certification system and presented to US EPA, EPAT and stakeholder consultations held in Taipei on 4/23 and Washington on 08/12.
  - 5/19-22: CAA consulted international standard-setting and certifying bodies through the ISEAL's Sustainability Standards Essentials Workshop and Global Sustainability Standards Conference with the objective to:
    - understand what's behind a credible sustainability standards system and what to look for
    - develop the knowledge required to develop or participate in a sustainability standards initiative
    - gain a basic understanding of the important factors in standard-setting, assurance and monitoring and evaluation that contribute to an effective standards system
    - learn about practical examples of how other standards systems operate
  - 9/16: The flowchart for the city certification system was further streamlined to a 6-step process and presented in stakeholder consultations held in Iloilo on 9/16 and Jakarta on 10/20.

- **Certification standards (criteria) are developed by CAA with technical support from a core group of technical experts.** The certification criteria will help drive cities from capacity-building to implementation of specific actions that result in measurable

reductions in specific air pollutants, such as PM, toxic air pollutants, greenhouse gases, or a combination of pollutants. A polished version of the criteria (categories and indicators) will be submitted by 11/30.

- 7/16: 1st experts group meeting held to comment on the draft 10-step certification process
- 8/16: CAA internal discussions on the Guidance Framework for Better Air Quality in Asian Cities and how to make this recognized document as basis for the certification criteria.
- 9/16: An updated process flowchart and preliminary certification criteria were presented for city consultations at the Urban Environmental Accord Summit in Iloilo.
- 9/14-18: Technical workshop sessions with technical expert from SEI and CAA plus certification expert-consultant was held in Manila
- 10/7: Draft city profiling form and proposed certification criteria on transport-specific mitigation actions presented at 2nd experts group meeting with SEI, NILU, US EPA, certification expert, CAA
- 10/8-11/8: Experts provide comments on draft certification criteria
- *11/18*: 3rd experts group meeting to be held to finalize city profiling form and present updated certification criteria

- **CAA is developing a discussion document to propose a strategy for the Accountability Mechanisms (third-party verification) of the certification system including metrics and levels of compliance, verification mechanism/s and accreditation process.** Auditors who award certificates of compliance must have no stake in the success of the certification program, the tools and technology used as part of defining the standards or compliance requirements, or in the ultimate outcome of a city's effort to become certified. The potential partners will be identified in the accountability mechanism report or discussion note to be completed by 11/30.
  - 10/28: CAA internal discussions on the accountability mechanisms initiated; i.e. lay out the kind of organizations CAA is aiming to engage as audit partners building on the 6-step process outlined. The most important to establish is an indication of the type of data and material that cities will be expected to make available to auditors in order to comply with validation requirements for certification.
  - *11/13*: Certification expert will present an outline of the accountability mechanism discussion note for CAA's review.
  - *11/27*: CAA will present the proposed third-party verification mechanisms to stakeholders at a consultation session during the Clean Air Week to be held in Bangkok at the UN Conference Center.

- **CAA is developing a discussion document on Incentives and Communications covering partnerships for financial incentives as well as logos, labels and marketing claims. We have started outreach efforts to potential donor partners to support the incentives strategy of the certification system.** There are 3 general types of incentives: a) technical assistance to support capacity-building and sustainable infrastructure; b) marketing and communications; and c) access to intergovernmental processes, global initiatives, and business development opportunities for cities. We aim to capture these in a discussion document that will be presented for consultation to stakeholders on 11/27 in Bangkok. Final draft to be completed by 11/30.
  - 3/3: Discussions with The World Bank to explore if they are willing to provide technical expertise to CCAP. WB has a project on Pollution Management and Environmental Health (PMEH) running from 2014-2018 with a US$50 million fund behind it, which is designed to provide "levels" that cities could progress in air quality management.
  - 3/11: Meeting with the Asia-Europe Foundation (www.asef.org) in Singapore. ASEF

	was interested to develop a joint proposal with CAA for capacity building and peer-to-peer learning between Europe and Asian cities. ○ 6/16: Discussions with the Ministry of Environment Japan (MOEJ) on how the current MOEJ-funded Integrated Better Air Quality (IBAQ) Program relates to CCAP. The IBAQ Program and CCAP are complementary programs enabling Clean Air Asia to aptly support cities on improving air quality. The Guidance Framework for Better Air Quality in Asian Cities, developed under the IBAQ Program, provides a recognized guidance through roadmaps on air quality management that cities could use to achieve better air quality. CCAP provides a platform for recognizing cities' efforts on improving air quality and providing incentives for clean air action to encourage continuous improvement by going through levels of certification (which are proposed to be parallel to roadmap stages). ○ 6/26: Design for the seal of approval/certification logo was presented to US EPA and comments were received. The work on logo designs were put on hold pending decision on the final governance structure for the certification program. ○ 8/14: First meeting with CDIA to introduce CCAP. CDIA requested for more information as the program develops and was open to supporting CCAP cities. ○ 10/12: Second meeting with the Cities Development Initiative for Asia (www.cdia.org) in Manila. CDIA expressed support for CCAP and would be interested to consider cities awarded city certification for possible pre-feasibility funding and technical assistance from CDIA. ○ 10/31: Work on the discussion paper for Incentives Strategy initiated ○ *11/6*: Certification expert will present to CAA a first draft of the incentives discussion note for CAA's review. ○ *11/16*: Incentives draft note to be shared with US EPA and EPAT for comments. ○ *11/27*: CAA will present the incentives note to stakeholders at a consultation session during the Clean Air Week to be held in Bangkok at the UN Conference Center. Next steps: • Draft a business plan that outlines funding, legal and external advisement as well as implementation strategy when the final governance structure is agreed upon by CAA, EPAT and US EPA. • Technical write shop to finalize the certification criteria with experts core group members will be held in Manila (11/16-20) and Bangkok (11/23-25). • Release certification criteria for public comment starting with a 2-hour consultation session organized to be held at the UN Conference Center on 11/27 in Bangkok. In addition to the certification criteria, the discussion papers on incentives and accountability mechanisms will also be presented for stakeholder consultations. CAA is hiring an experienced facilitator, Sven Callebaut, to help design and facilitate this important consultation session. • An updated set of logos are being developed by BBDO Guerrero to be presented for public consultation on 11/27 in Bangkok to serve as a pre-test of the design (bronze, silver, gold certification logo) • Design a marketing strategy and a fund-raising strategy for the city certification program to be rolled-out in 2016.
2 - At least five (5)	• **Recruited candidate cities for pilot certification. Some have already expressed**

candidate cities commit to be ready for certification in 2016.	**interest, namely, Baguio, Iloilo and Malang.** Clean Air Asia approached and consulted other potential pilot cities. ○ 8/18: Discussions with Busan to become one of the pilot cities for the city certification program initiated. *Note*: *Busan City is hosting the World Clean Air Congress/Better Air Quality Conference in August 2016.* ○ 9/18: A letter was sent to DKI Jakarta suggesting city certification as one of the specific areas of their engagement with CCAP. ○ We have increased the participating cities from 7 in November 2014 to more than 20 cities in August 2015 and we continue to engage cities through consultation sessions at city gatherings and events. A total of 28 participating cities are in Asia, namely: Baguio, Bangkok, Cochin (Kochi), Coimbatore, Da Lat, Da Nang, Haiphong, Iloilo, Jakarta, Kaohsiung, Kathmandu, Kitakyushu, Kotte (Sri Jayawardenepura), Malang, Mandalay, Pasig, Shimla, Siem Reap, Singapore, Sta. Rosa, Surabaya, Taichung, Taipei, Taoyuan, Ulaanbaatar, Varanasi, Yokohama and Yogyakarta. ○ We engaged the following city associations and city programs and introduced CCAP as part of Clean Air Asia's city recruitment efforts: ▪ CityNet where presented at a session during their Executive Committee Meeting and International Seminar in Sidoarjo, Indonesia ▪ ASEAN Environmentally Sustainable Cities through IGES ▪ United Cities and Local Governments Asia Pacific ▪ Association of Indonesia Municipalities (APEKSI) ▪ GIZ Sustainable Urban Transport Program Indonesia (SUTRI NAMA) ▪ ICLEI - Local Governments for Sustainability ○ We have been continuously engaging with cities, introducing them to CCAP and encouraging them to become members. We have reached out to existing CCAP cities as well through these city events - 9/15-16 **Urban Environmental Accords (UEA) Summit** A four-hour consultation session on the certification program titled *Cities Clean Air Partnership: Recognizing Cities for Clean Air Actions* with representatives from CCAP cities - Baguio, Iloilo, Kathmandu, Taipei. Among the issues raised were the importance of multi-stakeholder participation in the process of developing certain action plans for the cities, as well as cost of control measures and other technical details of the program, which were all noted in the refinement of the certification criteria and mitigation actions. 10/5-7 **CityNet Executive Committee Meeting and International Seminar** Meeting with Taipei representatives led CAA to have a contact with the Department of Transportation to further work with them for the C3 program; CCAP was introduced by Mary Jane Ortega, a Board Member of CAA, in the session on Asian Perspectives on Sustainable Urbanization: Livable Cities. Member cities engaged were Baguio, Bangkok Jakarta, Surabaya, Taipei, Taichung, and Yokohama. 10/19-21 **6th Asia-Pacific Urban Forum (APUF-6)** Session at the Asia Pacific Urban Forum organized by UNESCAP on 19-21 October included a presentation on CCAP's City Certification Program, especially in relation to sustainable transport. Transport experts were sought to help with peer review of the transport actions in the certification system. This meeting resulted in a new contact in the Environment Office of Sta. Rosa in Laguna, Philippines who became interested to join CCAP; and a new contact from the Planning Office of Surabaya. We facilitated the participation of Malang in a training on financing of urban development projects organized by CDIA. Member cities involved were Baguio, Malang, Surabaya,

	Yogyakarta. Next steps: • Clean Air Asia will formally issue the call for volunteer cities via www.cleanairasia.org/ccap after finalizing the criteria, which incorporates feedback from the final consultation session on 11/27 at the United Nations Conference Center, Bangkok.
3 - The capacity of representatives of at least three (3) cities to manage air quality and mitigate climate change is improved with the support of the cities partnering program	• **Conducted 2 technical workshops involving 30 cities as follows:** o **A Technical Workshop on PM2.5 control strategies was held in Taipei on 22-24 April and participated by 6 Asian cities.** The workshop explored effective approaches to the air quality management challenges in the city context, focusing on the control of PM2.5 and reduction of its health impacts. o **A Technical Workshop on Air Quality was held in Washington DC on 10-12 August 2015 and participated by 25 Asian cites.** The technical workshop introduced cities to roadmaps to manage air quality and strategies to mitigate and prevent air pollution from transportation, industry and power, indoor and other sources through technical sessions and roundtable discussions. A preliminary discussion on the voluntary city eco-certification system was also conducted. In addition to Asian cities, representatives from US cities also participated as follows: Multnomah County (Oregon), San Diego and San Jose (California), Gaithersburg (Maryland), Delaware Valley Regional Planning Commission (Philadelphia), and the Green Cities California. • **Developed City-to-City Cooperation (C3) 6-step process and a detailed guidance document.** To provide clarity, ensure a structured and time-bound C3 process, the detailed guidance document was prepared describing each of the 6 steps. A C3 registration form was designed to capture city information (e.g., expertise the city has to offer, desired learning areas, partnering period, manner by which the city wants to conduct the technical exchange, contribution to the partnership). • **Finalize pairing of cities.** Four sets of partnering cities have been matched through the City-to-City Cooperation (C3) Program this year: Bangkok-San Diego, Taichung-San Jose, Taipei-Pasig, Kitakyushu-Haiphong. A work plan for each city partnership will be developed. o An unofficial registration form of Bangkok City was submitted to CAA and shared to San Diego. The Bangkok Metropolitan Administration officials are currently working on getting the Governor's approval to participate in C3; CAA is looking at ways to support them through training on emissions inventory development while in the process of securing the Governor's approval. o Linda Ginnelli Pratt of Green Cities California is coordinating with San Jose for the submission of the C3 registration form; Clean Air Asia continues to coordinate with Taichung to keep them actively engaged o A week-long scoping mission for the Kitakyushu-Haiphong C3 partnering will be conducted from 11/9 – 11/13. Expected outcome of the mission: executive approval from Haiphong officials and clear next steps on specific technical assistance of Kitakyushu to improve port emissions in Haiphong. o Pasig City will be in Taipei from 11/16 – 11/20 for a conference, however Taipei City is not available. The study visit/launch meeting between Pasig and Taipei to learn about the YouBike system is being negotiated to be held in January 2016. o Philadelphia (Delaware Valley Regional Planning Commission) submitted a C3 registration form on 10/23 to become a mentor city; it also interested to learn about

	initiating port emissions inventories and thus CAA proposed Kaohsiung City as a possible match. Comments were received from DVRPC which may necessitate finding other potential city partners.
4 - A knowledge platform to facilitate information sharing and collaboration among experts to strengthen air quality management in cities is developed.	• **Information gathered on purpose, goals, target audience, and content of the knowledge platform.** The online knowledge platform facilitates information sharing and expert collaboration for cities to cooperate in the field of air quality protection and to jointly address air quality challenges. Through the platform's Experts Database and resources, CCAP cities learn from other cities' best practices and establish their relationship with experts who specialize in solutions for better air quality. In the conduct of technical workshops, CAA conducted a simplified capacity building needs assessment to determine topics most relevant to cities. • **Put together a plan for the knowledge platform (develop site map, decide on technologies).** CAA developed the full design of the online platform. The website content gets populated as the program elements are also being developed, i.e. city-to-city cooperation, city certification, resources. For the experts database, CAA assessed the output of ICF International and made use of some elements of the initial wireframes (web-based interactive prototypes) such as user registration, database search, and database viewing. CAA needed to develop additional wireframes, such as the data entry screens for expert registration and user administration. • **Developed the online knowledge platform.** A full online knowledge platform is now accessible at www.cleanairasia.org/ccap. This website contains an index page including city registration and log-in function, information page on the City-to-City Cooperation (with a working registration form to C3) and City Certification, updated news and events page, and a fully-functional experts database. • **Testing and delivery.** Pre-testing of the online registration function was conducted: www.cleanairasia.org/ccap/register-user/. Member cities now registered are Baguio, Kathmandu and Ulaanbaatar. Further improvements on the interface of the webpages are being done. The development of the resources page and the certification page with a working online city profile form are underway. The experts' database will continue to be populated with experts' profiles.

附件五

JOB DESCRIPTION – DIRECTOR CCAP

We are currently recruiting for a full time Director for our Cities Clean Air Partnership initiative (CCAP) here at Clean Air Asia in Manila, Philippines. This is a new position, created to provide strategic direction, leadership and operational management to CCAP. The role will also involve working with individual staff, teams and working groups within the organization – as well as with key external stakeholders.

About Clean Air Asia:

Clean Air Asia is an international non-governmental organization that leads the regional mission for better air quality and healthier, more livable cities in Asia. We aim to reduce air pollution and greenhouse gas emissions in 1000+ cities in Asia through policies and programs that cover air quality, transport and industrial emissions and energy use.

We work with ministries (energy, environment, health and transport), cities in Asia, private sector and development agencies to provide leadership and technical knowledge in the following areas: Air Quality and Climate Change, Low Emissions Urban Development, Clean Fuels and Vehicles and Green Freight and Logistics. Clean Air Asia's approach is based on science-based, actionable guidance combined with an ethos of partnerships and collaboration as key drivers for meaningful and lasting impact. Clean Air Asia is headquartered in Manila and has offices in Beijing and Delhi.

About CCAP:

Clean Air Asia recognizes that cities are on the front lines of the fight against air pollution and climate change, and that managing air pollution and greenhouse gas emissions are complex tasks requiring long-term commitment and multi-stakeholder actions at the city level. Cities Clean Air Partnership (CCAP) asserts that city-level action is the foundation for addressing the challenge of air pollution and its impact on public health. CCAP is an initiative of Clean Air Asia supported by the International Environmental Partnership; it will establish a comprehensive platform for cities to cooperate and jointly address air quality challenges. We aim to set 200 cities across Asia on the pathway towards achieving air quality improvement year by year. CCAP aims to provide cities with incentives, direct support, and technical assistance to keep them moving incrementally and continuously towards achieving their clean air targets through the following:

(a) City-to-city cooperation (C3). The C3 program serves to promote city-to-city learning and collaboration to drive measurable results through city-level actions. The "twinning" of volunteer cities will allow exchange of effective practices and innovative solutions to help address specific air quality management challenges faced by cities.
(b) City certification. This program provides a ladder to support progressive and sustainable advances in air quality. Cities will be able to communicate the achievements that they have made towards better air quality management goals through a "seal of approval" (or eco-label).

The program offers international recognition for cities taking significant steps to improve the air quality and gives a clear roadmap to continue improving their capacity to manage air pollution.

(c) The Knowledge Platform is an online resource for sharing best practices and provides networking opportunities, including an online experts database accessible to CCAP cities. This platform includes city training programs to strengthen the capacity of cities on emissions inventory, air quality monitoring tools, and management strategies for pollutants of concern, such as PM2.5. For our latest developments,

About the role:

Based in Manila, the Director will provide strategic leadership for CCAP, ensuring ongoing development and successful delivery of the initiative and its outputs. The successful applicant will be required to maintain critical senior relationships with funders, government and city private sector stakeholders in order to facilitate the ambitious goal of the initiative and the transformation we seek. The Director will lead a small Manila-based team to increase the scale and impact of CCAP in Asia and beyond. You will lead new business efforts to grow the initiative in collaboration with key stakeholders and our current funders and partners while also ensuring high quality delivery of the components of the initiative. To be successful in this role you will need significant international experience in setting strategic programme direction, programme management and leadership, business development as well as being able to manage external relationships to a high level of success. An understanding of international resource mobilisation is desirable.

Job Description:

Job title: Director, Cities Clean Air Partnership (CCAP)

Location: Manila, Philippines

Job purpose: Provide strategic direction, operational leadership, research and policy development and multi-disciplinary coordination across different stakeholders inside and outside the organization on CCAP.

Reporting to: Deputy Executive Director

Other key relationships: US Environmental Protection Agency (US EPA) and Environmental Protection Administration Taiwan (EPAT) staff (as part of the International Environment Partnership), Cities part of the CCAP initiative

Salary: Competitive

Person specification:

1. **Essential experience:**

Experience in implementing city-based solutions within sustainable development programmes; and/or excellent strategic leadership skills and experience of managing interventions to mitigate air pollution or climate change at city level

Comprehensive understanding of the environmental challenges facing cities in Asia and beyond

Strong leadership and people management experience demonstrating the ability to translate ideas into actions; monitor multiple work streams; co-ordinate staff, contract partners and stakeholders – all while employing a consultative and collegiate decision making style

Proven experience of influencing senior level public and private sector decision makers and communicating to a variety of audiences and media

Strong track record of successfully leading and managing projects with multiple stakeholders and in large, multi-layered international setting, handling annual budgets of at least $1m

In-depth experience and technical understanding of environmental, sustainable development and/or air quality issues would be a significant advantage

Proven demonstrable and successful experience of effective project management, including preparing operational plans, with clearly set milestones and achievable targets, involving various stakeholders in the centralized hub and across various countries in Asia and beyond

Understanding and proven experience of complex partnership management involving multi-layered stakeholders coming from different parts of the world, including city representatives NGOs and government representatives

Experience of research management and including cities focus, and of producing high quality actionable outputs

Understanding and experiences of monitoring of implementation, programme evaluation, impact assessment and learning

2. **Qualifications**

A minimum of five years' relevant work experience, e.g. at city level, in a government setting or in the development/environment sector with project management at a senior level

A minimum of two years' work experience in Asia at managerial level, with demonstrable experience and understanding of environmental issues and/or challenges facing cities in respect to air quality or climate change mitigation

Higher education qualification in international development, environmental issues or similar relevant to the post

3. Skills:

Proven skills in managing staff and managing a budget

Ability to precisely communicate inside the organization as well as at high level external meetings, media work and stakeholder meetings

Proven and strong strategic thinking capacity

Excellent public speaking, writing and editing skills in English, fluency in other languages highly desirable;

Excellent political judgment skills in politically complex analyses and situations;

Understanding and experience of working in a multi-cultural environment and delivering major programmes across different cultures and locations

Strong negotiation skills

4. **Personal Qualities:**

Strong commitment to Clean Air Asia's mission approach and values

Flexible and adaptable with good interpersonal skills and a 'can do' approach

Ability to lead an inspire a small team

Cultural sensitivity and ability to develop strong and trusting relationships across the region and beyond

Meticulous attention to detail and accuracy

Dependable and reliable with the ability to be productive under time pressures

Very well organized, capable of building productive and positive internal and external relationships for the initiative

Positive, resilient and supportive

Ability to travel up to 40 percent of the time and work unsociable hours on occasion

How to apply for the post:

To apply for this post, please provide:

An up-to-date curriculum vitae/resume (of no more than 2-3 pages)

A detailed statement (of no more than 2 pages) explaining why you are interested in this post and how your skills and experience make you suitable.

For discussion at the November meeting besides the above:

Potential timeline:

To be discussed in meeting and depending on funding. Assuming that the candidate would be in post (likely with a month notice) plus likely relocation (usually takes 14 days to a month depending on personal situation) we would be looking at 3 months from when the post is advertised. Christmas pending (which is normally a 'dead' time of the year for the job market it could be slightly longer. Ideal time for posting is normally first days of a new year.

Process: JD to be agreed between IEP partners and funding allocated. Posting and initial screening by CAA with interviews by a select panel (to be decided at meeting)

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Process:

JD to be agreed between IEP partners and funding allocated. Posting and initial screening by CAA with interviews by a select panel. Target start date is Feb 2016.

Timeline:

Following the meeting in Manila it was agreed that we should advertise the post before Christmas. Assuming that the candidate would be in post (likely with a month notice) plus potential relocation (usually takes 14 days to a month depending on personal situation) we would be looking at 3 months from when the post is advertised. This would entail advertising the position for 14 days in December 2015, shortlisting first week of January 2016 with first interviews mid-January 2016 and final interview second half of January. In case of overseas candidates the second interview round would be face to face in Manila.

Advertising media:

We suggest to advertise the job internationally using the following:

Jobstreet (Philippines)

Bond, https://www.bond.org.uk (UK and international)

Devnet (http://www.devnetjobs.org), (International)

In addition we would like to add one or two relevant US sites to the advertising list as well

Shortlisting process:

CAA will develop a comprehensive scoring system where CAA will do an initial scoring/screening of all the candidates using a point system against the person's qualifications. The top scoring candidates (likely 8-10) will be discussed at meeting of the interview panel and then narrowed down to -5 candidates for interview. CAA will provide the interview questions.

Interview panel:

Will comprise of Clean Air Asia, EPAT, USEPA (likely to be represented by two staff) and Green Cities California.

JOB DESCRIPTION – DIRECTOR CCAP

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We work with ministries (energy, environment, health and transport), cities in Asia, private sector and development agencies to provide leadership and technical knowledge in the following areas: Air Quality and Climate Change, Low Emissions Urban Development, Clean Fuels and Vehicles and Green Freight and Logistics. Clean Air Asia's approach is based on science-based, actionable guidance combined with an ethos of partnerships and collaboration as key drivers for meaningful and lasting impact. Clean Air Asia is headquartered in Manila and has offices in Beijing and Delhi.

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(a) City-to-city cooperation (C3). The C3 program serves to promote city-to-city learning and collaboration to drive measurable results through city-level actions. The "twinning" of volunteer cities will allow exchange of effective practices and innovative solutions to help address specific air quality management challenges faced by cities.
(b) City certification. This program provides a ladder to support progressive and sustainable advances in air quality. Cities will be able to communicate the achievements that they have made towards better air quality management goals through a "seal of approval" (or eco-label). The program offers international recognition for cities taking significant steps to improve the air quality and gives a clear roadmap to continue improving their capacity to manage air pollution.

(c) The Knowledge Platform is an online resource for sharing best practices and provides networking opportunities, including an online experts database accessible to CCAP cities. This platform includes city training programs to strengthen the capacity of cities on emissions inventory, air quality monitoring tools, and management strategies for pollutants of concern, such as PM2.5.

About the role:

Based in Manila, the Director will provide strategic leadership for CCAP, ensuring ongoing development and successful delivery of the initiative and its outputs. The successful applicant will be required to maintain critical senior relationships with funders, government and city private sector stakeholders in order to facilitate the ambitious goal of the initiative and the transformation we seek. The Director will lead a small Manila-based team to increase the scale and impact of CCAP in Asia and beyond. You will lead new business efforts to grow the initiative in collaboration with key stakeholders and our current funders and partners while also ensuring high quality delivery of the components of the initiative. To be successful in this role you will need significant international experience in setting strategic programme direction, programme management and leadership, business development as well as being able to manage external relationships to a high level of success. An understanding of international resource mobilisation is desirable.

Job Description:

Job title: Director, Cities Clean Air Partnership (CCAP)

Location: Manila, Philippines

Job purpose: Provide strategic direction, operational leadership, research and policy development and multi-disciplinary coordination across different stakeholders inside and outside the organization on CCAP.

