



101年國家永續發展年報

2012 Annual Report on National Sustainable Development

行政院國家永續發展委員會 編印



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陳敏明 攝

101年國家永續發展年報

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前言

行政院於民國86年8月23日成立「行政院國家永續發展委員會」（簡稱永續會）。永續會除針對國家永續發展相關議題提供諮詢外，迄今完成「永續發展政策綱領」、「永續發展行動計畫」、「台灣永續發展宣言」、「台灣21世紀議程」及「永續發展指標系統」等重要文件，做為我國推動永續發展之依據。

行政院長兼永續會主任委員陳冲於101年5月初，指派永續會副執行長葉欣誠為團長，率領行政院代表團一行20人（含我國駐巴西外館人員）赴巴西里約參加「2012聯合國永續發展大會（Rio+20）」，由於Rio+20係聯合國10年召開1次之永續發展高峰會議，意義重大，是以，特於今年度年報，以專章深入報導我國代表團參與Rio+20之概況。

本年報彙整101年國家永續會及民間推動永續發展的重要成果，包括永續會工作概況（第一章）、工作分組年度工作概況（第二章）、2011年永續發展指標評量結果（第三章）、101年國家永續發展獎（第四章）、參加2012聯合國永續發展大會（Rio+20）（第五章）及永續會民間委員專訪（第六章）等。永續會組織架構與委員名單，詳列於年報附錄。

透過「國家永續發展年報」之發行，期望國人及國際人士能更了解我國推動永續發展的過程及成果，並希望能藉此提升全民對永續發展的認知，進而共同參與國家的永續發展工作。

國家永續發展委員會年度

1.1 | 召開委員會議及工作會議

一、委員會議

行政院國家永續發展委員會（以下簡稱永續會）於101年9月11日召開第25次委員會議，由行政院院長兼永續會主任委員陳冲主持，與會人員包括永續會政府部門委員、民間委員及各相關部會代表。討論議題為「行政院永續會代表團出席『2012聯合國永續發展大會（Rio+20）』結果及因應」及「低碳永續家園推動方案（草案）」等2案。院長於會中裁示：

（一）「行政院永續會代表團出席『聯合國永續發展大會（Rio+20）』結果及因應」：1.本次「聯合國永續發展大會

（Rio+20）」產出文件內容須進一步消化及研析，並將其應用於我國現行永續發展相關文件及策略。2.為順應國際永續發展趨勢，研擬我國推動綠色經濟之可行方案，本會於前（第34）次工作會議中成立「綠色經濟專案小組」，由經建會擔任召集機關，並由本會尹啟銘執行長統籌事務，值得肯定。「綠色經濟」係一種觀念及執行態度，須有效推廣及落實於政府各項工作及社會生活層面中。3.有關「聯合國永續發展大會」為強化聯合國環境規劃署（UNEP）功能所提及之「廣泛會員（universal



⬆ 行政院院長兼永續會主任委員陳冲（左四）主持第25次委員會議。

工作概況

membership)」，請秘書處酌研「廣泛會員」之定義，並持續追蹤我國參與之可能性。

- (二)「低碳永續家園推動方案(草案)」：
- 1.針對「低碳永續家園推動方案(草案)」所規劃之184項行動項目，請各部會進行檢視及盤點，篩選與機關職掌相關之現階段於技術面、經濟面及行政面可行之行動項目。
 - 2.後續請環保署邀請相關部會進行研商，必要時提永續會工作會議協調討論。

二、工作會議

永續會分別於3月30日、8月13日及12月4日由尹執行長啟銘主持，邀集永續會政府部門委員、民間委員及各相關部會代表召開3次工作會議。

- (一)3月30日召開第33次工作會議，討論議題包括「低碳永續家園推動方案架構」及「有關本會組團赴巴西里約出席『2012年聯合國永續發展大會



↑ 永續會尹啟銘執行長(中)主持第35次工作會議。

(Rio+20)』之籌備事宜」等2案。

- (二)8月13日召開第34次工作會議，討論議題包括「行政院永續會代表團出席「聯合國永續發展大會(Rio+20)」結果」及「低碳永續家園推動方案(草案)之評比機制」等2案。
- (三)12月30日召開第35次工作會議，討論議題為「我國參加(Rio+20)自願性承諾(voluntary Commitments)」。

