

行政院及所屬各機關因公出國人員報告書
(出國類別：會議)

參加「2013 亞太環境技術交換
虛擬中心(APEC-VC)會議」

服務機關： 行政院環境保護署

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派赴國家： 韓國

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參加「2013 亞太環境技術交換虛擬中心(APEC-VC)會議」

出國報告

壹、 會議源起與目的

「亞太環境技術交換虛擬中心 APEC-VC」為 1995 年由 APEC 核准的官方計畫之一，主要為建立環境技術交換虛擬平台，該計劃於 2012 年到期，惟 2012 年由日本在大阪主辦工作組會議中，各經濟體成員一致同意該計畫應該持續進行，並由韓國候選擔任秘書處於 2012 年在 APEC 工業科技工作小組 (IST-WG) 會議中簡報計畫，獲得各成員之認可，將該計畫延長(自 2013 年至 2017 年)。

本次由韓國環境產業技術研究院 (Korea Environmental Industry Technology Institute, KEITI) 主辦 2013 年亞太環境技術交換虛擬中心 (APEC-VC) 會議之目的，主要為討論後續計畫發展之進程與目標，未來主要發展目標為「提供環境技術與產品資訊交換單一入口網」與「透過聚焦於各經濟體與中小企業的環保工業發展來增長綠色濟」。

貳、 會議經過

一、6 月 10 日工作小組會議

2013 年亞太環境技術交換虛擬中心會議於 2013 年 6 月 10 日~11 日在首爾的 Stanford 飯店舉行，除我國外，尚有澳洲、智利、泰國、日本、馬來西亞、菲律賓、越南等九個經濟體代表參加。我國由環保署監資處黃俊銘設計師代表與會，議程與會議資料詳如附錄。

會議地點在韓國首爾市麻浦區的 Stanford 飯店二樓會議廳舉行，並由韓國環境工業與技術協會安排與會人員住宿於該飯店。

本次工作小組會議於 6 月 10 日上午 10:00 各與會成員報到後，於 10:30 分開始分以下議程進行：

(一)開幕會議

由日本亞太環境技術交換虛擬中心支持委員會主席 Suzuo DAN 先生主持開幕，由 韓國環境工業與技術協會主席 Jong Sun, Kim 代表地主國致歡迎詞，並說明南韓致力於亞太虛擬中心的推廣。

(二)秘書處簡報

韓國在 2012 年的 APEC 工業科技工作小組 (IST-WG) 會議中簡報亞太環境技術交換虛擬中心後續計畫，獲得各成員之認可，將該計畫延長(自 2013 年至 2017 年)，並擔任後續計畫秘書處，本次簡報以活化亞太環境技術交換虛擬中心闡道網站的發展路徑與規劃為題，由韓國環境工業與技術協會代表發表後續計畫工作的相關規劃。

簡報內容包括亞太環境技術交換虛擬中心專案計畫、過去的重要活動、後續五年的發展路徑與專案未來的規劃。韓國表示未來將會推動虛擬中心成為全球性環境技術交換的闡道，並且計畫聚焦在推廣綠色經濟、建構研究發展知識庫與環境執法網路等，並達成以下目標：

1. 南韓將建立單一的虛擬中心入口網提供環境技術與產品訊息的交換環境。
2. 透過開發中經濟體來促進綠色經濟的發展。
3. 利用入口網專業化的商務資訊布告欄來促進本地或國外的中小企業在環境領域的商務活動。

未來達成目標後，環境領域相關的中小企業、領導廠商、學術與研究機構、公務單位與相關執法機構等公私部門都將會直接受惠。因此，韓國在新的計畫中，首先會建立一個闡道入口網站並會舉辦 2 次工作組會議來規劃新網站的架構，並且建立環境政策、技術及趨勢有關的資料庫，透過網站來傳播科技的佈署及資訊給開發中國家參考。

(三)各經濟體代表簡報

1. 澳洲

澳洲代表由澳洲國立大學氣候變遷研究中心(ANU Climate change institute) Lance Heath 博士進行簡報，對於未來 APEC-VC 的發展，他認為會有許多的挑戰，包括營運資金的需求、長期取得財務支援的策略、已失聯的網路節點重新建立、網站內容不一的問題、經濟體間持續互動、對中小企業與研究機構的利益及如何使 APEC-VC 吸引外界參與等都將面臨挑戰。

對於 APEC-VC 未來發展的階段，他認為必須在研究發展的活動中強化技術合作並能彼此分享資訊與想法，此外必須發展與其他如 LOCARNET(Low Carbon Asia Research Network)、Global Green Growth Institute 等 APEC 計畫或網路之間的鏈結關係，建立有關在亞太地區再生能源部署與水資源技術發展與研究的資料庫，以及增進參與人員的能力建構。

2. 智利

任教於智利大學的 Lionel Gil 博士於簡報中介紹了智利的經濟概況，針對智利目前本地端虛擬網站結的營運，他特別指出現行營運上的問題，由於智利所負責的本地端虛擬中心網站係採用西班牙文，而維運網站主要問題來自於經費的不足，在缺乏財物的奧援下，要使網站品質與技術提升非常困難，尤其是西班牙文的網頁內容翻譯成英文的部分，智利於 2007 年即中止了本地端網站內容的上傳更新，他強調各經濟體都需要使用通用的英文來展示網頁內容，以利傳播。

智利未來的工作將配合 APEC-VC 新的計畫進程來重建網站以符合目標，並且會推廣能源使用效率與環境保護相關的技術，並促進環境商品與服務的共享存取並將這些內容聯結至環境產業發展的伙伴。

智利代表特別針對能源效率的議題介紹了他的國家發展的概況，智利仰賴能源的消費需求相當高，這些能源主要來自其

他國家的輸入，政府部門必須持續進行減少能源消費的工作，因此規劃了與能源效率有關的計畫，由於智利的地理環境俱備晴空的环境，因此大量的研究投入在太陽能與天文有關的領域，未來可以藉由虛擬中心入口網來分享相關的技術與經驗。

3. 我國

我國由行政院環境保護署黃俊銘設計師針對未來 APEC-VC 成功的關鍵因素與指標、設計與發展的需求、發展雙邊或多邊合作夥伴的可能性及能力建構等提出建議。

我方認為未來建構虛擬中心閘道網站必須清楚真正運用網站來進行環境資訊交換的使用者，同時入口網站也需要持續穩定的資訊供應來源，對於未來的服務也需要定位清楚。入口網站的設計與發展則以單一入口網取代過去以網路連結各經濟體的節點方式，以減輕各節點的維運負擔，並建立發展的共通標準及強化內容的可維護性。

過去我國環保署辦理區域環境資訊工作組 (Regional Working Group on Environmental Information, RWGEI) 的相關經驗也說明未來發展各經濟體多邊合作關係的可行性，最後建議秘書處未來持續辦理年會、建立發展工具與利用社群媒體來加強各經濟體合作溝通的管道，以利建構發展的能力。

4. 泰國

泰國主要由環境品質推廣部 (Department of Environment Quality Promotion, DEQP) 負責本地端 VC 節點的營運工作，泰國代表指出目前 DEQP 主要聚焦在促進綠色經濟、建立研究發展知識庫等工作，並提升大眾可持續消費的認知以達成綠色經濟成長的任務，目前也持續與相關機構合作，包含區域性組織、學校、企業部門組織以及其他非政府組織等，也藉由工作關係發展相關能力建構。

在相關計畫方面，泰國政府也在相關計畫概念與實務上運用開放研討方式來進行，並且發展計算溫室氣體排放的計算工具，也以雛型試作方式並展示計畫工作，並且支持與鼓勵相關

機構採用可持續消費的生活方式。未來也將配合 APEC-VC 工作小組後續發展的規劃來調整泰國本地虛擬節點的工作。

5. 日本

日本代表報告 APEC 已同意亞太環境技術交換虛擬中心後續計畫持續進行，同時 METI 也接受由南韓擔任秘書處工作，以提供資源來持續進行計畫工作。日本未來將利用現有的網路如環境技術學會 (Society of Environmental Conservation Engineering) 來持續虛擬中心的相關工作，未來也計畫連結至國際環境技術移轉中心 (International Centre for Environmental Technology Transfer, ICETT) 與全球環境中心基金會 (Global Environmental Centre Foundation, GEC)，並將相關資訊自動轉換成國際通用的英文，同時也希望在未來透過可以發展每一 VC 成員可以適用的計畫，透過 VC 單一入口網來進行相關工作，並且網站必須可以連結到其他國際組織與環境相關的學術機構與社會組織等。

6. 馬來西亞

馬來西亞代表 Mazlin Bin Mokhtar 博士介紹了馬來西亞的國家綠色科技政策，包含能源、經濟、環境與社會等，馬來西亞政府正聚焦在綠色發展相關計畫，綠色科技將成為國家發展新的成長動能。

對於未來亞太環境技術交換虛擬中心開道網站的發展，馬來西亞同意建構成為單一入口網站，成為聯繫其他經濟體節點網站的樞紐，以利技術資訊共享及相關工作活動交流，未來目標則可以鼓勵環境技術上的協作與推動。

7. 菲律賓

服務於菲律賓政府工業技術發展局科學與技術部的菲律賓代表 Carmel C. Gacho 博士表示，過去菲律賓虛擬網站已經整合了空氣污染、固體廢棄物管理與廢水管理等相關科學研究資訊。在與 APEC-VC 有關的活動，也進行了與能力建構相關的計畫如固體廢棄物管理的工作研討會，並持續多樣的環境技術整

合在本地的網站上，在未來發展的規劃則將活化本地的網站，並加強與其他組織間的聯繫關係。

8. 越南

越南代表 Nguyen Manh Quan 先生於會議上表示，希望未來看到更多工作小組的成果與訓練課程、環境技術與廢水處理計畫有關的資訊。

(四) 討論與閉幕

會議最後一個議程為討論虛擬中心閘道網站的設計與發展及活化網站的相關規劃，由澳洲國立大學氣候變遷研究中心 (ANU Climate change institute) Lance Heath 博士擔任主席針對各與會經濟體代表討論的結果總結。

經本次會議討論結果，主要歸納如下：

1. 需釐清 APEC-VC 後續發展的優先順序與挑戰為何。
2. 未來發展需思考可與哪些研究發展機構合作。
3. 發展強而有力的網路將非常迫切，如何達成此一目標？其他團隊目前的工作是否可與 APEC-VC 結盟共同發展可納入考量。
4. 由於目前仍缺乏資金的支持，必須有尋求資金來源的策略，特別是在用於資訊的英文翻譯上，未來可藉由韓國的資源來處理有關英文網頁翻譯問題。
5. 未來與 APEC-VC 目標有關的發佈資料庫與資訊必須經由全體 APEC-VC 經濟體的認可。
6. VC 單一入口網的設計需考量親和性，並請能夠衡量入口網的使用情形，包括誰在使用以及使用的用途等。
7. 後續建構網站雛形的工作需要考量每個經濟體的需求，並識別哪些資料是可已普遍的需求。

二、6月11日參訪 ENVEX 國際環保技術和綠色能源展

6月11日上午是全體與會人員由飯店驅車前往位於首爾市江南區三成洞國際會議暨展示中心(COEX)，該中心是南韓其中

一個最大型的展覽館，本次參訪的第 35 屆國際環境產業技術與綠色能源展（The 35th International Exhibition on Environment Technology & Green Energy, ENVEX 2013）即於該展覽館舉行。

ENVEX 2013 展覽主要的主軸為能源技術與環境技術，能源技術部分包含光電類、太陽能、風力、氫能源燃料電池、能源效率、生質能源、廢棄物能源、海洋能源、IGCC 能源及綠色車輛與運輸等類，環境技術部分則包含政府部門政策與計畫、水質、空氣、廢棄物、度量儀器、生態、海洋等相關環境技術。

本次國際環境產業技術與綠色能源展共有來自 40 個國家與區域的 350 個參展企業與機構參與，承辦 2013 亞太環境技術交換虛擬中心 (APEC-VC) 會議的南韓環境產業技術研究院 (KEITI) 則為 ENVEX 2013 展覽會的主辦單位之一，KEITI 當日也派員在現場為與會人員簡要說明目前該機構在綠能發展與應用。

參、心得與建議

- 一、多數參與環境技術交換虛擬中心的成員普遍認為後續發展的障礙主要來自於資訊更新及資訊翻譯所需經費的支持。
- 二、過去 VC 的發展係透過網際網路連結各經濟體各別建立的網站，惟受限各經濟體發展條件及重點互異，網站長久經營不易，本次會議共識為初步建立單一入口網站方式來達成環境技術資訊的流通。
- 三、韓國已接受擔任 VC 秘書處角色，與會成員希望由韓國統籌處理各經濟體提供資訊之翻譯並建立資料格式等相關標準，後續將朝向單一入口的架構發展，本署目前無需再重新建構本地網站，可先蒐集國內環境技術相關資訊，以利後續工作會議參與討論。
- 四、對於後續建構單一入口網站的雛型框架尚需考量各經濟體的

各別需求，例如研究發展資料庫、技術提升、政策發展、能力建構、網路鏈結及強大搜尋功能等不同面向，這些面向也是本署未來配合此計畫蒐集相關資料的參考。

五、 如何強化計畫發展所需的能力建構也是本會議焦點之一，未來的工作會議將討論如何透過協作來展現其益處。建議本署未來可持續參與工作會議，以擴大多方交流與學習。



圖 1 會議現場



圖 2 環保署同仁出席大會全體人員合影



圖 3 環保署同仁出席大會與各經濟體代表合影



圖 4 ENVEX 2013 國際環保技術和綠色能源展入口處



圖 5 ENVEX 參展廠商介紹廢棄物利用生物分解處理過程

附錄 會議資料

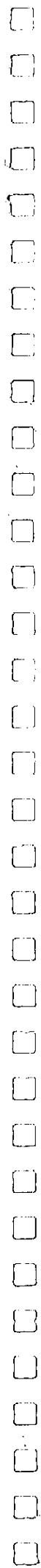


**Asia-Pacific
Economic Cooperation**

**APEC Virtual Center for
Environmental Technology Exchange**

Annual Workshop

10-11 June 2013, Seoul, Korea



2013 APEC-VC Seoul Workshop

10-11 June, Seoul, Korea

I N D E X

1. Session 1 : Opening Ceremony

- Agenda for 2013 APEC-VC Seoul workshop
- Welcoming remarks

2. Session 2 : APEC-VC Roadmap and Plan to vitalize APEC-VC Gateway Website

3. Session 3 : Report of activities by each economy

- VC Australia
- VC Chile
- VC Chinese Taipei
- VC Thailand
- VC Japan
- VC Malaysia
- VC Philippines
- VC Vietnam

Appendix : Applying for Funding : Development of APEC-VC Single Entry Point

- Concept Note
- Project Proposal
- QAF
- QA
- Approval of Project Proposal



Agenda for 2013 APEC-VC Seoul Workshop

Seoul, 10-11 June 2013

Date	Time	Agenda Item
June 10	10:00-10:30	Registration
	10:30-10:40	Session 1 Opening ceremony
	10:40-10:45	- Opening Remarks
	10:45-11:00	- Group photo
	11:00-11:30	- Short break
		Session 2 APEC-VC Roadmap and Plan to vitalize APEC-VC Gateway Website
		- Presentation from APEC-VC Korea
	12:00-14:00	Lunch Break
		Session 3 Report of activities by each economy
	14:00-14:10	- VC Australia
	14:10-14:20	- VC Chile
	14:20-14:30	- VC Chinese Taipei
	14:30-14:40	- VC Thailand
	14:40-15:00	Coffee Break
15:00-15:10	- VC Japan	
15:10-15:20	- VC Malaysia	
15:20-15:30	- VC Philippines	
15:30-15:40	- VC Vietnam	
15:40-16:00	Coffee Break	
	Session 4 Discussion on designing & developing VC gateway website and plan to vitalization	
16:00-17:00	- Open forum by chairman	
17:00-17:30	- Chair's summary	
17:30-17:40	- Closing of Seoul workshop	
19:00-20:00	Reception (Stanford Hotel)	
June 11	10:00-12:00	Visiting ENVEX 2013 (move to COEX by bus)
	12:00-13:00	Lunch Break
	14:00-17:00	City tour (National Museum of Korea)
	17:30-17:50	Visiting KEITI
	18:00-20:00	Farewell Party (Jahamoon, Korean Restaurant)
June 12	-	Leaving Seoul



Establishment of APEC-VC Roadmap (2013-2017) and a Plan to Vitalize APEC-VC Project

APEC- Virtual Center for Environmental
Technology Exchange , Korea.

10 June , 2013



CONTENTS

1. APEC Virtual Center Project
2. APEC-VC Activities in the Past
3. APEC-VC Roadmap for 2013 – 2017
4. Future Plan for Project



1. APEC Virtual Center Project

◆ APEC-VC Status



-Approved as one of the official APEC projects at the APEC conference in Osaka, 1995.

- Composed of 12 member economies in the APEC region.

- Opened 5 VC websites creating a global network



VC
Korea



VC
Japan



VC
China



VC
Malaysia



VC
Chile

2. APEC-VC Activities in the Past

1) Held APEC-VC Workshops

◆ 2007 Seoul Workshop on June 11 – 13



◆ 2010 Osaka Workshop on Nov 22 - 25



◆ 2009 Canberra Symposium on Oct 27 - 31



◆ 2012 Osaka Workshop on July 14 - 17



2. APEC-VC Activities in the Past

2) Project Period Extension (2013-2017)

◆ 2012 43rd APEC ISTWG Meeting

Subgroup D, "Technological
Cooperation and Strategic Planning,"



◆ Designated as a APEC-VC Secretariat

- Submitted a concept note to apply fund (Feb 2013)
- Established a Roadmap for 2013-2017 (Mar 2013)



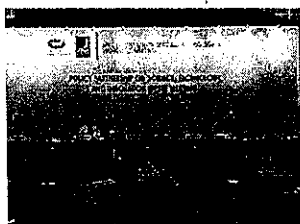
APEC-VC is operated by Korea National Environmental Information Center (KONETIC) which manages various websites included in KEITI. Please visit VC Korea: www.apec-vc.or.kr

3



2. APEC-VC Activities in the Past

3) Applied APEC Project Fund

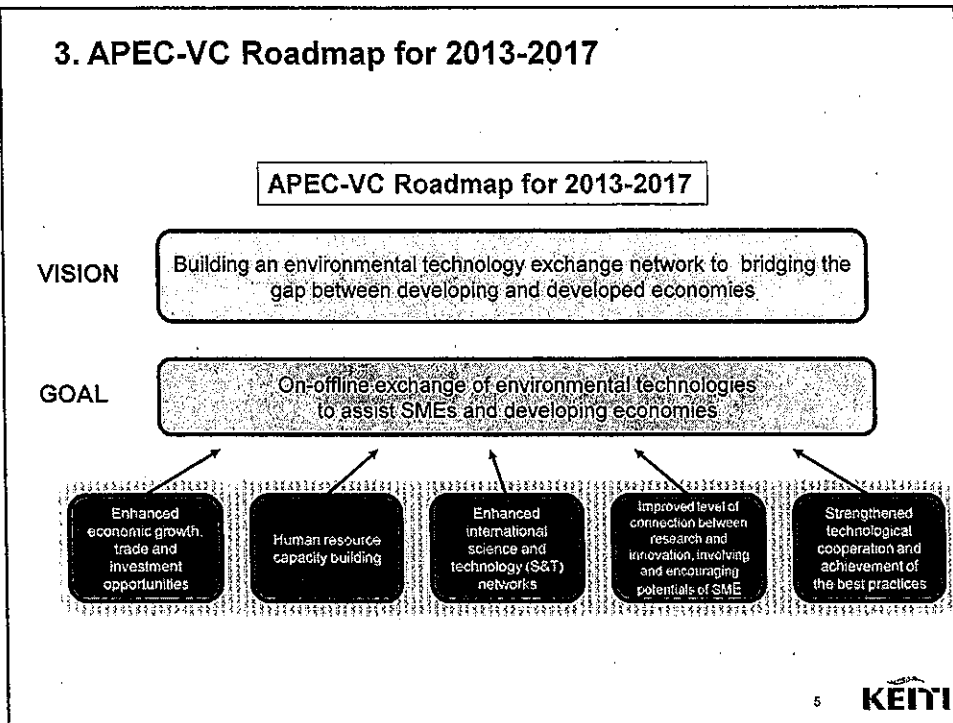


- Submitted Concept Note to APEC Secretariat (Jan 31)
- Attended 1st PPSTI meeting and presented about APEC-VC project (Apr 10)
- Submitted Project Proposal and 4 QAFs (Apr 22)
- Approved from APEC BMC (May 17)

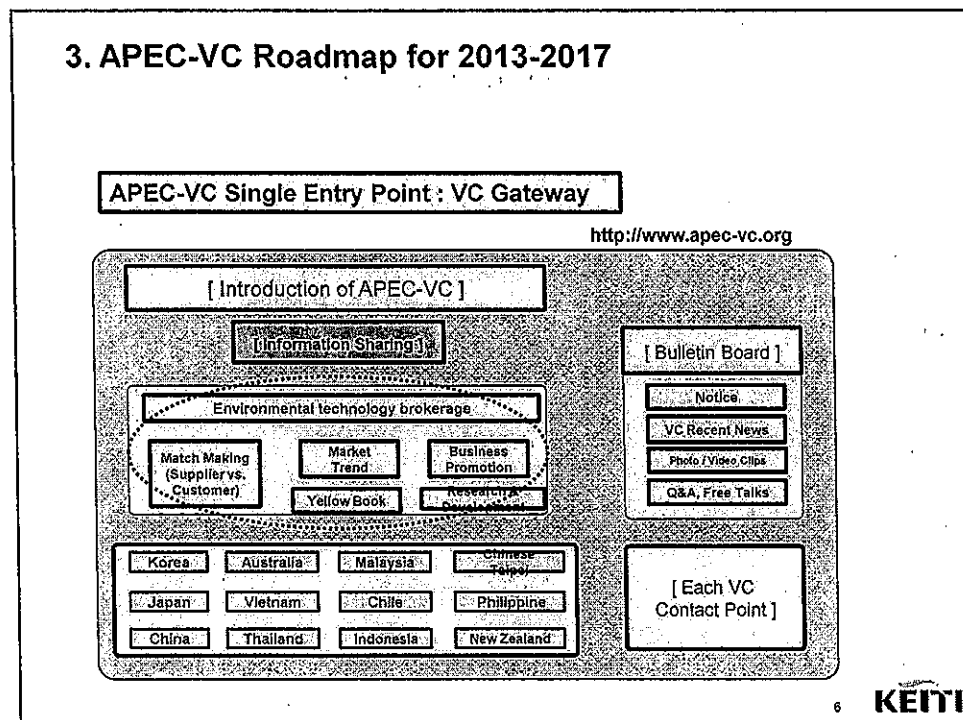
4



3. APEC-VC Roadmap for 2013-2017



3. APEC-VC Roadmap for 2013-2017



3. APEC-VC Roadmap for 2013-2017

Objectives

- To exchange of environmental technologies and products
- To increase the green economy through the focus on developing economies and SME's environmental industry.