Reporting to: Deputy Executive Director

Other key relationships: US Environmental Protection Agency (US EPA) and Environmental Protection Administration Taiwan (EPAT) staff (as part of the International Environment Partnership), Cities part of the CCAP initiative

Salary: Competitive

Person specification:

1. **Essential experience:**

Experience in implementing city-based solutions within sustainable development programmes; and/or excellent strategic leadership skills and experience of managing interventions to mitigate air pollution or climate change at city level

Comprehensive understanding of the environmental challenges facing cities in Asia and beyond

Strong leadership and people management experience demonstrating the ability to translate ideas into actions; monitor multiple work streams; co-ordinate staff, contract partners and stakeholders – all while employing a consultative and collegiate decision making style

Proven experience of influencing senior level public and private sector decision makers and communicating to a variety of audiences and media

Strong track record of successfully leading and managing projects with multiple stakeholders and in large, multi-layered international setting, handling annual budgets of at least $1m

In-depth experience and technical understanding of environmental, sustainable development and/or air quality issues would be a significant advantage

Proven demonstrable and successful experience of effective project management, including preparing operational plans, with clearly set milestones and achievable targets, involving various stakeholders in the centralized hub and across various countries in Asia and beyond

Understanding and proven experience of complex partnership management involving multi-layered stakeholders coming from different parts of the world, including city representatives NGOs and government representatives

Experience of research management and including cities focus, and of producing high quality actionable outputs

Understanding and experiences of monitoring of implementation, programme evaluation, impact assessment and learning

2. **Qualifications**

A minimum of five years' relevant work experience, e.g. at city level, in a government setting or in the development/environment sector with project management at a senior level

A minimum of two years' work experience in Asia at managerial level, with demonstrable experience and understanding of environmental issues and/or challenges facing cities in respect to air quality or climate change mitigation

Higher education qualification in international development, environmental issues or similar relevant to the post

3. Skills:

Proven skills in managing staff and managing a budget

Ability to precisely communicate inside the organization as well as at high level external meetings, media work and stakeholder meetings

Proven and strong strategic thinking capacity

Excellent public speaking, writing and editing skills in English, fluency in other languages highly desirable;

Excellent political judgment skills in politically complex analyses and situations;

Understanding and experience of working in a multi-cultural environment and delivering major programmes across different cultures and locations

Strong negotiation skills

4. **Personal Qualities:**

Strong commitment to Clean Air Asia's mission approach and values

Flexible and adaptable with good interpersonal skills and a 'can do' approach

Ability to lead an inspire a small team

Cultural sensitivity and ability to develop strong and trusting relationships across the region and beyond

Meticulous attention to detail and accuracy

Dependable and reliable with the ability to be productive under time pressures

Very well organized, capable of building productive and positive internal and external relationships for the initiative

Positive, resilient and supportive

Ability to travel up to 40 percent of the time and work unsociable hours on occasion

How to apply for the post:

To apply for this post, please provide:

An up-to-date curriculum vitae/resume (of no more than 2-3 pages)

A detailed statement (of no more than 2 pages) explaining how you meet the person criteria and, why you are interested in this post.

附件六

CLEAN AIR ASIA

International Environmental Partnership

Governance Structure for Certification – Nov 2015 Update

This document describes the Clean Air City Certification program's proposed governance structure.[1] The governance structure establishes the core operating principles for the program and provides the foundational credibility that drives the success of environmental assurance programs. The City Certification is an innovative program of the Cities Clean Air Partnership – an initiative of Clean Air Asia (CAA) supported by the International Environmental Partnership.

1.0 Sustainability Objective

The objective of the City Certification Program is to stimulate and support significant, measurable improvement in urban air quality and build strong local institutional capacities to sustain these gains, and incentivize continuous improvement through awards of progressive levels of certification (e.g., bronze, silver or gold stars).

2.0 Program Structure

The City Certification Program is an initiative of Clean Air Asia, which was established in 2001 by the Asian Development Bank, World Bank, and USAID with the mission to promote better air quality and livable cities. Since 2007, Clean Air Asia is a UN recognized partnership of almost 250 organizations in Asia and worldwide and 8 Country Networks (China, India, Indonesia, Nepal, Pakistan, Philippines, Sri Lanka, and Vietnam). Clean Air Asia is a registered non-government organization headquartered in Manila, and with offices in Beijing and Delhi.

The core of its work on urban air quality is administered under the auspices of CAA's signature Cities Clean Air Partnership (CCAP), a comprehensive platform for cities in the Asia-Pacific region to cooperate in the field of air pollution and greenhouse gas emissions management. CCAP provides a three-pronged structure of technical support and financial and other incentives to support city-based efforts to improve air quality: (a) Virtual Knowledge Platform and international Experts Network; (b) Coordinated city-to-city cooperation; and (c) A progressive certification, assurance and recognition system to incentivize, measure and publicize independently verified levels of achievement in air quality management and action.

CAA's overall governance structure is founded in the Board of Trustees. The CAA Board of Trustees will have ultimate oversight, and the governance structure will be designed to allow for some or all program elements to potentially shift to an independent organization or subsidiary of CAA, should that be of future benefit to the program's efficiency and effectiveness as it expands beyond the pilot phase. However, in its primary phase, CAA Board of Trustees will retain oversight, but delegate day-to-day activities and program development to the Certification Committee, which will, in turn, draw heavily on input actively sought from the Expert and Stakeholder Networks, its Advisory Council, and related task forces and subcommittees.

Like other CAA programs, the finances of the certification program will be reviewed annually by an independent and qualified auditor. The Certification Committee will establish requirements for certification and develop the process and procedures for assessing compliance. A key part of this process will involve assessing the extent of appropriate oversight measures, ranging from city self-assessments to robust third party verification, necessary to achieve the desired outcomes. In its consideration of third party verification, the Committee will further consider the possible future merits of outsourcing such audit and assurance activities to a single or to multiple independent

[1] The structure aligns with the ISEAL Credibility Principles, and is designed to conform to the ISEAL Codes of Good Practice for Standards-setting, Impacts and Assurance, as these elements are further developed.

agencies, through a process of accreditation and oversight, based on a set of defined Key Performance Indicators (KPIs), to ensure that audits are consistent and credible.

3.0 Governance Structures

The primary governance structures are the CAA Board of Trustees, the Certification Committee, and the Expert and Stakeholder Network. An external Advisory Council will also feature prominently in mechanisms for transparency, and accessibility for key stakeholders in dialogue, consensus-building and expert consultations. Table 3.1 is an overview of the authority and responsibilities of governance bodies in the city certification program.

Table 3.1 Overview of Authority and Responsibilities of Governance Bodies

Governance bodies	Authority and Responsibilities
Clean Air Asia Board of Trustees	Create committees (including the Certification Committee), sub-committees and working groups that inform the development of the City Certification program Select the members of the Certification Committee and guide its outputs Provide financial direction, guidance and oversight of the CACC Approve the certification of cities Mediate and adjudicate disputes Oversight of financial probity including income, budgets, expenditures, savings, fee structures pertaining to operations of the Certification program Legal oversight and licensing policies for the certification scheme, including policies to identify and appropriately manage potential conflicts of interest Transparency and oversight of partnerships, standards and general policies of the certification process
Certification Committee	Develop and administer the certification program Establish Operating Guidelines for the Certification Committee Develop a work plan with deliverables for completion of the operational structure and launch of certification program, with a consultation schedule Organize core sub-committees: Compliance Requirements (standards), Incentives and Benefits, and Labeling Claims and Accreditation Produce these fundamental documents - • Certification requirements and mechanisms for accreditation, assurance, and transparency, public comment, revision and dispute resolution • A tiered structure of progressive certification awards based on at least three levels of achievement in air quality management • An incentives package and related policies for public reporting and recognition for cities that achieve milestones Be responsible for financial probity (receive and manage funds); legal compliance; professional indemnity (scope of liability protections to be determined); certification and accreditation policy creation, review, implementation and assurance; receive and review applications for city certification; develop and maintain digital and other systems for public communication; develop and administer grants and other financial incentives; and create marketing, development and technical support packages for cities that meet threshold requirements for different levels of certification Establish the Advisory Council of the Expert and Stakeholder Network

Advisory Council of Expert and Stakeholder Network	Together with the Certification Committee, establish thematic working groups Respond to requests for advice and consultation in the development of the certification program Provide peer review of scientific underpinnings of proposed certification requirements Coordinate response to requests for comments on proposed certification requirements and other solicitations from the Certification Committee Contribute case studies, scientific findings, and other important material to the Knowledge Platform and volunteer for opportunities to provide technical support and mentorship to cities seeking to fulfill requirements for certification.

The organizational chart for City Certification is provided in Annex 2.

3.1 Clean Air Asia Board of Trustees

A 9-member Board of Trustees has oversight of Clean Air Asia. It is comprised of officers (Chair, Vice-Chair, and Treasurer) and members. The Board is elected in accordance with the By-Laws of Clean Air Asia.[2] The members of the Board of Trustees are provided in Annex 1.

3.2 Certification Committee

The CAA Board of Trustees will create a Certification Committee to develop the certification program, and appoint its members. The committee will comprise of at least five members headed by a Chairperson, who should be people with gravitas and are recognized experts and leaders in their field. Membership may include CAA executive management, experts and external advisors. The selection process will balance representation from key constituencies (government, NGO, business, consumer, citizen, academe, and development agencies) with expertise in various elements of certification including, but not limited to: air quality management (technical policy), health, eco-marketing, communications and certification, assurance, finance, business and community development, and legal.

The CAA Executive Director will provide names of the potential committee chair and members and submit these for consideration and approval by the Board. Procedures will be established to identify and manage potential conflicts of interest to ensure that no constituencies are in a position to influence the certification policies in ways that benefit them financially, or that give special advantages to specific cities that may seek certification. The Board of Trustees will be tasked with oversight of the selection process to ensure balanced representation and to guard against inappropriate influence.

The Certification Committee will serve as the primary administrator of the program and its implementation, but remains accountable to the Board of Trustees and the Executive Director.

The Certification Committee will organize itself into three core subcommittees: Compliance Requirements (standards); Incentives and Benefits; and Labeling Claims and Accreditation. For each subcommittee, a chair will be selected, work plans and schedules prepared, and outside experts recruited to provide inputs.

[2] http://cleanairasia.org/wp-content/uploads/portal/files/documents/Certificate_of_Incorporation_Articles_and_By_Laws.PDF

It will develop a work plan with a schedule of deliverables for completion of the operational structure and launch of the certification program, along with a calendar of key consultation processes. Consultations can include conferences and meetings and other forms of in-person and remote interaction via teleconference and internet. Committee members will work closely in day-to-day operations with the CAA staff and its partners and the broader CCAP platform.

3.3 CCAP Expert and Stakeholder Network and Advisory Council

The expert and stakeholder network, headed by an Advisory Council, is a voluntary, non-binding group that will be called upon to engage with the Certification Committee to provide critical professional and community-level commentary guidance and transparency for the development and implementation of the City Certification program. They are relevant experts and stakeholders from local and national government agencies, non-government organizations, established and premier academic and research institutions, the business sectors, and development agencies and foundations. The network will have no formal decision-making authority, but will provide a crucial mechanism for public input to the certification program. Clean Air Asia's more than 250 Clean Air Asia Partnership members from different sectors could be invited to become part of the expert and stakeholder network, in addition to other relevant experts and stakeholders that Clean Air Asia and its CCAP partners work with.

The expert and stakeholder network is convened by the Advisory Council, to be established by the Certification Committee. The Advisory Council will take an active role in securing expert and stakeholder feedback to the Certification Committee on all matters concerning the development and implementation of the certification program. Membership on the Advisory Council will be for three year terms, with a maximum of two consecutive terms.

The Certification Committee, with the Advisory Group, will establish thematic working groups (such as mobile sources, stationary sources, indoor air pollution, area sources, financing) as needed. The Certification Committee will develop the terms of reference of each working group, recruit the chair and members of each working group from the expert and stakeholder network. Inputs to the certification program can be channeled by experts and stakeholders through the working groups, in addition to the broad-based consultation (via email or experts database online forum).

Annex 1

Clean Air Asia Board of Trustees

Robert O'Keefe, Chair of Clean Air Asia's Board of Trustees, is also the Vice President of the Health Effects Institute (HEI), which assesses the health impacts of air pollution in developing countries. He is regularly called on to address prominent institutions, including the Executive Office of the U.S. President, U.S. Congress, the European Parliament, the National Research Council, the Institute of Medicine, Asian Development and World Banks and many other domestic and international bodies. A long-time environmental regulator, he also serves as a member of the USEPA's National Clean Air Act Advisory Committee and has been a Woodrow Center Scholar on the Hill.

Cornie Huizenga, Vice Chair, was instrumental in setting up Clean Air Asia and was its first Executive Director until December 2008. He currently is the Secretary General of the Partnership on Sustainable Low Carbon Transport (SLoCAT).

Francis Estrada, Treasurer, is the former Chairman of De La Salle University in the Philippines and former President of the Asian Institute of Management. For over thirty years, Francis has been a prominent international investment banker, financial adviser and financial entrepreneur, specializing in Asia-related financial operations. He has set up several Asia-related financial institutions and commercial enterprises around the world.

Elisea (Bebet) Gozun was the former Presidential Assistant II on Climate Change and the former Secretary of the Department of Environment and Natural Resources in the Philippines. In 2007, she was recognized by the United Nations Environment Programme (UNEP) as the Champion of the Earth for Asia and the Pacific.

Mary Jane Ortega is Special Advisor and the former Secretary-General of the Regional Network of Local Authorities for the Management of Human Settlements – CITYNET. She is also the Vice President of the Global Executive Committee of ICLEI. She served as the Mayor of San Fernando City of the Province of La Union, Philippines for three terms from 1998 to 2007. She was a member of the steering committee of the UN Habitat and United Nations Institute for Training and Research (UNITAR) as well as United Nations Advisory Committee of Local Authorities (UNACLA).

Shreekant Gupta is Professor at the Delhi School of Economics, University of Delhi and Adjunct Professor at the Lee Kuan Yew School of Public Policy, National University of Singapore. He previously was Director of the National Institute of Urban Affairs at New Delhi, India and has also served as Coordinating Lead Author for IPCC. He specializes in environmental and natural resource economics, urban economics and public economics.

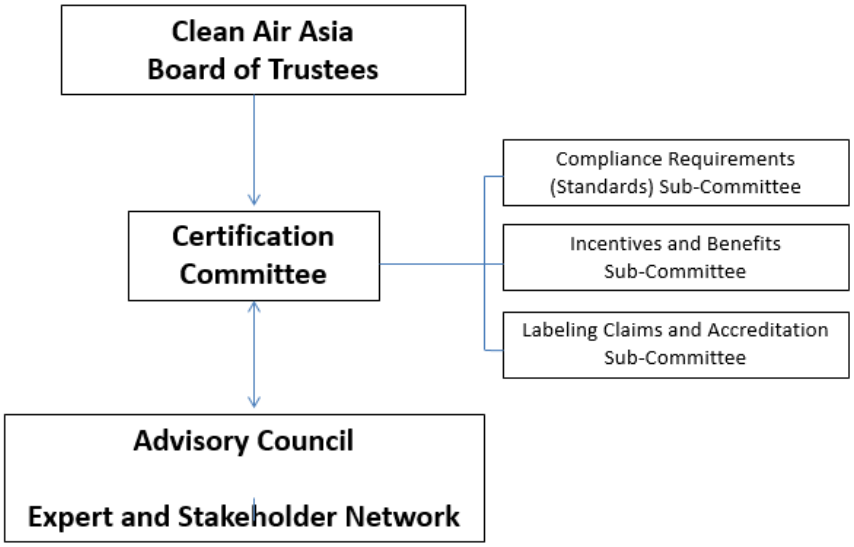
David Guerrero is the Chair & Chief Creative Officer of the BBDO Guerrero / Proximity Philippines. The agency is part of BBDO Worldwide and a member of Omnicom Group Inc., a global advertising, marketing and corporate communications company. His office is ranked as one of Asia's Top 10 Creatives by Campaign Brief Asia.

He Kebin is Professor of the Department of Environmental Science & Engineering at Tsinghua University. He specializes in air quality management with over 25 years experience. He sits on various committees to advice government and organizations on air quality and emissions management.

Yoshihiro Iwasaki has been President of Iwasaki Kigyo K.K., since February 2007 and Iwasaki Fudosan K.K., since June 2009. He was Director General of the South Asia Department at the Asian Development Bank. He also served as Senior Economist, Asia Bureau for the International Monetary Fund.

Annex 2

City Certification Governance Structure



會後修正

Governance Structure for Certification

This document describes the Clean Air City Certification program's proposed governance structure.[1] The governance structure establishes the core operating principles for city certification and provides the foundational credibility that drives the success of environmental assurance programs. The city certification is an innovative program of the Cities Clean Air Partnership - an initiative of Clean Air Asia (CAA) supported by the International Environmental Partnership.[2]

1.0 Sustainability Objective

The objective of the city certification program is to stimulate and support significant, measurable improvement in urban air quality and build strong local institutional capacities to sustain these gains, and incentivize continuous improvement through awards of progressive levels of certification (e.g., bronze, silver or gold stars).

2.0 CCAP and Clean Air Asia

CCAP establishes a comprehensive platform for cities in the Asia-Pacific region to cooperate in the field of air quality management. CCAP provides a three-pronged structure of technical support and financial and other incentives to support city-based efforts to improve air quality: (a) virtual knowledge platform and international experts network; (b) coordinated city-to-city cooperation; and (c) a progressive certification, assurance and recognition system to incentivize, measure and publicize independently verified levels of achievement in air quality management and action.

CAA is a non-government organization with close to 15 years' experience working for better air quality and livable cities in Asia. It was established in 2001 by the Asian Development Bank, World Bank, and USAID. Since 2007, CAA is a UN-recognized voluntary partnership of more than250 organizations in Asia and worldwide. It is registered and headquartered in Manila, with offices in Beijing and Delhi. CAA's overall governance structure is founded in the Board of Trustees (Annex 1). Its finances are reviewed annually by an independent and qualified auditing firm.

3.0 Governance Structures

The two primary elements of the governance structure for the city certification program are the (a) CAA Board of Trustees and (b) Certification Committee. Table 3.1 is an overview of the authority and responsibilities of the governance bodies in the city certification program.

Table 3.1 Overview of Authority and Responsibilities of Governance Bodies

Governance bodies	Authority and Responsibilities
Clean Air Asia Board of Trustees	Approve the certification of cities Resolve disputes Create and select the members of the Certification Committee that manages and implements the city certification program Financial probity and legal oversight of the city certification program

[1] The structure aligns with the ISEAL Credibility Principles, and is designed to conform to the ISEAL Codes of Good Practice for Standards-setting, Impacts and Assurance, as these elements are further developed.

[2] The Cities Clean Air Partnership (CCAP), one of the most important programs of the International Environmental Partnership (IEP), was initiated by the United States Environmental Protection Agency (U.S. EPA), the Environmental Protection Administration Taiwan (EPAT) and Clean Air Asia (CAA) in a press conference on 8 August 2014 at the Golden Gate National Park in San Francisco, USA.

	Approve the operational guidelines of the Certification Committee
Certification Committee	Run the certification program Draft the operational guidelines of the Certification Committee Develop a work plan with deliverables for the launch and running of certification program Establish experts groups, as needed, that provide advice on the development of certification requirements or actions (e.g., on air quality monitoring, emissions inventory, mitigation actions)and other elements of the certification program (e.g., incentives and benefits); provide peer review of scientific underpinnings of proposed certification requirements; contribute case studies, scientific findings, and other important material to the knowledge platform and volunteer for opportunities to provide technical support and mentorship to cities seeking to fulfill requirements for certification. Review on a periodic basis these fundamental documents - • Certification requirements and mechanisms for accreditation, assurance, and transparency, public comment, revision and dispute resolution • A tiered structure of progressive certification awards based on at least three levels of achievement in air quality management • An incentives package and related policies for public reporting and recognition for cities that achieve milestones Be responsible for certification and accreditation policy creation, review, implementation and assurance Receive and review applications for city certification Develop and maintain digital and other systems for public communication Develop and administer grants and other financial incentives Create marketing, development and technical support packages for cities that meet threshold requirements for different levels of certification, Develop policies to identify and manage potential conflicts of interest, to ensure transparency of partnerships, standards and general policies of the certification process

The governance chart for city certification is provided in Annex 2.

3.1 Clean Air Asia Board of Trustees

A 9-member Board of Trustees has oversight of Clean Air Asia. It is comprised of officers (Chair, Vice-Chair, and Treasurer) and members. The Board is elected in accordance with the By-Laws of Clean Air Asia.[3] The members of the Board of Trustees are provided in Annex 1.

The CAA Board of Trustees will create a Certification Committee and appoint its members. The selection process will balance representation from key constituencies (government, NGO, business, consumer, citizen, academe, and development agencies) with expertise in various elements of certification including, but not limited to: air quality management (technical policy), health, eco-marketing, communications and certification, assurance, finance, business and community development, and legal.

[3] http://cleanairasia.org/wp-content/uploads/portal/files/documents/Certificate_of_Incorporation_Articles_and_By_Laws.PDF

The CAA Executive Director will provide names of the potential committee members and submit these for consideration and approval by the Board. Procedures will be established to identify and manage potential conflicts of interest to ensure that no constituencies are in a position to influence the certification policies in ways that benefit them financially, or that give special advantages to specific cities that may seek certification. The Board of Trustees will be tasked with oversight of the selection process to ensure balanced representation and to guard against inappropriate influence.

3.2 Certification Committee

The Certification Committee will comprise of at least five members and chaired by the CAA Executive Director. The members should be people with gravitas and are recognized experts and leaders in their field. The committee will be assisted in the performance of its duties by a Secretariat comprised of Clean Air Asia staff, and headed by the CCAP Director.

With the CAA secretariat, the Certification Committee will serve as the primary administrator of the program and its implementation, but remains accountable to the Board of Trustees.

The Certification Committee will establish Experts Groups on specific themes, as needed, and invite experts to join on either a voluntary or paid basis, depending on the time needed from the experts. Experts Groups provide advice on the development of certification requirements or actions (e.g., on air quality monitoring, emissions inventory, mitigation actions) and other elements of the certification program (e.g., incentives and benefits, accountability mechanisms); provide peer review of scientific underpinnings of proposed certification requirements; contribute case studies, scientific findings, and other important material to the knowledge platform; and volunteer for opportunities to provide technical support and mentorship to cities seeking to fulfill requirements for certification. For each Experts Group, a chair will be selected, work plans and schedules prepared, and experts invited to provide inputs.

The Experts Groups under the certification committee are voluntary, non-binding groups that will be called upon to engage with the Certification Committee to provide critical professional and community-level commentary, guidance and transparency in the development and implementation of the city certification program. They are relevant experts and stakeholders from local and national government agencies, non-government organizations, established and premier academic and research institutions, the business sectors, and development agencies and foundations. They will have no formal decision-making authority, but will provide a crucial mechanism for public input to the certification program.

The Certification Committee will develop the terms of reference of each experts group, invite the chair and recruit the members. Inputs to the certification program can be channeled by experts and stakeholders through the experts groups, in addition to the broad-based consultation to be conducted via email or experts database online forum.

A list of potential members of the Certification Committee and the Experts Groups are provided in Annex 3.

Annex 1

Clean Air Asia Board of Trustees

Robert O'Keefe, Chair of Clean Air Asia's Board of Trustees, is also the Vice President of the Health Effects Institute (HEI), which assesses the health impacts of air pollution in developing countries. He is regularly called on to address prominent institutions, including the Executive Office of the U.S. President, U.S. Congress, the European Parliament, the National Research Council, the Institute of Medicine, Asian Development and World Banks and many other domestic and international bodies. A long-time environmental regulator, he also serves as a member of the USEPA's National Clean Air Act Advisory Committee and has been a Woodrow Center Scholar on the Hill.

Cornie Huizenga, Vice Chair, was instrumental in setting up Clean Air Asia and was its first Executive Director until December 2008. He currently is the Secretary General of the Partnership on Sustainable Low Carbon Transport (SLoCAT).

Francis Estrada, Treasurer, is the former Chairman of De La Salle University in the Philippines and former President of the Asian Institute of Management. For over thirty years, Francis has been a prominent international investment banker, financial adviser and financial entrepreneur, specializing in Asia-related financial operations. He has set up several Asia-related financial institutions and commercial enterprises around the world.

Elisea (Bebet) Gozun was the former Presidential Assistant II on Climate Change and the former Secretary of the Department of Environment and Natural Resources in the Philippines. In 2007, she was recognized by the United Nations Environment Programme (UNEP) as the Champion of the Earth for Asia and the Pacific.

Mary Jane Ortega is Special Advisor and the former Secretary-General of the Regional Network of Local Authorities for the Management of Human Settlements – CITYNET. She is also the Vice President of the Global Executive Committee of ICLEI. She served as the Mayor of San Fernando City of the Province of La Union, Philippines for three terms from 1998 to 2007. She was a member of the steering committee of the UN Habitat and United Nations Institute for Training and Research (UNITAR) as well as United Nations Advisory Committee of Local Authorities (UNACLA).

Shreekant Gupta is Professor at the Delhi School of Economics, University of Delhi and Adjunct Professor at the Lee Kuan Yew School of Public Policy, National University of Singapore. He previously was Director of the National Institute of Urban Affairs at New Delhi, India and has also served as Coordinating Lead Author for IPCC. He specializes in environmental and natural resource economics, urban economics and public economics.

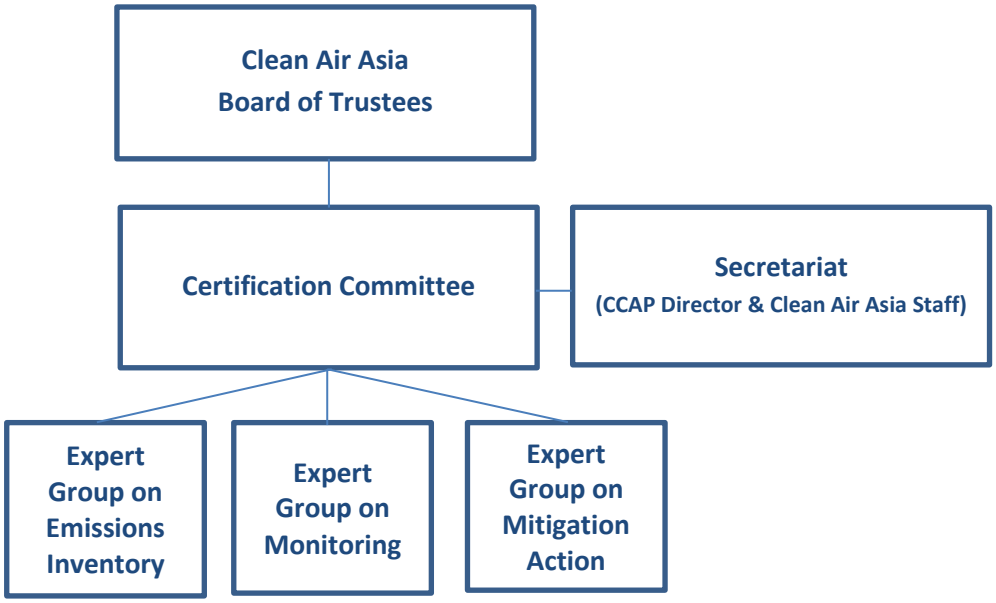
David Guerrero is the Chair & Chief Creative Officer of the BBDO Guerrero / Proximity Philippines. The agency is part of BBDO Worldwide and a member of Omnicom Group Inc., a global advertising, marketing and corporate communications company. His office is ranked as one of Asia's Top 10 Creatives by Campaign Brief Asia.