1.2 | 參與2012年聯合國永續發展大會(Rio+20)

一、出席2012年聯合國永續發展大會(Rio+20)

聯合國於2012(101)年6月在巴西里約召開10年一次之「聯合國永續發展大會」(又稱Rio+20)，本次會議計188個國家、3個觀察員以及9,856個major group參與，總計57個國家元首、8位副元首、31位首相、487位部長及4萬5,000人與會，共同努力為促進全球繁榮、減少貧窮、增進社會公平、環境保護等議題尋求解答。本次大會主要討論兩大主題：(一)

永續發展及消除貧窮之脈絡下的綠色經濟；

(二)永續發展體制架構。

我國代表團由環保署葉副署長欣誠率團，包括外交部、經建會、經濟部工業局、農委會林務局、內政部營建署城鄉發展分署國家公園、我駐巴西外館等計20人與會，台北市政府、台中市政府、台南市政府、高雄市政府亦派員與會。

代表團除了參與大會相關會議外，亦積極參與相關周邊會議及活動，並與多個國家或國

際組織進行雙邊會談（詳細內容，請參考第五章）。

二、出席「聯合國永續發展大會 (Rio+20)」歸國後之後續推動工作

- (一) 代表團返國後即於行政院7月5日之第3305次院會及9月11日由院長主持之永續會第25次委員會議報告參加大會之成果。院長指示：「請永續會秘書處針對本次『聯合國永續發展大會』產出文件內容進一步消化及研析，並將其應用於我國現行永續發展相關文件及策略。」
- (二) 7月22日～23日永續會舉辦「2012年聯合國永續發展大會 (Rio+20)」會後研討會，邀請產學界人士、政府部門、民間團體及對永續發展議題有興趣之民眾參加並與講者進行討論及意見交流。研討會除請與會之政府團及民間團體代表分享與會心得及建議外，並介紹大會產出之決議文件——「我們要的未來 (The Future We Want)」，周知國內各界。
- (三) 永續會針對『聯合國永續發展大會』產出文件「我們要的未來 (The Future We Want)」應用於我國現行永續發展相關文件及策略（永續發展行動計畫、永續發展指標及永續發展政策綱領）進行研



聯合國秘書長潘基文（中）主持Rio+20會議。

析後，提出初步之建議，包括：1.「我們想要的未來」各章節之對應分工；2.「我們想要的未來」與我國永續發展指標系統之建議對應（含建議之新增議題及指標）。此外，並邀集永續會各工作分組及相關部會討論後，請各章節之對應主政單位研讀及檢視章節內容，有否可採用作為修正我國永續發展相關策略之處。另亦請永續會各分組邀請本會民間委員，召開「分組會議」，針對「我想要的未來」283項條文，檢視是否可新增納入作為行動計畫之具體工作。

- (四) 為順應國際推動綠色經濟趨勢，永續會於8月13日召開第34次工作會議決議，由行政院經濟建設委員會成立「綠色經濟專案小組」（任務小組），以研擬我國推動綠色經濟之可行方案。

1.3 | 公布2011年永續發展指標計算結果

- (一) 為評量我國永續發展之成效，永續會秘書處每年公布「永續發展指標」評量結果，「2011年永續發展指標」之各項指標計算，於101年8月起，由指標主政機關開始計算，並依據指標計算結果進行檢討分析後，完成「年度指標評量報告書」（初稿）。經永續會召開「指標年度檢討會議」討論，確認各項指標之數據、評量結果及報告撰寫內容後，於

101年12月31日公布於行政院國家永續發展委員會全球資訊網（以下簡稱本會資訊網）。

- (二) 「2011（100）年永續發展指標評量報告書」之發表「順序」係以「面向」之環境、節能減碳、國土資源、生物多樣性、生產、生活、科技、城鄉文化、健康、福祉、治理、參與等12個面向依序列述；每個指標之年度評量

結果「格式」係以面向、議題、指標名稱、定義、與永續發展相關性、指標年度說明分析、年度數據表、年度趨勢圖等順序敘述。2011（100）年度

公布之指標評量結果總計包括12個面向、41個議題，合計86項指標（詳細內容請參閱：<http://nsdn.epa.gov.tw/CH/DEVELOPMENT/2011TAIWAN.HTM>）。