Outputs and Beneficiaries

Outputs: Hub-site, Workshop, DB, (Reports from VC member economies)

Direct beneficiaries:

- Private (Environmental related SMEs, leading companies, NGOs, academia, research and citizens)
- Public (Administration: Public officials, public institutions, varied legislation related institutions)

3. APEC-VC Roadmap for 2013-2017

Workplan



	Step 1	Step 2	Step 3
Activities	- Organize a VC workshop	- Develop the website	- Operate website &
Outcomes	- 15 Participants attend the workshop - Consensus on the developing & operating gateway website	- Build a gateway website to become a global hub of environmental technology exchange	- Hold VC workshop - Various stakeholders can access the database uploaded on the website (incl. Research report, technical report etc) - 12 Participants attended the workshop - Discuss on the progress reports & vitalization plan
Outputs	- List of participants - Chair's summary	- Request for proposal Contract (agreement) - VC gateway website - Website manual	- Database - Brochure - Survey & Assessment on the result of the website - List of participants - Chair's summary

3. APEC-VC Roadmap for 2013-2017

Monitoring and Evaluation

- Quality criteria for Website excellence
(Number of website hits, page views, visitor statistics etc.)
- Satisfaction survey & Expert evaluation

Linkages

- With other APEC working groups (such as SME-WG, RTAs/FTAs-WG)
- Regional cooperation with research institutions and organization (LoCARNet)



3. APEC-VC Roadmap for 2013-2017

Budget

All Figures in USD	# of Units	Unit Rate	APEC Funding	Self-Funding	Notes
Direct Labour					
Contractor (including Contractor's Secretaries and Researchers) fees	(# of hours)	-	-	-	
Researcher Jinseon Yim	360	80	-	28,800	
Research Assistants	200	10	-	2,000	
Research Assistants	200	10	-	2,000	
Travel for Participants (from travel-eligible economies only, Active participants only)					
Per diem (incl. accommodations and 75% additional payment*) -2013 Seoul Workshop	(# of persons and days) 5*2.75	400	7,500	7,200	Seoul
Airfare (restricted economy class) -2013 Seoul Workshop	(# of persons and trips) 5*1	600	3,000	6,400	
Per diem (incl. accommodations and 75% additional payment*) -2014 Workshop	(# of persons and days) 5*2.75	400	7,500	7,200	Seoul (Tentative)
Airfare (restricted economy class) -2014 Workshop	(# of persons and trips) 5*1	600	3,000	6,400	
Other Items					
Developing Gateway website	1	-	49,000	-	
Developing Databases		-	-	34,000	
Total:			70,000	82,000	



4. Future Plan for Project

How to vitalize APEC-VC Project..

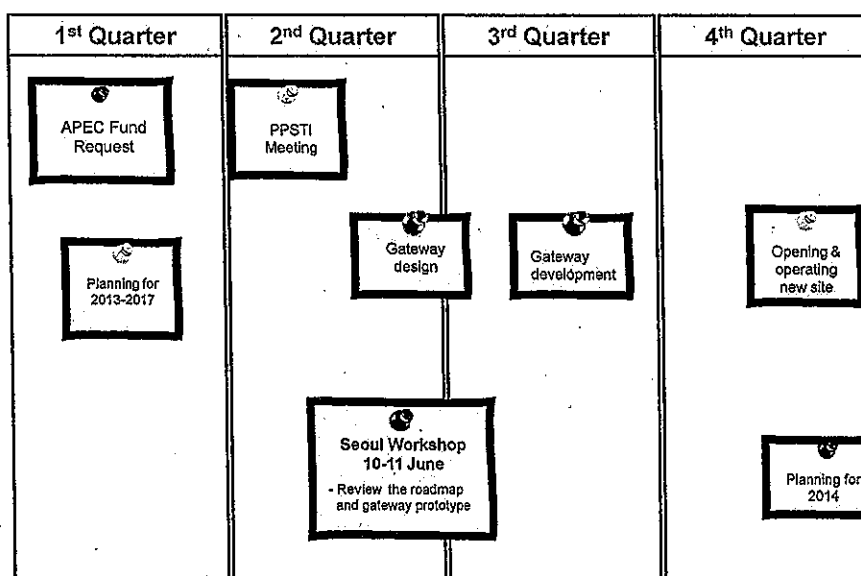
Invigorate online exchange of environmental information through APEC-VC Gateway site

- Operate a gateway site stably with governmental funding (MOE)
- Upload DBs steadily (by VC Secretariat or each members)
- Encourage users' participation (SNS)

Offline exchange of environmental information through expanded workshop

- Provide opportunities for technology transfer and/or international cooperation by involving private and public sectors
- Strengthen the linkage with other organizations

Roadmap for 2013





APEC-VC Roadmap (draft)

2013-2017

APEC Virtual Center for
Environmental Technology Exchange, Korea

1. Introduction

It has been 18 years since APEC-VC for Environmental Technology Exchange Project was approved as one of the official APEC projects at the APEC conference in Osaka, 1995. 12 member economies in the APEC region opened its website called "Virtual Center", creating a global network regarding the information on any environmental field and energy-saving across the Pacific Rim.

Prior to the expiration date of the APEC-VC Project, which to be expired at the end of 2012, VC economies were gathered at the Osaka Workshop held by VC Japan. At the workshop, VC economies have unanimously agreed that this project should be continued and VC Korea is the strongest candidate for the next secretariat of APEC-VC. We discussed, debated and ruminated on this issue how this project can accomplish APEC mission in terms of strengthening the integration of regional economic and expansion of trade.

In 2012, we presented a concept note titled a "Development of APEC-VC Single Entry Point", which includes the project plan that was mentioned at the 43rd IST-WG meeting held in Taipei. As it endorsed by members, the project was to be extended from 2013 to 2017. The concept note describes our action plan as follows:

We will ambitiously promote VC project to become a global hub of environmental technology exchange. As a result, the technology gaps between the developed and the developing countries will be significantly bridged. We will use feasible, appropriate measures to lessen the technological dependence in the developing countries.

For new project period from 2013 to 2017 to be successfully completed, we have prepared a roadmap to make our action plan detailedly. This will keep improved through continuous discussion and communication with the member countries.

2. Objective -- Vision and Goals

Under the initiative of the VC Project, the APEC member economies opened a website called a Virtual Center and mutually provided and shared the environmental technologies information and knowledge offered by the governments, business and environmental institutions over the internet, creating a substantial network by organically connecting each VC and promoting the exchange of environment technology related information. We have strived to expand the network and promoted the transfer of technology. Advanced APEC economies have developed such technologies for energy and environment conservation with a considerable reduction in CO₂ followed by the introduction of energy-efficiency technologies and with the achievement in the high energy efficiency encouraged by energy-efficiency measures. In this respect, APEC-VC is an effective project in implementing APEC growth strategies which we utilize for information on those technologies widely available in the APEC region.

The objective of this project is to exchange environmental technologies and products and then increase the green economy through the focuses on developing countries and SME's environmental industry. We are planning to invite private sector such as environmental companies and provide a match making to find new supplier, consumer and new business partner. This will contribute to improve the ways of accessing to the global market for those technologies from SMEs.

Based on above, the project vision and goal for next 5 years have been established as follows:

Vision

- Building an environmental technology exchange network to bridge the gap between developing and developed economies

Goal

- On-offline exchange of environmental technologies to assist SMEs and developing economies

3. Strategy

Alongside these objectives, we defined our direction for this project based upon the medium-term plan of the IST (PPSTI) group for 2010-2015.

Med-Term Plan of the Group for 2010-2015	VC Activities
Enhanced economic growth, trade and investment opportunities	<ul style="list-style-type: none"> - Establish a VC single entry point (gateway) and utilize it as a bulletin board specialized in the business information to promote environmental business for SME's at home and abroad - Matching making to find new supplier, customer and business partners
Human resource capacity building	<ul style="list-style-type: none"> - Awareness activities by holding an annual workshop, SNS, Forum, site visits and newsletter
Enhanced international science and technology (S&T) networks	<ul style="list-style-type: none"> - Build a stronger linkage with other APEC projects/networks such as an APEC Climate Centre
Improved level of connection between research and innovation, involvement and encouragements of SMEs and their potentials	<ul style="list-style-type: none"> - Share R&D ideas and outputs between the VC economy's research institutions - Develop R&D knowledge base by inviting university, public institution, companies, etc. - Intriguing research sponsors such as public institutions and industry field
Enhanced technological cooperation and achievement of the best practices	<ul style="list-style-type: none"> - Notify to get governmental environmental support, i.e. 'Establishment of environmental management master plan' - Share international cooperation program for environmental technologies

(1) Enhanced economic growth, trade and investment opportunities

For enhanced economic growth, trade and investment opportunities, we will establish a VC single entry point and a match making to find new supplier, customer and business partner.

The gateway will offer online community board for environmental industry players in each country to share their laws, market trends, product and services. By doing this, the primary contents manager should move from public sector to private sector for site to invigorate by users' hands voluntarily.

Then, the global users having inquiries and promotional contents can share their environmental field information. VC sites should be recommended as a 'website must visit' in terms of searching any relevant foreign environmental technologies.

Also we will establish a cooperative network among the APEC member economies to promote their excellent environmental companies. One of our systems, "Cyber Environmental Exhibition" is the one assists the trade consultation and eventually contribute to vitalize the trades between the environmental industries from each member country.

(2) Human resource capacity building

We will hold an annual workshop, SNS, forum, site visits and newsletter to offer awareness activities to build human resource capacity.

Furthermore, we will provide information on environmental education or training programs, especially environmental policies and international cooperation. For example, National Institute of Environmental Human Resources Development (EHRD) of Korea provides a variety of education services. We will upload this educational information on VC Gateway and provide them to VC member economies, helping developing countries to build their human resource capacities.

(3) Enhanced international science and technology (S&T) networks

For enhanced international science and technology networks, we are planning to build a stronger linkage with other APEC project/networks such as the APEC Climate Centre (APCC).

Also we will continuously participate in PPSTI meeting to exchange the information.

In order to share R&D ideas and their outputs, we are going to invite university, public institution and company to develop R&D knowledge base, improving the level of its connection.

(4) Improved level of connection between research and innovation, Involvement and encouragement of SMEs and their potentials

To improve the level of connection between research and innovation, APEC-VC will encourage R&D sharing involving private sector such as environmental corporations

We will promote sharing R&D ideas and outputs between the VC economy's research institutions and develop R&D knowledge base by inviting university, public institution, companies, etc. By doing this, we could attract research sponsors such as public institutions and industry field.

In addition, VC Secretariat would suggest tentatively titled "APEET" to discover the outstanding SMEs and to contribute fostering the environmental technology industry. Continuous communication and preparation from each member economies are essentially required to develop "APEET" as our new project. We may consider applying APEC funds in the future to secure enough funds.

APEET (APEC-VC Prize for Excellent Environmental Technology)

The APEC-VC is required to raise awareness, promote potential of environmental SME in APEC region. So Secretariat is intended to create APEET (APEC-VC Prize for Excellent Environmental Technology) to annually award whatever the business having an excellent environmental technology. This prize will vitalize and enhance public interest in environment technology across the VC member economies.

Each VC member can recommend 1 corporation from their country. And reference letters from at least 1 person/organization should be attached to the application form. Secretariat will set up an advisory committee in coordination with VC economies to evaluate nominees and establish standards to select candidates and judge the qualification of the company. The advisory committee will carefully evaluate the most suitable company based on the screening criterion.

(5) Enhanced technological cooperation and achievement of best practices

To enhance the technical cooperation, we will share the information regarding the governmental support for environmental issues (i.e. 'Establishment of environmental management master plan'), international cooperation program for environmental technologies.

Especially we will introduce the best practices of international cooperation program that was implemented to disseminate environmental policies and technologies between developing and developed countries. Developing countries could seek new partnership and/or network to adopt advanced technology.

3. Conclusion

By implementing actions mentioned in this roadmap we sincerely desire to build human capacity and expand the green partnership to exchange environmental technology information by encouraging the involvement of experts in industry, academy and research institute etc.

And we will assist developing countries to improve environmental industry through the exchange of such technologies related to environment, energy reduction and so on. Thereby, APEC-VC project and also its status as an international organization will be more enhanced.

We will make collaborative efforts to implement our plans and review the progress on regular basis to obtain successful results by holding annual workshops and continuous communication with the VC member economies

**“Establishment of the APEC VC Roadmap and Plan to
Vitalize APEC VC Gateway Site”**

**APEC VC Workshop
Seoul, Republic of Korea.**

Lance Heath
Business and Project
Development Manager

<http://cci.anu.edu.au/>

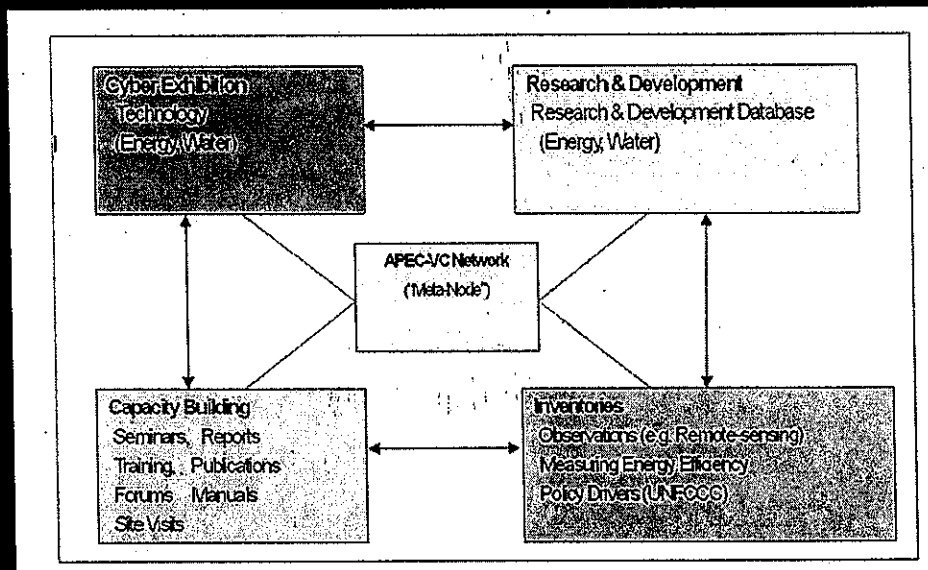
Prior to the expiration date of the APEC-VC Project, at the end of 2012, APEC VC economies unanimously agreed at the Osaka Workshop, hosted by APEC VC Japan, that the APEC VC project should be continued with APEC VC Korea endorsed as the new APEC VC secretariat.



Challenges

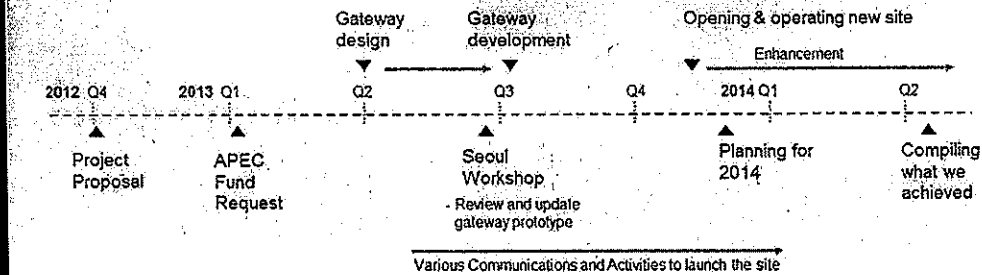
- Funding (invite Aid agencies, stakeholders to future workshops)
- Discuss long term funding strategies at this first workshop.
- Contact national focal point members. May need to re-establish the network for those economies that have lost contact.
- No uniformity with respect to websites. The importance of a single entry point or portal (Gateway).
- Must be interactive (notifications of workshops newsletters)
- Data ownership.
- Must be of benefit to the SMEs and Research Institutions.
- How to make APEC VC attractive to others (brokerage role)
- There is a need to strengthen our links with other networks.
- Identify those economies that are interested but are not currently part of the APEC VC network.