He Kebin is Professor of the Department of Environmental Science & Engineering at Tsinghua University. He specializes in air quality management with over 25 years' experience. He sits on various committees to advice government and organizations on air quality and emissions management.

Yoshihiro Iwasaki has been President of Iwasaki Kigyo K.K., since February 2007 and Iwasaki Fudosan K.K., since June 2009. He was Director General of the South Asia Department at the Asian Development Bank. He also served as Senior Economist, Asia Bureau for the International Monetary Fund.

Annex 2

City Certification Governance Structure



Annex 3. Potential Certification Committee Members and Experts Group Members

Potential Certification Committee Members

The persons proposed as potential certification committee members are recognized experts in different fields of air quality management (e.g., air quality governance at national and city levels, air quality science, air quality communication and advocacy, mitigation of emissions from transportation and power). They also represent experience and expertise from different regions within Asia (east, southeast, and south Asia); and the proposed composition provides a relatively good gender balance.

- Supat Wangwongwatana

  Dr. Supat Wangwongwatana has more than 30 years of experience in environmental management, environmental quality control and environmental policy planning. He is former Director General of the Pollution Control Department of Thailand. While in the PCD, he oversaw all air pollution and noise management programs in Thailand, and served on the World Health Organization advisory panel in the areas of air and water pollution and advisor to the Senate Environmental Committee, and as Director of the Thailand Air Pollution Center of Excellence. His other appointments include being Chairperson for the Clean Air Initiative for Asian Cities (CAI-Asia) and Coordinator of the Clean Air Training Network for Asia.
  Source: http://www.aecen.org/sites/default/files/workshop/july2010/Bios/Supat%20Wangwongwatana%20bio%20(final).pdf

- Vijay Jagannathan

  World Resources Institute (WRI) Senior Fellow Vijay Jagannathan provides strategic and technical advice to WRI's sustainable cities initiative. Vijay comes from the World Bank where he was Sector Manager for infrastructure in the East Asia and Pacific region. He was responsible for an annual lending program of about $5 billion in the urban, water, transport and energy sectors. He has worked in the infrastructure, environment and urban development sectors in his twenty four years in the Bank. Prior to that he spent 10 years in Indian Administrative Service (elite civil service program) including his last stint as Secretary of the Calcutta Metropolitan Development Authority, which was responsible for all urban development programs in one of the largest cities of the developing world. He is also Secretary General of CITYNET.
  Source: http://www.wri.org/profile/vijay-jagannathan

- Katsunori Suzuki

  Katsunori Suzuki is Professor of the Environment Preservation Center of the Kanazawa University and Senior Fellow at Institute for Global Environmental Strategies (IGES). He joined the Environment Agency (now the Ministry of the Environment) of Japan where he worked on environmental pollution control programs, and waste management policies and technologies. Since 1988, he has been working primarily on global environmental issues including climate change, acid deposits, and desertification. He worked for UN/ESCAP to promote integration of environmental aspects into development planning and the World Bank to address environmental issues mainly in Asia and the Pacific. From 1998 to 2000 he was Acting Director-General of the Acid Deposition and Oxidant Research Center where he promoted an international framework to address acid deposition problems in East Asia.
  Sources: http://www.af-info.or.jp/en/blueplanet/doc/slide/2011program-e.pdf and http://archive.ias.unu.edu/sub_page.aspx?catID=78&ddlID=238

- Anumita Roychowdhury

  Anumita Roychowdhury, Executive Director for Research and Advocacy of the Centre for Science and Environment. She is in charge of research and advocacy on public health, energy and climate impacts of motorization and sustainable cities program in CSE, India. She has been deeply involved with the building up a public campaign, Right to Clean Air at the center, aimed at improving the decision making process related to air quality planning and mobility management, and raise public awareness in India. She co-authored the book `Slow Murder: The deadly story of vehicular pollution in India' in

1996 that catalyzed clean air campaign in CSE. She authored the second book The Leapfrog Factor: Clearing the Air in Asian Cities in 2006 to launch the second generation action in cities.
Source: http://www.globalfueleconomy.org/about-gfei/advisory-group/bio/anumita-roychowdhury

- Barbara Finamore

Barbara Finamore is a Senior Attorney and Asia Director at the Natural Resources Defense Council (NRDC). She founded NRDC's China Program, which promotes innovative policy development, capacity building and market transformation in China with a focus on climate, clean energy, environmental protection and urban solutions. Ms. Finamore currently leads NRDC's green ports project in China, which aims to reduce air pollution in southern China caused by marine port-related activities. Ms. Finamore has had over thirty years of experience in environmental law and energy policy, with a focus on China for the past two decades. She holds a J.D. degree with honors from Harvard Law School.
Source: http://www.nrdc.org/about/staff/barbara-finamore

Potential Expert Groups

The Certification Committee could consider initially establishing an expert group for each of these priority areas where cities need capacity strengthening – Emissions Inventory, Monitoring, and Mitigation Action.

The roles of the expert groups would be to (a) provide advice on the development of certification requirements or actions (e.g., on air quality monitoring, emissions inventory, mitigation actions) and other elements of the certification program (e.g., incentives and benefits); (b) provide peer review of scientific underpinnings of proposed certification requirements; (c) contribute case studies, scientific findings, and other important material to the Knowledge Platform; and (d) volunteer for opportunities to provide technical support and mentorship to cities seeking to fulfill requirements for certification.

- Expert Group on Emissions Inventory

To be composed of experts on emissions inventory, source apportionment to determine the relevant sources and priorities for clean air action plan

  - Gregory Carmichael, Chair of the Scientific Advisory Group for the World Meteorological Organization Global Atmospheric Watch Urban Research Meteorology and Environment (GURME) Project
  - Alexander Baklanov, Global Atmospheric Watch Urban Research Meteorology and Environment (GURME) Project, World Meteorological Organization
  - Andreas Markwitz, Principal Scientist and Team Leader of GNS Science, and Lead Country Co-ordinator of RCA/International Atomic Energy Agency (IAEA) Project on Air Particulate Matter Pollution
  - Dieter Schwela, Expert, Implementing Sustainability Group, Stockholm Environment Institute – University of York
  - Gary Haq, Research Associate, Stockholm Environment Institute – University of York
  - USEPA and EPAT experts to be identified by their respective agencies

- Expert Group on Monitoring

To be composed of experts on (a) monitoring exposure (including monitoring of air pollution concentration, duration and boundaries) and (b) analyzing and reporting health and other impacts

- Bjarne Sivertsen, Norwegian Air Research Institute (NILU)
- Susan Mercado, Director, Division of NCD and Health, World Health Organization Western Pacific Regional Office
- Aaron Cohen, Principal Epidemiologist, Co-Chair of the Global Burden of Disease Ambient Air Pollution Expert Group, Health Effects Institute
- Arnico Pandey, Senior Atmospheric Scientist and Coordinator of the Atmospheric Initiative, Emani Kumar, Deputy Secretary General, ICLEI
- USEPA and EPAT experts to be identified by their respective agencies

- Mitigation Action

  To be composed of experts in (a) developing EI- and SA-prioritized action plans and (b) developing and implementing intersectoral air pollution mitigation strategies.

  - Roland Haas, Programme Director, ASEAN-GIZ Cities, Environment and Transport
  - Karl Fjellstrom, Regional Director, East & Southeast Asia, Institute for Transportation and Development Policy (ITDP)
  - Barbara Finamore, Senior Attorney and Asia Director, China Program, Natural Resources Defense Council (NRDC) (expert on reducing pollution from energy)
  - Sumi Mehta, Senior Director of Programs, Global Alliance for Clean Cookstoves
  - DGJ Premakumara, Senior Researcher, IGES Kitakyushu Urban Centre (expert on municipal solid waste management)
  - Todd Litman, Founder and Executive Director, Victoria Transport Policy Institute
  - Paul Barter, Adjunct Professor, Lee Kuan Yew School of Public Policy, National University of Singapore (expert on infrastructure policy, urban policy and transport policy)
  - Lew Fulton, International transport and energy policy expert and Faculty, Institute of Transportation Studies, UC Davis
  - John Watson, Research Professor, Desert Research Institute (expert on fugitive dust control)
  - Bernadia Tjandradewi, Secretary General, UCLG ASPAC
  - Milag San Jose-Ballesteros, Regional Director for Southeast Asia and Oceania, C40
  - Linda Giannelli Pratt, Program Manager, Green Cities California
  - USEPA and EPAT experts to be identified by their respective agencies

Annex 7

CITIES CLEAN AIR PARTNERSHIP

Top Level Summary of City Certification Scheme

This summary is designed to provide a general program overview. More details are available for each category, strategy and indicator.

4 categories, 8 strategies, 9 goals and 13 indicators

CATEGORY	STRATEGIES	GOALS	INDICATORS
Capacity-building	Governance	Equip cities with appropriate staff accountabilities, legal authorities, equipment and training to implement effective air quality management strategies	**Institutional mandates** (legislation, compliance and enforcement policy) **Resource allocation** (funding, staffing and training)
	Communication	Achieve routine, high level of public awareness and understanding of air pollution sources and impacts and strong stakeholder involvement and support for mitigation efforts	**Public access and multimedia reporting** processes **Stakeholder engagement activities**
Accountability	Monitoring and Standards	Institute comprehensive monitoring program that routinely measures primary and key air pollutants benchmarked against progressively more stringent and regularly updated Ambient Air Quality Standards (AAQS)	AAQS **goals and attainment record** Progress toward **compliance with monitoring best practices**
	Health and other Impacts	Institute routine observation and reporting of health, environmental and socio-economic costs of air pollution in ways that inform public policy, growth and development plans	Pollution-related **health surveillance and assessment mechanisms and data** **Use of health impact and other data** in policy and planning

The Cities Clean Air Partnership is an initiative of Clean Air Asia supported by the International Environmental Partnership. IEP

CATEGORY	STRATEGIES	GOALS	INDICATORS
Assessment	Emissions inventory (EI), source characterization and apportionment (SA)	EI and SA for criteria and other air pollutants are compiled using best possible methods, covering the greatest possible range of sources	**Type of EI and SA and validation methods used, frequency of analysis,** extent of **pollutants and sources covered**
		Priorities for AQ management actions reflect EI and SA data and are incorporated into a comprehensive action plan	**Quality of city assessment** and **use of EI and SA in developing air quality action plan**
	EI and SA prioritized action plans	A prioritized set of mitigation actions and steps to their implementation is formulated, approved and funded based on best available data from current city air quality assessment and monitoring programs	**Reductions in emissions from priority sources**
Actions	Sector-specific air pollution mitigation strategies	Sector-specific actions are developed for priority sources using best available control strategies, engaging key stakeholders in meaningful ways to find solutions that progress from simple emission controls and source use changes to permanent source reductions and transition to clean technology	**Progress in implementing the city action plan** and achieving targeted changes in source use patterns and transition to cleaner goods and services targeting priority sources to achieve ambient air quality goals
	Future planning for growth and development that ensures better air quality (and its climate co-benefits)	Action plans include provisions for managing future growth and development that supports the air quality management goals	**Progress in instituting growth and development strategies that sustain and advance air quality improvement**

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附件八

BANGKOK-SAN DIEGO

City-to-City Cooperation (C3) Program of the Cities Clean Air Partnership

The City-to-City Cooperation (C3) Program is a key component of the Cities Clean Air Partnership (CCAP), a platform led by Clean Air Asia that drives city-level actions to achieve clean air targets. The Cities Clean Air Partnership initiative is supported by the International Environmental Partnership.

C3 is a voluntary "partnering" of cities to allow technical exchange of information on good practices and innovative solutions to reduce air pollution via the Cities Clean Air Partnership platform. Cities are matched so that a "learning city" may benefit from the knowledge and experience of the "mentor city". Through this exchange, a learning city may efficiently develop its capacity to formulate policies and implement programs to achieve better air quality.

The first set of partnering cities under the C3 Program was announced in Washington DC last August 2015, namely: Kitakyushu and Haiphong, Pasig and Taipei, San Jose and Taichung, and San Diego and Bangkok.

This document provides the background information and describes the status of the C3 partnering between Bangkok and San Diego. The purpose of this document is to provide a complete documentation of the pilot phase of C3 to determine success factors, implementation barriers and show the level of effort needed to facilitate a meaningful city partnering.

About the City of Bangkok

Bangkok is the capital city and the economic center of Thailand accommodating almost 10 million residents and 8.5 million vehicles. Motor vehicles and the influx of urban migration, industries, open burning, commercial cooking and fugitive emissions from construction sites, road dust are considered the major sources of the city's air pollution. Air quality monitoring data has shown remarkable improvements over the last 20 years but particulate levels, both $PM_{2.5}$ and PM_{10}, still exceed the ambient air quality standard especially with congestion from road transport. The urban ozone also frequently exceeds the standard.

Bangkok has seen reductions in PM_{10} emissions because of more stringent vehicle emissions standards (new and in-use) and fuel quality standards that were enforced at the national level. A representative from the Bangkok Metropolitan Authority was a member of the standards drafting committee. At the city level, Bangkok implements control measures targeted to reduce emissions from vehicle pollution, industries, re-suspended dust, construction, open burning, and outdoor cooking. It successfully created an air quality data network to improve public information and to support effective plans and policies.

The Bangkok Metropolitan Administration (BMA) has put in place the 20-year Bangkok Development Plan to bring air quality levels within the ambient air quality standards by establishing a strategy to address pollution from motor vehicles, industries, construction sites, commercial grilling, and open burning. The plan also includes a plan to expand urban green areas and greater outreach efforts to involve the public and stakeholder participation. Around 46 new ambient air quality monitoring stations will be positioned throughout Bangkok by 2016.

Currently, BMA is implementing air pollution reduction measures focused on transport such as improved vehicle inspection and maintenance program and public transport systems, carpooling, traffic information dissemination. Mass media is actively used to encourage public participation such as air quality protection volunteers. Air quality management challenges that Bangkok

presently faces are technical capacity to conduct an updated emission inventories, enforcement of air quality policies, traffic management, difficulty in promoting shift to non-motorized modes of transport, and need to improve public information dissemination on air quality.

About the City of San Diego

San Diego is the eighth largest US city with a population of nearly 1.4 million residents and also the center of the greater San Diego County of over 3 million residents. It has a very active tourism industry that has welcomed over 32 million visitors in 2012 alone, and is home to a major submarine and shipbuilding yard, with both military and trade activity dominating its port areas. Air quality monitoring data shows that San Diego's stationary sources of emissions of $PM_{2.5,}$ NO_x, VOCs and toxic air pollutants have declined countywide by as much as 89% since 1989 according to a 2013 report, and has provided over US$130 million in grants to replace older diesel engines with alternative hybrid engines. Currently, the city and county are still seeking to minimize to Federal standards of emissions of both ozone and $PM_{2.5}$.

San Diego has highly developed air quality programs that demonstrates strong public participation captured in the City of San Diego General Plan. Since the city collaborates closely with 42 communities, the general plan is also coherent with community plans especially with respect to air quality management. The plan gives communities greater autonomy and responsibility towards their local street and transit network, distinctive environmental characteristics, community landmarks, location, prioritization and provision of public facilities, community urban design guidelines, and identification of gateways.

In addition, the Air Pollution Control District of the San Diego County provides for air quality inspectors that ensures all facilities comply with applicable regulations and permit conditions and responds to citizen complaints on air quality matters.

Through a Green Port program, measures to reduce GHG emissions and air pollutants in the San Diego Bay port area is being implemented. A report released in November 2014 described the progress in reducing air emissions from the Port of San Diego through control strategies targeting the largest sources of emissions from its maritime operations. A Vessel Speed Reduction Program was developed in 2009 and a Clean Truck Program was implemented in 2010. Additionally, shore power was installed at the Cruise Ship Terminal in 2010, reducing emissions from berthed cruise ships. Pollutants reduced include nitrogen oxides by 50 percent, diesel particulate matter by 75 percent, and sulfur dioxide by 94 percent.

San Diego Climate Action Plan have achieved significant greenhouse gas reductions and expect to do more by 2020 and 2035, and seek to increase biking, walking, and transit use. This expertise is potentially beneficial to Bangkok due to both programs' measurable success.

Specific Cooperation Area under the C3 Program

Bangkok is seeking a 2-year partnership to focus on the following priority learning areas: 1) determining appropriate technology for vehicle pollution control, especially for $PM_{2.5}$ and PM_{10} from diesel vehicles and volatile organic compounds from gasoline vehicles; 2) technical support for the conduct of a city-wide emissions inventory of air pollution sources, and 3) assistance in developing an integrated air quality management plan.

San Diego as the mentor city has indicated that they are fully prepared to focus on vehicle pollution control and has led many efforts related to Bangkok's learning areas. In addition, San Diego is interested to learn about land use planning and transportation, renewable energy strategies .

Both cities are committed to contribute staff time and in-kind resources, and will conduct the technical exchanges through e-mail, face-to-face meetings, and study tours. San Diego is also open to communicate through webinars and teleconferencing or Skype meetings.

Implementing Partners

United States Environment Protection Agency (US EPA) is instrumental in bringing San Diego, California into the Cities Clean Air Partnership platform.

Green Cities California, a coalition of 12 California cities who are dedicated to guiding other cities towards adopting and developing their own sustainability policies and programs, acts as a direct contact between Clean Air Asia and San Diego to help facilitate the dialogues for C3 implementation. Discussions about the option of a "pod" partnering between US cities and Asian cities for C3 have been initiated to foster a stronger network of collaboration on air quality involving more partner cities.

Clean Air Asia is currently working with a local partner with strong links to the Bangkok Metropolitan Authority in order to facilitate C3 implementation and keep in close contact with the organization, its plans, and activities.

Annex 1. Chronology of events for Bangkok-San Diego C3 Implementation

Date	Follow-up Actions
10-12 August	Bangkok and San Diego were matched and officially identified as C3 partner cities during the Cities Clean Air Partnership (CCAP) Workshop in Washington DC.
18 August	Clean Air Asia shared the C3 registration form to San Diego (with copy to Green Cities California and US EPA)
25 August	Clean Air Asia sent an email to San Diego to follow up on the C3 registration form (with copy to Green Cities California and US EPA) and to share the photo and news links of the CCAP workshop. Also updated that Bangkok city rep has requested for more information about air quality programs initiated and implemented by San Diego. This information is essential to enable our Bangkok focal person to move forward with the approval process from the Office of the Governor.
26 August	A thank you e-mail from Clean Air Asia containing links on the photos and the press releases of the Washington event was sent to Bangkok's point-of-contact, Siriporn Piyanawin.
3 September	The C3 registration form for San Diego was completed by Cody Hooven and submitted to Clean Air Asia. Clean Air Asia also received the information from San Diego as requested by Bangkok, providing background on air quality plans that they have done for their city, their air pollution control district and San Diego port. The San Diego Climate Action Plan was also provided.
4 September	Clean Air Asia e-mailed Bangkok to follow up with their registration form and for a possible schedule to hold a teleconference with San Diego. The links from San Diego were promptly shared to Bangkok as well: • City of San Diego General Plan (Air quality in the 'Conservation Element' and also in various community plans): http://www.sandiego.gov/planning/genplan/index.shtml#genplan • Air Pollution Control District:

	http://www.sdapcd.org/comply/compliance.html • Port of San Diego: https://www.portofsandiego.org/environment/3730-port-of-san-diego-sees-significant-reduction-in-maritime-air-emissions.html • Climate Action Plan: http://www.sandiego.gov/planning/genplan/cap/
7 September	Clean Air Asia emailed Bangkok to follow up on C3 registration from and called but there was no response in their office.
9 September	Clean Air Asia made a phone call to Bangkok again, but asked Clean Air Asia to call again tomorrow.
10 September	Clean Air Asia acknowledged that receipt of information (including the C3 registration form) shared by Cody Hooven. Chee Anne also mentioned that Clean Air Asia is continuing to follow up on the Bangkok C3 registration form, which can only be shared externally once they get the proper clearance from the governor's office. Clean Air Asia will continue to coordinate and provide updates as they come. Clean Air Asia called Bangkok and was able to talk to Siriporn Piyanawin who said that they are still waiting for the governor's approval of Bangkok's involvement in C3, which is needed before they send the final registration form. Siriporn mentioned that she will e-mail Clean Air Asia regarding the status of the governor's response by afternoon.
12 September	Clean Air Asia called Bangkok but was unable to get a response.
17 September	In a phone call with Siriporn, she expressed that Bangkok's priority is to reduce vehicle emissions from traffic, and it might not be what San Diego could offer. Clean Air Asia suggested that Siriporn discuss their priority area of cooperation and share the draft registration form with Rakhi Kasat of USEPA during their meeting tomorrow. Clean Air Asia also requested for the draft registration form, while waiting for the governor's approval, in order to find a better match for Bangkok. Justin Harris of USEPA said in his e-mail that BMA had requested US EPA to do follow up with regard to the possibility of BMA using AirNow to manage their new AQ system. Bangkok also expressed an interest some related trainings and KMS. USEPA says that Rakhi's visit would be a good chance to advance those conversations and particularly discuss what the next steps are if they are evaluating AirNow as a potential data management system for their new AQ monitoring system. USEPA request to loop them in communications with Siriporn, as they are framing the assistance as part of the follow up from Bangkok's strong participation in CCAP.
23 September	Clean Air Asia followed up on updates from US EPA's meeting with Bangkok representatives.
25 September	Rakhi Kasat (US EPA) sent an e-mail with updates on their meeting with Siriporn, and confirmed that Bangkok's priority areas are different. Also that Bangkok did not mention anything on the governor's approval of C3. In a phone call, Siriporn expressed that she thinks that the governor will approve the registration form, but the process may just be taking a long time. She also said that Bangkok is still waiting for more inspection and maintenance program for transportation with San Diego. When asked on updates of their meeting with US EPA, she mentioned that Rakhi wrote points about the cooperation areas between Bangkok and San Diego. She mentioned on plans to go to USA to study their projects on transportation. Regarding their registration form, she says that they are almost done but they still need to add more information. They plan to send the registration

	form this week.
29 September	Clean Air Asia sent an email to Justin Harris requesting if US EPA can help follow up with the California cities regarding next steps.
1 October	US EPA requested for a copy of San Diego's C3 Registration. Clean Air Asia promptly shared the completed C3 registration form of San Diego.
6 October	During the CityNet Executive Committee Meeting and International Seminar in Sidoarjo, Clean Air Asia was able to meet with representatives from Bangkok. Clean Air Asia introduced CCAP to them and mentioned that San Diego is their partner city for C3.
13 October	Clean Air Asia sent an email to Green Cities California to update them of the status of C3 implementation for San Diego. Specifically: *References from San Diego were received and forwarded to Bangkok. Clean Air Asia is working in getting the official C3 registration from Bangkok. During our last phone conversation, Siriporn expressed that Bangkok's priority learning area under the C3 Program is to reduce emissions from diesel vehicles and improve transport demand management in Bangkok. She has also confided that the information shared by Cody Hooven is focused a lot on climate change, which may not be particularly useful for her office. She wanted to get more information on transport-specific city programs of San Diego. Action point: Clean Air Asia is planning a mission trip to Bangkok on October 26-28 (TBC) to help expedite approval process of the C3 and determine clear next steps for the San Diego-Bangkok partnering.* Clean Air Asia also requested Linda Pratt of Green Cities California for a teleconference schedule to discuss strategies on how to work with California cities in the C3 implementation. A phone call was also made with Siriporn. During the call, Siriporn said that she will be emailing the registration form by Friday. She also confirmed that she is available for a proposed face-to-face meeting with Clean Air Asia on 26-28 October to discuss on next steps for the Bangkok-San Diego partnering.
14 October	Linda Pratt e-mailed her confirmation for a teleconference on Friday and updated that Cody Hooven shared that San Diego is fully prepared to focus on diesel emissions if this is what Bangkok wants. San Diego has led many efforts on that topic.
15 October	Clean Air Asia sent an e-mail to Bangkok to follow up on the registration form and to inform them of an upcoming BenMAP training that Bangkok can participate in. Clean Air Asia also sent an email to Dr. Supat Wangwongwatana, a former director of Thailand's Pollution Control Department, to seek his advice on how to help Siriporn seek approval on C3 from the Governor's office.
16 October	Siriporn sent an e-mail stating that she is submitting the "unapproved" registration form; however, there was no attachment. She also thanked Clean Air Asia for the information on BenMAP, and confirmed that BMA will be sending a participant for the training. Chee Anne held a teleconference meeting with Linda Pratt of Green Cities California. The discussion points are as follows: • Agree that city partnership is valuable but this type of engagement typically requires a lot of hand-holding (even for US cities) to facilitate link and effective communication between cities; some cities are

	responsive and some would require concrete support such as funding resources to conduct meetings. • Concept of "pod" partnership may be considered for future partnering agreements; i.e. 3 US cities partnered with 3 Asian cities, to create a strong network of collaborating cities working to address similar challenges. Cities might find this less intimidating compared to 1-on-1 partnering. • Our experience with Bangkok is that technical level-discussion is always non-committal, executive-level approval is still considered mandatory to move forward in the program. This also happens in some US cities, although tends to be not as hierarchical. • Establishing the link with Taichung is proving to be a challenge mainly due to language issues. EPAT is also actively involved in the outreach to Taiwan cities and have planned a meeting with participating C3 cities from Taiwan but no updates available. • GCC is coordinating closely with San Diego and San Jose. Videoconference in evenings should be possible for the California cities, check which mode is preferred/possible for Asian cities (FaceTime? Skype? Telecon?); English translator might be needed for this. What Clean Air Asia is doing to facilitate C3 work in Bangkok: • enlist a local partner with strong links to BMA to find out issues; • visit Bangkok on Oct 26-28 (TBC) to help Siriporn introduce the C3 partnership to the Governor's office (decision-makers); and • explore the possibility of arranging a conference call with San Diego during or after the Bangkok mission.
19 October	Clean Air Asia followed up on Bangkok's registration form since no attachment was included in the last email and also sent information on the registration process for the BenMAP training.
20 October	Clean Air Asia talked to Siriporn by phone to follow up and also sent an email to share once again the information provided by San Diego regarding their air quality programs.
21 October	Bangkok submitted their "unofficial" registration form for C3.
22 October	Clean Air Asia e-mailed Bangkok for the acknowledgement of the receipt of the C3 registration form and requested that Bangkok also accomplish the first two pages of the registration form since they only completed information on pages 3-4. Clean Air Asia also updated Siriporn that their visit to BMA is now rescheduled on the week of 23 November.
2 November	Clean Air Asia shared the "unofficial" registration form to San Diego with a proposal to help BMA organize a technical workshop on emissions inventory, through the CCAP knowledge platform, designed for BMA and technical staff from 50 city districts of Bangkok.
4 November	Clean Air Asia sought the help of Dr. Supat Wangwongwatana to discuss strategy on how to effectively implement C3 partnership between Bangkok and San Diego. He confirmed that – • the partnership with San Diego is under the process for the approval by the Governor of BMA. • it is possible to do capacity building on emission inventory although the partnership has not been approved by the Governor. It will be just a regular capacity building activity normally done for BMA.