1.4 | 「永續發展行動計畫」

「永續發展行動計畫」由永續會執行長監督推動，秘書處列管執行進度，並持續做滾動式修正。配合「永續發展行動計畫」之修正及秘書處管考作業，秘書處於101年建置完成「永續發展行動計畫追蹤管考資訊系統」，以利追

蹤管考，101年各部會已完成上網填報作業，並將秘書處辦理情形公布於永續會資訊網站，供各界參閱（詳細內容請參閱：<http://nsdn.epa.gov.tw/CH/DEVELOPMENT/DEVELOPMENT.HTM>）。

1.5 | 辦理「101年國家永續發展獎」評選及表揚

1992年聯合國「地球高峰會」倡議「全球考量、在地行動」，鼓勵全民參與永續發展工作；2002年聯合國「永續發展世界高峰會」通過「聯合國永續發展行動計畫」，鼓勵各國以行動落實人類的永續發展。永續會為順應全球永續發展趨勢，鼓勵國內各界參與永續發展行動，自93年起辦理「國家永續發展獎」評選作

業，選拔各類永續發展推動績效卓著單位，並藉由得獎單位的經驗分享，將永續發展擴展於社會各層面。

「國家永續發展獎」的舉辦係鼓勵全民參與行動，藉由經驗分享與學習，將永續發展之精神深植於社會層面，並落實於國民日常生活中。「101年國家永續發展獎」的選拔活動，

經「書面初審」、「實地複審」及「決選」等3階段評選後，分別自教育類、企業類、社團類及永續發展行動計畫等4大類，選出12個獲獎單位。並於101年12月6日下午2時，於行政院大禮堂舉行頒獎典禮，由行政院陳冲院長親自頒獎，表揚永續發展績效推動卓著單位。各得獎單位之相關內容，詳見第四章。



↑ 行政院院長兼永續會主任委員陳冲（左）頒發永續教育獎予得獎單位。

永續會各分組年度工作

2.1 | 節能減碳與氣候變遷分組

一、建構溫室氣體管理基礎（環保署）

101年推動工作包括：「溫室氣體減量法（草案）」立法完成一讀，交付立法院審查；公告二氧化碳等6種為空氣污染物，優先推動產業溫室氣體排放量申報作業；修正發布「溫室氣體先期專案暨抵換專案推動原則」，累計受理23件先期專案、22件抵換專案及17件減量方法之申請案；發布「溫室氣體減量額度帳戶管理要點」，已受理14件減量額度帳戶開立之申請案；落實溫室氣體認查驗管理，累計認可1家認證機構、9家查驗機構，並完成「產品與服務碳足跡查證技術指引」；完成「碳中和實施與宣告指引」、建置「碳中和登錄管理平台」；持續推動產業自願盤查，累計452家廠

商自願提報盤查資料；啟動「國家溫室氣體減量額度交易平台」。

二、推動實質國際參與（環保署）

- （一）於南非德班參加聯合國氣候變化綱要公約第17次締約國大會暨京都議定書第7次締約國會議（UNFCCC COP17/CMP7）」由環保署張子敬副署長率國內相關代表與專家共同與會。台北市、台南市、高雄市、台灣永續能源研究基金會及環境品質文教基金會等單位亦派員參與。
- （二）赴卡達多哈參加聯合國氣候變化綱要公約第18次締約國大會暨京都議定書



↑ 舉辦2012台灣自行車節，鼓勵自行車旅遊，節能減碳。

概況

第8次締約國會議（UNFCCC COP18/CMP8）」。

（三）9月舉辦「2012年第五屆太平洋溫室效應氣體觀測國際研討會」。

三、擴大公民參與（環保署）

100～101年辦理全國東、南、北、中四場分區公民會議，約1,300人次參與，廣為蒐集「全國氣候變遷會議」議題。101年5月19日舉辦「全國氣候變遷會議：公民咖啡館」活動，以分區會議所蒐集之議題，邀集官方與民間約500位代表討論。6月5日至6日完成辦理「全國氣候變遷會議」，以「台灣20XX：面對氣候變遷台灣應該做的準備」為主題，與會人士逾300人，共商我國因應氣候變遷的短中長期政策與具體行動；馬總統並親自蒞臨大會，聽取民間代表的總結建言。