The APEC VC Roadmap



- The APEC VC Project should continue to pursue the four pillars approach

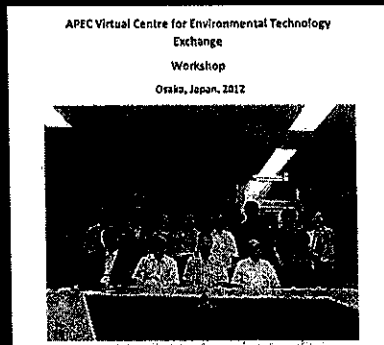
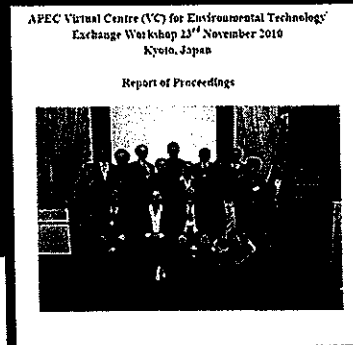
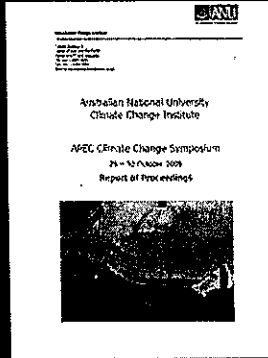
● Roadmap for 2013



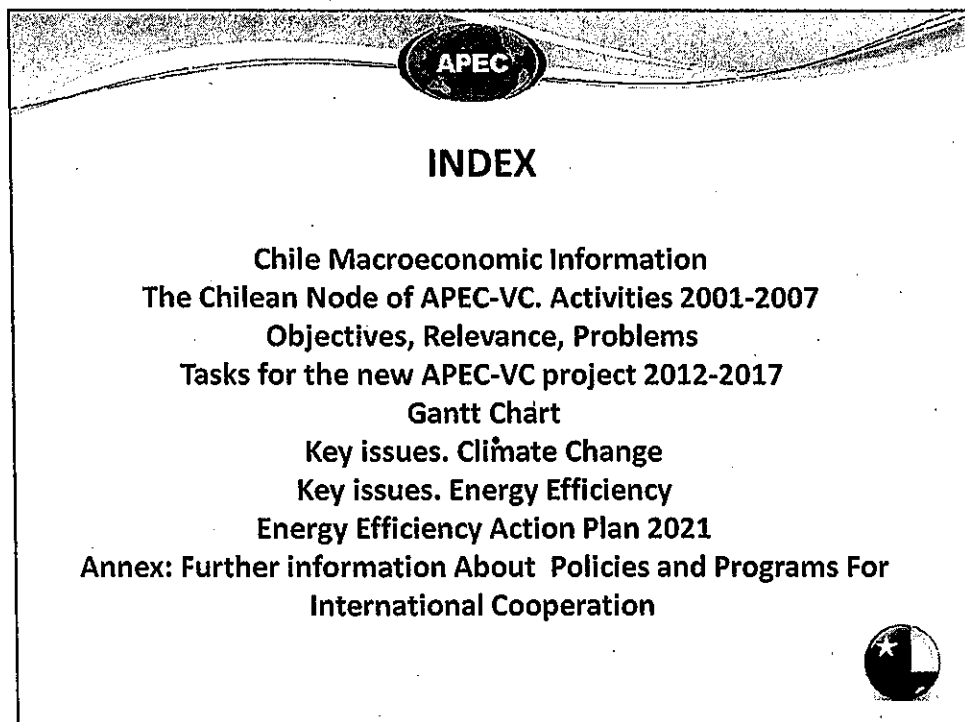
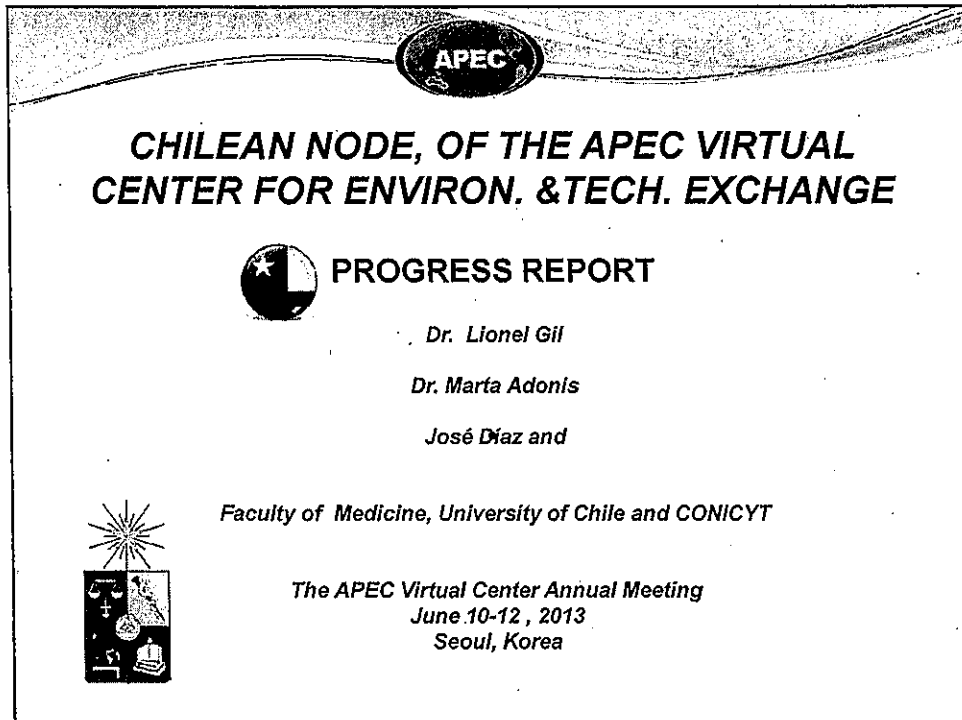
- Engage environmental companies and to provide opportunities for business promotion (Enhanced economic growth, trade and investment opportunities).
- Strengthen Research and Development activities (strengthen technological cooperation) (Locate collaborators, matching funds (not just APEC funds) and share information and ideas).
- Develop stronger linkages with other APEC projects/networks such as the Low carbon Asia Research Network (LOCARNET) and others.
- Research and Development database on research institutions developing renewable energy technologies and water technologies in the Asia-Pacific region (one of the four pillars of the APEC VC Road-map).
- Enhance human capacity building (APN).

Recent APEC VC workshop reports

http://cci.anu.edu.au/research/levs/research_programs/projects/environmentaltechnology_transfer/asia-and-the-pacific/



Thank you




APEC

- CHILE SIGNED AGREEMENT 1994
- APEC 21 ECONOMIES ¹
- APEC 63 % OF TOTAL WORLD POPULATION ²
- 63% OF CHILEAN EXPORTS GOES TO APEC ECONOMIES ¹
 - 55% OF IMPORTS ARE FROM APEC ECONOMIES ¹
 - FREE TRADE AGREEMENTS WITH 13 APEC MEMBERS ¹
- MAIN COMMERCIAL APEC CHILEAN PARTNERS: CHINA , USA, JAPAN, SOUTH KOREA, MEXICO AND PERU ¹

Sources: 1.- SOFOFA (Federation of Chilean Industry)¹ 2.- Ministry of Economy



CHILE Macroeconomic Information

	Population Estimated	Gross Domestic Product (GDP)		Unemployment rate
	(Million) ¹	Per capita (Thousand U.S. Dollar)	Country (Billions U.S. Dollar)	%
2008	16,4	14,9	164,3	10
2009	16,6	14,7	170,7	9,6
2010	16,7	15,4	160,8	8,7
2011	16,8	17,4	203,4	6,6
2012	17,0	17,9	268,0	5,2

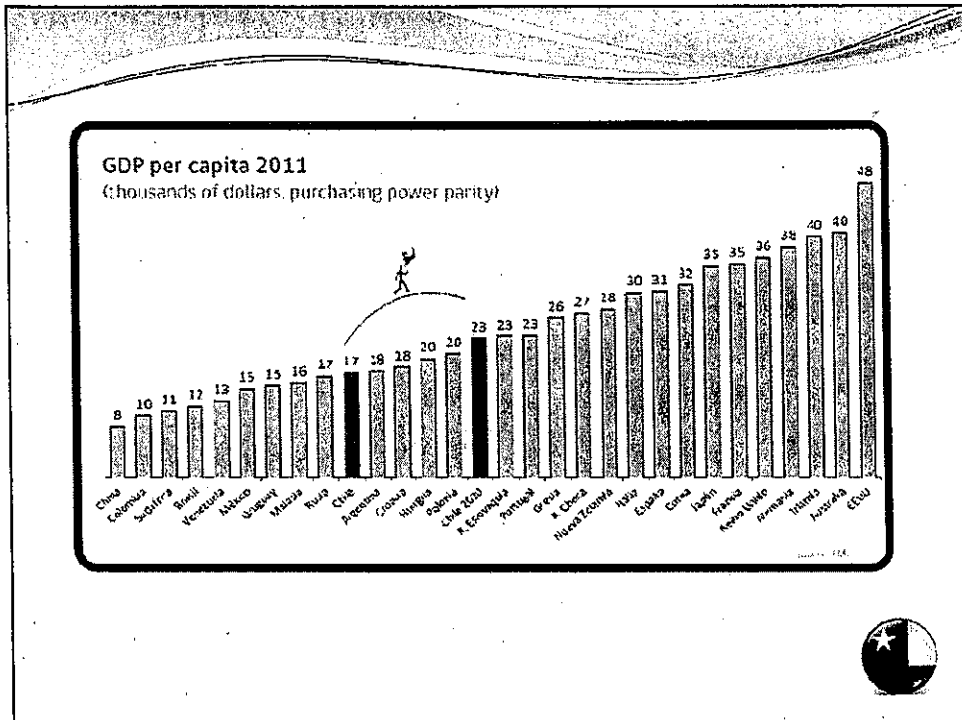
	EXPORT	IMPORT	COMM. BALANCE	INFLATION %
	(Billions U.S. Dollar)			
2008	66,46	57,61	8,85	8,31
2009	53,74	39,75	13,99	3,13
2010	64,28	64,29	-0,01	0,91
2011	81,71	70,92	10,79	3,2
2012	78,81	79,27	-0,46	3,5

1.- Compendio estadístico INE 2013

2.- Evolución de la actividad económica Chile. Banco Central 2012

3.- Indicadores Macroeconómicos. Banco Central de Chile 2012





Making Bussines With the World

- Chile make bussines with more of 190 countries, with an estimated population of 4.3 billions inhabitants, equivalent to 85.7% of the world GDP (2012)
- 93% of commercial exports of Chile are with countries with trade agreements (2012)




APEC Virtual Center for Environmental Technology Exchange
Save the Earth, Save the Future. Chilean Node

INTRODUCTION

CONICYT CHILE LAUNCHED IN 2001 THE CHILEAN NODE OF THE APEC-VC FOR ENVIRONMENTAL TECHNOLOGY EXCHANGE.


AIM: TO INCREASE THE ACCESSIBILITY TO INFORMATION ON ENVIRONMENTALLY TECHNOLOGIES THAT ARE AVAILABLE WORLDWIDE.



APEC Virtual Center for Environmental Technology Exchange
Save the Earth, Save the Future. Chilean Node

OBJECTIVES

- FACILITATE THE EXCHANGE OF ENVIRONMENTAL TECHNOLOGY INFORMATION WITHIN APEC ECONOMIES.
- PROMOTE BUSINESS OPPORTUNITIES
- EXCHANGE TECHNOLOGY AND PRODUCT INFORMATION OF THE CHILEAN ENVIRONMENTAL INDUSTRY .
- PROVIDE THE LATEST UPDATED CHILEAN INFORMATION ABOUT ENVIRONMENT: POLLUTION, TECHNOLOGIES, LAWS, REGULATIONS, POLICIES, MEASURES AND PROJECTS.
- CONTRIBUTE TO ENVIRONMENTAL PROTECTION IN CHILE.




APEC Virtual Center for Environmental Technology Exchange

Save the Earth, Save the Future. Chilean Node


RELEVANCE

- **THE FIRST APEC-VC NODE IN SPANISH LANGUAGE.**
- **PROVIDED INFORMATION OF APEC-VCs AVAILABLE TO LATIN AMERICAN COUNTRIES AND SPAIN (ABOUT 400 MILLIONS INHABITANTS).**
- **HIGH NUMBER OF VISITS (60.644 MARCH 2006-2007)**



PROBLEMS

- **THE MAIN PROBLEM OF THE VC CHILEAN NODE WAS THE LACK OF FINANCIAL SUPPORT MAKES DIFFICULT TO:**
- **IMPROVE THE WEB SITE QUALITY AND TECHNOLOGY**
 - **PROVIDE INFORMATION**
 - IN A SECOND LANGUAGE, USEFUL FOR ALL THE PARTICIPANT ECONOMIES (ENGLISH)**
- **THE CHILEAN APEC-VC FINISH UPLOAD INFORMATION IN 2007**



TASKS FOR THE NEW APEC-VC PROJECT

- Rebuild the web site to meet the objectives of the New APEC-VC project 2012-2017.
- Strengthening Chile APEC-VC by adding new items to the common classification system, enrich content uploaded and improve the convenience of searching method.
- Diffuse and promote the information on environment and energy conservation technologies, environmental measures and policies of environment and energy conservation technologies
- To diffuse APEC growth strategies with the aim to achieve economic growth sustainable, innovative and secure.



TASKS FOR THE NEW APEC-VC PROJECT

- Promote technologies for Energy Efficiency and Environmental Conservation .
- Improve the access to environmental goods and services and links this to development of the Chilean Industry environmentally friendly.
- Promote related business by disseminating information on these technologies through the framework of APEC-VC-Chile.
- Promote the findings or lessons learned from previous APEC-VC projects.



TASKS FOR THE NEW APEC-VC PROJECT

- Searching in the Industrial Private and Public sector for beneficiaries of this APEC project.
- Promote the project in different ministries Education, Economy, Environment, Energy, Universities and Research Institutions. Other institutions financing innovation, & RD and Clean technologies



Gantt Chart

Year & Month Item	2013			2014			
	6	7-9	10-12	1-3	4-6	7-9	10-12
Seoul Meeting 2013	█						
Rebuild the web site		█	█	█	█	█	█
Adding new items		█	█	█	█	█	█
Enrich content uploaded		█	█	█	█	█	█
Diffuse information on envir. & energy conservation Tech.		█	█	█	█	█	█
Diffuse APEC growth strategies		█	█	█	█	█	█
Promote the findings or lessons learned from APEC-VC projects		█	█	█	█	█	█
Promote envir. business within the participant economies		█	█	█	█	█	█
Searching beneficiaries in the Industrial Private and Public sector		█	█	█	█	█	█
Promote the APEC project in Chilean gov. institutions and private sector		█	█	█	█	█	█



KEY ISSUES CLIMATE CHANGE

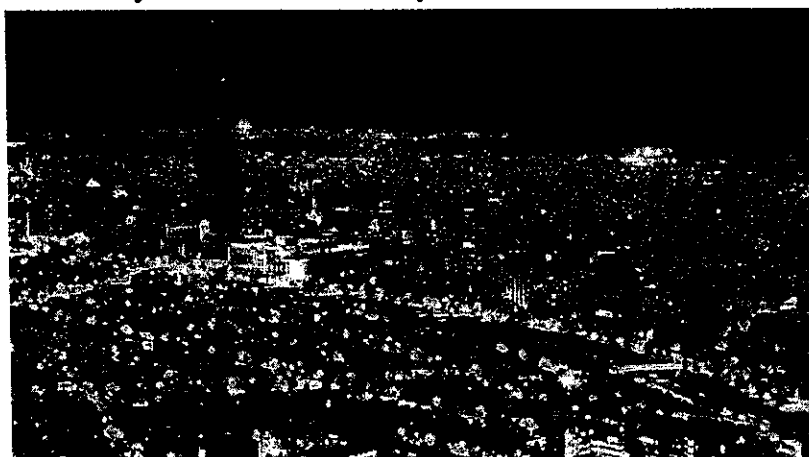
- **Although Chile is not a globally relevant issuer, accounting for only 0.26% of global emissions of green house gases, these are growing rapidly.**
- **In absolute terms, the energy sector contributes in a dominant and growing national emission values, with an increase of 124.6% between 1990 and 2010, reaching in 2010 a value of 69.7 million tonnes of CO₂**

Source Ministry of Energy 2011. www.minenergia.cl



KEY ISSUES

Energy efficiency is a relevant issue for Chile. Energy efficiency measures are required



Evolution of Energy Consumption (Tera calories)

	Transport	Mining and Industry	Commercial, Public and Residential	Energy Sector: Auto Consumption	Total Consumption
1991	37,440	43,815	36,954	4,255	122,464
2001	67,320	75,118	56,282	5,595	204,315
2011	87,189	100,326	71,410	12,504	271,429

In 20 years 145% increased

Ministry of Energy 2011. www.minenergia.cl



Energy Dependence

	Total Supply primary energy (Tcal)	Imported Energy (Tcal)	Energy Dependence (%)
1991	144,549	76,470	52,9%
2001	248,172	191,251	77,1%
2011	339,836	265,207	78,0%

Source Ministry of Energy 2011. www.minenergia.cl



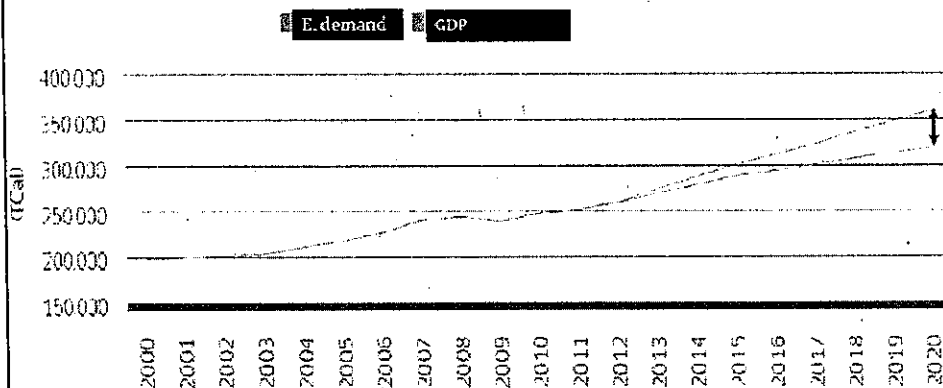
ENERGY CONSUMPTION IN CHILE

Oil and Oil products	54,0% (import 96,5%)
Electricity	19,2%
Wood and its products	17,8%
Natural Gas	5,5 %



Source Ministry of Energy 2011. www.minenergia.cl

ENERGY EFFICIENCY ACTION PLAN 2020 (PAEE20)



Good correlation between GDP and energy demand since 1960-2011.



Source Ministry of Energy 2011. www.minenergia.cl

EFFICIENCY ACTION PLAN ENERGY 2020 (PAEE20)

- **The Action Plan aims to achieve a 12% reduction in projected energy demand in 2020, based on 2010.**
- **This would lead to fewer Tcal estimated 43,000 in 2020, representing just for electricity that is left to consume, a power displaced about 1,100 MW with consequent economic benefits to the country.**
- **Achieving this goal will generate additional benefits such as higher levels of industry production and lower CO₂ emissions, among others**



Estimated savings for 2020 are as follows

Economic Sector	Savings in 2020 (Tcal)	Savings in 2020 (%)
Industry and Mining	16,900	39
Transport	5,000	12
firewood	8,000	19
Other	13,100	30
TOTAL	43,000	100




Source Ministry of Energy 2011. www.minenergia.cl

The
Economist

The lure of Chilecon Valley


As America shuts out immigrant entrepreneurs, Chile welcomes them



Bienvenidos a Chile
Number of firms admitted to start-up Chile since 2010. Up to 150,000 of 500

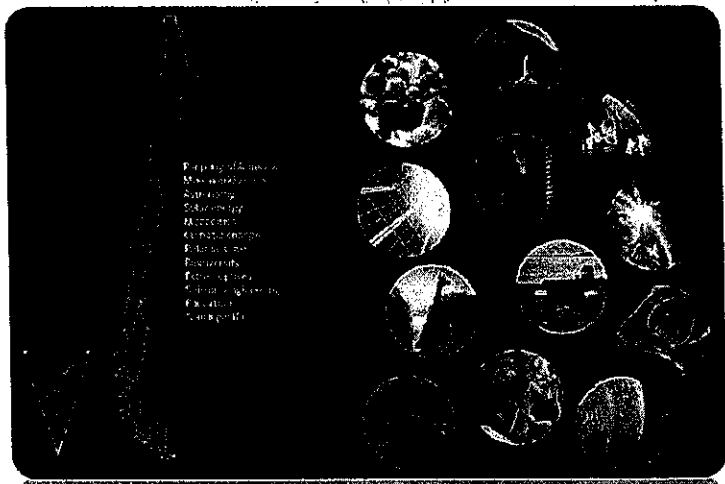
Country	Number of Firms
United States	150,000
China	100,000
Argentina	50,000
France	25,000
Canada	15,000
Britain	10,000
Spain	5,000
Germany	5,000
Poland	5,000
South Korea	5,000


October 13th 2012



Natural Laboratory

Property of...
 Measurement...
 Sampling...
 Calibration...
 Accuracy...
 Precision...
 Reliability...
 Validity...
 Reproducibility...
 Sensitivity...
 Specificity...
 Selectivity...
 Robustness...
 Resilience...
 Adaptability...
 Flexibility...
 Scalability...
 Sustainability...
 Resilience...
 Adaptability...
 Flexibility...
 Scalability...
 Sustainability...






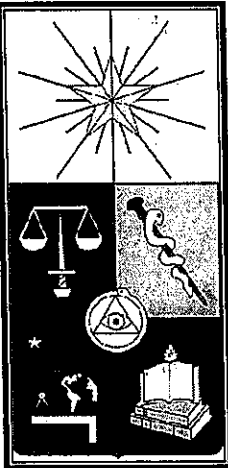


Clear Skies: A great Chilean resource»

Today, Chile is home to the best radio telescope and optical telescope in the world.


- Atacama Large Millimeter Array (ALMA)



- Very Large Telescope (VLT)



END





chilean relevant web pages

- www.economia.gob.cl
- www.minsal.cl
- www.mma.gob.cl
- www.mineduc.cl
- www.minenergia.cl
- www.direcon.gob.cl

- www.conicyt.cl
- www.conicyt.cl/fondecyt
- www.corfo.cl

APEC Virtual Center for Environmental Technology Exchange

Save the Earth, Save the Future.