	He further informed that in principle the Governor of BMA does not have any objection with the Cities Clean Air Partnership. However, there is a concern whether San Diego will be the right city for BMA to partner with. BMA feels that Bangkok and San Diego are different in many aspects.

Annex 2. Bangkok Registration Form (Unofficial)

Expertise that Bangkok City can offer

Describe the project/policy/intervention	**What was achieved?**
Major sources of PM_{10} in Bangkok are motor vehicles, re-suspended of road dust, and construction dust. Bangkok Metropolitan Administration (BMA) tackles this issue by the following countermeasures: 1. Pollution control 1.1 Inspection of black smoke at roadside for diesel vehicles 1.2 Inspection of emissions from BMA's vehicles in Bangkok 1.3 Inspection of black smoke emissions from light duty vehicles such as pick-ups and personal vans 1.4 Inspection of emissions from mini buses and affiliated buses. 1.5 Increasing frequency of road cleaning for road dust reduction. 1.6 Measure for pollution control from construction activities, open burning and food grill vendors 2. Public participation 2.1 Public awareness raising on air pollution reduction 3. Air Quality Monitoring 3.1 Mobile unit: 1 unit 3.2 Station: 4 stations 3.3 Temporary Station: 9 stations	Recently, PM_{10} has been decreased in Bangkok since the improvement of various standards including in-use vehicle, new vehicle emission, and fuel quality which are issued by the central government. The representative of BMA is one of committee in the relevant standard drafting. The BMA has implemented the projects and activities to abate PM_{10} including the emission control at sources such as motor vehicles, factories, construction sites, open burning, crematoria etc., to establish more air quality monitoring stations for entire Bangkok air quality data network for better public information and input for effective planning to develop practical countermeasures. The level of PM_{10} annual average on roadside in 2006 that was 63 $\mu g/m^3$, exceeding the standard of 50 $\mu g/m^3$, has been declined to 52.7 $\mu g/m^3$ in 2013, which is in line with the decreasing number of black smoke vehicles reported from roadside inspection. The result proves that the implementation of the measures has been satisfactorily successful.

3.4 Public information: Display Board, Web site	

Desired learning area that Bangkok City needs

Describe the project/policy/intervention	Specific city-to-city cooperation need
1. $PM_{2.5}$ Monitoring	- Technology transfer
2. Emissions inventory of air pollution sources	- Experts, technical assistance, and knowledge platform
3. The development of the integrated air quality management plan	- Technical assistance and knowledge platform

Partnering period
Please indicate the estimated length of time that your city would like to engage in city partnering under the city partnering and to foster peer-to-peer learning.
☐ 3 months ☐1 year ☐6 months ☐1.5 years ☑ Others 2 years

Bangkok City would like to conduct technical exchanges through this city-to-city cooperation

☑ Sharing technical information via email
☐ Webinars
☐ Teleconferencing or Skype meetings
☑ Face-to-face meeting
☑ Study tours
☐ Joint project planning
☐ Others, please specify:

Bangkok City contribute to the partnership
☑ Staff time
☐ Travel funds for study tours or in-person exchanges
☐ Funds to invite foreign experts
☑ In-kind resources
☐ Others, please specify:

Annex 3. San Diego Registration Form

What does your city expect to accomplish through city-to-city cooperation?
✓ Pedestrian facility improvement to reduce transport emissions ✓ Promoting non-motorized transportation ☐ Others, please specify: _____

Expertise that San Diego can offer

Describe the project/policy/intervention	What was achieved?
Climate Action Plan – addresses emissions from energy, transportation, solid waste, and wastewater. Identified climate adaptation/resilience as a co-benefit to reducing emissions. http://www.sandiego.gov/planning/genplan/cap/ Port of San Diego Clean Air Program – reduced emissions from cargo activities – ships, trucks, and cargo handling equipment https://www.portofsandiego.org/environment/3730-port-of-san-diego-sees-significant-reduction-in-maritime-air-emissions.html	Will achieve significant greenhouse gas reductions by 2020 and 2035. Will significantly increase biking, walking, and transit use (and reduce single car commute), which also reduces other air emissions. Substantial decrease in both greenhouse gas emissions and other air pollutants achieved.

Desired learning area that San Diego needs

Describe the project/policy/intervention	Specific city-to-city cooperation need
While we are a potential mentor city, we are open to learning. Areas of most interest are smart land use planning and transportation, and renewable energy strategies. Also, climate resilience/adaptation.	

Partnering period

Please indicate the estimated length of time that your city would like to engage in city partnering under the city partnering and to foster peer-to-peer learning.

☐ 3 months ☐1 year ☐ 6 months ☐1.5 years ☐Other_____

How would you like to conduct technical exchanges through this city-to-city cooperation?

✓ Sharing technical information via email
✓ Webinars
✓ Teleconferencing or Skype meetings
✓ Face-to-face meetings
✓ Study tours
☐ Joint project planning
☐ Others, please specify:

What can your organization contribute to the partnership?

✓ Staff time
☐ Travel funds for study tours or in-person exchanges
☐ Funds to invite foreign experts
✓ In-kind resources
☐ Others, please specify:

Annex 4. Links to Additional Resources

http://greencitiescalifornia.org/pages/about.html - *The Green Cities California official website with information about the group, its work, members, and activity.*

www.sdapcd.org/comply/compliance.html - *Link to contact information, enforcement, and complaints as an example of community and stakeholder participation with air quality, which can be used by other cities, such as Bangkok, as reference for making stakeholder participation more accessible.*

www.portofsandiego.org/environment/3730-port-of-san-diego-sees-significant-reduction-in-maritime-air-emissions.html - *A summary of results of San Diego's emissions reduction for port activity, which are potentially useful for other C3 cities like Haiphong, as the twinning of cities can still have kickback benefits to other members in CCAP.*

www.sandiego.gov/planning/genplan/cap - *List of drafts of San Diego's Climate Action Plan and version updates, which gives insight into the development of policies related to air pollution.*

http://www.sdapcd.org/info/reports/2013_annual_rpt.pdf - *A 2013 annual report on air quality in San Diego, looking at accomplishments and remaining challenges for achieving better and best air quality in San Diego, which is an excellent reference into some of the effective policies and programs in place, in addition to incentives to encourage stakeholder participation.*

http://iad.bangkok.go.th/sites/default/files/21.City%20Planning%20Department.pdf - *A brief presentation from the Bangkok Metropolitan Administration that gives a snapshot of Bangkok and the BMA's structure, organization, and some guidelines for city development the BMA works with.*

http://203.155.220.174/pdf/BangkokStateOfEnvironment2012RevisedEdition.pdf - *A 2012 report on the state of the environment released by the Bangkok Metropolitan Administration, which looks at the status of Bangkok's environmental challenges and actions taken to address these issues, with one section specifically for air and noise pollution, and another good resource for CCAP cities to use as communication to stakeholders the actions, policies, status, and transparency of the city government.*

附件九

KITAKYUSHU-HAIPHONG

City-to-City Cooperation (C3) Program of the Cities Clean Air Partnership

The City-to-City Cooperation (C3) Program is a key component of the Cities Clean Air Partnership (CCAP), a platform led by Clean Air Asia that drives city-level actions to achieve clean air targets. The Cities Clean Air Partnership initiative is supported by the International Environmental Partnership.

C3 is a voluntary "partnering" of cities to allow technical exchange of information on good practices and innovative solutions to reduce air pollution via the Cities Clean Air Partnership platform. Cities are matched so that a "learning city" may benefit from the knowledge and experience of the "mentor city". Through this exchange, a learning city may efficiently develop its capacity to formulate policies and implement programs to achieve better air quality.

The first set of partnering cities under the C3 Program was announced in Washington DC last August 2015, namely: Kitakyushu and Haiphong, Pasig and Taipei, San Jose and Taichung, and San Diego and Bangkok.

A notable feature of the Kitakyushu and Haiphong C3 partnership is that they have an existing 'sister city' agreement to cooperate in the fields of economy, environment (e-waste), education and mutually support business-to-business activities, create opportunities in tourism and cultural exchanges; the C3 program therefore supplements this ongoing cooperation to allow them to focus on air quality management. The 'sister city' agreement is led and coordinated by the Department of Foreign Affairs, Haiphong City and the International Affairs Department, Kitakyushu.

This document provides the background information and describes the status of the C3 partnering between Kitakyushu and Haiphong. The purpose of this document is to provide a complete documentation of the pilot phase of C3 to determine success factors, implementation barriers and show the level of effort needed to facilitate a meaningful city partnering.

About Kitakyushu City

Kitakyushu is a large port city with a population of 965,000 people in a 488km^2 area. Well-known companies located in the city include Nippon Steel and Sumitomo Metal Corporation, Mitsubishi Chemicals and Mitsubishi Materials, Toyota, and Nissan, as well as Yaskawa Electric Corporation.

Where Kitakyushu can give its expertise comes from its proven success in curbing industrial pollution. In the 1960s, it was extremely polluted and that was turned around over the course of 30 years by the 1990s. This was achieved through various measures but with strong stakeholder participation such as the anti-pollution activities of the Tobata Women's Association who conducted spot inspections at local private factories, took measures that included inviting university professors as lecturers, sent open letters to private enterprises, and broadcast the locally-produced movie "We want our blue sky back" in 1965 to document the serious pollution problem. About ¥804.3 billion was spent between 1972 and 1991 towards cleaning up the industrial pollution of the city 31.4% of which was contributed by the private sector.

What was successful is that the Women's Association treated air pollution as a social problem, and was backed by industry, academia, and the government who collaborated together to address the pollution. The city government then proposed measures, founded on sound science and technology, to companies under a mutual understanding. This is supplemented by

implementing city-wide countermeasures through pollution prevention agreements with 48 major pollution-emitting companies, under a “polluter pays” principle.

Currently, Kitakyushu has shared its success by partnering with other Asian countries and offering a range of services from expert advice to technical training. The city has accepted 7,839 people from 151 nations for training, dispatched 184 specialists to 25 countries, and contributed to the improvement of the environment in over 100 projects including an ongoing city-to-city cooperation for air quality improvement in China (Shanghai, Wuhan, Tianjin, Tangshan and Handan).

About Haiphong City

Haiphong is a port and coastal city, approximately 102 km from the Vietnam capital of Hanoi and thus located within a key economic region, Bac Bo. It has a population of nearly 2 million people in a 1500 km^2 area, and is Northern Vietnam’s commercial gateway. The city vision of Haiphong is to become a modern, industrial green port city that offers commercial services, tourism, aquaculture, education, and health care.

The main sources of pollution in Haiphong are from transport primarily from its ports and freight logistics, industrial emissions (power plants, cement plants, steel production) and biomass cooking present even in urban areas. Haiphong’s transport sector uses 60% of the city’s total energy consumption, and the freight industry accounts for 68% of the transport sector’s energy consumption.

Specific Cooperation Area under this Partnering

Haiphong seeks assistance to help create an emissions inventory of air pollution sources focused on industrial zones and ports, reviewing and redesigning the air quality monitoring network to add PM10 and PM2.5 parameters. The city seeks to create a clean air plan for the management and control of port emissions and to encourage public engagement in air quality management and improvement. Particularly important to Haiphong is to enhance collaboration among the 36 port companies along the 30km long river bank, shipping lines, terminal operators, customs and regulatory and environmental agencies on both the city and district levels. Kitakyushu is currently working with Haiphong in preparing a Low-Carbon City Development Plan.

Kitakyushu and Haiphong will share technical information via-email and jointly plan project activities in addition to study tours. A formal launching ceremony of the C3 partnership between Kitakyushu and Haiphong is scheduled on 11 November 2015. Four experts from Kitakyushu and a representative from Clean Air Asia will be in Haiphong City from 9-14 November 2015 to conduct a scoping mission and propose activities with clear timelines for the C3 partnering.

Implementing Partner

Vietnam Clean Air Partnership (VCAP) is Clean Air Asia’s country network in Vietnam. It started as a program established in 2006 by the Vietnam Association for Conservation of Nature and Environment (VACNE) for the purpose of bringing together individuals and organizations to participate in activities that seek to improve air quality, protecting community health and pursuing sustainable development on the national, regional, and global levels.

Annex 1. Chronology of events for Kitakyushu-Haiphong C3 Partnering

Date	Actions
25 June	Haiphong City accomplished and submitted their registration form. They have identified reduction of port emissions as their specific learning need.
10-12 August	Having similarities in their city profile and having a long running relationship as sister cities, Haiphong and Kitakyushu were matched, and have been officially identified as C3 partner cities during the Cities Clean Air Partnership (CCAP) Workshop in Washington DC.
26 August	A thank you e-mail from Clean Air Asia containing links on the photos and the press releases of the said event was sent to both cities, including follow up on next steps (launch meeting).
4 September	Le Son of Haiphong further expressed their interest to work with CAA for CCAP and C3, as a response to the Thank You e-mail sent to him. He also shared that Hai Phong has ongoing e-waste project with Kitakyushu.
21 September	CAA e-mailed Seiko Kubo of Kitakyushu regarding the willingness to extend support to help Kitakyushu and Haiphong to come up with C3 action points. The e-mail also followed up on air quality work related to the mission, and if USEPA was able to visit Kitakyushu last month. A schedule for availability for a teleconference (launch meeting) was also asked.
22 September	CAA called Le Son. He said that Kitakyushu delegates will be in Haiphong on 23-25 September for their e-waste project collaboration. Haiphong and Kitakyushu will be updating CAA regarding what they have discussed.
24 September	Seiko Kubo responded to the 21 Sept email to share that: • USEPA was unable to visit Kitakyushu because of scheduling issues due to typhoon; • For C3, Seiko plans to dispatch experts from Kitakyushu to Haiphong on air quality improvement in order to investigate the current situation on site and begin with face-to-face consultations. This will enable them to find out about the challenges to focus on; • She also suggested that some staff from Haiphong City can also possibly visit Kitakyushu and other leading cities in order to study basic issue on air quality improvement and specific issues on port and harbor air quality, including getting lectures and participating in technical tours; and • Kitakyushu staff will visit Haiphong city next week and in the middle of October based on their city-to-city cooperation with Haiphong City supported by MOEJ. However, such cooperation projects do not involve the project on air quality improvement, and then mentioned that Kitakyushu will need about US$30,000 funding support to be able to conduct activities under C3.
25 September	CAA scheduled a teleconference with Seiko Kubo on Monday, Oct 5, 5:30pm, Japan Time to discuss plan of action.
5 October	Chee Anne Rono and Seiko Kubo held a teleconference, with these discussion outcomes: • Clean Air Asia to extend funding support to enable Kitakyushu experts to visit Haiphong for a scoping mission. This funding support is limited to only US$10,000 and will be provided out of the MOEJ funding through the IBAQ Programme. • Kitakyushu must submit a proposal on Oct 9 to be able to avail of the funding support, which will be available from the end of October to end of February 2016.
7 October	Le Son updated that he has been in touch via e-mail with Kitakyushu since Aug 22 regarding other projects and discussions on their next steps for C3. Kitakyushu updated that they will be sending delegates to Haiphong.

	CAA also e-mailed both Haiphong and Kitakyushu that CAA will be able to support the requested visit of Kitakyushu experts to Haiphong for cooperation on air quality. Chee Anne also mentioned that CAA and Kitakyushu have discussed the terms of support over the teleconference meeting, and CAA will be waiting for a detailed proposal from Kitakyushu so that funds disbursement can be initiated. She further advised that Kitakyushu and Haiphong have to mutually agree on the best time to schedule this C3 visit to Haiphong. Le Son also replied that he is happy with the news in the email and that they will do their best implement C3.
9 October	Seiko Kubo emailed the proposed itinerary for the Haiphong scoping mission. Le Son confirmed the receipt of Seiko Kubo's e-mail containing the itinerary. He will be reporting the said agreements and documents to their city mayor.
11 October	Seiko Kubo also e-mailed their detailed plan for C3 and for the Kitakyushu visit in Haiphong.
12 October	Hai Phong e-mailed their air quality monitoring results and air sampling map. He also confirmed their agreement to host Kitakyushu delegates' transportation around the city.
14 October	Seiko Kubo acknowledged the receipt of documents sent by Le Son. She expressed gratitude to Le Son for granting their request for transportation around the city.
15 October	CAA emailed Yatsuka Kataoka, Deputy Director, Kitakyushu Urban Centre of the Institute for Global Environmental Strategies (IGES) to update them about the planned scoping mission by Kitakyushu. IGES is a co-implementer of CAA on IBAQ Programme. He responded to the email saying that IGES Kitakyushu Office is happy to support Kitakyushu City to develop collaboration with Haiphong City where necessary. And added that Mr. Aoyagi, the new Director-General of the division in charge of international environmental cooperation of Kitakyushu will join the first mission in November to Haiphong. "He is one of the best person who share experience of Kitakyushu on the environmental conservation and I believe the first meeting in Haiphong must be a fruitful one."
16 October	CAA e-mailed Seiko to request for an official letter of request for funding that will be the basis for CAA to award the US$10,000.
26 October	Seiko submitted an official letter to Clean Air Asia

Annex 2. Haiphong Registration Form

What does Haiphong City expect to accomplish through city-to-city cooperation?
✓ Emissions inventory of air pollution sources ✓ Air quality monitoring ✓ Clean air plan development ✓ Port emissions management and control ☐ Others, please specify: _____

Expertise that Haiphong City can offer

Describe the project/policy/intervention	**What was achieved?**
Successfully relocated pollution enterprises out of the city/urban areas (cement plant, bronze casting plant, mechanical enterprises, concrete mixer, etc.)	To reduce much dust pollution from such industries in the city center of Haiphong.

Successfully relocate inter-provincial bus station out of the city center	To reduce the traffic jams in the city center and then reduce air pollution from transportation.

Desired learning area that Haiphong needs

Haiphong city seriously planning to implement those policies and projects in the following fields:

1. Air pollution emission inventory and setting up city air quality data base, with focus on industrial zones and ports;
2. Review and redesign of city's air quality monitoring network to include PM_{10} and $PM_{2.5}$ parameters, with focus on port areas (36 port companies using more than 30km long of river bank with ~10km long of jetty) plus development and investment sites;
3. Assessment of air pollution impact (by PM10, PM2.5, SOx…) on public health;
4. Development of city's air quality management action plan/act toward green port city in the year 2020; and
5. Public involvement on air quality improvement and management.

Describe the project/policy/intervention	Specific city-to-city cooperation need
1. Emissions inventory of air pollution sources 2. Air quality monitoring (network design, etc) 3. Clean air plan development. 4. Communicating air quality (public disclosure)	1. Demo project of pollution inventory for port areas. 2. Methodology for design of PM10 and PM2.5 monitoring network for Haiphong City. 3. To develop the Clean air Action plan for Haiphong City toward the Green Port City model.

Partnering period
Please indicate the estimated length of time that your city would like to engage in city partnering under the city partnering and to foster peer-to-peer learning.
□3 months □1 year□6 months X 1.5 years □ Other_____

How would you like to conduct technical exchanges through this city-to-city cooperation?

X Sharing technical information via email
X Face-to-face meetings
X Study tours
X Joint project planning

What can your organization contribute to the partnership?
X Staff time
X Travel funds for study tours or in-person exchanges
X In-kind resources

Annex 4. Links to Additional Resources

Existing “sister city” agreements with Haiphong besides Kitakyushu:

- Seattle (USA)
- Brest (France)

Relevant website:

- Haiphong People’s Committee: www.haiphong.gov.vn
- Department of Natural Resources and Environment: www.sotnmt.hp.gov.vn
- Haiphong Monitoring Center: www.hacem.com.vn

附件十

TAICHUNG- SAN JOSE

City-to-City Cooperation (C3) Program of the Cities Clean Air Partnership

The City-to-City Cooperation (C3) Program is a key component of the Cities Clean Air Partnership (CCAP), a platform led by Clean Air Asia that drives city-level actions to achieve clean air targets. The Cities Clean Air Partnership initiative is supported by the International Environmental Partnership.

C3 is a voluntary "partnering" of cities to allow technical exchange of information on good practices and innovative solutions to reduce air pollution via the Cities Clean Air Partnership platform. Cities are matched so that a "learning city" may benefit from the knowledge and experience of the "mentor city". Through this exchange, a learning city may efficiently develop its capacity to formulate policies and implement programs to achieve better air quality.

The first set of partnering cities under the C3 Program was announced in Washington DC last August 2015, namely: Kitakyushu and Haiphong, Pasig and Taipei, San Jose and Taichung, and San Diego and Bangkok.

This document provides the background information and describes the status of the C3 partnering between Taichung and San Jose. The purpose of this document is to provide a complete documentation of the pilot phase of C3 to determine success factors, implementation barriers and show the level of effort needed to facilitate a meaningful city partnering.

About Taichung City

Taichung City is the third largest city in the island of Taiwan comprising of 28 districts and 1 mountain indigenous district, with a population of over 2.7 million in an area of 2,215km^2 (twice the size of Hong Kong). Its primary industries are agriculture, industrial development and technology (from precision machinery and tool factories, metal contract manufacturing, and electronic parts), and commercial and service industries. Two major power stations, Taipower's thermal power plant and Dajia River power plant, and an industrial zone are major stationary sources of carbon emissions.

Taichung has set up the Low Carbon City Promotion Team to develop and ensure sustainable development and environmental conservation. It is an initiative that has pulled in more parkways, parks, squares, children's parks, and greenery along waterways and roads. Taichung's low-carbon city programs were officially entered into the rule of law era in May 2014 when the Taichung Low-Carbon City Development Management Ordinance became effective, which includes a low-carbon campus certification and an air quality mobile app developed by the EPB of the Taichung city government.

Notable is the plan for the Taichung Gateway City, a planned 254-hectare area including the former Shuinan Airport and an expansive green space as a commercial urban environment, which reflects Taichung's plans to become an international metropolis and world-class city. As an eco-park, Taichung Gateway City will utilize renewable energies and an intelligent park management system, in addition to offering extensive green open space. A design competition was held in 2011 calling for proposals to develop the center, with what is now known as Jade Park.

Taichung seeks to gain assistance via the C3 program help in managing emissions from power plants and control measures for $PM_{2.5}$ emissions, as poor air quality and reduced visibility are two issues that the city seeks to improve its efforts to regulate and address with advanced technology.

About San Jose City

San Jose is billed as the capital of Silicon Valley due to the large number of well-known technology companies operating there. It is the third largest population in the State of California and tenth in the United States with over 1 million residents in a 466km^2 area. San Jose's dominant economy is characterized by engineering, computer science, and microprocessor companies.

The growth of San Jose from an agricultural community to a high tech city has been part of its narrative that influenced the need for the city to prepare its Envision San Jose 2040 General Plan, which seeks to utilize its unique human, natural, and economic resources to develop the city, especially through its innovative economy, environmentally sustainable practices, and accessibility via walking, biking, and public transit. Notable about the plan is that it was developed with extensive stakeholder participation, and serves as an example of the necessity for participation from multiple sectors and all stakeholders, especially the community

Specific Cooperation Area under this Partnering

Taichung has officially submitted a request to be partnered and learn how to manage emissions from power plans, especially control of $PM_{2.5}$ emissions. Fine suspended particulates – or $PM_{2.5}$ - is considered a critical pollutant that the city government would like to actively address through regulations, technological solutions and control measures. Moreover, at the introductory meeting between Taichung and San Jose, a learning area identified by Taichung is how to design a low-emission and low-carbon city development which could be a potential model for future urban areas in the Asia region.

The specific cooperation for the C3 partnering is not yet available at this time as both cities are still determining the cooperation area and agreements.

Implementing Partners

United States Environment Protection Agency (US EPA) is instrumental in bringing San Diego, California into the Cities Clean Air Partnership platform.

Environment Protection Administration Taiwan (EPAT) supports Clean Air Asia in keeping Taichung City actively engaged in programs under the Cities Clean Air Partnership platform.

Green Cities California, a coalition of 12 California cities who are dedicated to guiding other cities towards adopting and developing their own sustainability policies and programs, act as a direct contact between Clean Air Asia and San Jose to help facilitate the dialogues for C3 implementation. Discussions about the option of a "pod" partnering between US cities and Asian cities for C3 have been initiated to foster a stronger network of collaboration on air quality involving more partner cities.