四、整合政府部會作為（經建會）

經建會召開「規劃推動氣候變遷調適政策綱領及行動計畫」專案小組會議，彙整完成「國家調適行動計畫」（草案）；完成「國家氣候變遷調適政策綱領」草案；完成「我國氣候變遷調適全民教育計畫」草案，推動研訂地方調適計畫，101年度遴選台北市、屏東縣辦理示範計畫。

五、輔導產業低碳綠化（經濟部工業局）

- （一）101年度參與經濟部溫室氣體自願減量協議之241家廠商共執行1,110件減量措施，投入50億元，總計減量118萬公噸，衍生之節能經濟效益約48億元。
- （二）透過「製造業節能減碳服務團」專業團隊，提供製造業節能減碳技術諮詢與輔導，101年度計完成1,800件次諮詢服



↑ 環保署沈世宏署長於專家咖啡館中致辭。



↑ 專家咖啡館大會討論情形。

務，臨廠輔導388家工廠，提供1,250項建議改善方案，受輔導工廠改善後預估可減量16萬公噸CO₂e。

- （三）101年度計開發11項本土化減量方法，輔導9家廠商執行溫室氣體抵換專案示範案，預估可取得溫室氣體減量額度84萬公噸CO₂e（10年計入期）；開辦產業低碳人才訓練班培訓專業人員，並藉由開發節能診斷工具、辦理節能減碳成果發表及推動產業減量媒合等措施，擴大節能減碳效益。

- （四）推動節能減碳綠建築（內政部建築研究所）：101年度截至9月底通過347案綠建築標章及候選綠建築證書，預估每年約可省電1億358萬度、省水464萬噸及

減碳6.97萬噸。

- (五) 截至101年10月25日止，已透過電話諮詢服務方式協助廠商進行盤查、登錄事宜共計36案次，並搭配盤查數據品質實場調查作業進行宣傳輔導。掌握能源產業盤查登錄率約50%，於101年11月中旬達成盤查登錄率95%以上之目標。
- (六) 於101年9月底前完成書面審查及實廠調查10家（廠）之能源產業的盤查數據品質，並依據ISO14064-1之規範，針對目前之數據品質現況進行探討。
- (七) 逐步提升汽機車新車能源效率標準，101年全面實施新能源效率標準（提升10%）；104年實施下一期能源效率標準（再提升15%），累計提升25%。於101年9月13日召開專家諮詢會議，就下一階段修訂車輛耗能管理及標準蒐集專家意見，做為車輛耗能標準與管理辦法

修法參考。101年10月24日召開車輛耗能標準修訂車輛業者說明會。

六、宣導綠色樂活 推動低碳運輸 （環保署）

- (一) 根據機關、民間企業及綠色商店申報統計，至10月底101年綠色採購金額逾135億元；交通部觀光局辦理2012台灣自行車節，規劃自行車旅遊活動，宣傳台灣自行車旅遊。
- (二) 建立環保低碳活動網路平台，已有4,363件活動進行登錄；評選出新北市、台中市、台南市及宜蘭縣等4縣市，優先推動低碳措施。101年6月9日環保署與金門縣共同啟動「綠能與低碳運輸系統旗艦計畫」；執行城市層級之溫室氣體盤查登錄，101年度並擇選臺中市及宜蘭縣為示範點進行實地盤查。

2.2 | 國土資源分組

一、水資源開發、利用、管理及保育 （經濟部水利署）

- (一) 推動中庄調整池工程計畫：於101年6月3日開工，預期104年6月完工；將完成有效蓄水量492萬立方公尺調整池，於鳶山堰水源高濁度時期提供備援，作為強化石門水庫地區間水資源調度機制，以建置備用水源及自來水備援系統，增加地區供水能力與供水穩定度。
- (二) 推動曾文南化烏山頭水庫治理及穩定南部地區供水計畫：抑制集水區土砂生產量約990萬 m^3 、國有林出租地補償收回約260公頃、曾文水庫集水區清疏