Chilean Node

ANNEX END



InnovaChile CORFO

START-UPCHILE



Start-Up Chile is a program of the Chilean Government to attract world class early stage entrepreneurs to start their businesses in Chile with \$40K + 1yr visa.

- Newly inspired
- Globally Thinking
- Risk Taking Entrepreneurs
- Connecting Chile
- Creating jobs in Chile

5.600 applications
+70 countries

1.132 Entrepreneurs
+50 countries



Chilean Government | Ministry of Economy



InnovaChile CORFO

GLOBAL CONNECTION PROGRAM


- Seeks to support Chilean entrepreneurs to kick off their startups in a global environment helping them to accelerate their business in a world-class incubator/accelerator.
- Oriented to place Chilean startups in different market environments around the world, providing them with the proper platform and support to globalize their business.



InnovaChile
CORFO

FIRST INSTITUTIONAL CALL – A SUCCESS! 2009-2012



<p style="text-align: center;">Fraunhofer-Chile</p> <ul style="list-style-type: none"> • R&D being performed for more than a year, more than 75 people contributing to projects, extra funding leveraged, signing of additional research contract with industry, among others 	<p style="text-align: center;">CSIBO-Chile</p> <ul style="list-style-type: none"> • Centre launched, staff being hired (18 people already) and starting R&D activities in Santiago and Antofagasta. Closed funding from 5 major Mining companies
<p style="text-align: center;">INRIA-Chile</p> <ul style="list-style-type: none"> • Has become a Chilean legal entity and was formally launched as CIRIC in June 2012. Introducing new activities with ALMA (Astronomy) 	<p style="text-align: center;">Wageningen-Chile</p> <ul style="list-style-type: none"> • Around 25 people collaborating. Articulated cooperation with a number of customers and exploring new funding alternatives with other food industry actors. Officially launched in July 2012.



InnovaChile
CORFO

TECHNOLOGICAL CONSORTIUMS



- To promote the development of companies that generate value by aligning market needs with technological expertise, through long-term R&D projects.
- Expected results for Consortiums and its companies:
 - Increase in R&D investment.
 - Increase in sales of products and services.
 - Self-sustainability of the Consortiums.
- Up to 10 years and US\$10 million subsidy, in matching funds (20% cash)

Call for proposals in Support of international networking between research centres
 Department of International Relations

Support the creation of networks for the strengthening of international ties between Chilean national science and technology centres and those located in the following countries below:


Region	Countries
North America	United States, Mexico, Canada
South America	Argentina, Brazil, Colombia, Ecuador, Uruguay
Asia	China, Korea, India, Japan, Singapore, Thailand, Vietnam
Europe	Austria, Belgium, Denmark, Finland, France, Germany, the Netherlands, Poland, United Kingdom, Sweden, Switzerland
Oceania	Australia, New Zealand

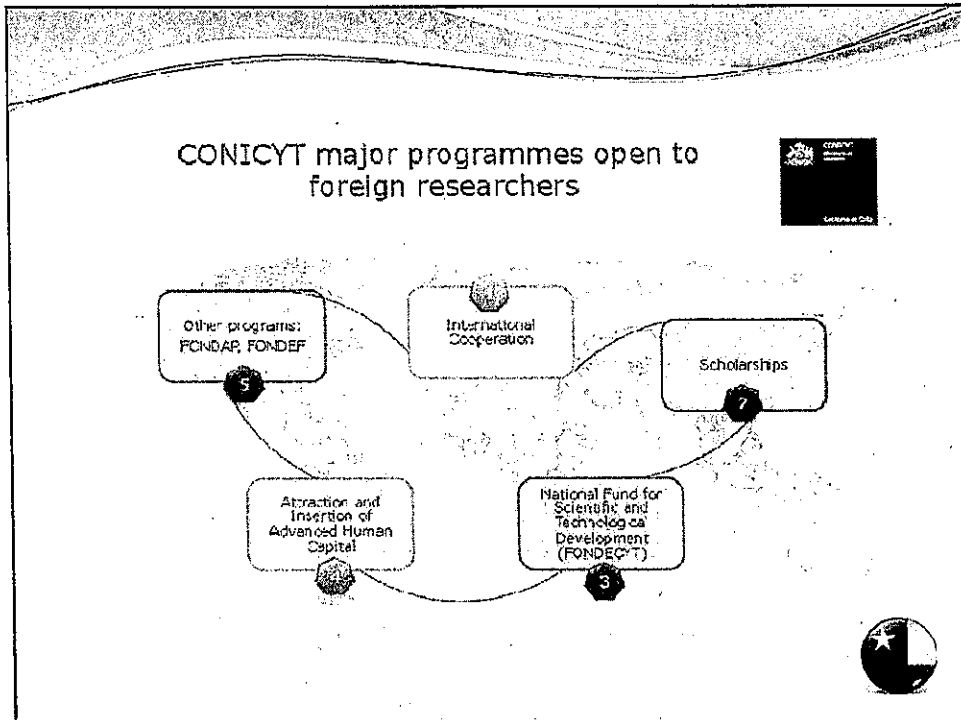



National Innovation Policy»
 Global Connection

InnovaChile CORFO

- Connect Chilean Academy to the world's top Universities
 - MISTI
 - STANFORD TECHNOLOGY VENTURES PROGRAM
 - MIT
- Attract the most prestigious international Research Centers
 - CSIRO
 - Fraunhofer CHILE
 - WAGENINGEN
 - Inria
- Connect local R&D Institutes to the world
 - Go to market
- Connect local entrepreneurs to global hub
 - Global Connection
 - Play and Tech Center.com
 - STARTUP DOICAMA





International cooperation: main instruments at DRI Department of International Relations

Joint research projects	Agreements and Visits	Mobility projects	International Alliances of Excellence
<ul style="list-style-type: none"> • Bilateral joint projects carried out by Chilean and foreign researchers • 2 to 3 years • Around 100.000 USD per year • Calls: vary depending on the counterpart 	<ul style="list-style-type: none"> • Creation of international networks through short stays, workshops and internships. • 1 year • 30.000 to 50.000 USD per project • Annual call 	<ul style="list-style-type: none"> • Mobility in the frame of bilateral research projects • 1 to 2 years • 4.000 to 10.000 USD per project • Annual call 	<ul style="list-style-type: none"> • Joint collaboration with institutions (MIT, Harvard) • 1 to 2 years • 30.000 to 50.000 USD per project • Annual call

Some science indicators in Chile

Limited number of researchers:

- 4,079 FONDECYT-category researchers¹
- 12% in Engineering and Technology
- 5,959 OECD-level researchers²

Discipline	#Researchers
Agricultural Sciences	365
Medical and Health Sciences	811
Natural Sciences*	1,271
Social Sciences	875
Humanities	466
Engineering and Technology	462
Total	4,079

* Excluy. Invenio 596 (49%)

Source: CONICYT

Nevertheless, excellent indicators in terms of ISI publications:

Scientific productivity in Chile (2008)

Country	Publications/Expenditure on R&D (Mill USD PPP)	Publications/Researchers/OECD
Chile	5,71	0,82
Argentina	2,64	0,26
Brazil	1,41	0,32

Source: OECD, WOS, RICYT and Economy Ministry

1. Lead researchers or supervisors of 1,434 or initiation projects approved between 2005 and 2010 (total size on basis of direct ODI)
2. Economy Ministry, 2010. Survey of Innovation and R&D 2008-2009, August 2010

Formation of Advanced Human Capital Programme 2006-2012

Distribution by World Area (2006-2012)
(in % of total number of scholarship holders)


4652
Chilean scholarship holders studying abroad between 2006 and 2012

Country	# Scholarship Holders
United States	1150
United Kingdom	934
Spain	802
Australia	605
France	354
Germany	205
Canada	162
Netherlands	72
New Zealand	71
Belgium	47
Argentina	45
Brazil	39
Mexico	38
Italy	37
Other countries	90

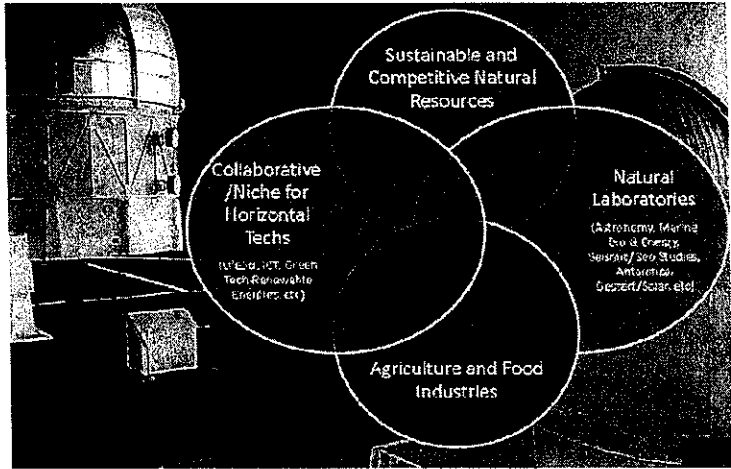
* Scholarship holder: Person who signed the grant agreement and began graduate studies
 ** Excluded: Becar Conleyt Internacional and Becar Chile for PhD and Master
 *** Data updated to December 2012

Our STRATEGY» Principal Sources of Growth


- Investment
 - 21% GDP → 28% GDP
- Labor
 - Create 1.000.000 jobs to 2014
 - Increase female participation
- Productivity
 - Energy
 - Public Sector Reform
 - Education
 - Labor Market
 - Innovation & Entrepreneurship

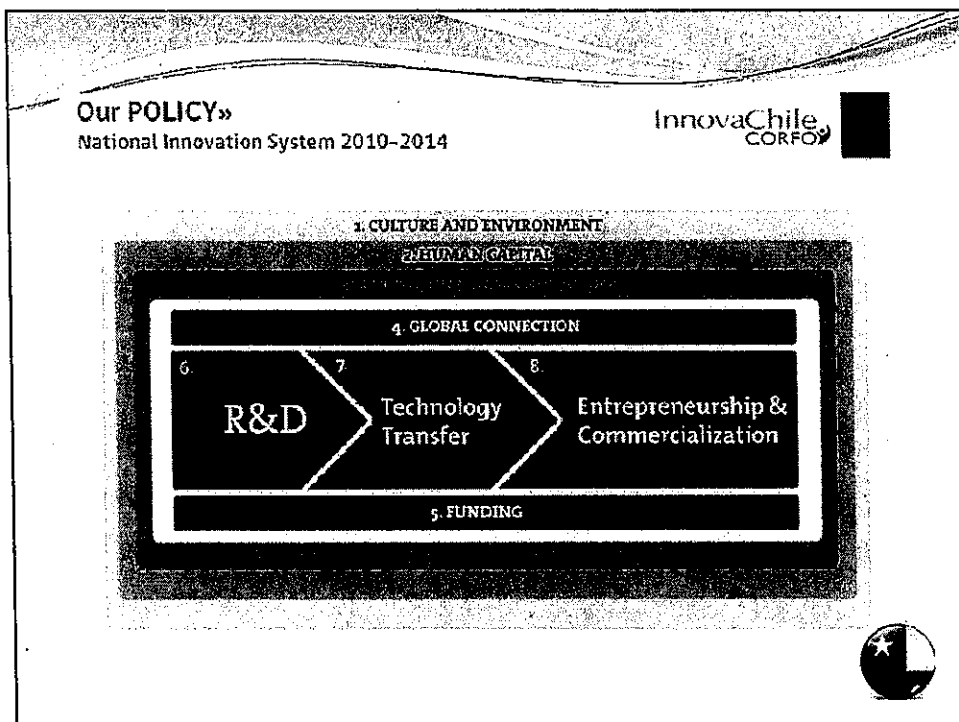
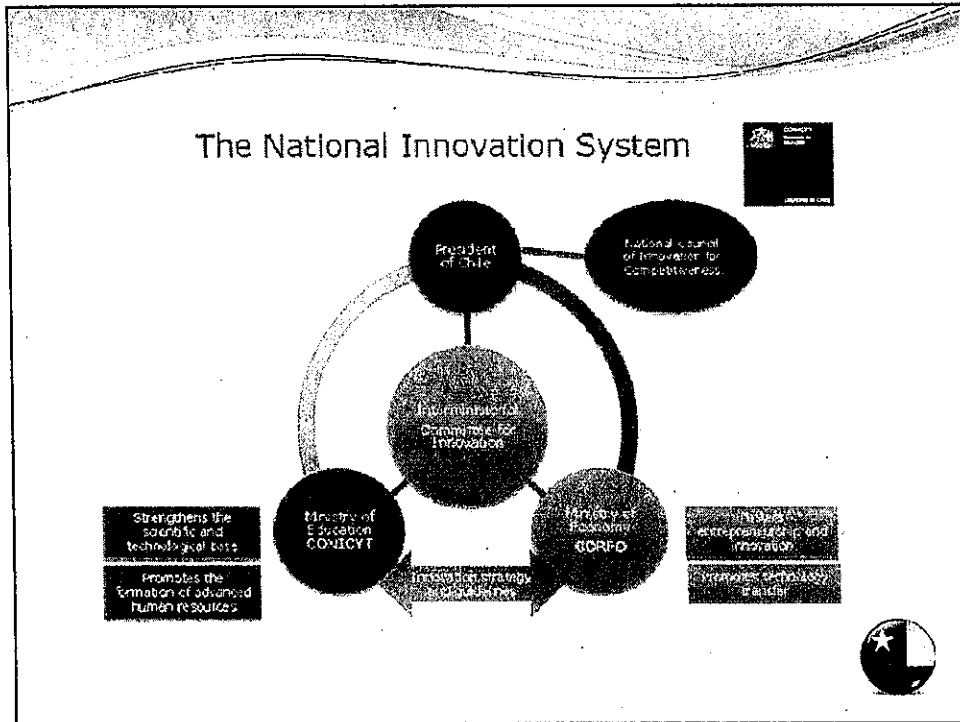


WHERE IS CHILE GOING TO ADD VALUE?



- Sustainable and Competitive Natural Resources
- Collaborative/Niche for Horizontal Techs
(IT, Bio, ICT, Green Tech, Renewable Energy, etc.)
- Natural Laboratories
(Astronomy, Marine Bio & Energy, Sensors/Geo Studies, Antennas, Sensors/Solar, etc.)
- Agriculture and Food Industries






Chilean Challenges

InnovaChile
CORFO

Technology Transfer
Reduce the gap between Universities and Companies Strengthening and commercialization
Advanced Human Capital Insertion into Companies
Knowledge transfer R&D fund

Natl. Innovation Policy 2013: The Year of Innovation
Massification of Innovation and Entrepreneurship
Project which will impact people, Sc. & Tec development, formation of human capital and finally, transform Chile in to a regional hub for innovation and Entrepreneurship

High Quality Life
Created a Culture of Innovation at a national level
Encourage new generation to be involved in the future development of Chile through Entrepreneurship and Innovation



TRANSFORM CHILE INTO AN INNOVATION AND ENTREPRENEURIAL HUB FOR LATAM

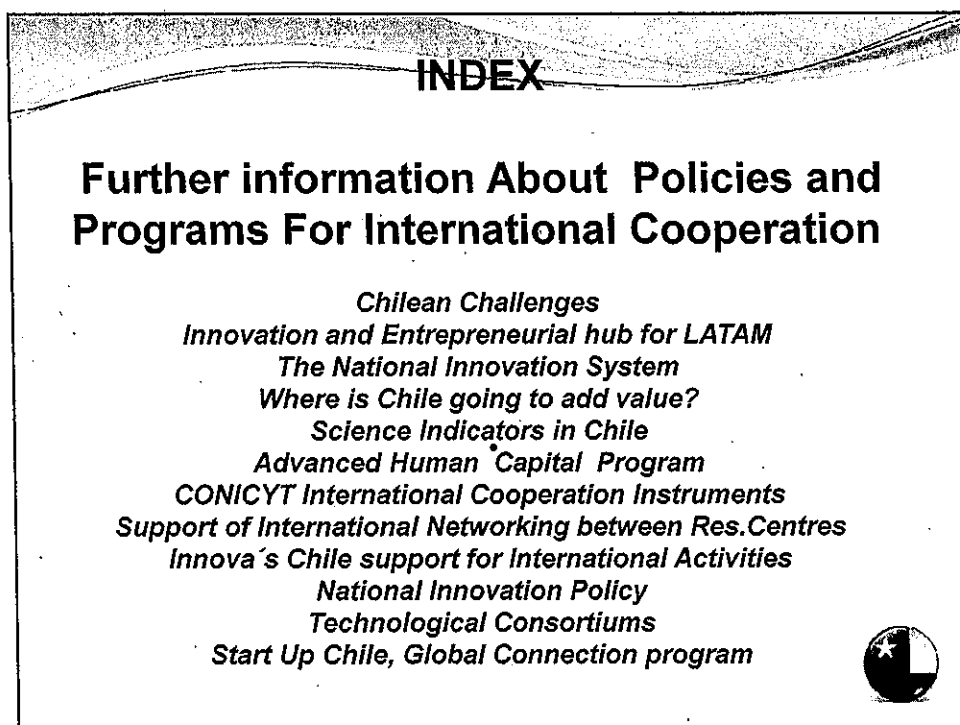
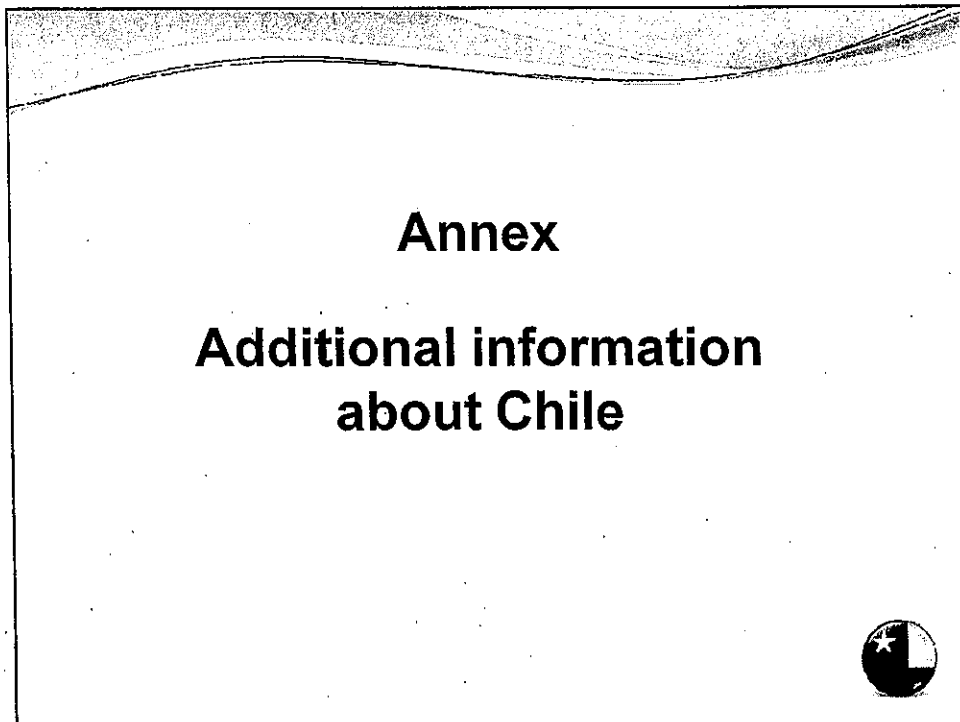


Technological Goal
Bring new and innovative ideas to market
Create a culture for innovation and entrepreneurship

Chile has seen outstanding growth and stability during the past two decades.

Chile has set the stage for development and innovation in Latin America.







2013 APEC-VC Seoul Workshop

Establishment of APEC-VC Roadmap (2013-2017)
and

Plan to vitalize APEC-VC Gateway Site

Chun-Ming Huang
Environmental Protection Administration
Chinese Taipei
June 10, 2013

Keys and indicators for success

- Identify potential users
- Sources of information
- Identify services

Requirements for designing & developing

- **Build an APEC-VC portal**
- **Link to the website of each economy**
- **Standards for development**
- **Content manageable**

Possibilities for bilateral and multilateral cooperation

- **Regional Working Group on Environmental Information (RWGEI)**

- **Topics**

- data collection, data exchange, data life cycles, and use to promote global collaboration and share regional experience and expertise

- **Resources**

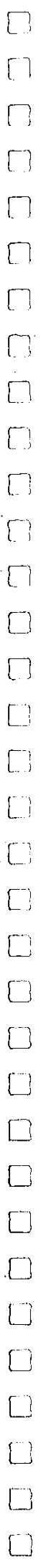
- <https://sites.google.com/site/2011rwgei/>
 - <https://sites.google.com/site/2012rwgei/>
 - <https://sites.google.com/site/2013rwgei/>

Capacity building

- Annual Workshop
- Development Tools
- Using social media for communication
- Knowledge content creation
 - Documentation \ Reference Guide



Thank You for your attention!