Annex 1. Chronology of events for Taichung-San Jose C3 Implementation

Date	Actions
3 August	Taichung accomplished and submitted their C3 registration form.
10-12 August	Taichung and San Jose were matched and officially identified as C3 partner cities during the Cities Clean Air Partnership (CCAP) Workshop in Washington

	DC.s
18 August	Glynda shared the C3 registration form to San Jose (with copy to Linda of Green Cities California)
25 August	Chee Anne sent an email to San Jose to follow up on the C3 registration form (with copy to Linda of Green Cities California) and to share the photo and news links of the CCAP workshop. She also shared the completed registration form from Taichung. She noted that the potential cooperation area raised by the Taichung rep during the Washington meeting is not clearly reflected as priority in the completed form. "We can sort out the main topic of the C3 partnering in future discussions between San Jose and Taichung – I will initiate this and can happen over email or Skype." No response received from San Jose.
1 September	Chee Anne sent an email to Rene Eyerly of San Jose (with copy to Linda of Green Cities California) to inquire if anyone from San Jose will be participating in the Urban Environmental Accords (UEA) Summit hosted by Iloilo City on 15-17 September. San Jose is a city member of UEA and would be good to touch base with any representative from San Jose during this time (if participating).
3 September	Linda of Green Cities California responded by including Kerrie Romanow in the email thread. *KERRIE-- will anyone from San Jose be participating in the upcoming Urban Environmental Accords (UEA) Summit hosted by Iloilo City on 15-17 September?* No response received from San Jose.
12 September	Linda of Green Cities California asked if San Jose sent any response to CAA emails. Chee Anne responded to say that there was no email from San Jose yet, and requested for Linda's help to follow up.
29 September	Chee Anne sent an email to Justin requesting if US EPA can help follow up with the California cities.
1 October	Justin sent an email asking for C3 Registration of US cities. Chee Anne shared the registration form of San Diego and updated that CAA have not received any other registration form from US cities including San Jose. Both CAA and Green Cities California sent follow up emails to San Jose (Rene and Kerrie) but they have so far not been responding to any of our emails. Justin responded on 4 October saying he'll follow up with San Jose and San Diego."
6 October	During the CityNet Executive Committee Meeting and International Seminar in Sidoarjo, Clean Air Asia was able to meet with Wen-Cheng Chen of the International Affairs Division, and Lai, I-Chung. Clean Air Asia introduced CCAP to them and mentioned that San Jose is their partner city for C3.
13 October	Clean Air Asia sent an email to Linda of Green Cities California to update them of the status of C3 implementation for San Diego. Specifically: *We have not received any communications from San Jose after the Washington workshop, despite several emails sent. Action points: schedule a phone call with Rene Eyerly to determine specific plan of action for the San Jose-Taichung partnering; Clean Air Asia is planning a mission trip to Taichung on November 11-13 (TBC) possibly with US EPA* Clean Air Asia also requested Linda for a teleconference schedule to discuss strategies on how to work with California cities in the C3 implementation.

14 October	Linda Pratt e-mailed her confirmation for a teleconference on Friday and updated that she will make a follow up call to San Jose. CAA then updated US EPA about the scheduled coordination call with Linda of Green Cities California. CAA e-mailed Taichung to inform them of meeting with their city representatives during the CityNet event. The e-mail also informed them of a possible mission on 11-13 November. A schedule for a teleconference meeting to discuss their specific areas of concern to move forward with the Taichung-San Jose partnering was requested.
15 October	EPAT shared that they have no update on progress of coordination meeting with C3 cities from Taiwan.
21 October	A phone call was made to Taichung to follow up with the teleconference meeting with them. They requested that CAA resends the e-mail to them.
22 October	An e-mail was sent to Taichung to follow up with the teleconference meeting with them. CAA also called them but they were not ready with a response to the request.

Annex 2. Taichung City Registration Form

What does your city expect to accomplish through city-to-city cooperation?
▓ Managing emissions from power plants Others, please specify: Fine suspended particles $PM_{2.5}$ control measures

Expertise that Taichung City can offer

Describe the project/policy/intervention	**What was achieved?**
There are approximately 859 registered temples in Taichung City. Taichung City government has since 2014 namely promote Temples, Community buildings participating in reducing paper money by centralized incineration, one incense one furnace temple and set up environmental friendly golden furnace as well as other environmental actions on reduce environmental pollution. Furthermore, City government is actively promoting alternative substances for paper money reducing actions. We hope that people can donate their budget on buying paper money to people need help or vulnerable groups to reduce burning paper money. City government will continuously combine mandate and resources of the public and environmental protection institution, through formulating autonomous regulations and	After the government continues to promote reduction of burning paper money and centralized incineration concept policies, it has been significantly decreased in numbers of burning paper gold from the general public and temples. Cumulate from 2012 to April 2015, paper money centralized incineration plant refining capacity are approximately 7,801(For 2014 alone the accumulate capacity are 2348.9 Mt) Mt (Metric Ton). In total, there are 27.54 Mt TSP, 2.44Mt PM10, 1.9Mt PM2,5 has been decreased. Taichung city government has been working on draw up a draft of “Taichung City Religious Cites of burning paper money and centralized incineration Act”. Taichung City is expecting through the implementation of reducing the

announcement on environmental protection ritual as well as to promote alternative substances and centralized incineration actions and strategies. Therefore, the city will be able to significantly reduced air pollution while have huge traditional festivals.	use of paper money and centralized incineration policy, in order to reduce the amount of paper money original source as well as reach the goal of maintaining air quality.

Desired learning area that Taichung City needs

Describe the project/policy/intervention	Specific city-to-city cooperation need
Important issues about improving air pollution have been Taichung City Government's first priority, according to the present air quality index PSI value; fine suspended particles (PM2.5) that caused poor air quality and reduced visibility have already impacted on public health hazard. In order to find the right approach, Taichung City Government held an "air quality Air Pollution Reduction" at March 29th this year. Furthermore, extensively invite experts and scholars, academic communities, industry, government and civil groups together for an air quality check. For large air pollution emission sources like Taichung thermal power plant and Dragon Steel etc., set approach requires industry to provide self-management and reduction plan.	Fine Suspended particles ($PM_{2.5}$) is currently the primary air pollution issue that Taichung City Government is actively facing and dealing with. It is also the regulatory issue that Taichung City Government is trying to learn and working on. Hopefully, by participating in The Clean Air Partnership Program- City to City cooperation, learning new control methods and thinking as well as to exchange and learn from advanced technology and countermeasures from different fields all over the world. Therefore, Taichung city can continue to have blue sky and clean air to maintain a better living environment.

Partnering period

Please indicate the estimated length of time that your city would like to engage in city partnering under the city partnering and to foster peer-to-peer learning.

□ 3 months □1 year▓6 months □1.5 years □Other_____

How would you like to conduct technical exchanges through this city-to-city cooperation?

■ Face-to-face meetings

■ Study tours

What can your organization contribute to the partnership?

▓ Staff time

Additional Information & Supporting Documents

Paper money reduction advocacy measures legend

Picture1, Temple appearance

Picture2, People worship activities

Picture 3, Paradigm 1- Paper money centralized stacking

Picture 4, Paradigm 2- Paper money centralized stacking

Picture 5, Cleanup Paper Money transportation

Picture6, Methods of Paper Money Transportation

Annex 3. San Jose City Registration Form (to be submitted)

Annex 4. Links to Additional Resources

- **www.taichung.gov.tw/** - *Taichung City Government Global Information Website*

附件十一

TAIPEI-PASIG

City-to-City Cooperation (C3) Program of the Cities Clean Air Partnership

The City-to-City Cooperation (C3) Program is a key component of the Cities Clean Air Partnership (CCAP), a platform led by Clean Air Asia that drives city-level actions to achieve clean air targets. The Cities Clean Air Partnership initiative is supported by the International Environmental Partnership.

C3 is a voluntary "partnering" of cities to allow technical exchange of information on good practices and innovative solutions to reduce air pollution via the Cities Clean Air Partnership platform. Cities are matched so that a "learning city" may benefit from the knowledge and experience of the "mentor city". Through this exchange, a learning city may efficiently develop its capacity to formulate policies and implement programs to achieve better air quality.

The first set of partnering cities under the C3 Program was announced in Washington DC last August 2015, namely: Kitakyushu and Haiphong, Pasig and Taipei, San Jose and Taichung, and San Diego and Bangkok.

This document provides the background information and describes the status of the C3 partnering between Taipei and Pasig. The purpose of this document is to provide a complete documentation of the pilot phase of C3 to determine success factors, implementation barriers and show the level of effort needed to facilitate a meaningful city partnering.

About Taipei City

Motor vehicles are considered the main air pollution source in Taipei City. Public dynamometers have been set up to measure the emissions from diesel vehicles and awarding "low-pollution identification symbols" control PM2.5 emissions from diesel buses and trucks. Taipei City Government prioritizes increased use of public transport and the YouBike services. In 2013, the daily traffic volume of MRT (Taipei Metro) and bus system already exceeded 3.3 million, representing a growth of 22.4 percent from 2003.

A notable city achievement being highlighted in the C3 program is Taipei's bike sharing system. Referred to as YouBike, the system has more than 6,000 bikes which were taken on more than 22 million trips in 2014. But back in 2009, Taipei experienced initial failures in the public bike-sharing systems with very few trips and a high turnover rate of almost once a day due to limited coverage, an unfriendly registration process, and similar fare as other public transit modes. The system was then restructured to expand to other districts, registration was made easier and no annual fees were collected. By connecting the bike-sharing system to the public transportation system, it has become a popular option for commuters.

About Pasig City

Pasig City is the 4th most populated city (with 670,000 population in 2010) and is the 4th highest income earning city in Metro Manila, Philippines. Previously an industrial city, it is transforming into a business, financial and trade center. It won the Gold Award in the International Awards for Liveable Communities (LivCom) 2013. Its environmental programs include: car-free Sundays on four major city streets, bike-sharing pilot program, development of a greenways project, cycling promotion.

Pasig is currently implementing a demonstration project for introducing a public bike-sharing program. They have one station comprising of 10 units of demo bikes with limited access to city government employees.

Specific Cooperation Area under the C3 Program

Taipei and Pasig have agreed to cooperate to share knowledge about developing a public bike-sharing system. Pasig explicitly stated in their registration form that they are interested to learn how to operate an effective comprehensive public bike sharing system, as well as strategies how to advocate public participation, safety measures and mapping of bike-sharing station location. Clean Air Asia is facilitating the dialogues between the two cities and has also prepared a menu of cooperation areas, based on the current status of Pasig City's bike-sharing plans, that may be considered by the two partnering cities.

Implementing Partners

Environmental Protection Administration Taiwan (EPAT) supports Clean Air Asia in communicating plans and programs of the Cities Clean Air Partnership platform to Taipei City.

Annex 1. Chronology of events for Taipei-Pasig C3 Implementation

Date	Actions
13 July	Pasig City accomplished and submitted their registration form. They identified the operation of an effective and comprehensive public bike sharing system as their specific C3 need.
3 August	Taipei submitted their registration form and mentioned that among their strengths would be their transportation system, as well as their YouBike system.
10-12 August	Having similar areas of concern and possible areas for cooperation, Pasig and Taipei were matched, and have been officially identified as C3 partner cities during the Cities Clean Air Partnership (CCAP) Workshop in Washington DC.
26 August	A thank you e-mail from Clean Air Asia containing links on the photos and the press releases of the said event was sent to both cities, including follow up on next steps (launch meeting).
28 August	A positive response from Pasig City was received. No response from Taipei City.
1 September	E-mails were sent to Chiu Kuo Su (Taipei City) and Raquel Naciongayo (Pasig) to ask if any representative from their cities are attending the UEA Summit in Iloilo City on 15-17 September where CCAP will be holding a consultation session on its certification system.
9 September	Phone calls were done to contact Pasig and Taipei to follow up on their confirmation of their attendance to the UEA Iloilo Summit. Their availability for a teleconference for a launch meeting was also asked. Pasig City said that they will not be able to attend, but they are available anytime for a launch meeting with Taipei. Taipei expressed of their uncertainty in attending the UEA Summit, and said that they might only available for a meeting by the end of November because of budget constraints and because of other meetings that they have to attend to. However, they mentioned that they can coordinate with Pasig via e-mail but still cannot fully commit to it. Taipei suggested that we coordinate with the Department of Transportation.
16 September	During the UEA Iloilo Summit, Chee Anne met Yawen Lu and Jen-Mao Fan Chian of Taipei's Department of Environmental Protection. She introduced

	CCAP to them and informed them of C3 where Taipei is involved in. The Taipei representatives indicated they will help follow up on next steps with designation point-of-contact (Chiu Kuo Su).
21 September	An e-mail to Chiu Kuo Su was sent, informing him of meeting Yawen Lu and Jen-Mao Fan Chian during the UEA Summit in Iloilo. The e-mail was also meant to follow up on the availability of Taipei for a teleconference meeting. Clean Air Asia also mentioned the possibility of nominating Taipei for the Sustainable Transport Awards for their efforts to develop an integrated public transport (rail, bus, YouBike).
22 September	An e-mail was sent to Jia-Hua of EPA Taiwan to sharing some of the pending action items relating to Taiwan cities participating in C3. This document was developed in preparation for EPAT's planned meeting with CCAP cities in Taiwan.
29 September	A phone call was made to Chi-Fu Lin of Taipei's Department of Environmental Protection to follow up on the e-mail and to ask for the availability of Taipei for a teleconference. They reiterated that they are still busy and may not be able to accommodate the teleconference yet. They mentioned that they will send an e-mail response.
2 October	A phone call was made to Raquel Naciongayo of Pasig City Environment and Natural Resources Office to ask if they are willing to go to Taipei for a study tour within the year. They said that they are willing to go to Taipei, most probably by November.
6 October	During the CityNet Executive Committee Meeting and International Seminar in Indonesia, Clean Air Asia was able to meet with Anna Chen of the International Affairs Advisory Commission and Kuo- Yu Mao of the Department of Transportation, Taipei City. Clean Air Asia introduced CCAP to them and mentioned that Pasig City is their partner city for C3, and that their area of cooperation is on developing a bike sharing system. The Taiwan representatives mentioned about their own bike sharing projects and invited CAA and Pasig City to attend their bike event titled Velo-City 2016 in February 2016.
9 October	Pasig City shared to CAA that they are invited to by the National Taiwan University to participate in an event, The Sustainable Environment Workshop of the South-East Asia to be held on November 16-20.
13 October	An e-mail to Chiu Kuo Su was sent, informing him of meeting Anna Chen of the International Affairs Advisory Commission and with Kuo- Yu Mao of the Department of Transportation during CityNet. The e-mail also mentioned if Taipei would be willing to host Pasig City delegates for a study tour on the week of November 16 while Pasig representatives are in Taipei for the workshop organized by the National Taiwan University.
14 October	CAA called Chi-Fu Lin to ask about Taipei hosting Pasig City delegates in November. Chi-Fu Lin said that November may still not be a good time for a visit as they have council meetings to attend to until the end of the year. He suggested that it might be best for Pasig City delegates to visit by early January, and not in February because of Chinese New Year. He also said that he will e-mail CAA a possible date and will forward CAA's CCAP concerns and proposal to the Department of Transportation.
15 October	Taipei's Department of Transportation e-mailed CAA and mentioned that they are open to hosting the Pasig delegates for the study tour on the YouBike system.
16 October	Pasig e-mailed that they are confirmed to go to Taipei in November for the workshop by the National Taiwan University and that they have communicated to the workshop organizers that they will be meeting with Taipei counterparts on Nov 17 as part of their C3 partnership.
17 October	Pasig e-mailed the confirmation of Engr. Rey to also attend the meeting with

	Taipei officials (Nov 16-19)
19 October	Clean Air Asia e-mailed Pasig on the terms of travel sponsorship for Engr Rey under CCAP, which includes airfare, accommodation for 3 nights max, and per diem. Also to update that the November 17 schedule being requested is not yet confirmed by Taipei.
20 October	CAA made a phone call to Taipei. Taipei requested for a proposal and a document on the desired learning areas of Pasig from their YouBike system. They will also look into meeting with Pasig on November 17. CAA then e-mailed Pasig on the requested proposal and other required documents for the travel sponsorship and study tour.
21 October	Chi-Fu Lin e-mailed CAA and expressed interest to continue working with Pasig for the C3 program, as they had discussed the proposal to the DOT, who would gladly share about the YouBike system experience with Pasig. Taipei also expressed its interest to organize a meeting with Pasig City at the Department of Environmental Protection. However, as the Taipei City Council is going to hold a Year 2016 budget review session for Taipei City Government from November 17 to December 31, 2015, they may not be available to hold the meeting with Pasig this year. They suggested to have the meeting be held in January 2016. We will negotiate to see if a visit in November would be possible even with the assistance of a 3rd party, such as a university or external expert who can explain the YouBike system.
22 October	CAA drafted bullet points on Pasig's potential learning areas from Taipei's YouBike system to support the city's Tutubi Bike Sharing pilot implementation. Pasig is expected to finalize this document and share to Taipei.

Annex 2. Taipei City Registration Form

What does your city expect to accomplish through city-to-city cooperation?
☑ Air quality monitoring ☑ Clean air plan development ☑ Controlling emissions from diesel vehicles ☑ Reducing emissions from 2-3 wheeled motorized vehicles ☑ Controlling emissions from commercial cooking ☑ Controlling emissions from re-suspended road dust ☑ Setting up a public bike sharing system ☑ Pedestrian facility improvement to reduce transport emissions ☑ Promoting non-motorized transportation ☑ Citizen engagement in reporting polluting vehicles

Expertise that Taipei City can offer

Describe the project/policy/intervention	**What was achieved?**
1. Air quality monitoring 2. Clean air plan development 3. Controlling emissions from diesel vehicles 4. Reducing emissions from 2-3 wheeled motorized vehicles 5. Controlling emissions from re-suspended road dust	1. Well-established air quality monitoring stations provide instant data (pollutant standards index, PSI) hourly. 2. Develop and exam the Taipei City targeted air quality plan to reduce the amounts of pollutants yearly. 3. Encourage the owners whose diesel

6. Setting up a public bike sharing system 7. Citizen engagement in reporting polluting vehicles	vehicles to pass voluntary emission tests and to apply low-polluted emission labels yearly. 4. Five-years-old（or longer） 2-wheeled motorized vehicles must pass mandatory emission tests yearly. 5. Clean the main roads by sweepers and water-sprinkling trucks routinely. 6. Well-established public bike renting system (YouBike) with a high turn-over rate provides alternative transportation for commuters and visitors. 7. Citizen Hotline 1999 provides a convenient way for people to report polluting vehicles.

Desired learning area that Taipei City needs

Describe the project/policy/intervention	Specific city-to-city cooperation need
1. Clean air plan development 2. Controlling emissions from diesel vehicles 3. Controlling emissions from commercial cooking 4. Controlling emissions from re-suspended road dust 5. Controlling emissions from household cooking 6. Pedestrian facility improvement to reduce transport emissions 7. Promoting non-motorized transportation	1. The reduction of $PM_{2.5}$ strategic plan and results. 2. Methods and measures for the emissions tests for diesel vehicles. 3. Regulations for controlling the emissions from commercial cooking, i.e., mobile food vendors, night market food vendors, etc. 4. Feasible measures and plan to control emissions from re-suspended road dust. 5. Regulations or laws for controlling emissions from household cooking. 6. Information or any strategic plans for pedestrian facility improvement to reduce transport emissions. 7. Promotion plans for E(electric)-vehicles or hydrogen-vehicles including financial aids policy or tax reduction policy from the government.

Partnering period

Please indicate the estimated length of time that your city would like to engage in city partnering under the city partnering and to foster peer-to-peer learning.

☑ 3 months □1 year □6 months □1.5 years □Other_____

How would you like to conduct technical exchanges through this city-to-city cooperation?

☑ Sharing technical information via email
☑ Webinars
☑ Face-to-face meetings

What can your organization contribute to the partnership?

☑ Staff time

Annex 3. Pasig City Registration Form

What does your city expect to accomplish through city-to-city cooperation?
✓Emissions inventory of air pollution sources ✓Air quality monitoring ✓Clean air plan development ✓Controlling emissions from diesel vehicles ✓Managing emissions from industrial facilities (please specify) such as food and textile industries ✓Controlling emissions from commercial cooking ✓Controlling emissions from re-suspended road dust ✓Controlling emissions from household cooking ✓Setting up a public bike sharing system ✓Pedestrian facility improvement to reduce transport emissions ✓Promoting non-motorized transportation ✓Citizen engagement in reporting polluting vehicles ✓Improving enforcement of air pollution laws (please specify) ordinance on smoking

Expertise that Pasig City can offer

Describe the project/policy/intervention	What was achieved?
1. Implementation of the Carless Streets every Sunday	60-70% reduction in the air pollution from vehicles in the specific area of implementation
2. Enactment and implementation of the Healthful Ordinance Banning Smoking in Public Places	Resulted to 90% compliance of business establishments to advertisement ban and behavioral change in stakeholders as to selling cigarettes in prohibited areas
3. Conduct of Entity and Community Level Inventory and Accounting as well as Ten Year GHG Management Plan	Provide the City with accurate information and guide for the city in reducing GHG emissions. It is also a framework for enacting the Green City Development Code for Pasig City.

Desired learning area that Pasig City needs

Describe the project/policy/intervention	Specific city-to-city cooperation need
1. Tutubi Bike Sharing Project	- Strategies how to advocate public participation - Safety measures - Bike share map
2. Electric Tricycle Replacement Program	- Preventive maintenance - Strategies for battery Rental vs. Battery

	Replacement - Measuring before and after the program implementation - Operation of a Green EV Charging Stations
3. Pasig Central Business District Mini-Bus Operation	How to operate and maintain a Pasig CBD Mini-Bus using smart card system through contract agreement method
4. Installation of a 20 km Bike Lane in the City	Public social and acceptability and support Integrated Bike Map

Partnering period

Please indicate the estimated length of time that your city would like to engage in city partnering under the city partnering and to foster peer-to-peer learning.

☐3 months ☐1 year ☐6 months ☐1.5 years ■ Other: 2 years

How would you like to conduct technical exchanges through this city-to-city cooperation?

- ✓ Sharing technical information via email
- ✓ Face-to-face meetings
- ✓ Study tours
- ✓ Joint project planning

What can your organization contribute to the partnership?

- ✓ In-kind resources

附件十二

CCAP 2015 OUTREACH ACTIVITIES

PURPOSE OF THE NOTE: To describe the outreach activities implemented through the Cities Clean Air Partnership in 2015

BACKGROUND:

The Cities Clean Air Partnership is expected to contribute to the goals of the International Environment Partnership as follows: a) elevate Taiwan's position as global and regional leader in the field of environmental protection; b) create a platform for Taiwan to share its environmental success stories; c) expand the partnership program to include more countries; and d) improve the global environment and energize international cooperation. Several outreach activities have been designed and implemented by the Cities Clean Air Partnership to contribute to these. A standard donor recognition statement - *"The Cities Clean Air Partnership is an initiative of Clean Air Asia supported by the International Environmental Partnership"* – accompanied all marketing collaterals produced throughout the course of CCAP implementation. The table below describes the outputs in relation to major outreach efforts done through CCAP in 2015.

DELIVERABLE	ACHIEVEMENTS IN 2015
Organizing major events (e.g., consultations, workshops) with representation from the international air quality and climate community	A total of 6 international events and several other key meetings showcasing the Cities Clean Air Partnership were successfully organized by Clean Air Asia in 2015. These events highlighted the support from the International Environmental Partnership through printed hand-outs, exhibit displays and powerpoint presentations. • 4/23: **Lecture on Air Pollution Control Strategies, PM2.5 Control and Training and Consultation for Cities Clean Air Partnership,** an international city learning event, was organized in Taipei. Participants of the meeting included city representatives from Taipei, Taoyuan, Taichung, Baguio, Haiphong, Colombo, Kathmandu, Iloilo and a representative from Citynet Secretariat based in Seoul. International air quality experts from US EPA, Clean Air Asia and an air quality expert from a local university participated as resource speakers. • 8/10-12: The 1**st Cities Clean Air Partnership Workshop** was held in Washington DC which was attended by city representatives from Baguio, Bangkok, Cochin, Colombo, Da Lat, Haiphong, Iloilo, Jakarta, Kathmandu, Kitakyushu, Malang, Pasig, Shimla, Siem Reap, Singapore, Surabaya, Taichung, Taipei, Taoyuan, Ulaanbaatar, Varanasi, Yokohama, and Yogyakarta, as well as US cities Multnomah County, San Diego and San Jose, Gaithersburg, Delaware Valley Regional Planning Commission and Green Cities California. Around 20 international experts participated as resource speakers for various technical sessions dealing with air quality management, sustainable urban transport, managing stationary and area sources of pollution. • 9/15-16: **Urban Environmental Accords (UEA) Summit** attended by around 500 participants with representatives from Baguio, Iloilo, Kathmandu, Taipei. A four-hour consultation session on the

	certification program titled Cities Clean Air Partnership: Recognizing Cities for Clean Air Actions was attended by about 80 participants and featured international speakers, Carolyn Cairns (Certification Expert) and Dieter Schwela (Technical Expert). • 10/5-7: **CityNet Executive Committee Meeting and International Seminar** wherein CCAP was introduced by Mary Jane Ortega, a Board Member of Clean Air Asia, during the session on Asian Perspectives on Sustainable Urbanization: Livable Cities. A total of 70 member cities of Citynet attended which includes Baguio, Bangkok Jakarta, Surabaya, Taipei, Taichung, and Yokohama. • 10/19-21: A parallel session at the **6th Asia-Pacific Urban Forum (APUF-6)** organized by UNESCAP included a presentation on CCAP's City Certification Program, especially in relation to city-level actions on sustainable transport. Attended by about 100 participants, transport experts were sought to help with peer review of the transport actions in the certification system. This meeting also resulted in a new contact in the Environment Office of Sta. Rosa in Laguna, Philippines. Member cities present were Baguio, Malang, Surabaya, Yogyakarta. • *11/27*: A consultation session on the city certification program is being organized in Bangkok alongside the **Joint Forum for the Asia Pacific Clean Air Partnership**. About 40 air quality practitioners from Asian governments are expected to join the session discussions. An international facilitator, Sven Callebaut, is engaged to manage the consultation session. • **Coordination meetings with international partners** include: o Foundations, donor agencies: Asia-Europe Foundation (ASEF), Asian Development Bank, Cities Development Initiative for Asia, Climate and Clean Air Coalition, The World Bank o National agencies: Ministry of Environment Japan, Ministry of Environment and Forests Indonesia o International NGOs: POCACITO (Post-Carbon Cities of Tomorrow), ISEAL Alliance o Academic and research institutions: Stockholm Environment Institute (SEI), Norwegian Air Research Institute (NILU) and Asian Institute of Technology (AIT Thailand)
Completion of the online knowledge platform (website) with several features such as an online experts database to be turned over by USEPA to Clean Air Asia	COMPLETED. Please visit www.cleanairasia.org/ccap. • A full online knowledge platform is now accessible containing city registration and log-in function, information page on the City-to-City Cooperation (with a working registration form to C3) and City Certification, resources, news and events page, and a fully-functional experts database. **Member cities of CCAP have started to use the online registration function to sign up into the platform.** • For the experts database, Clean Air Asia assessed the output of ICF International and made use of some elements of the initial wireframes (web-based interactive prototypes) such as user registration, database search, and database viewing. Clean Air Asia needed to develop additional wireframes, such as the data entry screens for expert registration and user administration as well as integrate an online forum to better facilitate dialogues between cities and experts. **More than 25 experts are currently signed up in the database.**
Press releases posted online and posts on social media during high	• **Press releases and social media posts during high profile events and milestones have been posted** and included as Annex 1 below. These were published via the following channels:

profile events and milestones (e.g., IEP anniversary, IEP conference, issuance of Tier 1 standards for city certification)	○ Clean Air Asia Website (www.cleanairasia.org) and CCAP online platform (www.cleanairasia.org/ccap): around 10 news releases and blog posts acknowledging the support of IEP. ○ Clean Air Asia Facebook page (www.facebook.com/CleanAirAsia), currently with 1,290 likes: links to press releases on events and activities as well as event photos. ○ Clean Air Asia Twitter account (www.twitter.com/CleanAirAsia), currently with approximately 1,000 followers: used to deliver live feeds during all CCAP-related events and activities, also tweets links to press releases. ○ Air and Waste Management Association's EM Magazine distributed to over 1,000 members worldwide. Click here for article. • Other news channels that published events posts, news articles, photo journals, and social media tags related to CCAP are available as Annex 2 below.
Electronic news updates to keep partners and stakeholders abreast on progress	• **Direct email communications** were regularly sent by Clean Air Asia to member cities and key stakeholders of CCAP to share implementation progress and milestones. • **Electronic news updates** are regularly sent to both US EPA and EPAT to share implementation status (weekly updates from Jun-Aug 2015; bi-weekly updates starting Sep 2015). • A 2-page special edition **newsletter** was prepared and published after the CCAP Workshop in Washington and circulated widely as a marketing collateral. • An **electronic mailout** of the newsletter announcing 2015 achievements is being prepared and will be circulated no later than 30 November 2015.
Development of logo design and label for city certification	• A standard logo is developed and regularly used in all marketing collaterals to convey consistent branding of the Cities Clean Air Partnership initiative. • First set of logo designs intended as the seal of approval/certification logo was presented to US EPA on 6/26 and comments were received. The work on logo designs were put on hold pending decision on the final governance structure for the certification program. See Annex 3 below. • An updated set of logos are being developed by BBDO Guerrero to be presented for public consultation on 11/27 in Bangkok to serve as a pre-test of the design (bronze, silver, gold certification logo).
Printing and dissemination of information materials about CCAP such as brochures, flyers	• More than 400 flyers, 150 C3 brochures, and 200 special edition newsletters have been published and distributed this year. Exhibit and banner displays were also used in various major events. See Annex 4 for sample materials.