Progress Report

Chinese Taipei

The website of Chinese Taipei APEC-VC has been canceled since the domain name has not been registered. Our alternative site is http://epq.epa.gov.tw/eng/search_advance.aspx. With the support from our IT department, we can quickly set up the APEC-VC site, but there are still some issues we face, for example, what kind of data to upload and the source of data.

In 2013, we are dedicating efforts to environmental resource data integration, due to the new Ministry of Environment and Natural Resources that is going to be established estimated by the end of 2014, In addition to pollution prevention and control, there will also be information on water conservancy, meteorology, forests, soil and water conservation, minerals, geology, national parks, sewer construction etc. We are now building the Central Data eXchange (CDX) platform, the purpose of which is to gather a variety of environmental information, Both the public and private sectors could use it to exchange environmental data, and we will provide a simple channel for data exchange and offer a unified format.

We have established an environmental database for public use, which integrates air quality, water quality, waste, soil, noise, environmental management data etc., it provides convenient online analysis and themed queries. The URL is <http://edw.epa.gov.tw/eng/>. We also have developed the column pipe pollution information inquiry system in order to respond to the public request for public facilities permits, emissions reporting, inspection, disposal and other information. Promoting OPENDATA is another one of our economy's policies, much environmental quality data will be open to the public through an OPENDATA website. We will be one of the data providers, and further value-added data and applications will be developed by institutes and academies.

For future directions, we suggest establishing an APEC-VC portal, thus all economies can upload data through it, and to help reduce maintenance and operation costs. Also, each economy can dedicate to develop their own specific site, and APEC-VC portal will link to these sites through hyperlinks.



Current Activity of APEC.VC

Malee Hutacharoen
Worawan Nakbanpot



Current Activities

- **Resolution from 2012 OSAKA Workshop**
- **DEQP Mission related to APEC-VC Focus Initiatives**
- **APEC-VC Thailand Initiative**
- **What's Next**



Resolution from OSAKA Workshop

**To Promote The VC Project
to be The Global Hub of
Environmental Technology
Exchange**



Focus On

- Green Economy Improvement
- R & D Knowledge Base
- Environmental Networking Enforcement



DEQP Mission to Green Growth

**Raise Public Awareness of
Sustainable Consumption**



Implementing

- Campaign and Demonstrate
- Working Together with Stake Holder
- Conduct Capacity Building for Stake Holder



Our Stake Holder

- Local Organizations
- Schools
- Private Sector Organizations
- Non- Government Organization



APEC-VC Thailand Initiative

Using Greenhouse Gas as a Monitoring Unit to Monitor the Result of Activities and Campaigns related to our Sustainable Consumption



Project :

Follow-up Evaluation to Environmental Quality Promotion Conducted by DEQP Using the Decrease in the Amount Greenhouse Gas Emission to Measure the Effectiveness of Activities that Promote Environmentally Friendly Consumption and Production



Objective :

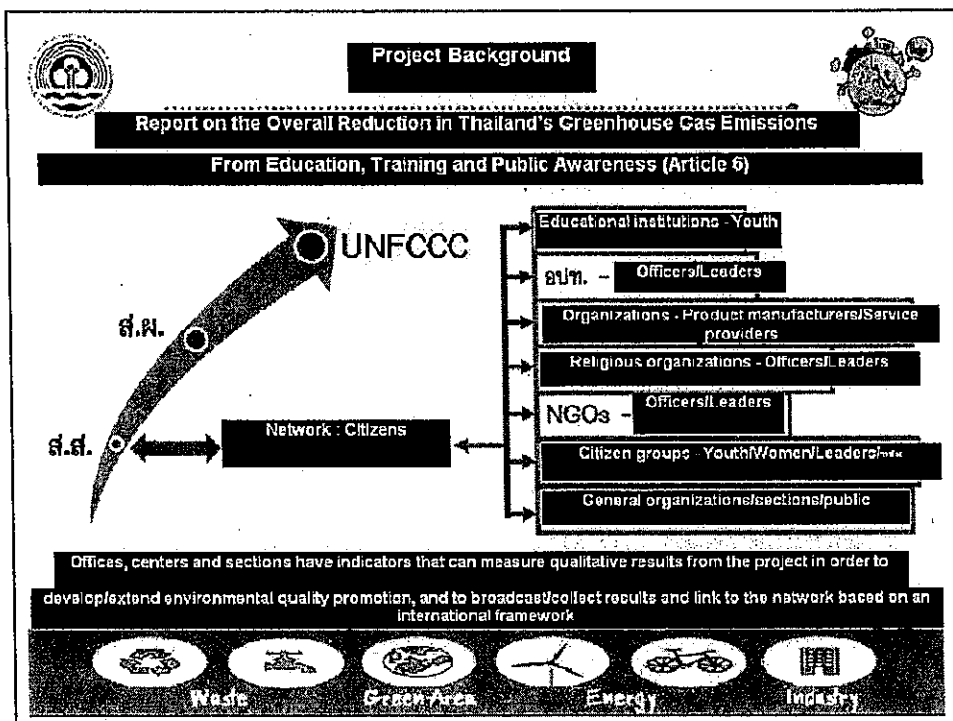
Use The Information as tool to Raise public Awareness of a Sustainable Lifestyle and to Promote its Adoption


Methodology :

1. Open Discussion on Project Concept and Practice
2. Develop a Calculator Tool to Calculate Greenhouse Gas Emission
3. Demonstrate Project using Base Practices as a Pilot Test
4. Support and Encourage Stakeholders to Adopt Sustainable Lifestyles




Open Discussion on Project Concept and Practice







International Concepts for Calculating Greenhouse Gases





Reporting Greenhouse Gas Emissions According to 5 categories

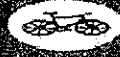
1. Waste - Waste and wastewater
2. Agriculture
3. Changing land use, and forestry
4. Energy
5. Industry



Waste


Agriculture



Green Area


Energy


Industry





International Concepts for Calculating Greenhouse Gases





The following 6 types of greenhouse gas are considered and used in calculations:


1. Carbon Dioxide - CO₂
2. Methane - CH₄
3. Nitrous Oxide - N₂O
4. Hydrofluorocarbons - HFC
5. Perfluorocarbons - PFC
6. Sulphur Hexafluoride - SF₆


Waste


Agriculture


Green Area


Energy


Industry



Things Made Available to Every Department/Center/Section



1. The main calculation program for every project (5 categories based on report)
2. Good sample calculations for networks
 - 2.1 Places of education and training
 - 2.2 Local administrative office - Khuan Don Council, Satun Prefecture
 - 2.3 Manufacturers
 - 2.4 Service providers
 - 2.5 Religious organizations -
 - 2.6 Private organizations (NGOs) -
 - 2.7 Others (CP Oil, 711, etc.)





Data Required from Every Department/Center/Section



1. Main activities to help link the whole project with networks
2. Data that records work results
3. Ongoing data that records work results of the network
4. Systems/forms/programs used in data collection
5. Problems and obstacles encountered during data collection





*** For the current project and for the past 3 years



 **Participation from Every Department/Center/Section** 


Conference with experts in calculating greenhouse gas emissions relating to the work conducted by each department/center/section

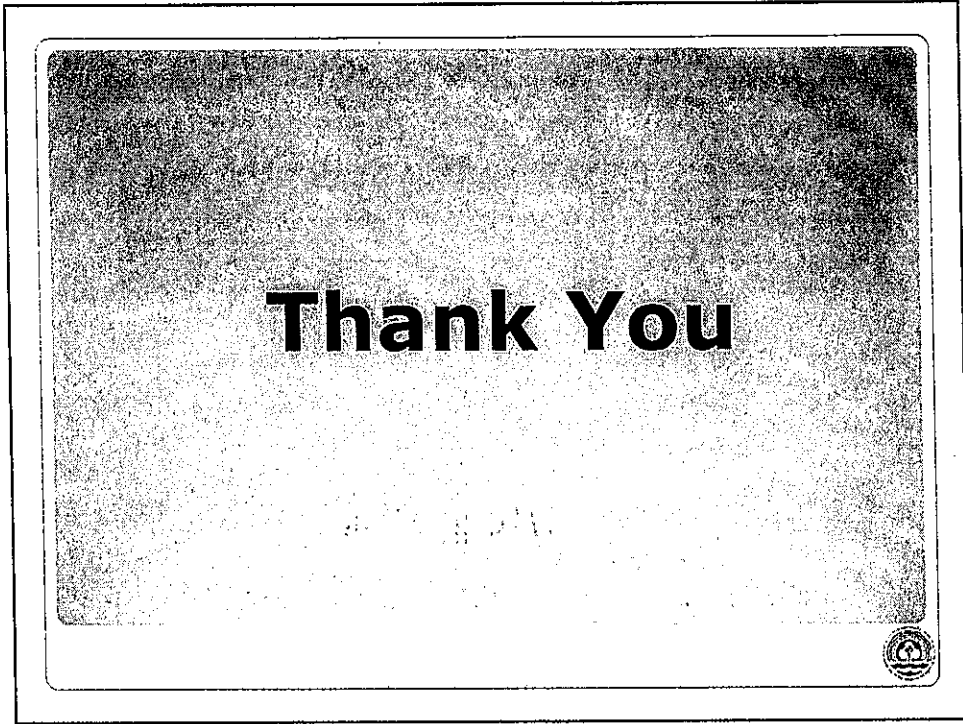
In the Conference Room of the Department of Environmental Quality Promotion

 **Waste**  **Green Area**  **Energy**  **Industry**

What's Next

**Plan for 2013 : Adjust
APEC-VC Thailand Hub
according to
Resolution of the Workshop**





Current Activity of APEC.VC Thailand

Malee Hutacharoen

The Department of Environmental Quality Promotion (DEQP) has served as a contact point in Thailand for the APEC Virtual Center for Environmental Technology Exchange. It coordinates the sharing of information about Thailand's environmental technologies. The DEQP launched the APEC-VC Thailand Website in 2002 and hosted the "APEC-VC: What's Next" workshop in 2004 in Bangkok, Thailand.

The DEQP has consistently cooperated with APEC-VC member countries, especially through information sharing via the APEC-VC Thailand Website, which the DEQP updated on an ongoing basis. For example, in 2004, the DEQP added information about Constructed Wetlands to the Common Content topics. This information included articles, treatises and research projects relating to Constructed Wetlands in Thailand. In 2008, the DEQP launched the Thai Eco-Products website (www.thaiecomarket.apec-vc.in.th), which gathers and shares information about Eco-Products for consumers, manufacturers and distributors.

DEQP integrated the Thai Eco-Products website with the main DEQP website and relaunched it on the URL www.deqp.go.th/thaiecomarket. in 2011

In 2012, the mandate of the APEC Virtual Center Project expired. At the Osaka workshop held on July 16, 2012, the VC economies agreed that the project should be continued, and VC Korea was designated as the secretariat for the next term.

The meeting agreed to promote the VC project to be a global hub of environmental technology exchange, and focus on three initiatives: Green economy improvement; R&D knowledge base; and Environmental networking enforcement. One mission of the DEQP related to green growth is to raise public awareness of sustainable consumption. The DEQP is working with various stakeholders, local organizations, schools, private sector organizations, non-government organization, and local communities. We conducted numerous capacity-building and training involving youth, youth leaders and teachers from local communities and organizations to raise awareness about sustainable consumption through various activities. Apec-VC Thailand initiates a project to monitor the result of activities and campaigns related to

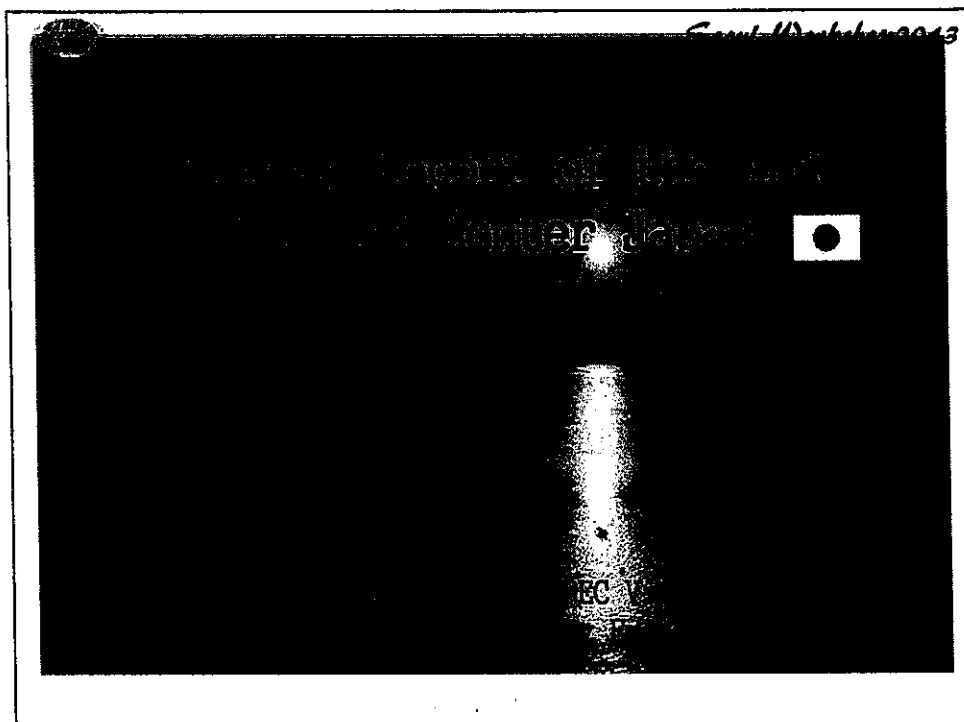
/ DEQP...

DEQP sustainable consumption using greenhouse gas as a monitor unit. The objective is to use information as tool to raise public awareness of a sustainable lifestyle and to promote its adoption.

Methodology

1. Open discussion on project concept and practice
2. Develop a calculator tool to calculate greenhouse gas emissions
3. Demonstrate project using base practices as a pilot test
4. Support and encourage stakeholders to adopt sustainable lifestyles through self-evaluation using the calculator tool

Plan for 2013, we will adjust APEC-VC Thailand hub according to resolution of the workshop.



Secret Workshop 2013

Background

At the Osaka Workshop in July 2012, with the expiry of the VC project mandate due later that year, all participating VC economies achieved consensus that continuing the VC project met the purpose of APEC. They agreed to change the VC secretariat to VC Korea from VC Japan and extend the VC mandate to promote the VC project. As a new stage of the VC project, the following developments are considered.

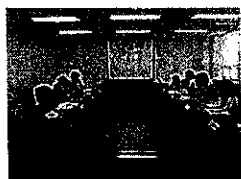
1. Launching a single entry site
2. Promoting green economy
3. Developing a bulletin board specializing on business information to promote environmental business for SMEs at home and abroad.

VC Japan working as one of VCs needs to make out a project plan looking to the coming 5 years based on what is discussed at this workshop.

Past activities of the APEC-VC Project

(1) Coordination with other VCs

Following the change in policy of Ministry of Economy, Trade and Industry, Japan, We had a difficulty of extending the VC project by ourselves. We thought of changing the VC secretariat to other VC as a way to continue the VC project and visited VC Korea, one of strong candidates. As the result of meeting with VC Korea, we could confirm VC Korea's will that VC Korea could accept a secretariat for the APEC VC Project on the premise of considering other VC's opinions.



Meeting with VC Korea



Group photo

(2) Holding the APEC-VC Workshop

We held a workshop to sum up what the APEC-VC Project achieved for the past 17 years. And participants discussed a specific measure for any problem to be solved in conducting the APEC-VC Project, based on the current situation of each VC economy.

(a) Date : July 16, 2012 10:00- 17:00

(b) Venue : Umeda Satellite Osaka Sangyo University

(c) Theme : Strategy to overcome challenges of APEC-VC Project

(d) Participating economy : 6 economies (13 participants)



Group photo

*Secret Workshop 2013***(e) Conclusion****(e) Conclusion**

It was agreed at the workshop that promoting the APEC-VC Project with concerted efforts of all VC economies was efficient in achieving the goal set by APEC and this project should be continued. As the intention of Ministry of Economy, Trade and Industry, Japan made us difficult in working as a Secretariat for the APEC-VC Project, all participants agreed that the secretariat needed to be changed to other economy as early as possible. The mandate expires soon and needed to be applied for the extension early. Continuation of the project without any blank period is important.

The unified opinion of the workshop is that VC Korea would be the most suitable for a new APEC-VC secretariat. VC Korea accepted a new role as a VC secretariat.

*Secret Workshop 2013***(3) Change of VC Secretariat to APEC-VC Korea**

Following the conclusion at the workshop, the VC Secretariat was changed to VC Korea.

(i) Report to METI

METI has accepted the change of APEC-VC Project Secretariat to VC Korea and is of opinion that APEC-VC Japan has an experience of promoting environmental technologies and building a network of human contacts with other VCs through APEC-VC activities and such achievements are precious resources. And METI has showed her intention of cooperating with VC Japan.

(4) Enhancing VC Japan's information dissemination capacities

We make content meeting needs in Japan and overseas and government's environmental measures and upload it in VC Japan's website. We join or co-organize a project organized by other organizations such as Society of Environmental Conservation Engineering by making use of our network of human contacts

(i) Uploaded content : Trends of Japan's regulations on PM2.5

(ii) Co-organized event with Society of Environmental Conservation Engineering :

Lecture titled " Development of water infrastructure Vietnam and technology transfer to Vietnam"



Presentation By Dr. Hung

Future Plan of our Project

(1) APEC-VC Japan project plan

As the Secretariat for APEC-VC project was moved to APEC-VC Korea, VC Japan working as one of VCs has the following plan based on the results of Seoul Workshop.

(i) Ministry of Economy, Trade and Industry

We report activities of APEC-VC Project to METI and is instructed on "how to manage VC Japan during the duration of VC Project" METI provides information on PPSTI and we reflect the principle of PPSTI (Policy Partnership on Science, Technology and Innovation) on VC Japan's activity.

(ii) Businesses supporting VC Japan

We give a suggestion of what VC Japan can do to our member businesses which have the principle of APEC-VC Project in common with us.

(iii) Enhanced coordination with APEC-VC economies

We make efforts to keep and strengthen the network of human contacts and cooperate in the management of VC Project done by VC Korea.

Secret Workshop 2013

(2) APEC-VC Japan enhances information dissemination ability.

- (i) In order to enrich VC Japan's unique content, VC Japan develops and uploads content meeting the needs in Japan and overseas and government's environmental measures
- (ii) As a promotional activity for APEC-VC, VC Japan makes good use of a network of APEC-VC personal contacts and joins a project organized by other organizations such as Society of Environmental Conservation Engineering.