ANNEX 1: News Releases about the Cities Clean Air Partnership

No	Article Title	Weblinks	Date Published
1	**Cities Clean Air Partnership- a potential game-changer in fighting air pollution in Asian**	http://cleanairasia.org/node12555/	November 2014

	Cities Clean Air Asia and Asian cities are taking the lead to develop a program that ensures better air quality for its citizens and create more livable cities		
2	**Kathmandu reaffirms commitment as CCAP Pilot City** Chief & Executive Officer and Acting Mayor Purna Bhakta Tandukar and City Environment Officer Rabin Man Shrestha discussed the areas of air pollution control which the city needs capacity strengthening from the CCAP	http://cleanairasia.org/kathmandu-reaffirms-commitment-as-ccap-pilot-city/	February 2015
3	**City-level Training Series for the Cities Clean Air Partnership Kicks Off** Eight cities across Asia met with air quality experts from the US Environmental Protection Agency (US EPA), the Environmental Protection Administration Taiwan (EPAT), and Clean Air Asia to discuss ongoing and potential city-level efforts to address air pollution	http://cleanairasia.org/city-level-training-series-for-the-cities-clean-air-partnership-kicks-off/	April 2015
4	**Bolstering Cities' Role in the Fight Against Air Pollution** Introducing the Cities Clean Air Partnership (CCAP) that aims to establish a comprehensive platform for cities to cooperate and take incremental steps in reducing air pollution from critical sources through its three key programs.	http://cleanairasia.org/ccap/wp-content/uploads/2015/10/Asian-Connections-Final1.pdf	July 2015
5	**Cities Clean Air Partnership Workshop Concludes** Key takeaways from the Cities Clean Air Partnership Workshop	http://cleanairasia.org/cities-clean-air-partnership-workshop-concludes/	August 2015
6	**City-to-City Cooperation on Air Quality Recognized in Washington DC** About the first set of partnering cities from both Asia and the US presented on 11 August 2015 in Washington D.C. during the Cities Clean Air Partnership (CCAP) Workshop	http://cleanairasia.org/city-to-city-cooperation-on-air-quality-recognized-in-washington-dc/	August 2015
7	**Clean Air Asia Partnership brings City-level Air Quality Agenda to New Heights** The Cities Clean Air Partnership (CCAP) marks another milestone for better air quality as Asian and	http://cleanairasia.org/12121/	August 2015

	US cities convene in Washington DC to commemorate the city platform's first year of implementation with a workshop.		
8	**Cities Clean Air Partnership Workshops held in August in Washington DC** Announcing the CCAP's technical workshop in Washington DC	http://cleanairasia.org/cities-clean-air-partnership-workshop-held-in-august-in-washington-d-c/	August 2015
9	**Clean Air for Smaller Cities and Cities Clean Air Partnership Presented at the 2015 UEA Iloilo Summit** Clean Air Asia and GIZ are participating in the 2015 Urban Environmental Accords (UEA) Iloilo Summit	http://cleanairasia.org/clean-air-for-smaller-cities-and-cities-clean-air-partnership-presented-at-the-2015-urban-environmental-accords-uea-iloilo-summit/	September 2015
10	**Environmental Policy Dialogue between US Environmental Protection Agency and Ministry of Environment Japan** Administrator McCarthy and Minister Mochizuki announced a common view to enhance bilateral and regional environmental collaboration. CCAP cited as a cooperation area to help cities in the Asian region improve air quality.	http://cleanairasia.org/environmental-policy-dialogue-between-the-u-s-environmental-protection-agency-and-ministry-of-the-environment-of-japan/	September 2015

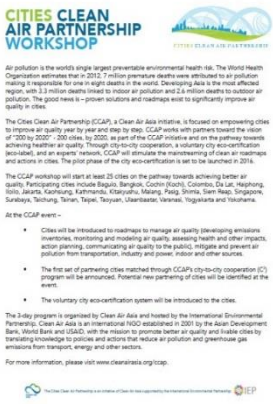
ANNEX 2: News about the Cities Clean Air Partnership published in other channels

Type	Website	Links	Short Description
Event announcement	United States Environmental Protection Agency	http://www2.epa.gov/international-cooperation/collaboration-environmental-protection-administration-taiwan-epat	Description of CCAP as result under IEP; Pre-event announcement of IEP Conference in Washington
Online News	Ministry of Science and Technology (Taiwan)	https://www.most.gov.tw/folksonomy/detail?l=en&article_uid=1df03f99-a40d-4861-8b00-5a697189f8b3&menu_id=38c55ff7-1f03-4938-a808-7e3733f3b640&content_type=P&view_mode=listView	News on launch of IEP; Mention of projects under IEP; Pre-event PR for Washington IEP 1st Conference
Online News	Australian News	http://www.australiannews.net/index.php/sid/235667985	Preview of Washington Conference News by Taiwan News (linked to Taiwan News)
Online News	Taiwan News	http://www.taiwannews.com.tw/etn/news_content.php?id=2786031	News on IEP Conference in Washington; with mention of CCAP
Online News	Taipei Economic and Cultural Representative Office in the US	http://www.taiwanembassy.org/US/ct.asp?xItem=266456&CtNode=2297&mp=12&xp1=12	CCAP as part of cooperation between Taiwan and US; Mention of the first IEP Conference in Washington

Online News	GreenPhils	http://greenphils.com/2015/08/10/partnership-brings-city-level-air-quality-agenda-to-new-heights/	About CCAP PR
Online News	GreenPhils	http://greenphils.com/2015/08/26/city-to-city-cooperation-on-air-quality-recognized-in-washington-dc/	About CCAP Workshop in Washington PR
Online News	World Trade Centers Association	https://www.wtca.org/locations/world-trade-center-washington-d-c/news/wtc-washington-dc-hosts-global-environment-event	WTC as host of IEP Conference in Washington; with mention of Clean Air Asia as one of the presenters
Photo Journal	China Daily USA	http://usa.chinadaily.com.cn/epaper/2015-08/14/content_21598953.htm	Photo with Caption: Jane Nishida (left), acting assistant administrator for EPA's Office of International and Tribal Affairs; Wei Kuo-yen(center), minister of Taiwan's Environmental Protection Administration; and Bjarne Pedersen(right), executive director at Clean Air Asia, shares experiences in clearing the air in Asian cities on August 12 at Wilson Center in Washington. Liu Jingyang
Photo Journal	Taipei Economic and Cultural Representative Office in the US	http://www.roc-taiwan.org/US/lp.asp?CtNode=2318&CtUnit=30&BaseDSD=10&mp=12	IEP Conference photos; C3 partnering recognition photos; CCAP Cities recognition photos; CCAP workshop photos
Social Media	Twitter	https://twitter.com/parthaabosu/status/632201884133036033	Parthaa Bosu tweets on recognition of Shimla and Cochin as CCAP City
Social Media	Twitter	https://twitter.com/EPAallnations/status/630745612586192896	U.S. EPA OITA tweets on presentation of Glynda Bathan during CCAP Workshop
Social Media	Twitter	https://twitter.com/TECRO_USA/status/630740216425377792	TECRO_USA tweets on CCAP Workshop

ANNEX 3: Disapproved logo designs for the city certification/labeling program

ANNEX 4. Collaterals published for the Cities Clean Air Partnership in 2015



Workshop Kit

Standard Flyer

Banner Display

List of Speakers

List of Cities

Newsletter (Special Edition)

Summary Page for C3 Guidance

附件十三

CITIES CLEAN AIR PARTNERSHIP

Donor Recognition Guidelines for Cities Clean Air Partnership

These donor recognition guidelines apply to all activities implemented under the Cities Clean Air Partnership (CCAP). The basic objective is to improve visibility and increase recognition for contributing partners.

The primary donor for CCAP is the International Environmental Partnership (IEP) an environmental collaboration program established by the Environmental Protection Administration Taiwan and the United States Environmental Protection Agency aimed at assisting environmental agencies and organizations around the globe strengthen capacity to manage the environment and protect human health.

News releases and events:

- The standard statement "The Cities Clean Air Partnership is an initiative of Clean Air Asia supported by the International Environmental Partnership" will be incorporated in all news releases and international, regional and sub-regional events, meetings of CCAP.
- Key IEP representatives will be recognized by name, position and affiliation in photos and news articles, quotes will be provided as appropriate.
- Include photographs taken of communication materials and meetings in the final report

Reports, brochures, flyers, publicity materials & official notices:

- Acknowledge IEP support by featuring the standard statement "The Cities Clean Air Partnership is an initiative of Clean Air Asia supported by the International Environmental Partnership" on all communication materials, including banners, presentations
- Include IEP logo in cover page of project reports

Proof of visibility:

- Photo-documentation of banners and other non-digital products to be included in reports
- URL links of news articles

Standard Donor Recognition Banner:

CITIES CLEAN AIR PARTNERSHIP

會後修正

Donor Recognition Guidelines for Cities Clean Air Partnership

These donor recognition guidelines apply to all activities implemented under the Cities Clean Air Partnership (CCAP). The basic objective is to improve visibility and increase recognition for contributing partners.

The primary donor for CCAP is the International Environmental Partnership (IEP) an environmental collaboration program established by the Environmental Protection Administration Taiwan and the United States Environmental Protection Agency aimed at assisting environmental agencies and organizations around the globe strengthen capacity to manage the environment and protect human health.

News releases:

- The standard statement "The Cities Clean Air Partnership (CCAP), one of the most important programs of the International Environmental Partnership (IEP), was initiated by the United States Environmental Protection Agency (U.S. EPA), the Environmental Protection Administration Taiwan (EPAT) and Clean Air Asia (CAA) in a press conference on 8 August 2014 at the Golden Gate National Park in San Francisco, USA" will be incorporated or linked to in CCAP news releases and announcements.
- Key IEP representatives will be recognized by name, position and affiliation in photos and news articles, quotes will be provided as appropriate.
- Photographs taken of communication materials and meetings will be included in the final report

Reports, brochures, flyers, publicity materials & official notices:

- Acknowledge IEP support by featuring the standard statement "The Cities Clean Air Partnership (CCAP), one of the most important programs of the International Environmental Partnership (IEP), was initiated by the United States Environmental Protection Agency (U.S. EPA), the Environmental Protection Administration Taiwan (EPAT) and Clean Air Asia (CAA) in a press conference on 8 August 2014 at the Golden Gate National Park in San Francisco, USA" on communication materials, including presentations. Should space on the communication material be limited, at the very least the Standard Donor Recognition Banner, as provided below, will be reflected.
- Include IEP, U.S. EPA, and EPAT logos on communication materials, as appropriate and on a case-by-case basis.

Online Knowledge Platform:

- The standard text "The Cities Clean Air Partnership (CCAP), one of the most important programs of the International Environmental Partnership (IEP), was initiated by the United States Environmental Protection Agency (U.S. EPA), the Environmental Protection Administration Taiwan (EPAT) and Clean Air Asia (CAA) in a press conference on 8 August 2014 at the Golden Gate National Park in San Francisco, USA" will be included in the "About Us" page of the online knowledge platform.

Proof of visibility:

- Photo-documentation of digital and other non-digital products to be included in reports
- URL links of news articles

Standard Donor Recognition Banner:

November 7, 2015

Building an Incentives Program for Clean Air Certified Cities
Concepts and Recommendations for Discussion

The Clean Air City Certification is a new program to help launch cities throughout Asia on a fast track to cleaner air using the power of an independent progressive, certification and incentive scheme. The initiative will mobilize the most effective, comprehensive strategies and resources needed to win the fight against air pollution, recognized by the World Health Organization as the world's "largest single environmental risk." WHO estimates that premature deaths caused by air pollution have doubled, accounting for one in eight deaths – over 7 million lost lives in 2012 alone.

Using the expert, science-based guidance, assessment, and partnership tools of the certification program, cities commit to developing and implementing specific measures that identify and target the most significant sources of local and regional air pollutants. But cities can't do it alone. Success also depends on matching the participating cities' commitment and planning efforts with the necessary technical and financial resources they need to implement effective strategies that address their unique air quality challenges.

To that end, as part of the clean air city certification program, Clean Air Asia (CAA) is building an incentives framework to connect cities with organizations and institutions and other key stakeholders that can provide this important support. This briefing paper summarizes the purpose and goals of the incentives framework, the types of support that is needed, strategies for outreach to recruit donor contributions and stakeholder cooperation, and recommendations for developing this important part of the certification program.

Purpose and Goals of Incentives

The primary purpose of the incentives framework is to serve the complimentary needs of city governments, their constituents, donor organizations and other stakeholders in their efforts to build and sustain progress in achieving better air quality. For city governments and their constituents, the framework aims to broker technical and financial resources and other types of support needed to sustain their air quality mitigation efforts. The framework could offer donor groups a valuable mechanism for aligning their support with a city's unique challenges and the city's action plan, so they can leverage the maximum possible impact from the funding and other contributions they have to offer.

What Cities Need to Succeed

Urban air pollution is a complex, cross-sectoral problem that demands similarly complex, cross-sectoral solutions aimed at specific transport, industry and commerce, energy, and building-related sources. Getting the right mix of cooperation, technical support, financial resources, political will from these diverse groups is crucial, but so is proper coordination, timing and consistency of access to needed resources. Strategies can fail in many ways when resources are inconsistently supplied or not aligned, for example with scientifically sound assessment, or timely training and personnel to act, for example, to operate needed equipment, either to measure or control critical pollutant sources.

Therefore, it's important to design a mechanism (envisioned as a framework) that can help align incentives with the main pillars of the clean city certification: the city baseline air quality assessment, and the city air quality action plan. Cities will need incentives targeted to their unique conditions and challenges, summarized in the baseline assessment, and the goals and strategies outlined in the city's action plan.

The primary types of support that cities will need fall into four main categories that include technical assistance, training and equipment; funding; marketing and outreach for economic development; access to intergovernmental air quality processes and related global health initiatives. The following briefly describes each category and key considerations in mobilizing support in service to city air quality management objectives. The vision is to create a set of incentives that maximize motivation, momentum and success for both the donor organizations and recipient cities.

Technical assistance, Training and Equipment

Cities and key stakeholders, especially those controlling major sources of air pollutant emissions will need specialized technical support, training and equipment to identify, characterize and control the major air pollution sources as determined by the baseline city assessment. Once the city has an established action plan, additional resources will be needed to guide and train city agencies and key stakeholders in actionable strategies to control and eliminate the priority sources of air pollution.

Funding

In virtually every city, one of the most formidable barriers to real progress on air pollution is limited funding and/or the failure to match, in time and space, sufficient financial resources with the most effective solutions. The need is great for nearly every aspect of air quality management, tied directly or indirectly to each of the four steps required for cities to qualify for

clean air city certification: Capacity-building for air quality management and communication, Accountability (monitoring and standards); Assessment that includes emissions inventory and source apportionment, and Action.

- **Capacity-building**: This often requires a substantial investment in additional staff, training and equipment to enable municipal institutions to institute a meaningful air quality management program. While eventually staffing needs will require cities to expand revenues to cover personnel costs, start-up loans, donations and in-kind contributions will be important to help governments to develop this new capacity. Local universities and nongovernmental organizations may also play key role in building such capacities that can eventually be transferred to government agencies. Funding the work of these groups will also be important. Funding will also be needed to sustain city outreach, communication and education programs to train and engage key sectors within the community to do their part to achieve better air quality. For example, resources are needed to create outreach materials that gather information and inform the public about results of city air quality monitoring and assessment activities. Cities will also need to organize public consultations to engage the public and learn how best to customize air quality management strategies that meet the needs of key stakeholders and facilitate the kinds of changes in consumer and business practices that will be crucial to improving air quality.

- **Accountability and Assessment**: The second and third steps to certification (monitoring and source characterization) will require a similar investment to secure specialized expert guidance, training and equipment needed to undertake a robust city assessment that evaluates current air quality conditions and identifies, characterizes and prioritizes critical sources of air pollution.

- **Action**: The action plan becomes the central vehicle for mobilizing the technical and financial resources needed to create change. Best practices might include buy-back programs to support upgrades to more energy efficient household or business products, or to expand markets for low emission vehicles or solar electric and water heating technology, which could be supported by foundation or development agency grants, intergovernmental donations or special tax structures. Business grants and loan programs could also support the transition to cleaner technologies for commercial operations including electricity generation or best available control technologies for industrial production facilities.

The need for technical and financial resources to achieve better air quality is great. But as the World Bank and other funding agencies have found, timing and coordination is critical to success. These examples are far from comprehensive, but they illustrate why these resources are needed, and the range of ways a framework tool can help mobilize resources that align with actions that cities will be taking to qualify for clean air city certification.

Outreach and Communication

As clean air certification candidate cities begin to make progress in meeting their air quality goals, there is greater potential to attract new, greener types of business and investment. Just as the organic label has built strong markets for certified crops, and bond ratings help investors find municipalities with more reliable accounting systems, a CCAP certification could help attract business and investors seeking to support environmentally sustainable economic development. The incentives framework should include a mechanism for cities to access marketing and communications support to help them communicate benefits of clean air certification and bolster their image as a healthy place to visit, live.

Intergovernmental Processes and Global Health Initiatives

Finally, to sustain and expand air quality gains, cities will need access to regional and intergovernmental processes, and global health initiatives, to strengthen regional support for collective actions to improve air quality. Part of the incentives framework should aim to foster these linkages and guide cities in advancing mutually supportive regional policies, economic instruments, and public infrastructure investments and coordination at the institutional level through the World Health Organization and other public health programs and other UN agencies to provide additional resources for certified cities.

Engaging Donor Organizations and Other Key Stakeholders

Cities can't achieve better air quality unless they can inspire and facilitate active participation of a broad set of stakeholders to find cleaner ways to live, work, and travel in the urban environment. The following outlines the primary stakeholder categories and explores how their cooperation and support could be best mobilized in the context of an incentives framework for cities, taking into account the opportunities and limitations of their respective roles and interests in better air quality.

- **Consumers/citizens, homeowners** and their representatives (Environmental and public interest NGOs)
  Resources may be needed to support upgrades to less polluting goods and services, and education and outreach strategies to convince these groups to adopt new products and change high emitting consumption patterns. Economic instruments

and programs to increase access to cleaner technologies may be particularly important.

- **Environmental NGOs and other Public Interest groups**
  Outreach to these groups should focus on aligning and coordinating their air quality advocacy work with the city's action plans. Since these groups also depend on philanthropic sources of support, the incentives framework could be designed to help forge joint financing projects that enhance the impact of city and NGO projects beyond what could be achieved with parallel initiatives.
- **Businesses, Investment and Trade Associations and their representatives**
  Incorporating elements that leverage clean air oriented business investments and trade is especially important to sustaining air quality improvements over the long term. Serious effort should be made to align the framework with the emerging enterprise of green investment through structures like the Global Fund and new reporting and disclosure requirements embodied in structures like the Global Reporting Initiative (GRI). Outreach to these groups should focus on promoting the business advantages of clean air city certification and developing financing and technical support that will help grow business operations that can serve the dual goals of economic development and cleaner air.
- **Professional communities** (health, engineering, etc)
  Decision-makers in the professional sector are often the final arbiters of the shift to less polluting practices at the local level. Standing on the front lines, they often are ultimately responsible for whether air quality mitigation strategies succeed or fail. Some key sectors include land use and transit planners and engineers, medical practitioners who treat and study respiratory diseases, and other pollution-related morbidity, and front-line laborers who work with volatile chemicals, paints and coatings and combustion and energy intensive equipment and operations. Their cooperation will be central to many priority city-level air quality management actions, as they will have some of the most expert knowledge, and will be positioned in key parts of the economy where some of the most challenging changes are needed. Incentives aimed at engaging professional communities should be based on a clear understanding of their needs and the opportunities and limitations they face in mitigating air pollution risks. CAA should seek collaboration and contributions from membership groups and professional development societies that serve these communities.
- **International Development Agencies and Private Foundations**
  Air pollution and related climate co-benefits are emerging among the highest priorities for private and public foundations and development institutions at all levels from regional to global scales. Concern and support spans nearly every

religious, political and cultural affiliation, creating many new ways to channel support from these groups to city air quality programs through an organizing structure like an incentives framework.

- **Governments and Intergovernmental Agencies**
  The government sector plays a leading role in air quality actions at all levels including legal, administrative, political and economic. These institutions need a diverse set of tools and support to advance air quality management goals such as model laws and regulatory support, tax fee and credits structures, intergovernmental trade and cooperation that fosters green commerce, and public infrastructure planning and design. The incentives framework will work best as a brokerage for intergovernmental partnerships and cooperative efforts that can channel financial and technical resources from donor countries and foster exchange among regions and cities of best practices and lessons learned as they implement new strategies to address similar challenges.
- **Academia and Research**
  Many of the solutions to the urban air quality challenge are still at the R&D stage, or await the focused attention of the research community to find a path to mainstream application. The incentives framework can do a lot to help universities and other academic institutions target their work to improving urban air quality by incorporating mechanisms to forge links between city action plans and institutional research agendas.

Some tools for engaging these groups are already being mobilized through the virtual knowledge platform and the city-to-city cooperation program, to help cities implement best practices and engage many of these groups to address specific sources of air pollution using targeted actions, such as instituting bike sharing programs, or initiatives to reduce air pollutant sources in the shipping industry. A framework for mobilizing finance and technical resources for city air quality initiatives would be a valuable added feature of this digital knowledge platform, providing a vehicle that incentivizes cities with specific targeted support for actions that qualify them for city air quality certification.

Development banks, intergovernmental agencies, and foundations have typically used relatively ad hoc grant-making processes to fund city-level projects, inviting proposals that meet narrowly defined requirements that target specific themes and achieve priority goals of the grant-making institutions. As a result, this approach has been found to be highly inefficient and at times counter-productive. Moreover, much of this aid is administered at

the national or regional level, limiting the overall amount that is available to city-level institutions, where the development needs, interests and goals are likely very different.[1]

For example, a recent study by the World Bank found that more than 60% of its air-pollution relevant projects lacked any air pollution control objectives despite having enormous potential to achieve significant improvements. Those that did include air quality objectives lacked the necessary baseline measurements and analytical foundation to target interventions and effectively measure impacts. Many projects actually exacerbated ambient air quality as a result of the type of investments that they were supporting and most focused on a single sector.[2]

Innovations to create finance vehicles fostering a more bottom-up, decentralized approach to development financing are emerging, however.[3] In some cases, funders have formed coalitions and networks, such as the Asian Coalition for Community Action, and the Urban Poor Fund International to coordinate funding around central themes. City-level sustainable development programs such as Sustainable Jersey and C40[4], as examples, offer participating municipalities special access to funding opportunities, or related assistance and help provide donors more standardized information about sustainable development goals of participating cities and best practices that they are expected to implement as cities meet requirements for certification. But we are not aware of any existing structure created specifically to channel support to cities for air quality management programs, or to coordinate different forms of support into a matrix that helps create a coherent reliable and comprehensive pool of resources that are appropriate for the city's air quality goals and objectives.