Secret Workshop 2013

Future Direction

- (a) It is necessary to encourage each economy to open VC. It is necessary to conduct a promotional activity to other economies having no VC. We need to utilize or get lined to the following sites until the VC gateway site is on track.
 - (i) the current data base owned by each economy such as environmental technology (green economy) data base
 - (ii) environmental related site to promote technology transfer for SMEs and environmental business

for example :

International Center for Environmental Technology Transfer
<http://www.icett.or.jp/english/index.html>

Global Environmental Centre Foundation
<http://gec.jp/>

Grant (D) 0043

(b) Automatic translator into English

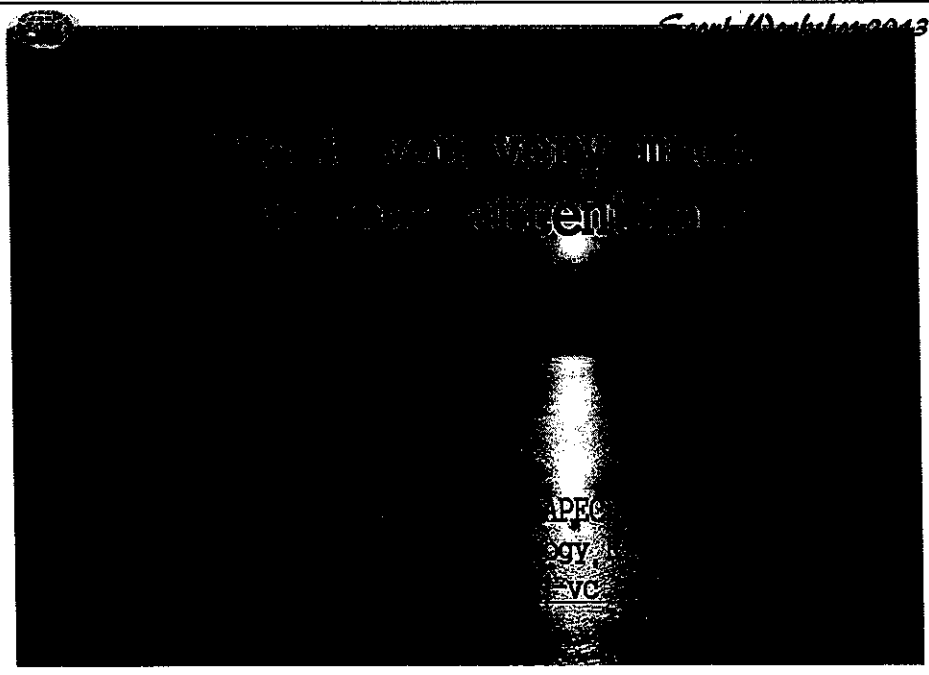
Making use of web translation is considered to be necessary in case of no English website at the current VC website. Especially, small and medium sized companies need the knowledge of English in case they do business with their partners in overseas.

(c) Program every VC can work with

It is necessary to adopt a program which can be worked together by every VC (such as cyber exhibition, seminar and etc.) to a new single entry site.

(d) It is necessary to get linked to other organizations such as APEC, PPSTI, international environment related academic society and etc.)

Grant (D) 0043





APEC-VC Japan Progress Report 2013

Supporting Committee for APEC Virtual Center for
Environmental Technology Exchange, Japan

The APEC Osaka meeting was held in 1995. By taking this opportunity, the APEC Virtual Center (hereinafter called APEC-VC) was established, based on the unified will of municipalities, business community and academia in the Kansai region. 12 economies opened its Virtual Center and made various efforts to promote the exchange among them. Specifically, they shared environmental technology information among them by setting the common classification system and developing the common search engine and the common content.

The direction of the APEC-VC Project for each year was decided at workshops and symposia where officials in charge of VC project got together. These various efforts paved the way for developing the network of personal relations among Virtual Centers.

At the Osaka Workshop in 2012, all participating VC economies thought that the continuation of VC project whose mandate expired at the end of 2012 met the purpose of APEC. And they agreed to change the VC secretariat to VC Korea from VC Japan and extend the VC mandate and promote the VC Project. As a new stage, the launch of single entry site, the promotion of green economy, the bulletin board specializing on business information to promote environmental business for SMEs at home and abroad are considered to be developed.

VC Japan, which is working as one of VCs, needs to make out a project plan looking ahead to the coming five years, based on what is discussed and proposed at the workshop.

1. Project achievements in 2012

(1) Coordination with other VCs

Following the change in policy of Ministry of Economy, Trade and Industry, Japan, We, VC Japan had a difficulty of extending the VC project by ourselves. We thought of changing the VC secretariat to other VC as a way to continue the VC project and visited VC Korea, one of strong candidates. As the result of meeting with VC Korea, we could confirm VC Korea's will that VC Korea could accept a secretariat for the APEC-VC Project on the premise of considering other VC's opinions.

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(3) Change of VC Secretariat to APEC-VC Korea

Following the conclusion at the workshop, KONETIC belonging to KEITI manages the APEC-VC Project.

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METI has accepted the change of APEC-VC Project Secretariat to VC Korea and is of opinion that APEC-VC Japan has an experience of promoting environmental technologies and building a network

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(ii) Co-organized event with Society of Environmental Conservation Engineering :
Lecture event titled " Development of water infrastructure in Vietnam and technology transfer to Vietnam"

2. Project plan in 2013

(1) APEC-VC Japan project plan

As the Secretariat for APEC-VC project was moved to APEC-VC Korea, VC Japan working as one of VCs has the following plan based on the results of Seoul Workshop.

(i) Ministry of Economy, Trade and Industry (including METI - Kansai)

We report activities of APEC-VC Project to METI and is instructed on "how to manage VC Japan during the duration of VC Project" METI provides information on PPSTI and we reflect the principle of PPSTI on VC Japan's activity.

(ii) Businesses supporting VC Japan

We give a suggestion of what VC Japan can do to our member businesses which have the principle of APEC-VC Project in common with us.

(iii) Enhanced coordination with APEC-VC economies

We make efforts to keep and strengthen the network of human contacts and cooperate in the management of VC Project done by VC Korea.

(2) APEC-VC Japan enhances information transmission ability.

(i) In order to enrich VC Japan's unique content, VC Japan develop and upload content meeting the needs in Japan and overseas and the government's environmental measures

(ii) As a promotional activity for APEC-VC, VC Japan makes good use of a network of APEC-VC personal contacts and joins a project organized by other organizations such as Society of Environmental Conservation Engineering.

3. Future direction (activity plan after the development of the gate way site including data base)

(1) It is considered important that every economy launches VC in order to develop the VC project. It is necessary to conduct a promotional activity to other economies having no VC. The current data base owned by each economy such as environmental technology (green economy) data base, technology transfer for SMEs, environmental business promotional site needs to be kept until the VC gateway site is on track.

(2) Automatic translator into English

Making use of web translation is considered to be necessary in case of no English website at the current VC website. Especially, small and medium sized companies need the knowledge of English in case they do business with their partners in overseas.

(3) Program every VC can work with

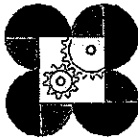
It is necessary to adopt a program which can be worked together by every VC (such as cyber exhibition, seminar and etc.) to a new single entry site.

(4) It is necessary to get linked to other international organizations and environment related academic society and etc.

CURRENT STATUS OF THE PHILIPPINE APEC VC NODE

DR. CARMEL C. GACHO

Supervising Science Research Specialist
Environment and Biotechnology Division
Industrial Technology Development Institute
Department of Science and Technology
E-mail: carmelcg@yahoo.com



PREVIOUS ACTIVITIES AND ACCOMPLISHMENTS 2009

■ APEC CLIMATE CHANGE
SYMPOSIUM - 2009, Australia

an APEC VC virtual meeting was
carried-out between the
participants and APEC VC Japan (
secretariat)

**REFORMATTING OF THE
HOMEPAGE**

- **The integration of various
environmental technologies both
local and foreign in the website:**
 - **Air pollution**
 - **Water and wastewater**
 - **Solid waste**
 - **Toxic and hazardous waste**

REFORMATTING OF THE HOMEPAGE

- **Construction of all local Environmental Laws and Regulations Act (APEC VC 2007\Programs\Environmental Laws and Regulations.doc)**
 - **Integration of Land Mark Laws**
 - **Solid Waste Management Act of 2000**
 - **Clean Water Act of 2005**
 - **Clean Air Act Toxic and Hazardous Waste Management Act**

REFORMATTING OF THE WEBPAGE

- **Integration of the programs projects pertaining to the management of environmental pollution through technology development being undertaken by Industrial Technology Development Institute.**

REFORMATTING OF THE WEBPAGE

- **Integration of several publications (technical and scientific articles) pertaining to environmental management published by ITDI**

REFORMATTING OF THE HOMEPAGE

- **Integration of all technologies that are already evaluated through the DOST Program on Environmental Technology Verification (ETV):**
 - **Environmental Recycling System**
 - **Smartwashers**
 - **Happy soil (baling)**
 - **Controlled steam generation**
 - **Novozyme**
 - **JAS Coat**

RELATED APEC-VC ACTIVITIES

- **Conducted Seminar-Workshop on Alternative Technologies for the Management of Solid Wastes among Treaters and Transporters.**
- **Conducted Seminar-Workshop on Solid Waste Management**
- **Launching of the Portable Biogas Digester for Household**

RELATED APEC-VC ACTIVITIES

- **Organized seminar on Technology Transfer among Technology Users and Fabricators**

PLANNED ACTIVITIES

- **Continue integration of the various environmental technologies introduced locally into the website**

- **Intensify the promotion of the Website of the APEC-VC web page through a vigorous information, education and communication (IEC) campaign**
 - **Awareness seminar**
 - **Reproduction of IEC materials**

PLANNED ACTIVITIES

- **Networking with other APEC Economies by exchanging environmental technology information through the APEC Virtual Center**

PROBLEMS ENCOUNTERED

- **High cost of maintaining the website**
- **Lack of personnel to manage and handle the website**
- **Inability of the users to find the web page, since the APEC-VC is just integrated into the main website of ITDI**
- **High cost of setting up an exclusive website for APEC-VC**

CURRENT STATUS

**Host Institution:
Industrial Technology Development Institute
Department of Science and Technology**

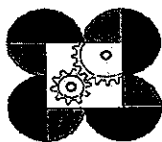
Focal persons – retired already from the Host Institution

APEC VC Philippine website – inactive

FUTURE PLAN

- **Revive the APEC VC Philippine node**
- **Review and update APEC VC Philippines website**
- **Forge strong linkage with APEC VC members**
- **Conduct more activities related to the objectives of the APEC VC**

THANK YOU



2013 APEC-VC SEOUL WORKSHOP

"ESTABLISHMENT OF APEC-VC ROADMAP (2013-2017) AND P LAN TO VITALIZE APEC-VC GATEWAY SITE"

Nguyen Manh Quan
Deputy Director of Information Analysis Center,
National Agency for Science & Technology Information*

APEC-VC Viet Nam

APEC-VC Viet Nam was set up in October 1999 by the Information Communication Technology Center of Ministry of Science and Technology. And then the APEC-VC Viet Nam website was created and administered by the ICT Center with assistance of officials from Department of International Cooperation.

APEC-VC Viet Nam website (www.apecvn.gov.vn) aimed to disseminate information of environmental technologies of the economy members and activities concerning creation, application and transfer of environmental technologies in Viet Nam. The APEC-VC Viet Nam website, however, was temporally closed by around 2009 due to the lack of fund for its operation.

In the framework of APEC Virtual Center Project, beside the website operation, APEC-VC Viet Nam, in cooperation with provincial S&T services, S&T institutions and universities, has organized numbers of workshops and training courses concerning environmental technology. APEC-VC Viet Nam has actively participated in international meetings organized by APEC-VC and shared experiences and innovative methods for best use of advances of ICT in building database and information sharing among APEC community.

APEC-VC Viet Nam in cooperation of the Department of International Cooperation and APEC-VC Japan has assisted to projects:

- Treatment of livestock wastewater of Bavi Center for cows, goats, sheep: introducing small and medium scale wastewater treatment technology to families in projects sponsored by JIKA;
- Wastewater treatment of brewery: experimental project sponsored by NIDA in the Dai Viet Brewery, Thai Binh province;
- Designing pilot project "Green industrial village" for Thai Binh province
- In cooperation of S&T services of Hanoi, Hue, and Hochiminh city to organize workshop, training courses for technology dissemination.

2013- plan

- To re-open APEC-VC Viet Nam website under the management of National Agency for Science and Technology Information (NASATI) to connect APEC-VC of economy members to exchange information to

facilitate transfer of environmental technologies. The website will include information on offers and demands of technology from Vietnam and other economy APEC members.

For the operation of the website, APEC-VC Viet Nam need a sustainable financial assistance as well as the linkage with websites from other APEC-VC economy members.

APEC-VC Viet Nam plans to cooperate with other information organization in its network and environmental technology institute and business to disseminate activities concerning environmental technology of the APEC members on the website and other media.

* National Agency for Science and Technology Information (NASATI) is the unit of MOST responsible for activities of science and technology information in Viet Nam. NASATI administers 2 information gateway websites: Vietnam Information of Science and Technology Advances - www.vista.vn, and Technology and Equipment Market of Viet Nam - www.techmartvietnam.vn

At present, the NASATI and KIAT jointly operate Vietnam-Korea Exchange of Technology Center aim to exchange technology information to promote cooperative programs in science and technology.

APEC Concept Note

Please submit through APEC Secretariat Program Director. Concept Notes of more than 3 pages (including title page) or incomplete submissions will not be considered.

Project Title:	Development of APEC-VC single entry point
Source of funds (Select one): <input checked="" type="checkbox"/> Operational Account <input type="checkbox"/> TILF Special Account <input type="checkbox"/> APEC Support Fund	
Committee / WG / Sub-fora / Task-force:	The APEC Policy Partnership on Science, Technology and Innovation (PPSTI)
Proposing APEC economy:	KOREA
Co-sponsoring economies:	Japan, Australia, Thailand, Malaysia, Vietnam, China
Expected start date:	April 2013
Expected completion date:	November 2013
Project summary: Describe the project in under <u>150 words</u> . Your summary should include the project topic, planned activities, timing and location: (Summary must be no longer than the box provided. Cover sheet must fit on one page)	The mandate of APEC Virtual Center (hereinafter called VC) Project expires at the end of 2012. At Osaka workshop held on July 16, 2012, VC economies have agreed that the project should be continued and VC Korea have been designated as a secretariat for the next term. We will promote VC project becoming a global hub of environmental technology exchange. We plan to focus on three initiatives; Green economy improvement, R&D knowledge base and Environmental networking enforcement. As a first step, we plan to develop a single entry point, the gateway. It is required to simplify entry site and manage VC contact point / VC links / bulletin board / business brokerage. The concept of gateway drives contents manager should move from public sector to private sector for site invigorated by users' hands voluntarily. In order to do this, we will try to get APEC fund this year and kick off the project merging with self-fund.
Total cost of proposal: (APEC funding + self-funding) 162,000 USD	Total amount being sought from APEC (USD): 70,000 By category: Travel: 10,000 Labor costs: 50,000 Hosting: Publication & distribution: Other: 10,000 92,000 USD (self-funding)

Project Overseer Information and Declaration:

Name: Jinseon Yim

Title: Researcher

Organization: APEC Virtual Center for Environmental Technology Exchange, Korea

Postal address: Seoul 122-706, Korea Environmental Industry & Technology Institute (KEITI)

Tel: 82-2-380-0569

E-mail: jsyim@keiti.re.kr

As Project Overseer and on behalf of the above said Organization, I declare that this submission was prepared in accordance with the **Guidebook on APEC Projects** and any ensuing project will comply with said Guidebook. Failure to do so may result in the BMC denying or revoking funding and/or project approval. I understand that any funds approved are granted on the basis of the information in the document's budget table, in the case of any inconsistencies within the document.

Jinseon Yim

Name of Project Overseer

Date: January 29, 2013

Project Synopsis

1. **Relevance:** Why should APEC undertake this project? What problem or opportunity will the project address and why is it important?

It has been 18 years since APEC-VC for Environmental Technology Exchange Project was approved as one of the official APEC projects at the APEC conference in Osaka, 1995. 12 economies in the APEC region have opened its website called "Virtual Center", creating a global network regarding the information on any environmental field and energy-saving across the Pacific Rim.

As the mandate of APEC-VC Project expired at the end of 2012, we had Osaka Workshop on July 16, 2012, which was held by VC Japan. At the workshop in Osaka, VC economies have unanimously agreed that this project should be continued and VC Korea is the strongest candidate for next secretariat of APEC-VC. We discussed, debated and ruminated on this issue how this project can accomplish APEC mission in terms of strengthening the regional economic integration and expanding the trade.

We realized our gap to this mission and defined such issues on the lack of budgetary support, environmental technology related contents and responsible site administrator. However, among APEC projects, there was no environment related working group, except the climate change and no international environmental technology information site either.

We will ambitiously promote VC project becoming a global hub of environmental technology exchange. As a result, the technology gaps between the developed and the developing countries would be reduced. We will use possible appropriate measures to lessen the technological dependence of developing countries in PPIST. For Korea, to achieve our ambition towards the developing countries, resolve the gaps and issues and catch a great opportunity to play an enormous role, it solely depends upon approval of project extension for next five years.

2. **Objectives:** Describe the 2-3 key objectives of the project. (e.g., to... create a framework...; ensure participants will be able to...; share experiences...; enhance understanding...; develop recommendations...; build interest...; revise strategies... etc.)

Under the initiative of the VC Project, the economies in the APEC region have opened a website called Virtual Center and mutually offered the information on environmental technologies and knowledge owned by governments, business and environmental institutions over the internet, creating a substantial network by organically connecting each VC and promoting the exchange of information on environment technologies. We have worked to expand the network and promote the transfer of technology. Advanced economies in the APEC region have developed such technologies for energy and environment conservation with a considerable reduction in CO2 followed by the introduction of energy-efficiency technologies and with the achievement in the high energy efficiency encouraged by energy-efficiency measures. In this respect, APEC-VC is an effective project in implementing APEC growth strategies which we utilize for information on those technologies widely available in the APEC region.

The objective of this project is to exchange of environmental technologies and products and then increase the green economy through the focus on developing countries and SME's environmental industry. We are planning to invite private sector such as environmental companies and provide a match making between the supplier and the consumer. This will contribute to improve the technology of SME's access to the global markets.

3. **Alignment:** Describe how the project will help achieve APEC's key priorities and meet your forum's work-plan or medium-term plan.

We defined our direction for this project based upon the medium-term plan of the IST(PPIST) group for 2010-2015.

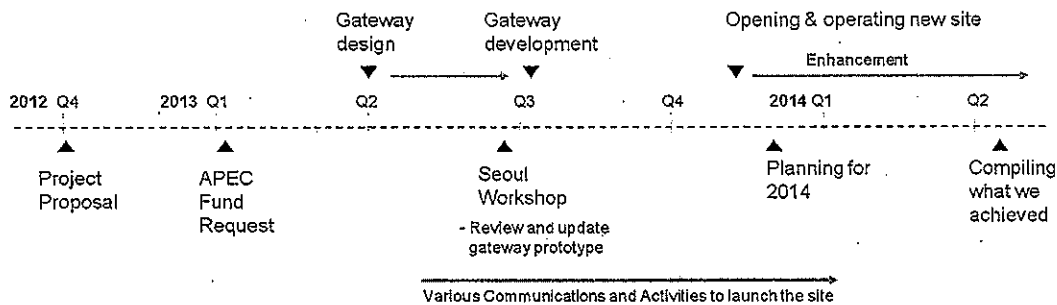
Med-Term Plan of the Group for 2010-2015	VC Activities
Enhanced economic growth, trade and investment opportunities	<ul style="list-style-type: none"> - Establish a VC single entry point (gateway) and utilize it as a bulletin board specializing in the business information to promote environmental business for SME's at home and abroad - Matching making for supplier and customer
Human resource capacity building	<ul style="list-style-type: none"> - Awareness activities by holding an annual workshop, SNS, Forum, site visits and newsletter

Enhanced international science and technology (S&T) networks	- Build a stronger linkage with other APEC projects/networks such as the APEC Climate Centre
Improved level of connection between research and innovation, involving and encouraging potentials of SME	- Share R&D ideas and outputs between the VC economy's research institutions - Develop R&D knowledge base by inviting university, public institution, companies, etc. - Intriguing research sponsors such as public institutions and industry field
Strengthened technological cooperation and achievement of best practices	- Notify to get governmental environmental support, i.e. 'Establishment of environmental management master plan' - Share international cooperation program for environmental technologies

4. **Methodology:** How do you plan to implement the project? In this section, address:

• **Timeline:** Project timelines and dates for key activities and deliverables

Jan ~ March 2013: APEC Fund request
 April ~ October 2013: VC gateway website design and development
 June 2013: VC annual workshop in Korea
 November 2013 ~ : Opening and operating a new site



• **Stakeholders:** Beneficiaries and stakeholders (APEC & non-APEC) and how they will be engaged

One of our definite goals for this project at long-term perspective is to improve the environment in those developing economies engaged in this project through the business and the expansion of technologies in energy-saving addressing the climate change issue and improving the environmental awareness among people in the developing economies. Here, definitely all people residing in the developing economies are the beneficiaries. When those exchanges of environment and energy conservation technologies are arrived in those developing economies, the industries related to environmental field would substantially grow in such regions. Stakeholders may be environment related public institution, university, research institute, local community, and the like.

• **Previous projects/activities:** If and how this proposal builds on the findings or lessons learned from previous projects/activities, while avoiding duplication

In 2009, the online environmental technology education service named APEC EF was provided to Vietnam. The internet infrastructure in the developing country could not easily allow streaming of video clip. Unfortunately after one year of its operation, it was closed off. We have realized from this valuable lesson that the compatibility and IT infrastructure availability in the other countries should be considered first in order to implement an international common website.