We envision creating a tool that will meet this need and help broker relationships between cities and donors focused on resources for clean air city certification. Decentralized funding models like those mentioned above, and internet-based tools such as the SVN divest-invest platform; and social media or crowd sourcing/crowd funding tools like Gofundme.com, Kickstarter.com and Indiegogo.com could be explored and potentially adapted to help match targeted donors and contributors with recipient city action plans, allowing for priority access to grants and other financing to support cities in achieving higher levels of certification. Creating such a framework will require effective consultation with prospective donors interested in supporting local air quality initiatives and exploring in greater detail

[1] http://www.iied.org/files/kiln/architecture-of-aid.html
[2] World bank, Clean Air and Healthy Lungs, ENVIRONMENT AND NATURAL RESOURCES GLOBAL PRACTICE DISCUSSION PAPER #03, February 2015.
[3] http://www.policyinnovations.org/ideas/innovations/data/000224
[4] http://www.c40.org/press_releases/press-release-c40-launches-creditworthiness-network-to-unlock-city-access-to-capital

other model decentralized funding programs to understand how these systems operate, what funding institutions need in the context of city-level air quality programs and air pollution-related economic development, and how the certification scheme and an incentives framework could best support grant-making efforts.

Ethics and Principles of Incentives: Opportunities and Potential Pitfalls

Incentives must be independent of certification process – e.g. certification awards decision cannot be tied to any given incentive provider, nor should incentive providers be involved in the decision to grant or withhold certification. Credibility of the assurance process is critical to the program's effectiveness and CAA's ability to recruit participating cities and supporting experts and other stakeholders.

Incentives must be aligned with good air quality management practices and not undermine or distract city efforts toward achieving air quality goals. It would be helpful to include in the city assessment an inventory of the type of help that is needed. In this way, CAA can avoid any potential appearance of impropriety with incentives and create a framework with which to characterize incentives that aligns with the Guidance Framework and the City Assessment and Action Plan frameworks.

Local self reliance and sovereignty of democratic processes is important to preserve in the context of support for air quality management. Operating principles should be developed to safeguard municipalities from undue power and influence of incentives providers, especially from industry and the commercial sector. Incentives offerings should be garnered in such a way as to minimize economic, social and political advantages or monopolies that could arise via the conduit of incentives offerings.

Recommendations for CAA

Recognizing the critical role that incentive mechanisms play in the realization of city-level air quality objectives and certification, CAA intends to invest considerable resources in FY 2016 to develop this aspect of the program. The goal is to develop a substantive incentives framework as a vehicle poised to guide and mobilize financial and technical resources to cities participating in the certification program. The following outlines the recommended steps to creating this framework which we expect may be achievable with adequate staff time, and three stakeholder consultations on the subject through 2016 with clearly defined outputs.

1. Build a draft Incentives Framework with recommended elements designed to mobilize needed resources in alignment with city assessments and action plans; include ethics and operating principles policy.

   a. Research available finance mechanisms, identify key donor stakeholders, and develop an outreach plan to explore how the certification program can align with their interests and needs.
   b. Plan outreach to solicit feedback from cities on funding, technical support and other resources they will need to meet requirements for certification
2. Recruit donor organizations and key stakeholders, and secure commitments to participate in the incentives framework.
3. Test and refine incentives framework through implementation of pilot certifications.

附件十五

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WORK EXPERIENCE

U. S. Environmental Protection Agency, Seattle WA **5/2012- present**

Environmental Protection Specialist, Office of Air Waste and Toxics, EPA Region 10 (GS-13, Step 5 – 40 hr/wk)

Senior Air Quality Planner

- $PM_{2.5}$ planning expertise with specialized knowledge of the Pacific Northwest.
- Knowledge of federal, state and local laws and regulations including the Clean Air Act.
- Ability to communicate regulations and policy with tribal, state, and local air quality agencies.
- Leads development of technical reports and briefings to support the EPA's decision on Federal, State, and Tribal Implementation Plans (FIP, SIP, TIP); National Ambient Air Quality Standards, and air rulemakings.
- Represents the EPA with the public, industry, elected officials, tribes, state/local agencies and media.
- Fosters productive working relationships with diverse stakeholders.
- Skilled utilizing collaboration tools and technology including videoconferencing and cloud workgroups.
- Project management skills include high quality products development, task scoping, scheduling and tracking, leading teams, completing objectives on time.

$PM_{2.5}$ Sublead

- Advocate regional viewpoint and coordinate input as related to national $PM_{2.5}$ issues.
- Coordinate bimonthly meetings to disseminate relevant current events, presentations and discuss regional issues.
- Develop policy and technical materials to support meetings with senior management.

Oregon SIP Coordinator

- Coordinate monthly meetings with Oregon Department of Environmental Quality (ODEQ) and Lane Regional Air Protection Agency (LRAPA) SIP coordinators. Develops project schedules based on program priorities and organization resources. Track in-house and in-development SIP submissions, coordinate status updates with state and federal project leads, provide guidance and solution support for SIPs as needed. Brief management on programmatic work, schedules/timelines and relevant issues.
- Incorporate R10 SIP Process improvement elements into SIP submissions. Work with project leads to use process elements.
- Lead annual SIP-PIP reinvigoration meeting with ODEQ and LRAPA.

Particulate Matter ($PM_{2.5}$)

- *Oregon.* Led EPA R10 technical team to assist ODEQ and LRAPA to develop attainment plans for Oakridge and Klamath Falls, Oregon and review technical and policy materials.
  Work with ODEQ to develop PM Advance plan to control $PM_{2.5}$ in Lakeview Oregon.
- *Idaho.* Led and coordinated workgroup on West Silver Valley Area Designation for the 2012 $PM_{2.5}$ Annual Standard and pre-planning work for attainment plan development. Workgroup included EPA, state, local, and tribal stakeholders. Products included EPA Area Recommendation for the West Silver Valley, briefing materials, and communications plan. Led EPA R10 technical team to assist IDEQ to develop attainment plan for West Silver Valley, Idaho.
- Coordinate and lead monthly meeting with Oregon air quality agencies to discuss ongoing $PM_{2.5}$ issues. Utilize collaboration tools including video conferencing to develop partnerships and facilitate discussions.
- National Workgroups: $PM_{2.5}$ Implementation, $PM_{2.5}$ 2012 Designations, PM Advance. Represent regional viewpoints and initiate communication with other Regions and Headquarters on relevant issues. .
- Prepare and present strategy papers and briefings related to $PM_{2.5}$ nonattainment areas in Region 10.
- Analyzed and interpreted regulations, policies and guidelines. Ex. Approval of $PM_{2.5}$ attainment plans under subpart 1 and subpart 4 of the CAA and applied to plans submitted for Klamath Falls and Oakridge, Oregon.

Exceptional Events – Regional and National Programs

- *Region 10 Program Lead.* Coordinate R10 exceptional event demonstration submissions including demonstration review and concurrence, Coordinate ongoing communication with regional stakeholders, including an Annual Regional Exceptional Event Meeting, to ensure demonstration developers and reviewers are aware of relevant timelines and requirements.
- Develop Prezi presentation for senior management and regional staff to provide education on exceptional event rule background, EPA R10 process, and program status.
- National Exceptional Events workgroup member. Maintain expertise on rules, guidance and current issues. Disseminate information and represent regional viewpoint.

- National Exceptional Event Rule revision workgroup. Provide input for rule improvement based on experience and stakeholder input. Contribute to the rule for enhanced implementation at the regional and national level.
- Processes multiple exceptional event demonstration analysis and concurrence annually.

SIP Development and Actions

- Work with state and local air agencies to efficiently develop approvable SIP submissions. Pre-submission rule and plan review, and coordination of federal and state/local team discussion regarding SIP action.
- Lead development of approval documents for SIP submission, processing of final drafts, and completing record keeping and administrative actions to finalize the action and make the information available to the public.
- Maintain and promote effective working relationships with co-workers and regional colleagues by successfully communicating in remote collaborative environments using a variety of collaboration tools, including web conferencing and video conferencing technologies.
- Processed ~14 SIP actions in 2013. Contributed to reduction of the regional and national SIP backlog.

Additional Activities and Accomplishments

- Individual Merit awards: 2012 Quality Step Increase.
- Team Award: Region 10 Honor Award - Bronze Medal for Region 10 SIP Air Planning Team 2012; National Honor Award - Bronze Medal for National (PM) Advance Team 2014.
- 2013 SIP Award. Annual Air Planning Unit award for most SIP actions (~14) completed in FY2013.
- PARS (Performance Appraisal and Recognition System): Outstanding / Exceeds Expectations ratings.
- Speaker for Public Partnership for Public Service' *Speakers Bureau*. Participated and keynote in speaking engagements at UC Berkeley - Fall 2012, Sacramento State - Spring 2013.
- EPA R10 Emerging Leaders Network, 2009-2013. Lead Steward of the Region 10 Chapter of ELN, an organization designed to create A Stronger EPA / One EPA through engaging employees through a multifaceted network focused on professional development, social activities, community service, communication, and think tank. Transitioned leadership to new stewards in Fall 2013. Identified and foresaw a wide range of issues related to the development and growth of the R10 chapter, obtain relevant information to allow for its growth and integration into the Region, focus the issues and build consensus to embrace ELN R10 in the region, and ultimately reach decisions on the chapters growth-direction-activities, in consultation with executive team.
- National Emerging Leaders Network, 2006-2013. Represented R10 on National ELN issues and actively contributes to the development and strengthening of the network nationwide.
- EPA R10 ELN, 2014. Co-drafted Region 10 morale report and solutions for improvement.
- Mentoring. Participates actively in mentoring relationships as both a mentee and mentor.

U. S. Environmental Protection Agency, Seattle WA **1/2008- 5/2012**

Environmental Protection Specialist, Office of Air Waste and Toxics, EPA Region 10 (GS-12, Step 7 – 40 hr/wk)

Acting Tribal Air Team Lead (November 2010 – June 2011)

- Led weekly meetings of the Tribal Air Core team (six employees), manage individual and team workloads, communicated progress and challenges to unit manager. Manage program or project needs including human, financial, and information resources. Managed four SEE employees including reviewing work, travel authorization, and timecards, and led hiring panel for new SEE employee.
- Coordinate and led quarterly meetings of the tribal air team (~20 employees in three units).
- Coordinate and led on tribal air quality work including EPA R10 Air Tribal Strategic Plan tracking and reporting, implementation of the Federal Air Rules for Reservations (FARR), and development and briefing of the CY2010 Tribal Air Team Accomplishments Report.
- Led monthly briefings with tribal air unit managers. Provide solutions to management on complex tribal issues.
- Work with the Regional and Headquarters offices to develop programmatic guidance, budgets, and accountability measures for grant funding. Determine Region 10 capabilities, responsibilities and work within the region to provide fair and balanced allocation of resources between tribal programs, internal support programs, and external support partners.
- Coordinate and led monthly call with R10 tribal air staff to provide air quality information and learn about ongoing tribal air quality activities and concerns,
- Tribal Air Core team Retreat. Organize/led retreat focused on connecting team work and individual strengths.
- Manage conflicting positions on sensitive issues as related to internal relationships and external partners.
- Project management tasks including project planning, scheduling, tracking and reporting AND experience leading or chairing work groups or teams applicable to core work related to core R10 Tribal Air Program and non-core R10 Emerging Leaders Network.
- Simultaneously managed acting team lead duties along with core work.
- Duration of position = seven months. November 2010 – June 2011.

Tribal Relations

- Interact with sovereign Tribal entities in Alaska, Idaho, Oregon and Washington.
- Led and/or supported government-to-government activities and formal consultation.
- Employ interpersonal skills to effectively improve working relationships with tribal partners.
- Research tribal history, cultural history, and current issues for enhanced EPA-Tribal relationships.

Tribal Air Team

- Understanding of air quality and regional issues including: criteria pollutants, monitoring, emissions inventories, regional haze, smoke management.
- Led and completed Information Collection Request renewal for the Federal Air Rules for Reservations. Renewal required project research, document revisions, contractor management, and administrative tasks.
- Treatment as a State Lead for all Tribal Air TAS applications. Led review and approval of multiple applications.
- 2012 R10 EPA / Tribal Biennial Air Quality Meeting. Led team of five EPA and Tribal representative to develop agenda, arrange speakers, coordinate meeting logistics, facilitate sessions, and successfully host the four day meeting. Fifty participants from EPA R10, HQ, and 15 tribal air quality programs.
- Consultation and Climate Change Lead for R10 Tribal Air Team. R10 Tribal Specialist.
- Assist with ACS measures for GPRA related to Tribal Air Quality work.
- Manage 2010-11 Tribal Climate Change Mitigation & Adaptation project. Develop project, hired and managed intern, coordinate interactions, review products, and lead project forward. Overall goal to facilitate and increase tribal climate change work in Region 10.

Grants Management

- Manage EPA R10 Tribal Air Grants program in FY09-12 including annual grant application cycle, ~20 grants to tribal programs and tribal support activities, and budget of ~$2.75 million.
- Knowledge of the Agency budget and strategic planning process in order to analyze, recommend, propose, and advise management on the R10 Tribal Air Grants program.
- Manage grants supporting tribal Air Quality Programs for multiple Tribes in Region 10.
- Skilled in workplan/budget negotiations, use of IGMS system, and grant performance monitoring.
- Successfully resolved significant contentious EPA-Tribal grant related issues.
- Work with grantees with varying levels of programmatic and administrative capacity.
- Led effort to optimize grant pre-award process. Implement practices and to streamline application materials and develop an internal protocol to reduce negotiation timeframes.

Additional Activities and Accomplishments

- Region 10 Honor Award: Bronze Medal for Region 10 Tribal Air Core Team 2009.
- 2010 Regional R10 Leadership Honor Award. Recognizing leadership with ELN R10 work.
- 2011 CFC Coordinator. Interim leader for the EPA R10 CFC Campaign in November – December 2011.
- Air Travel Emissions Reductions project. Coordinated regional efforts to reduce carbon footprint associated with air travel emission. Worked with ELN Think Tank and R10-OAWT, OEA, ECL, OMP.
- State Air Quality Planner - July 2011 – April 2012. Detail for $PM_{2.5}$ planning in Oregon.
- Internal recognition awards in 2008, 2009, 2010, and 2011.
- PARS ratings: Exceeds Expectations / Outstanding ratings.

Training: Contracting Officer Representative, Project Officer 4/2005 (renewed 1/2008), Air Camp December 2008, EPA OCFO Budget Training 7/2009, Systematic Development of Informed Consent Fall 2009, Non-Violent Communication Summer 2010, Leading from your Level – Partnership for Public Service Fall 2011.

Conferences: Air & Waste Management Associate 2008, Air Camp 2009, National Tribal Forum 2009, EPA R10 Tribal Air Managers Biennial Meeting 2009, Tribal Leaders Summit 2009, International Airshed Strategy Biannual meeting Fall 2010, ELN National Summit February 2011, National Tribal Forum 2011.

U. S. Environmental Protection Agency, Washington DC **4/2003-12/2007**

Program Analyst, Sustainable Facilities & Practices Branch, FMSD, OA, OARM (GS-13, Step 1 – 40 hr/wk)

Green Power Program

- Green Power Coordinator: nationwide procurement of green power for EPA regional offices and laboratories
- Knowledge of the Agency budget and strategic planning process in order to analyze, recommend, propose, and advise management on future green power purchases.
- Projects: funded photovoltaic (PV) project at Corvallis Lab; managed Denver, Ft Meade PV feasibility study
- Achievements: 100% of electric use green power as of September 2007, ~300 million kWhs covering 191 facilities, 7 on-site systems through renewable energy credits and onsite generation.
- Prepare issue paper outlining options and recommendations for national green power strategy for EPA facilities.

Water Management Program

- Program Manager - set goals, assess facilities, track progress, and institute water management projects.
- Water Management Plans (WMP): responsible to meet water related Executive Order 13123 goals.
- Achievements: 18 WMPs / 66.7% of EPA facilities, multiple projects saving >10 million gallons of water.

GHG/Emissions Program

- Program Manager – develop program to inventory, report, and reduce emissions at EPA facilities.
- Reporting Coordinator: coordinates the collection of EPA laboratory and office energy/water use nationwide. Reports used for internal EPA GPRA related activities including the QMR and ACS measures, and interagency reporting to OMB and DOE.
- Manage contractor for energy and operation/maintenance assessments.
- Gross Square Footage project: complete nationwide project and update process to ensure accurate square footage numbers for energy, water, and emissions intensity calculations.

Awards, Notable Workgroups, & Outreach

- Presidential Energy Management Award for EPA's Green Power Program 2004.
- OARM Honor Award: Bronze Medal for Greening the Government, Water Management Program 2004.
- OARM Honor Award: Bronze Medal for Greening the Government, Green Power Program 2006.
- Defense Logistics Agency Partner of the Year Award: Green Power Purchasing 2007.
- PARS ratings - Exceeds expectations or higher. Internal time off and cash awards.
- Federal Renewable Energy Workgroup, Interagency Sustainability Workgroup, Interagency Energy Management Task Force.
- EPA HQ EMS Team, EPA HQ EMS Auditing Team 2005.
- EPA Emerging Leaders Network: part of founding group that launched ELN HQ in 2006, Social Activities co-chair (2006), Career Development team member.
- Promotion history: GS-5 (4/03), GS-7 (10/03), GS-9 (10/04), GS-11 (10/05), GS-12 (10/06), GS-13 (10/07).
- Outreach: Includes national water poster, website development, Energizing EPA article support, window cling development and production, green power press releases

Training: Environmental Management Systems – seminar and conference, AEE Energy Auditing 101 12/03, Contracting Officer Representative (COR) certified 2/04 and recertified 1/07, Purchase Card Training 2/05, Project Officer 4/05, FEMP Implementing Renewable Energy Projects 8/06.

Presentations: Laboratories for the 21st Century – poster presenter (2003, 2004), speaker (2005, 2006); DESC 2006 Worldwide Energy Conference and Trade Show – speaker (2006); Energy 2006 conference – co-presenter (2006).

EDUCATION

MA, Elliott School of International Affairs, George Washington University, Washington DC **5/2004**
Science, Technology, and Public Policy
(Degree renamed **International Science and Technology Policy** in 2005**)**

- GPA: 3.5
- Relevant Coursework: Environmental Policy, Environmental Management, Environmental Economics; Technology Entrepreneurship/Innovation, Public Policy, Environmental Decision Making, Program Management
- Thesis/Capstone: Keys to the Development of Sustainable Energy Islands (Preliminary acceptance for publication in INSULA – a UNESCO journal).

BA, Franklin and Marshall College, Lancaster, PA **5/2002**
Major in Biology

- GPA: 3.5, Cum Laude
- John Marshall Scholar, Hackman Scholar, Dana Scholar, Alpha Epsilon Delta (Pre-Medical Honor Society)
- Relevant Coursework: Earth-Environment-Humanity, Physics, Developmental Biology, Behavioral Ecology, Organic Chemistry, Art History, Economics, Calculus, Statistics, Microbiology.

Columbia University's Biosphere 2 Center Oracle, AZ **6/2001**
Desert Seas and Sky Islands

- Summer course exploring ecology in southern Arizona.
- Daily field work, multidisciplinary science and liberal arts coursework, three field trips.

Student Environmental Research Project for Ruby, AZ Conservation Project

- Investigated disputed power line routes- proposed alternate, environmentally and economically sound, routes.
- Synthesized group conservation plan in a powerpoint presentation; proposal was utilized by local government.

Franklin & Marshall College, Lancaster, PA
Hackman Research Assistant **5-8/2000**
Teaching Assistant, Biology Department **8-12/2001**

- Studied chemotaxis of *Dictyostelium discoideum* basic cell types in the presence of cAMP and ammonia. Research published: Ammonia differentially suppressed the cAMP chemotaxis of anterior-like cells and prestalk cells in *Dictyostelium discoideum.(Journal of Bioscience* 2001. 26:157-166) Led experiments, analyzed data and results.
- Advised students with microbiology lab techniques and specimen identification in coordination with Professor Feit.
- Guided students in using Bergey's Manual of Systematic/Determinative Microbiology to identify specimen.

National Outdoor Leadership School, Lander, WY **2-5/2007**
Semester in the Rockies, Spring 2007 Section 2

- GPA: A-
- Leadership skills: Expedition lead, conflict resolution, self-care, risk management, critical decision making
- Outdoor skills: Expedition na, snow camping, rock climbing, river travel w/ canoe-kayak-raft, bulk rationing
- Certifications: Wilderness First Responder, CPR, Avalanche Awareness, Leave No Trace

SKILLS

- **Technology:** PC/MAC fluent; MS Office Suite; Adobe Photoshop; Adobe Connect.
- **Languages:** English, basic French, Italian, Swedish.
- **Activities:** Music Director at college radio, Non Fiction, Guitar, Soccer, Tennis, Hiking, Cooking/Baking, Photography, Eagle Scout, Running, International Travel, founding investor in St. John Brewers.

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Fremont, CA 94555
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EDUCATION

Cornell Law School
Juris Doctorate, with concentration in Public Law, 2001
Honors: Managing Editor, *Cornell Journal of Law and Public Policy*, 2000-2001
Stanley E. Gould Prize for Public Interest Law, 2001
CALI Excellence for the Future Award, Legal Methods (legal writing), 1999

Stanford University
Master of Arts, History, with concentration in U.S. History, 1998
Thesis: "Richmond, California: The Selma, Alabama of Today." Published in the Stanford Center for Comparative Studies in Race and Ethnicity Graduate Working Paper Series.
Bachelor of Arts, History, 1998

EXPERIENCE

U.S. Environmental Protection Agency, Office of Regional Counsel, Region 9, San Francisco, CA
Assistant Regional Counsel 2006 – present
Currently specialize in implementation of air pollution control programs under the Clean Air Act, including review of EPA- and state-issued air permits, development and approval of state air quality management programs, and defense of EPA regulatory actions challenged in federal court.

U.S. Environmental Protection Agency, Office of Regional Counsel, Region 1, Boston, MA
Assistant Regional Counsel 2003 – 2006
Specialized in implementation of air and water pollution control programs under the Clean Air Act and Clean Water Act, including review of EPA- and state-issued permits, authorization/approval of state regulatory programs, and citizen appeals.

Honors Attorney Fellow 2001 – 2003
Worked on regulatory enforcement matters under the Clean Water Act, Toxic Substances Control Act, Resource Conservation and Recovery Act, and other federal environmental statutes; Superfund cost recovery actions; review of EPA- and state-issued permits; and authorization/approval of state regulatory programs.

U.S. Department of Justice, Environment and Natural Resources Division
Environmental Enforcement Section, Washington, D.C.
Law Clerk Summer 2000
Worked with trial attorneys on civil litigation brought on behalf of the United States to enforce federal environmental statutes, *e.g.,* drafting motions and other court filings, researching case law, and attending meetings between government and industry officials.

U.S. Environmental Protection Agency, Office of Regional Counsel, Region 9, San Francisco, CA
Law Clerk Summer 1999

Worked with assistant regional counsel to develop enforcement cases, draft complaints, and conduct legal research.

PROFESSIONAL LICENSURE

Admitted to State Bar of New York, 2002
Admitted to State Bar of Massachusetts, 2002

PUBLICATIONS

Hong, Jeanhee, "A New Deal for New Source Review," *Trends*, American Bar Association, Section of Environment, Energy and Resources Newsletter, January/February 2006, Vol. 37, Number 3 (discussing two court decisions on Clean Air Act preconstruction permitting regulations).

Hong, Jeanhee, "Environmental Injustice: Refugees of the 21st Century," *Cornell Journal of Law and Public Policy*, Vol. 10 No. 2, Spring 2001.

PRESENTATIONS; LECTURES

Fulbright Specialist, Environmental Law (grant recipient). Presented lectures on U.S. environmental and administrative law at Seoul National University School of Law, Seoul, South Korea; Kyungpook National University School of Law, Daegu, South Korea; and Ministry of Environment, Sejong, South Korea, March – April 2014.

Panelist (invited). "The San Joaquin Valley: Testing the Limits of the Clean Air Act," The State Bar of California Environmental Law Section, 2013 Environmental Law Conference at Yosemite, Fishcamp, California, October 2013.

Guest speaker (invited). "From Larger to Finer Particles: How the U.S. EPA Regulates PM Pollution," Peking University, College of Environmental Science and Engineering, Beijing, China, March 2012.

Guest speaker (invited). "Public Process and Citizen Lawsuits in U.S. Environmental Law," Kyungpook National University Law School, Daegu, South Korea, March 2012.

Panelist (invited). "Reducing Air Pollution at Marine Ports: U.S. Experience," Environmental Protection Administration Taiwan – U.S. EPA Port Air Quality Partnership Conference, Taipei, Taiwan, November 2009.

Panelist (invited). "Environmental Leadership in the States — Lessons Learned from California's Regulation of Greenhouse Gas Emissions and Coastal Zone Development," Environmental Law Institute Seminar, San Francisco, California, April 2009.

AWARDS; SPECIAL RECOGNITION; HONORS

EPA National Honor Award, Bronze Medal for Commendable Service (to be received 2015): for contributions to EPA's Clean Power Plan rulemaking.

EPA Superior Accomplishment Recognition Award (2014): for supporting Air Division offices in Ninth Circuit defensive litigation on California's ozone and fine particulate matter (PM2.5) air quality plans, rulemakings on Clean Air Act contingency measures for the San Joaquin Valley and Los Angeles-South Coast Air Basin, and national rulemaking on start-up, shutdown, and malfunction provisions.

"Quality Step Increase" Award (merit-based increase to base salary) (2012): For exceptional contributions to the work of EPA Region 9's Air Division, including EPA actions on California's air quality programs to address ozone and $PM_{2.5}$ pollution in the San Joaquin Valley and Los Angeles-South Coast Air Basin, negotiations with environmental litigants on deadlines for EPA regulatory actions, and EPA's delegation of authority to regulate greenhouse gases to Arizona state agencies.

EPA National Honor Award, Award for Outstanding Leadership in Collaborative Problem Solving (2010): For exceptional collaboration with the Gila River Indian Community which resulted in the Tribe accepting a precedent-setting level of responsibility for air quality on its reservation.

EPA Superior Accomplishment Recognition Award (2010): For excellent work supporting Air Division offices in EPA's review of a California ozone program, the Gila River Indian Community's air quality management plan, California's vehicle inspection and maintenance program, and numerous other air quality programs submitted by Nevada and California state agencies.

EPA Superior Accomplishment Recognition Award (2009): For thorough and thoughtful legal review of draft permit program rules for Nevada and Arizona state agencies and the Gila River Indian Community, a California air quality program to address interstate transport, and numerous other air quality programs submitted by Nevada and California state agencies.

EPA Superior Accomplishment Recognition Award (2008): For legal advice provided on complex Clean Air Act issues raised during EPA's review of the Gila River Indian Community's tribal permit program and the Clark County (Nevada) Department of Air Quality's permit program, and for judgment and skill in communicating these issues to EPA program offices and external stakeholders.

EPA Superior Accomplishment Recognition Award (2007): For thorough research, careful analysis, and thoughtful advice provided during EPA's review of liquefied natural gas projects, the Gila River Indian Community's tribal permit program, and the Clark County (Nevada) Department of Air Quality's permit program.

EPA National Honor Award, Gold Medal for Exceptional Service (2007): For achieving significant environmental improvements while overcoming complex legal and technical challenges in permitting deepwater port liquefied natural gas (LNG) terminals in Federal waters off the Massachusetts coast.

EPA National Honor Award, Silver Medal for Superior Service (2004): In recognition of the highly skilled and motivated staff that worked tirelessly over many months to issue a technically and legally sound discharge permit for the largest power generating facility in New England.

附件十六

CITIES CLEAN AIR PARTNERSHIP

CITIES CLEAN AIR PARTNERSHIP

Putting it all Together:

Emissions Reductions in the Real World

Justin Spenillo
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Overview

- Speaker Background
- Elements of Air Quality Management
- How this applies to your Cities

Speaker Background

- US EPA
  - 13+ years in the environmental sector
  - 7+ years in air quality in the Pacific Northwest (PNW)

- Air Quality
  - PNW Tribal programs development
  - Government to Government interactions with Tribal governments
  - Air quality management with State and Local air agencies
  - Interact with the affected community


Bellingham
Port Angeles
Oak Harbor
Everett
Seattle
Bellevue
Olympia
Tacoma
Okanogan
Washington
Spokane
Bonners Ferry
Post Falls
Coeur d'Alene
Centralia
Ellensburg
Moses Lake
Columbia R.
Kelso
Longview
Yakima
Hillsboro
Portland
Kennewick
Moscow
Lewiston
McMinnville
Gresham
Dallas
Walla Walla
Pendleton
Grangeville
Salem
Corvallis
La Grande
Eugene
Redmond
Idaho
Bend
Coos Bay
Canyon City
Council
Coquille
Roseburg
Oregon
Ontario
Challis
Burns
Caldwell
Boise
Grants Pass
Medford
Nampa
Ashland
Klamath Falls
Mountain Home
Yreka
Snake R.
Eureka
Arcata
Alturas
Twin Falls
Weaverville
Redding
Susanville
Winnemucca
Great Salt Lake
Red Bluff
Elko
Chico
Paradise
Ukiah
Lovelock
Salt Lake City
Yuba City
Reno
Truckee
Sparks
Sandy
Santa Rosa
Roseville
Carson City
Eureka
Vallejo
Sacramento
Ely
Nevada
Utah

Elements of Air Quality Management – "the pieces"

Technical Inputs

- Monitoring
- Emissions Inventories
- Modeling

They provide an understanding of

1. What types of emissions are causing the problem
2. What are the primary sources of problematic emissions

They help set and measure goals

Elements of Air Quality Management – applying the pieces

- Once the major types and sources of emissions are understood, then a control strategy can be developed

- Control strategy = action(s) taken to reduce emissions, for example…
  - Power plants (stationary sources)
  - Vehicle emissions standards (mobile sources)
  - Woodstoves / cookstoves (area sources)

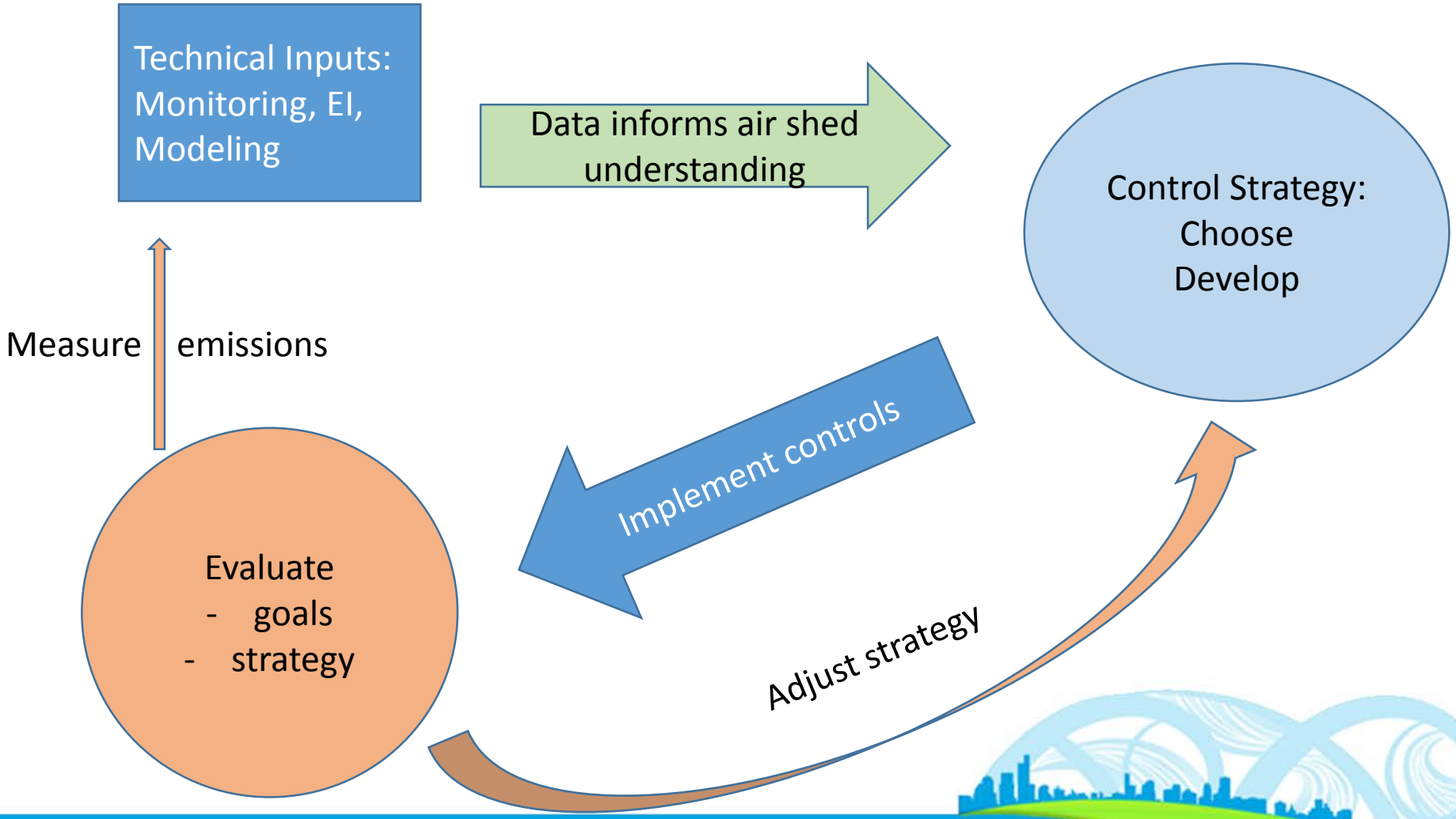
- Each action will have its own set of steps

Elements of Air Quality Management – implementation and evaluation

- Once a control strategy is chosen and in place, then each action will need to be implemented
- Evaluation measures progress towards goals

- Evaluation will ensure that
  1. Each action is properly being managed and provided sufficient resources
  2. Emissions reductions are verified with monitored data
  3. Emissions reductions are permanent, not temporary

Putting it all Together



How this applies to your Cities

- These elements are foundational to air quality management, anywhere, and that is good for you

- Use existing resources as a starting point
- Learn from others
  - Partnerships with other cities or air quality agencies
  - Develop relationships
- Leverage local resources

A Closer Look - Monitoring

- For compliance with standards and characterizing the airshed, monitoring is the foundation for air quality management

BUT

- Monitoring is not essential for emissions reductions

What Can You Do

1. Partner with another agency or city (WADOE/PNW Tribes)
2. Invest in a shared expert and/or in house expertise
3. Do without it in the short term, health comes first

A Closer Look – monitor saturation study

- Klamath Falls OR
  - Lesson = Invest in communications
  - Monitor sited in an area with elevated particulate matter
  - Saturation studies were conducted to identify a representative site
    - These studies have been essential when the monitor site has been questioned
    - By informing the public of results/conclusions, and providing a forum for discussion, communities generally have been more supportive
  - It makes sense to involve the community as they benefit from emissions reductions and their support is essential

A Closer Look – Emissions Inventories

- Emissions Inventories characterize the air shed in terms (1) types and (2) sources of emissions
- They are important guides to understand the air shed

What Can You Do

1. Partner with another agency or city (ODEQ/LRAPA)
2. Invest in a circuit rider or in house expertise
3. Use a similar city's EI – or – just develop a basic EI

A Closer Look – PMF study

- PMF – Positive Matrix Factorization, in basic terms it creates an emissions “fingerprint” that helps characterizing sources in an airshed
- It requires a high level of expertise to complete.
- Share resources for specialized studies
    1. Reuse comparable studies - when unable to fund recent studies, utilize studies from places with similar characteristics
    2. Develop partnerships - EPA has assisted state/local air agencies to complete studies where they do not have the technical expertise…a good relationship facilitates these exchanges better than a formal agreement

A not so Closer Look – Modeling

- Modeling refines the understanding of the airshed and source contribution and this helps to better determine ways to reduce emissions in a control strategy

- If you have limited resources or expertise, monitoring and emissions inventories can provide adequate information to manage air quality

- But if you insist, agencies have leveraged relationships to get assistance with basic air quality monitoring support

Control Strategy, development

- A control strategy is unique to each air shed, but…

…many air sheds are similar.

What Can You Do

1. See what measures have worked in other cities / communities have done. (Small mountain communities)
2. Develop a partnership with a similar city(s). (Lakeview, Oregon)


Bellingham
Port Angeles
Oak Harbor
Everett
Seattle
Bellevue
Olympia
Tacoma
Okanogan
Washington
Spokane
Bonners Ferry
Post Falls
Coeur d'Alene
Centralia
Ellensburg
Moses Lake
Columbia R.
Kelso
Longview
Yakima
Hillsboro
Portland
Kennewick
Moscow
Lewiston
McMinnville
Gresham
Dallas
Walla Walla
Pendleton
Grangeville
Salem
Corvallis
La Grande
Eugene
Redmond
Idaho
Bend
Coos Bay
Canyon City
Council
Coquille
Roseburg
Oregon
Ontario
Challis
Burns
Caldwell
Boise
Grants Pass
Medford
Nampa
Ashland
Klamath Falls
Mountain Home
Yreka
Snake R.
Eureka
Arcata
Alturas
Twin Falls
Weaverville
Redding
Susanville
Winnemucca
Great Salt Lake
Red Bluff
Elko
Chico
Paradise
Ukiah
Lovelock
Salt Lake City
Yuba City
Reno
Truckee
Sparks
Sandy
Santa Rosa
Roseville
Carson City
Eureka
Vallejo
Sacramento
Ely
Nevada
Utah

Control Strategy, advisory committee

- Advisory Committees are essential to the success of a control strategy
  - The committee actively represents the stakeholders and varying viewpoints in a community
  - Involvement of the stakeholders constructively manages varying opinions to develop solutions and/or consent

- In the PNW, these committees are essential for developing and sustaining community support (West Silver Valley, ID)

Implementation

- Implementation is key to success of the control strategy
- Invest in relationships, personnel and communications
  - Relationships - Smoke Management Program, Annual meetings and pre/post season conferences
  - Personnel - A Tale of a Few Cities
    - City 1. Invested heavily in implementation
    - City 2. Invested in its strategy more than implementation
    - City 3. Invested only in the strategy
  - Communications - Regional Haze required conversations between government and industry

Evaluate

- Review Data
  - Regularly evaluate data to determine program efficacy (monthly meetings, monitoring networks)
    - This allows early detection of when a measure is not working (exceedance notifications)
    - Chart emission reduction progress with respect to goals
- Strategy Adjustment
  - Increase resources (enforcement)
  - Add measures (contingency)
  - Review plan

Closing Thoughts

- Solutions exist – Look to and learn from others who have dealt with similar issues
- Communications - Many often fall short in communications with the affected community
- Partnerships – We become stronger when we work together…

….find a friend

and take the first step

Clean Air Act Citizen Suits: How the Public Shapes Federal Law

Jeanhee Hong (홍진희)
Assistant Regional Counsel, U.S. Environmental Protection Agency;
Fulbright Specialist, Environmental Law

March 20, 2014

Views expressed are those of the speaker and do not represent the official views or policy of the U.S. government.

Public Participation: a Statutory Right

Administrative Procedure Act: Notice-and-Comment Rulemaking (5 U.S.C. § 553)

(b) General notice of proposed rule making shall be published in the Federal Register....

* * *

(c) After notice required by this section, the agency shall give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments…. After consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose.

Public Participation: a Statutory Right

Clean Air Act Citizen Suit Provisions

1. Section 304: Citizen suits
   - With limited exceptions, “any person” may commence a civil action against any entity for alleged violation of certain Clean Air Act requirements or against EPA for failure to perform a mandatory duty → U.S. district courts.

2. Section 307(b): Judicial review
   - Petition for review of “nationally applicable regulation” → U.S. Court of Appeals for the District of Columbia.
   - Petition for review of “final action which is locally or regionally applicable” → U.S. Court of Appeals for the appropriate circuit.

Implementation of the National Ambient Air Quality Standards

Federal-State Partnership

- U.S. EPA sets health-based “national ambient air quality standards” (NAAQS)
- State/local agencies adopt “state implementation plans” (SIPs) to achieve these standards *by specific dates*
- States must submit these SIPs *by specific dates* for EPA review and action (approval/disapproval)
- Failure to submit approvable plan = federal sanctions

Case Study: Implementation of the National Ambient Air Quality Standards for PM2.5

Chronology:

- November 2005: EPA's proposed "PM2.5 implementation rule" published in Federal Register; ~100 public comments.
  - Proposal to find "Subpart 4" requirements for PM10 *not* applicable to PM2.5.
  - Environmental groups object.
- April 2007: EPA's final PM2.5 implementation rule and responses to comments published in Federal Register.
- June 2007: Petitions for judicial review filed in D.C. Circuit (CAA § 307(b)).
- Petitions for reconsideration submitted to EPA

Case Study: Implementation of the National Ambient Air Quality Standards for PM2.5

Decision:

- January 2013: D.C. Circuit remands entire rule (*NRDC v. EPA*, 706 F.3d 428 (D.C. Cir. 2013)) on *Chevron* step 1 grounds:

> "…the Act defines 'PM-10' as 'particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers,' *42 U.S.C. § 7602(t)*. Thus, under *Chevron* step 1, EPA must implement all standards applicable to PM10 – including its PM2.5 standards – pursuant to Subpart 4."

Case Study: Implementation of the National Ambient Air Quality Standards for PM2.5

Aftermath:

- EPA must "re-promulgate" rule pursuant to subpart 4 → significant shift in national requirements for PM2.5 state implementation plans (SIPs):
  - Shorter timeframes for "attainment"
  - "Best Available Control Measures" requirement
  - More stringent standard for regulation of chemical precursors to PM2.5 (NOx, SO2, VOC, ammonia)

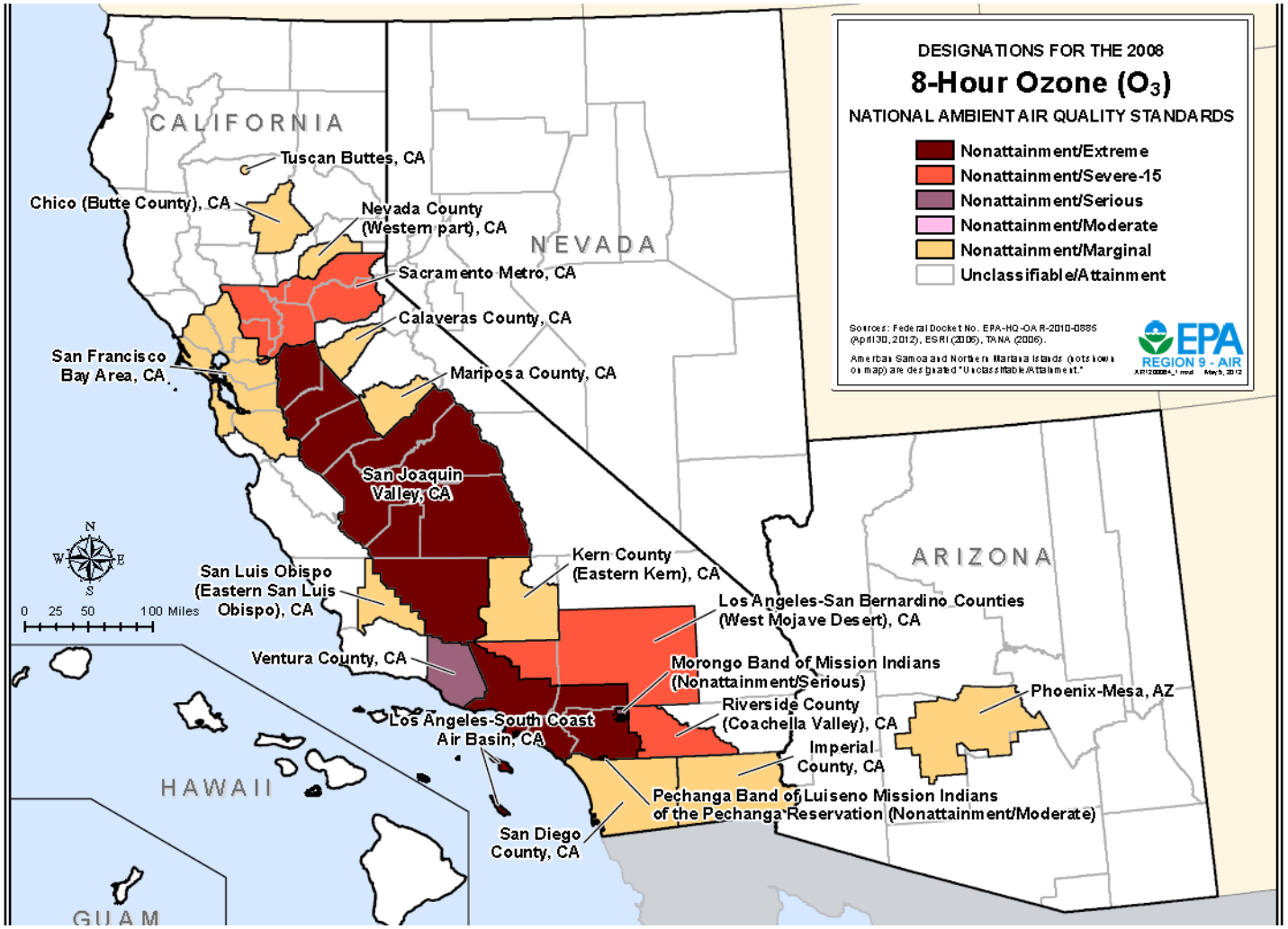
Now applies to <u>all</u> PM2.5 standards (1997, 2006, 2012).

Case Study: Implementation of the National Ambient Air Quality Standards for PM2.5

Aftermath:

- When should states be expected to comply?
  - Many PM2.5 SIPs submitted ~2008-2009
  - EPA has approved many of these SIPs
- Pending Ninth Circuit litigation on California PM2.5 SIP (San Joaquin Valley)
  - Environmental groups: EPA should apply *NRDC* retroactively, impose federal sanctions

San Joaquin Valley, California – Ozone (Smog)



Source: http://www.epa.gov/region9/air/maps/r9_o38hr.html

Case Study: State Implementation Plan for Ozone (San Joaquin Valley, California)

Chronology:

- November 2004: California submits “2004 Ozone SIP” for San Joaquin Valley.
- July 2009: EPA’s proposed rule to approve 2004 Ozone SIP published in Federal Register.
  - Environmental groups: emissions inventory is “inaccurate.”
- March 2010: EPA’s final rule to approve 2004 Ozone SIP and responses to comments published.
- May 2010: Petition for judicial review filed in Ninth Circuit (CAA § 307(b)).

Case Study: State Implementation Plan for Ozone (San Joaquin Valley, California)

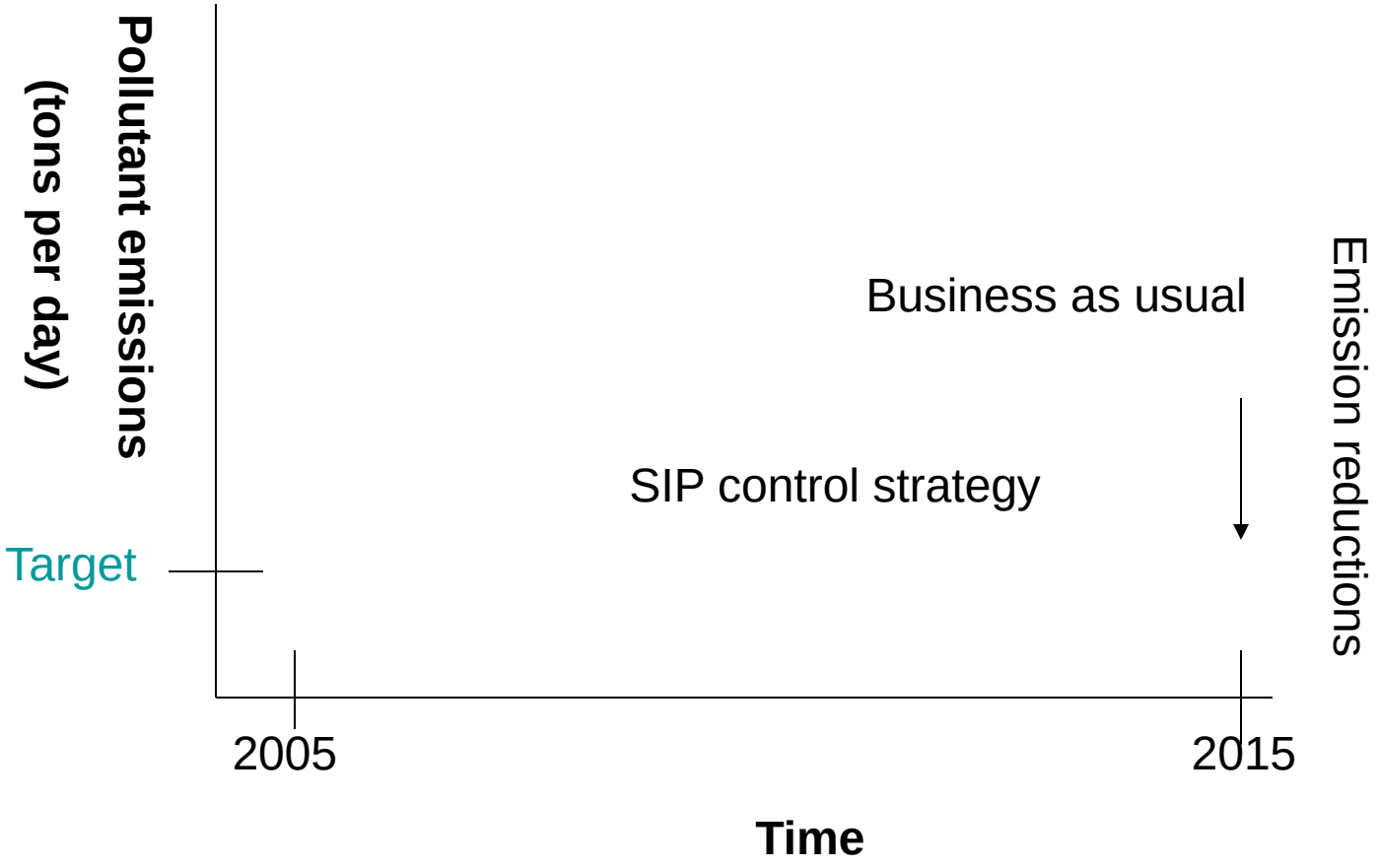
Arguments:

CAA § 182(a)(1): each ozone SIP must include a "comprehensive, *accurate, current* inventory of actual emissions from all sources of the relevant pollutant" in the area. (emphasis added)

Issue: how "accurate" and "current" must the emissions inventory be?

- Petitioners: EPA's 2010 approval of 2004 Ozone Plan relied on "outdated and inaccurate" 2004 emissions inventory data for mobile sources --> illegal under both CAA and APA.
- EPA: states should not be required to revise submitted SIPs each time new emissions data becomes available; EPA reasonably interprets the Act to require that emissions data be "current and accurate" as of the time the State *submits* them to EPA (2002 policy).

Emissions Inventories: Base Year and Future Year



Case Study: State Implementation Plan for Ozone (San Joaquin Valley, California)

Decision:

- January 2012: Ninth Circuit remands EPA's 2010 rulemaking (*Sierra Club v. EPA*, 671 F.3d 955 (9th Cir. 2012)) on APA grounds:
  - "EPA's failure to even consider the new data and to provide an explanation for its choice rooted in the data presented was arbitrary and capricious" under the Administrative Procedure Act.
  - *Skidmore* deference to EPA policy

Case Study: State Implementation Plan for Ozone (San Joaquin Valley, California)

Aftermath:

- New California ozone plan for San Joaquin Valley; EPA review pending.
- Issues:
  - Accuracy of emissions inventory data
  - How much more time to attain?
  - Application of 1990 statute to modern air pollution problem

Conclusions

- *NRDC v. EPA*, 706 F.3d 428 (D.C. Cir. 2013): requires significant shift in EPA's approach to implementation of all PM2.5 air quality standards going forward.
  - 1997 standards: 65 ug/m3 (24-hour), 15 ug/m3 (annual)
  - 2006 standard: 35 ug/m3 (24-hour)
  - 2012 standard: 12 ug/m3 (annual)

- *Sierra Club v. EPA,* 671 F.3d 955 (9th Cir. 2012): highlights importance of EPA providing "reasoned explanation" of its technical and legal conclusions during rulemaking.

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