• **Communication:** How you plan to communicate the results or benefits of this project to others

We will upload our activities on social media such as LinkedIn, Facebook to be closer with social trend. To do this, the VC gateway will provide automatic uploading of contents to these SNS. In the event of holding a workshop, we will invite people engaged in environmental industries and take a business opportunity using our network.

Most of all, as the nominee for next secretariat VC Korea will place particular emphasis on strengthening its collaboration with centres of excellence based upon single entry point VC gateway website. It will include 'Introduction of APEC-VC', 'Information Sharing (technology brokerage, market trend, yellow book, business promotion, R&D)', 'Bulletin Board', 'VC Links' and 'Each VC Contact Point'.

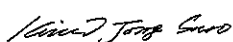


APEC Project Proposal

Project title and number:	PPSTI 03 2013 – Development of APEC-VC single entry point		
Source of funds (Select one):	<input checked="" type="checkbox"/> Operational Account <input type="checkbox"/> TILF Special Account <input type="checkbox"/> APEC Support Fund		
Committee / WG / Sub-fora / Task-force:	The APEC Policy Partnership on Science, Technology and Innovation (PPSTI)		
Proposing APEC economy:	Republic of Korea		
Co-sponsoring economies:	Japan, Australia, Thailand, Malaysia, Vietnam		
Expected start date:	April 2013		
Expected completion date:	December 2014		
Project summary: Describe the project in under 150 words. Your summary should include the project topic, planned activities, timing and location: (Summary must be no longer than the box provided. Cover sheet must fit on one page)	The mandate of APEC Virtual Center (hereinafter called VC) Project expires at the end of 2012. At Osaka workshop held on July 16, 2012, VC economies have agreed that the project should be continued and VC Korea have been designated as a secretariat for the next term. We will promote VC project becoming a global hub of environmental technology exchange. We plan to focus on three initiatives; Green economy improvement, R&D knowledge base and Environmental networking enforcement. As a first step, we plan to develop a single entry point, the gateway. It is required to simplify entry site and manage VC contact point / VC links / bulletin board / business brokerage. The concept of gateway drives contents manager should move from public sector to private sector for site invigorated by users' hands voluntarily. In order to do this, we will try to get APEC fund this year and kick off the project merging with self-fund.		
Summary of Proposed Budget: (USD)	APEC funding	Self-funding	Total
	70,000	92,000	162,000

Project Overseer Information and Declaration:**Name:** Jong Sun, Kim**Title:** Director**Organization:** Korea Environmental Industry & Technology Institute (KEITI)**Postal address:** 215, Jinhung-ro, Eunpyeong-gu, Seoul, 122-706, Korea Environmental Industry & Technology Institute (KEITI)**Tel:** 82-2-380-0551**E-mail:** eco@keiti.re.kr

As Project Overseer and on behalf of the above said Organization, I declare that this submission was prepared in accordance with the **Guidebook on APEC Projects** and any ensuing project will comply with said Guidebook. Failure to do so may result in the BMC denying or revoking funding and/or project approval. I understand that any funds approved are granted on the basis of the information in the document's budget table, in the case of any inconsistencies within the document.



Name of Project Overseer

Date: April 22, 2013

Project Details

SECTION A: Relevance to APEC

[Answers to questions 1–3 may be taken or adapted from the Concept Note]

1. **Relevance:** Why should APEC undertake this project? What problem or opportunity will the project address and why is it important? [½ page]

It has been 18 years since APEC-VC for Environmental Technology Exchange Project was approved as one of the official APEC projects at the APEC conference in Osaka, 1995. 12 economies in the APEC region have opened its website called "Virtual Center", creating a global network regarding the information on any environmental field and energy-saving across the Pacific Rim.

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2. **Objectives:** Describe the 2-3 key objectives of the project. (e.g. to create a framework for...; help participants to...; share experiences in...; enhance understanding of...; etc.) [¼ to ½ page]

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3. **Alignment:** Describe how the project will help achieve APEC's key priorities and meet your forum's work-plan or medium-term plan. [less than ½ page]

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Med-Term Plan of the Group for 2010-2015	VC Activities
Enhanced economic growth, trade and investment opportunities	- Establish a VC single entry point (gateway) and utilize it as a bulletin board specializing in the business information to promote environmental business for SME's at home and abroad - Matching making for supplier and customer
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Improved level of connection between research and innovation, involving and encouraging potentials of SME	- Share R&D ideas and outputs between the VC economy's research institutions - Develop R&D knowledge base by inviting university, public institution, companies, etc. - Intriguing research sponsors such as public institutions and industry field
Strengthened technological cooperation and achievement of best practices	- Notify to get governmental environmental support, i.e. 'Establishment of environmental management master plan' - Share international cooperation program for environmental technologies

4. **For TILF Special Account applications:** Briefly describe how the project will contribute to APEC trade and investment liberalization and facilitation with reference to specific parts of the Osaka Action Agenda (Part 1, Section C and, where appropriate, Part 2).
For APEC Support Fund applications: Briefly describe how the project will support the capacity building needs of APEC developing economies, and how they will be engaged. [¼ page]

SECTION B: Project Impact

5. Outputs and Beneficiaries:

- Describe the outputs (e.g. workshop, tool, research paper, recommendations, etc.)
- Describe the direct project participants and users of the outputs. Explain how the project outputs will benefit them. [½ to ¾ page]

Outputs: Hub-site, Workshop, DB (Reports from VC member economies, analysis report focused on each environment area including atmosphere, water quality and etc.

Direct beneficiaries:

- Private (Environmental related SMEs, leading companies, NGOs, academia, research and citizens)
- Public (Administration: Public officials working at the central department in member economies, public institutions, varied legislation related institutions)

First, we build a vc gateway website and hold two workshops at website planning stage and follow-up stage after the completion. The project participants in this process are the representatives from each VC member economy composed of public officials in environmental institutions, professors, researcher and etc. Once site completes its construction, the comprehensive information on environmental policies, environmental technologies and trends are provided to member economies by implementing databases on a regular basis. By doing this, SMEs and leading company can have an opportunity to promote their products and technology; as well as obtaining information on required product or technology and trends on related areas. Academia, research field or general citizen can find research reports that are scattered

all over VC member economies at this website; this will reduce the cost for acquiring information. Public institutions should be beneficiary in acquiring data including example of benchmarking in each VC member economies and national statistics related to environment in each economies, a basic data for formulating varied policies.

One of our definite goals for this project at a long-term perspective is to expand and execute technology and project on energy saving to cope with climate change and improve environmental awareness of citizens in developing economies, eventually improving environmental conditions in developing economy. Therefore, basically all people living in the developing economies are the beneficiaries. When the exchanges of environmental and energy-saving technologies are applied to developing economies, their environmental industries will be surely and greatly improved and developed. We engage with a range of stakeholders - public institution, university, research institute, local community, and etc.

6. **Dissemination:** Describe plans to disseminate results and/or outputs of the project, including:

- The number, form and content of any publications. (Note: APEC will not fund website maintenance or publications that are collections of PowerPoint slides. APEC encourages electronic publication.)
- The target audience.
- Any intention to sell outputs arising from this project. [less than ½ page]

Major target audiences are environmental industries and policy makers, various business stakeholders, environmental NGOs and international organizations as our APEC PPSTI Working Group. To cover this broad range of the audience, we plan to disseminate the results as follow: (1) Holding two workshops and posting workshop report on a gateway site in electronic format; (2) creating promotional brochure for VC gateway and distributing at the environmental industrial exhibition and etc. This brochure also will be created in an electronic format to upload on the website, distributed to VC members to introduce it to environmental industries or institutions in each economy. All outputs created from this project will be provided at no charge.

As a secretariat of Virtual Center Project, the Korea government is responsible for website maintenance expense after the completion of the project

7. **Gender:** What steps will the project take to ensure the participation and engagement of both men and women throughout the project? How do project objectives benefit women? [less than ½ page]

After checking a guide on gender criteria for APEC project proposals, our VC member economies strongly claimed that this project should fairly include female stakeholders as male stakeholders; therefore, both female and male are equally beneficiary from this project. Not only Korea but also more than half of VC managers in each member economies are female, encouraging female participation.

The major benefits of improved sustainable environmental information exchange network are less cost required for information collection and expanded accessibility to information. Especially since this is based on the internet, the vulnerable social groups including not only females but also elders and disabled can easily access to information.

However, if any discrimination issues are emerged while interviewing with various stakeholders, we will address these issues in our policy analysis framework.

SECTION C: Project Effectiveness

8. **Work plan:** Provide a timeline of actions you will take to reach your objectives. For each, include:
- How it will be carried out and how member economies, beneficiaries & others will be involved
 - Related outputs for that particular step (e.g. contract, agenda, participant list, workshop, report)
- [1-2 pages. Answers may be taken or adapted from the Concept Note]

Stage 1: Discussion how to build a Gateway website (June, 2013)

As a secretariat of VC project, Korea will hold the workshop in Seoul, June, 2013 for 2 days. During the workshop, VC member economies will discuss how to build a gateway site. During the discussion, the purpose and direction of gateway and the role of each member economy will be clarified and further, the

menu categories and how to effectively build DB will be also included to discuss. This would be an opportunity for member to exchange opinions at the site planning stage.

Gateway basically includes the following: 'Introduction of APEC-VC', 'Information Sharing' which might deal Environmental technology brokerage, Buy vs. Sell, Market trend, Law, Yellow Book, Q&A, Business Promotion. 'Bulletin Board', 'VC links', 'Each VC Contact Point'

The participants to the workshop are composed of those contact points who have been continuously participating in VC workshop. They are either working at the national environmental institutes in each economies, researchers or university professors. During the workshop so far, the economies have presented their national environmental issues and shared the information each other, participating in discussion on VC project for long time. Before holding a workshop, the secretariat will send agenda and participant list to each participant and also provide a result report after the workshop.

Stage 2: Building of Gateway site and Data Collection (July ~ November 2013)

Based on results derived from the workshop, the gate site will be built through an outsourcing. The process of website construction will follow the following series of process, including the vendor selection and contract, development and maintenance.

(1) Selection of Contractor and Contract

A request for proposal including the requirements needs to be prepared to select an outsourcing vendor. Based on the requirement, the contractor (vendor) will submit the request for proposal that satisfies our requirement and the quotation including labor required to build a site and its forecast schedule. We review on project period and costs, outputs and extra costs, select the most appropriate vendor and conclude an agreement with the vendor we selected. To ensure that both selection and contract process are performed in a transparent, accountable and equitable manner and to mitigate any real or potential conflict of interest, the PO will submit the required documents as follows:

- The RFP for approval
- CV and proposal from the recommended contractor which outlines the relevant skills and experience for the task
- A report that details the PO's selection process and justifies the choice of preferred contractor

(2) Development

This stage is the preparation for site development and actual development process. First the site contents need to be organized in detail and then plan for information architecture and user interface, finally the design concept needs to be determined. In the designing process, all matters to be displayed visually including the color, layout, font, and image will be determined; through going all processes described above, the actual website will be completed through coding and programming work.

(3) Maintenance

We go through the confirmation stage whether the site is well established or not through review and evaluation after its completion. After going through all processes, the website manual will be prepared and translated into English, providing to VC member economies. Outsourcing contract will perform the maintenance for site operation and management for certain period even after the completion. A site maintenance contract after executing project will be implemented separately from the site development and this expense will be supported by Korea government.

Stage 3: Operating a gateway site and opening workshop (2014~)

Once the development of gateway website completed, we will start to build database and hold a workshop with VC member economies in 2014. At the workshop, we will share our opinions on website trial operation and discuss improvements and also its further direction and vitalization plan. The database to be uploaded on website will be provided by each member economy and they can freely upload database. All visitors including environmental industries can open and download the database at no charge.

Refer to the following for phased timeline and outputs.



	Step 1	Step 2	Step 3
Activities	- Organize a VC workshop	- Develop the website	- Operate website & - Hold VC workshop
Outcomes	- 15 Participants attend the workshop - Consensus on the developing & operating gateway website	- Build a gateway website to becoming a global hub of environmental technology exchange.	- Various stakeholders can access the database uploaded on the website (incl. Research report, technical report etc) - 15 Participants attended the workshop - Discuss on the progress reports & vitalization plan
Outputs	- List of participants - Chair's summary	- Request for proposal - Contract (agreement) - VC gateway website - Website manual	- Database - Brochure - Survey & Assessment on the result of the website - List of participants - Chair's summary

9. **Risks:** What risks may be involved in implementing the project and how will they be managed? [$\frac{1}{8}$ to 1 page, depending on project nature/complexity]

The potential risks that may be caused while implementing the project can be: Information asymmetry caused by uneven participation between the member and difficulty in communicating with partner researchers in the co-sponsoring economies due partly to budget constraints of this project and partly to member's schedule congestion in making meeting appointment.

12 member economies are currently participating in VC project but some economies show a poor participation due to the limitations of cost and time and also a poor public internet accessibility is emerged as an issue caused by poor network environment in some economies; that is why there is a concern over information sources built on VC gateway site may be limited to certain economies. To improve such issues above, we encourage the participation between the member economies through SNS and the information should be updated by using KEITI's IP (Information Provider). For communication issue, if budget does not allow our team members to meet partner researchers in the co-sponsoring economies as frequently as needed or when they have hard time to make meeting appointment in consideration of both availabilities, we use various ways of indirect communications such as e-mail, internet phones and video-conferences and some other effective ways.

10. **Monitoring and Evaluation:** What indicators will you use to know if the project is on track (monitoring) and successful in meeting its objectives (evaluation)? What information will you collect (e.g. stakeholder feedback, website hits, participant stats etc.) and how will you collect it (e.g. meetings, surveys, interviews, peer review, records review)? [$\frac{1}{2}$ page]

The monitoring and evaluation indicators should be developed in compliance with the work plan and the project objectives. Therefore, the indicators are designed upon the work plan with its objectives as follows: The construction of website is to be monitored and evaluated by quality criteria for website excellence. This includes number of website hits, page views, visitor statistics and growth rate etc.

A satisfaction survey is performed on website users and this survey is to analyze user's opinions on our site and their subjective level of satisfaction. The detailed evaluation criteria combining both subjective and objective indicators are to be established to perform a political evaluation. The expert evaluation will be performed for the aspect requires qualitative and professional knowledge that shouldn't be appeared through user survey or system inspection.

We will conduct a survey on site users and member economies and apply their feedback to have more appropriate information. We will conduct a self-review on a regular basis prior to the preparation of six-monthly monitoring reports. We will share the cause for success and failure with VC member economies and discuss future improvement and requirement to apply them to future project direction.

11. **Linkages:** Describe the involvement of other APEC fora, and other relevant organizations. Include:

- **Engagement:** How are you engaging other relevant fora, within and outside of APEC?
- **Previous work:** How does this project build on, yet avoid duplication of, previous or ongoing APEC initiatives, or those of other organizations?
- **APEC's comparative advantage:** Why is APEC the best sources of funds for this project?

[¼ to 1 page. Answers may be taken or adapted from the Concept Note]

The objective of this project is to exchange environmental technologies and products and then increase the green economy through the focus on developing economies and SME's environmental industry. To improve the technology of SME's access to the global markets, we seek for ways to connect with other APEC such as SME-WG, RTAs/FTAs-WG. The secretariat will refer to a guideline and report published by fora to support SMEs trading in VC economies. To enhance international science and technology networks, we will enhance the regional cooperation with research institutions and organizations in each VC economies. For example, we will cooperate with Low Carbon Asia Research Network (LoCARNet) to get research data and invite some experts to support policies for low-carbon growth.

We provide information on new technology in advanced economy to bridge the technology gap between advanced and developing economies. We discuss copyright with international organizations including OECD to upload those environmental technology reports on environmentally advanced economy. Any visitors to our gateway website can easily find and download these data at no charge.

The members of VC project are all APEC member economies. During the last 18 years, the workshops were held every year to exchange environmental technologies between APEC areas. The economies established a VC website to build databases such as environmental project and service, research results in each economy to promote information exchange between the member economies. For last several years, it was not able to continuously operate VC website due to such difficulties in limited budget and lack of website consistency. Accordingly, we finally arrived at conclusion that one single entry point will be much more efficient in connecting the scattered information. Along the project extended to this year, we build a gateway to enhance the accessibility to information; the information exchange will be absolutely vitalized more.

A VC gateway website will gather information on environmental product from varied economies and provide opportunity for SMEs to export their products to overseas and receive more advantage benefits; by playing its brokerage role, APEC VC will be much more attractive to anyone. Not only people in APEC regions, but also varied interested parties can access to APEC VC gateway website to get such information on new environmental product and technology in Asia-Pacific region as well as their research results. It would be a starting point for another information exchange and cooperation.

The objectives of this project are in compliance with the mid-term plan of IST-WG. Therefore, the successful operation of this project should contribute to achieve key priorities of APEC.

SECTION D: Project Sustainability

12. **Sustainability:** Describe how the project will continue to have impact after the APEC funding is finished.

- **How will stakeholders and beneficiaries be supported to carry forward the results and lessons from the project?**
- **After project completion, what are the possible next steps to build on its outputs and outcomes? How will you try to ensure these future actions will take place?** [less than 1 page]

It's been 18 years since VC project first performed in 1995 to vitalize the exchange of environmental technology information between the economies in APEC area. Meanwhile, this project was solely supported by Japanese government. Since Korea has been newly designated as a secretariat from 2013, this project is now supported by Korea government.

The funds required for stable and continuous operation after the completion of APEC funding are also to be supported by a VC secretariat, the Korea government; and certain fund can be derived from member economy whenever necessary. The data presented on the website are to be offered by each member economy or each member directly uploads them. DB will be uploaded on a regular basis under the

instigation of the VC secretariat, VC Korea. Therefore, all visitors to our site are fully enclosed with information provided by gateway website.

Since the establishment of APEC-VC Korea website (<http://apec-vc.or.kr>) in 2003, VC Korea has been operating the website for about 10 years; we receive funds from the government to provide the databases on Korea environmental technical product and technical report, etc. As of 2012, the cumulative visitors to a website are 451,527 and the number of DB implemented is 15,834. Based on those experiences, VC Korea will faithfully play its project manager role responsible for all processes including the construction of gateway website, data upload and maintenance to be successfully executed. After the project executed, it will be required to submit a project completion report describes the details of the project to APEC secretariat.

VC workshop is to be held every year and the operational costs are supported by secretariat. We all discuss on further gateway operation and its vitalization plan at the workshop.

13. **Project Overseers:** Who will oversee the project—including any hiring of contractors—and drive it to success? Please include the names and brief biographies of the PO and any other main point(s) of contact responsible for this project. [less than ½ page]

Jong Sun Kim
 Director, Korea National Environmental Information Center, KEITI
 215, Jinheung-ro, Eunpyeong-gu, Seoul, 122-706,
 Korea Environmental Industry & Technology Institute (KEITI)
 Tel: 82-2-380-0551 E-mail: eco@keiti.re.kr

Mr. Jong Sun Kim is a director of Korea National Environmental Information Center at KEITI (Korea Environmental Industry & Technology Institute), the secretariat of APEC-VC. He's been taking overall control of websites providing environmental information, including KONETIC EIS and others at the Korea National Environmental Information Center.

KONETIC is the largest environmental industry and technology portal site and this portal is to provide consumer-oriented information to citizen and environmental industries since 2000. KONETIC plays its role in improving the environmental awareness of the population, providing comprehensive information on environmental policies, technologies and trend and also offering an opportunity to promote their technologies and products for environmental industries. As of 2012, the number of DB built in our system is around 1,080,000 and the total number of website users is around 13,000,000.

He received a master's degree in industrial environment studies from the graduate school of policy science, Sejong University.

SECTION E: Project Efficiency

14. **Cost Efficiency:** Highlight how the project offers APEC maximum value for money. In what ways will the project maximize the cost-efficient use of resources? [¼ to ½ page]

We must receive higher level of self-financing from Korea government. The budget secured from Korea government will be used for labor, facilities, travel and other budget areas. The aids supported by APEC will be solely used for building gateway website and holding related workshops only. Detailed budget and cost items are mentioned in the Section F. All outputs are disseminated electronically.

The participants in workshop for project are composed of contact points of each VC member economy; therefore, we should not pay any extra money (e.g. honoraria) other than expenses for travel.

15. **Budget:** Complete the budget and budget notes for the project in the template in SECTION F of this form. The budget should include calculation assumptions (e.g., unit costs) and self-funding contributions. Please consult the Guidebook on APEC Projects for eligible expenses.

Please refer to SECTION F. All the cost items and the unit rates follow the guidelines of the Guidebook

(1) Travel for Participants

The travel expenses for participants to the workshop will be paid according to APEC guideline. As of current, the economies willing to participate in the workshop are VC managers from Chile; Indonesia; The Philippines; Viet Nam; Malaysia; Korea; Japan; Chinese Taipei and Australia; and per diem and air fair will be provided to 1 person in each economy.

5 participating economies will be supported with their travel expenses from APEC fund and those selected among travel-eligible APEC economies are: Chile; Indonesia; The Philippines; Viet Nam and Malaysia. Other economies not mentioned above will be supported by self-funding.

Seoul Workshop will be held from June 10 to June 11, 2013, for 2 days. Rate per diem was modified to USD 400 per person and this amount calculated was based on 3.75 days x 5 participants x 400 including accommodation. Accordingly the expense to hold a workshop was slightly increased but the final amount including the website construction stays same as USD 70,000.

The venue for workshop in 2014 is not yet decided but will be either Seoul or one of APEC VC member economies. This will be also decided upon the decision of economies at the workshop in 2013. This result will be also notified at APEC secretariat.

(2) Developing Gateway website

USD 49,000 of APEC fund is spent to build a VC gateway website this is to be achieved through a contract with outsourcing vendor. At the stage of vendor selection and contract, the vendor who wishes to work this project with us will submit a request for proposal including detailed description of labor and time required for building a website and the equipments need to be purchased; and this may be submitted to APEC secretariat as documentary evidence according to APEC guideline. At the website construction and completion stage, PO consistently monitors if vendor does their job according to the contract terms; the total contract amount is to be finally evaluated if they clearly used the amount according to the terms mentioned in the proposal.

The maintenance of gateway website will be fully supported by Korea Government and the APEC fund never be used for maintenance purpose.

SECTION F: APEC Project Itemized Budget

Please consult the descriptions of eligible expenses in the Guidebook on APEC Projects

<u>All Figures in USD</u>	# of Units	Unit Rate	APEC Funding	Self-Funding	Notes
Direct Labour					
Contractor (including Contractor's Secretarial and Researchers' fees)	(# of hours)	-	-	-	
Researcher Jinseon Yim	360	80	-	28,800	
Research Assistants	200	10	-	2,000	
Research Assistants	200	10	-	2,000	
Travel (Speaker, Experts, Researchers)					
Per diem (incl. accommodation and "75% additional payment")	(# of persons and days)	-	-	-	(location of event)
Airfare	(# of persons and trips)	-	-	-	
Travel for Participants (from travel-eligible economies only. Active participants only)					
Per diem (incl. accommodations and "75% additional payment") -2013 Seoul Workshop	(# of persons and days) 5*3.75	400	7,500	7,200	Seoul
Airfare (restricted economy class) -2013 Seoul Workshop	(# of persons and trips)5*1	600	3,000	5,400	
Per diem (incl. accommodations and "75% additional payment") -2014 Workshop	(# of persons and days)5*3.75	400	7,500	7,200	Seoul (Tentative)
Airfare (restricted economy class) -2014 Workshop	(# of persons and trips)5*1	600	3,000	5,400	
Other Items					
Developing Gateway website	1	-	49,000	-	
Developing Databases		-	-	34,000	
Total :			70,000	92,000	

Budget Note 1: Direct Labour: Provide information for APEC-funded positions including general duties, total hours and who will be contracted, if known. (It is not acceptable to contract staff from your own organization or government employees.)

Budget Note 2: Waivers: Provide details of any requests for waivers from the normal APEC financial rules, with justifications (e.g. from tendering requirements, for advance payment, simultaneous interpretation payment) in the notes column of the budget table, or below if the waiver requires a detailed explanation.



**APEC Project Quality Assessment Framework (QAF)
Fora Assessment of Project Quality at Application**

Proposal name: PPSTI 03 2013 – Development of APEC-VC Single Entry Point

Assessors' details:

Thailand – Malee Hutacharoen, Environmental Information Center, Department of Environmental Quality Promotion, Ministry of Natural Resource and Environment
 Japan – Rikutarō HAMADA, International Affairs Office, Industrial Science & Technology Policy and Environment Bureau, Ministry of Economy, Trade and Industry
 Malaysia - Mohd Nadzeef Ab. Malek, Assistant Secretary, ASEAN/ APEC Unit, International Division, Ministry of Science, Technology and Innovation
 Viet Nam – Ha Thi Lam Hong, Deputy Director General, Department of International Cooperation, Ministry of Science and Technology

Question	Comments (text, not scores)
Is all project identification data provided? Relevance: assessing the connection to APEC's policy agenda, priority themes and goals Please tick: <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory	<p>Thailand : Yes</p> <p>Japan: Yes</p> <p>Malaysia: The submitted proposal includes all project identification data</p> <p>Viet Nam: Yes. Make reference to the relevant parts of APEC documents; Describe how the project directly respond to the priorities set by APEC leaders.</p>
Can links to APEC priorities and key APEC themes be identified more clearly?	<p>Thailand: Yes. Detailed references and links to APEC documents would be useful.</p> <p>Japan: Yes.</p> <p>This project's direction is made based on PPIST's goals consisting of enhancing economic growth, trade and investment opportunities, as well as social progress, in harmony with sustainability, through the development of an enabling environment for market-based innovation policy in support of commercialization, the promotion of innovation capacity, and the facilitation of innovation cooperation among member economies.</p> <p>Malaysia: The Project Proposal is directly based on the medium-term plan of the IST Working group for 2010-2015.</p> <p>Viet Nam: Yes. Break down the project implementation into specific functional steps; Explain how they will be managed and identify the risk in each steps if any.</p>

Question	Comments (text, not scores)
<p>Can the definition of the problem (causes and constraints), and explanation of the options that are available to address it, be improved?</p>	<p>Thailand: Yes, through simple, step-by-step explanation of the implementation procedure and obstacles encountered.</p> <p>Japan: Yes</p> <p>Malaysia: Clear explanation of the problems to be explored.</p> <p>Viet Nam: Yes. Encourage more members to actively participate in the planning, implementation and evaluation by describing how the intended beneficiaries among APEC stakeholders.</p>
<p>Will this have the active participation of a large number of APEC members? How could more members be engaged?</p>	<p>Thailand: Yes. More members can be engaged by clarifying and demonstrating the benefits to be gained by the project.</p> <p>Japan: Yes. VC single entry point makes some economies reduce burden to manage each website, which encourage them to join the VC network.</p> <p>Malaysia: Yes. As ISTWG is now emerges to PPSTI, involvement from private sectors and academic institutes are important to make sure outcomes of the project will also beneficial to these communities.</p>
<p>Impact: assessing expected results for APEC and stakeholders</p> <p>Please tick: <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory</p>	
<p>Can the intended changes from this project, particularly the difference it will make to direct beneficiaries, be more clearly expressed?</p>	<p>Thailand: Yes, by providing as much statistical data as possible to quantify the real and expected benefits.</p> <p>Japan: Yes.</p> <p>Through this project, the environment in developing economies engaged in this project is improved and environmental technologies in energy-saving addressing the climate change issue is expected to expand. This brings more opportunity for SMEs to have business in those economies.</p> <p>Malaysia: The benefits to direct beneficiaries are clearly articulated.</p> <p>Viet Nam: Yes. Describe how these outputs will benefit the targeted beneficiaries; Provide the current status and expected project target so that the success of the project can be measured.</p>
<p>Are there other beneficiaries and stakeholders that could benefit from this project that should be</p>	<p>Thailand : Input and insights from the general public might prove useful or valuable.</p>

Question	Comments (text, not scores)
<p>engaged in its development?</p>	<p>Japan: Yes</p> <p>All people residing in the developing economies engaged in this project can get benefits from this project as the expanded businesses create more employment opportunity. The environmental awareness among people can be improved.</p> <p>Malaysia: The PP already identifies varieties of beneficiaries and stakeholders to engage with.</p> <p>Viet Nam: Yes.</p>
<p>How could the proposal better ensure that both women and men are appropriately involved in the planning and implementation of this project?</p>	<p>Thailand : Positive discrimination techniques might be appropriate when a strong gender bias is detected, but any corrective measures must also be sensitive to the cultural and religious context in which they are implemented.</p> <p>Japan: The current APEC-VC network consists of businesses, universities and governments. This is uniqueness of this project. There is no gender segregation in planning and implementing this project. Half of VC managers are female.</p> <p>Malaysia: All project activities will be based on gender equality approach and participation in the project will be equally open for all genders</p> <p>Viet Nam: Common response included: using gender analysis to design project methodologies and inputs (i.e. surveys), taking steps to ensure equitable participation by men and women, using sex-disaggregated data for project assessment.</p>
<p>Could there be better ways to communicate and promote the project's outputs and results, particularly to external parties? Are there other quality assurance measures that should be taken over the products prior to distribution?</p>	<p>Thailand: The development of smartphone apps might be a useful way to promote the project.</p> <p>Japan: Yes.</p> <p>The projects' outputs, results and activities are distributed by social media such as LinkedIn, Facebook and etc.</p> <p>Malaysia: The mediums to disseminate results and output of the project have been well described</p> <p>Viet Nam: Yes. Describe how the project might contribute to any current or completed project or activities in APEC or elsewhere.</p>
<p>Effectiveness: assessing how well the project can achieve its objectives</p>	

Question	Comments (text, not scores)
<p><i>Please tick:</i> <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory</p> <p>How can the objectives be more clear, achievable or measurable?</p>	<p>Thailand: As much as possible, unambiguous, non-technical language should be used and hard, numerical data should be provided. Objectives should also be proposed in ways that allow hard data to be collected.</p> <p>Japan: Environmental issues should be considered over the long-term. At the workshop, the long-term direction of VC project is discussed and reviewed, which can help the VC project objective become more clear.</p> <p>Malaysia: The objectives are understandable and cooperation between APEC Member economies in term of information sharing is important to make sure objectives are achievable.</p> <p>Viet Nam: With reference to each objectives of the project, The targets should be quantities but this is not possible then a precise description of the change aimed at should be given.</p>
<p>Based on the problem articulated, is this a sound way to address the problem? Could alternative approaches be considered?</p>	<p>Thailand : Yes</p> <p>Japan: Yes. Due to budget constraint, some might have a difficulty of get access to internet. In this case, the VC secretariat uses various ways of indirect communications such as e-mail, internet phones and others.</p> <p>Malaysia: No comment</p> <p>Viet Nam: Yes.</p>
<p>Has APEC's value add been clearly articulated, particularly why it is a important project for APEC to be carrying out?</p>	<p>Thailand: Yes, I think the value adding by APEC has been articulated sufficiently.</p> <p>Japan: The scale of economy in the APEC has a large impact on global Economy (GDP in APEC economies accounts for 50% of the world GDP). This means APEC is required to play a leading role in addressing environmental issues. The project can contribute to addressing these issues.</p> <p>Malaysia: This project utilizes the information from the substantial network connecting each VC and promotes the exchange of information and transfer of technology on environment.</p> <p>Viet Nam: Yes. Describe the key objectives of the project shortly linked to APEC themes and APEC priorities.</p>
<p>Has this project integrated lessons learned from</p>	<p>Thailand: I think so.</p>

Question	Comments (text, not scores)
<p>previous projects?</p>	<p>Japan: Yes. VC Korea experienced e-learning on environmental issues under APEC Education Fund. And based on her experience, VC Korea considers it very important to get everybody get internet connected to get information. In order to do this, as mentioned in the above, VC Korea uses various ways of communication and information disseminating tool</p> <p>Malaysia: Yes</p> <p>Viet Nam: Yes.</p>
<p>Sustainability: assessing if benefits and lessons learned are likely to continue after the project</p> <p>Please tick: <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory</p>	
<p>Are the project's long term intended impacts explained well, particularly in connection to the fora's objectives and future work plan?</p>	<p>Thailand: Yes.</p> <p>Japan: Yes. The APEC VC project has an experience of 18years. This is because this project is carried out based on a long-term and mid-term project plan. This is discussed at the workshop held every year.</p> <p>Malaysia: The objectives are clear, and the project's long term intended impacts are explained clearly.</p> <p>Viet Nam: Yes.</p>
<p>Could additional mechanisms in put in place to support the changes brought about by the project?</p>	<p>Thailand: Yes. Infrastructure, government subsidies and other assistance would be beneficial</p> <p>Japan: To need to work with other international organization and expand the VC network to the international one</p> <p>Malaysia: No comment</p> <p>Viet Nam: Yes.</p>
<p>Can the project do more to get commitment for the project's success from external APEC stakeholders?</p>	<p>Thailand: Yes. If the benefits are clearly explained, commitment from external stakeholders is likely to follow.</p> <p>Japan: Yes, one of this project's purpose is to develop R&D knowledge base by inviting university, public institution, companies and etc. There is a possibility of expanding the VC network to other stakeholders not only in the APEC but also in EU and others Asian countries</p> <p>Malaysia: The project team should contact external stakeholders earlier to ensure their support and commitment to the project and make efforts to have them participating in the project, as well as to exchange views before the VC</p>

Question	Comments (text, not scores)
<p>Are there any further suggestions about how the lessons learned from this project can be disseminated within APEC, particularly in relation to whether the project can be replicated or expanded in the future?</p>	<p>annual workshop.</p> <p>Viet Nam: Yes.</p> <p>Thailand: I do no know.</p> <p>Japan: To work with other organizations such as UNEP and Low Carbon Asia Network LOCARNET working in the global stage, not in the APEC.</p> <p>Malaysia: Reports of the project outcomes should be circulated to the relevant APEC fora, members and experts for endorsement before circulating more widely.</p> <p>Viet Nam: Yes.</p>
<p>Efficiency: assessing the design process and implementation management</p> <p>Please tick: <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory</p>	
<p>Has the proposal shown how the planned outputs (goods and services) will contribute to the desired change? Could there be ways to improve their quality / utility?</p>	<p>Thailand: Yes. Quality and utility measures appear to be adequate, with workshops and free access to information in electronic format.</p> <p>Japan: Yes. The purpose of holding a workshop is to develop human resources. In addition to this, the workshop offers an opportunity for each VC member to discuss the direction of VC project and solve problems occurred in the course of conducting this project.</p> <p>Malaysia: Yes, the PP outputs and outcomes will be useful for APEC member economies and will help to add value to APEC activities.</p>
<p>Should any further project risks be identified? How could they be managed?</p>	<p>Thailand: Yes. Participants with limited Internet access should be given adequate assistance as required, and measures should be taken to ensure high English competence of participants. Follow-ups should also be scheduled in participating countries to ensure that resources are used effectively and participants do not lose sight of project goals and objectives.</p> <p>Japan: No. As shown in the above, problems can be discussed and solved at the workshop.</p> <p>Malaysia: Most risks for implementing the project have been well described.</p>
<p>Can arrangements for assessing the project's</p>	<p>Thailand: Assessment procedures appear to be good, but perhaps an annual review by an independent third party</p>

Question	Comments (text, not scores)
<p>results be improved?</p>	<p>would be a useful measure.</p> <p>Japan: Yes</p> <p>Malaysia: According to the project proposal, arrangements for assessing are well-considered.</p>
<p>Is the budget reasonable for the project's objectives and outputs? Is there evidence of value for money?</p>	<p>Thailand: Given the declining cost of technology, the budget should be adequate.</p> <p>Japan: Yes</p> <p>Malaysia: Yes, the budget is reasonable and efficient with good share of self-funding.</p>
<p>Overall comment on proposal quality:</p> <p>Overall quality assessment: Please tick: <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory</p>	



BMC Project Approval Session 1, 2013

APEC Project Proposal – Quality Assessment

Forum / Project No.:	PPSTI / PPSTI 03 2013
Project Title:	Development of APEC-VC Single Entry Point
QA version #:	2
Date of this version:	6 May 2013
Overall satisfactory:	Yes
Overall summary:	A solid proposal. Linkages, sustainability and budget have been improved by addressing the concerns in the earlier version.

Assessment Criteria	Comments	Satisfactory (Yes/No)
Relevance	Concept Note and proposal assessed by PPSTI. Priority assessed as Rank 2 by SCE. Proposal developed in line with Concept Note.	Yes
Impact	Outputs are reasonably described.	Yes
Effectiveness	Work Plan is clearly articulated. Linkages have been improved with additional amendments. However, during implementation the PO should undertake an assessment of other existing resources in this space to avoid any risks of duplication.	Yes, but please note our comments.
Sustainability	Sustainability has been strengthened through additional information on the work of the champion economy. A reminder to send the APEC Secretariat draft reports and mock website design for review before finalization	Yes
Efficiency	Budget is satisfactory.	Yes





**Asia-Pacific
Economic Cooperation
Secretariat**

17 May 2013

Mr Kim Jong Sun
Korea Environmental Industry & Technology Institute (KEITI)
Korea
Email: eco@keiti.re.kr

Dear Mr Kim Jong Sun

**Approval of Project Proposal
PPSTI 03 2013 – Development of APEC-VC Single Entry Point**

Thank you for your submission of the above project proposal for consideration by the APEC Budget and Management Committee.

This letter confirms the approval of your project proposal to the value of **US\$70,000**.

When implementing the project please take into consideration the following comments and refer to the project **Quality Assessment** which is enclosed:-

1) Participation of Non-APEC Members in APEC Activities

Should this project involve the active participation/engagement of non-APEC members, please refer to the APEC guidelines on non-member participation which provide guidance on the processes, to ensure compliance. The guidelines are available at <http://www.apec.org/About-Us/About-APEC/Policies-and-Procedures.aspx>.

2) Direct Labour – Developing Gateway Website (Guidebook, Chapter 9-44 to 9-52)

As per Chapter 12 of the 8th Edition of the Guidebook on APEC Projects (Guidebook), a Contract or Work Undertaking must be in place prior to work commencing for direct labour items. APEC will not be liable for payment for any work undertaken prior to an agreed contract or undertaking being in place.

All project-related contract procurements need to closely follow APEC guidelines as outlined under Chapter 12 and Appendix K of the Guidebook. This is to ensure that value for money is obtained and real or potential risks of conflict of interest issues are managed appropriately.

Please ensure the publication content (or the "work") must comply with the requirements of all APEC policies and guidelines, including the:

- APEC Publication Guidelines;
- APEC Style Manual and Accepted Nomenclatures;
- APEC Intellectual Property Policy;
- APEC Logo Guidelines; and
- APEC Website Guidelines.

To expedite the reimbursement of project funds for publications or related work, please consult the Secretariat prior to entering into any financial commitments. APEC is not liable to pay for the costs if the guidelines are not observed.

3) Travel Expenses

- a) APEC travel-related policies do not allow for the payment of airfares for travelers attending project events held in the margins of APEC meetings when their attendance at that meeting would normally be supported by their economy.

17 May 2013

b) Per Diem - the prevailing UN per diem rate or the rate budgeted in the proposal, whichever is lower, will apply during implementation.

4) **APEC Project Events**

APEC rules forbid the use of flags and emblems at APEC events (seminars, symposia, workshops, etc), whether APEC-funded or self-funded. The APEC nomenclature for economies must be followed.

5) **Completion of Project Activity and Expiry of Project Disbursement Deadline**

All activities funded by APEC must be completed by or before 30 November 2014 for payments to be effected to the contracted parties before the expiry of the project disbursement deadline on 31 December 2014. Any remaining funds will be returned to the appropriate APEC account after this deadline.

The name and contact details of your Program Director and Program Executive are:

Mr Mikiharu Shimizu
Program Director
Tel: (+65) 68919 611
Email: miki@apec.org

Ms Linnus TEO
Program Executive
Tel: (+65) 68919 628
Email: ltsv@apec.org

The project is to be implemented as per the approved project proposal and in accordance with the *Guidebook on APEC Projects*. For your easy reference, an overview of the roles and responsibilities of a Project Overseer and the Secretariat is included overleaf. In addition, please note that compliance checks may be undertaken for audit and evaluation requirements.

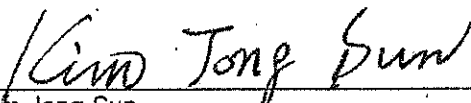
Please confirm your acceptance by returning a signed copy of this letter to your Program Executive as soon as possible. Funds cannot be disbursed prior to receiving your acceptance.

Yours sincerely



Nadira P. MAILEWA (Ms)
Program Director, Project Management Unit
APEC Secretariat

Accepted by:


Kim Jong-Sun

21 May 2013
Date

Enc:

Overview of the Roles & Responsibilities of a Project Overseer & APEC Secretariat
Project Proposal
Quality Assessment