淤減少入庫泥沙約156萬 m^3 、曾文水庫漂流木清除6.9萬噸、南化水庫清除3.3萬噸、曾文南化烏山頭水庫庫區清淤合計減少淤積量70.12萬 m^3 。

- (三) 翡翠水庫永續水環境綠色水庫行動計畫



中庄調整池工程計畫—輸水路工程（過河段）開工。

（台北市政府翡翠水庫管理局）：運用自行研發「降雨預報法」預測水庫水情，採逐旬滾動式檢討水庫水情，穩定大臺北水源供應。

二、地下水資源之保育與管理 （經濟部水利署）

- （一）加強地下水管制與地層下陷防治：台灣地區地層持續下陷面積減為534.4平方公里，整體持續下陷情況已有所趨緩。
- （二）加強地下水補注，復育地下水環境：完成濁水溪河槽地下水補注簡易設施，估計於彰化雲林地區地下水補注量約4,088萬噸；並持續督同地方政府加強地下水管制區內巡查及遏止新增違法水井計51口、填塞既有水井計100口、填塞違法水井計501口。

三、海洋資源之永續經營（農委會漁業署）

101年6月8日正式對外公布我國海洋保護區保護等級分類系統，分為「禁止進入或影響」、「禁止採捕」及「分區多功能使用」等3類。

四、國土規劃與管理（內政部營建署）

- （一）持續推動「國土計畫法」草案立法作業：已與相關部會、各地方政府召開聯席審查會議完成全案條文審查，於101年10月31日陳請行政院核議。
- （二）建立完善之國土監測系統：101年度共辦理四期土地利用變遷偵測、非都市土地開發許可案變遷偵測及二期海岸線變遷偵測。
- （三）運用衛星進行山坡地變異監測（農委會水保局）：已完成5次山坡地監測，並完成上傳山坡地管理資訊系統。
- （四）土石流潛勢溪流現勘與評估（農委會水保局）：101年度預計辦理290條土石流潛勢溪流現勘與評估，截至6月底已完



跨部會推動「國家重要濕地保育計畫」，亦結合地方與民間進行保育與經營。

成123條現勘及評估作業。

五、國土保育地區 （農委會水保局、經濟部水利署）

- （一）整體性治山防災計畫：101年度辦理36件崩場地復育工程，已完成復育崩場地約15公頃。
- （二）易淹水地區水患治理計畫：截至101年6月底已完成約405平方公里。

六、結合地方與國際，推動濕地生態復育 （內政部營建署）

- （一）補助地方推動國家重要濕地行動計畫及經營管理等工作：「國家重要濕地保育計畫」係以「維護濕地生態穩定及多樣性、明智利用濕地資源、重建濕地與社區文化互動與傳承」作為計畫整體目標，並與農委會林務局、經濟部水利署、環保署及教育部等單位共同合作對濕地進行管理，同時亦結合地方政府、學術機構與地方保育團體共同進行濕地保育與經營。101年度透過相關部會分工合作共編列9,270萬元，其中內政部投入3,380萬元補助16個縣市政府執行27項計畫，執行工作包括：調查、規劃、設計、生態設施、監測、巡守與教

育解說等濕地維護復育工作。

- (二) 加強國際交流合作：於101年4月14日至22日邀請三位國際專家，來臺辦理一場專題演講及二場濕地保育國際交流工作坊，另於6月1日至10日派代表赴美國奧蘭多參與第九屆國際生態會議（9th INTECOL）。
- (三) 建構濕地永續法制與管理體系：濕地法草案於101年3月30日函送報請行政院審議，計8章42條。



↑ 2012年6月我派代表赴美國奧蘭多參與第九屆國際生態會議。

2.3 | 生物多樣性分組

一、台灣陸域及海域生物多樣性可能之熱點調查與確認

綠島、東沙、蘭嶼、墾丁及南沙為台灣海洋生物多樣性最高的熱點，國科會以整合型計畫推動其中一地區的調查及監測；內政部進行

「墾丁國家公園陸域及海域生物多樣性熱點調查」，且墾丁國家公園管理處101年生物多樣性相關之委託研究辦理計畫共6件，結果豐碩。農委會特生中心則運用地理資訊系統、空間分布預測模式等技術，分析台灣陸域生物分



↑ 吳副總統將我國海洋保護區保護等級分類標誌授證予學生。

布熱點，針對保護區進行孔隙分析。

二、2020年前，將領海範圍內20%海域劃設為海洋保護區，並落實管理（農委會漁業署）

農委會漁業署負責我國海洋保護區保護等級分類系統之公布與推廣，於101年4月27至5月17日召開兩次跨部會的協調會議，決議請各海洋保護區主管機關針對轄管保護區制訂年度執行計畫；與會機關與專家學者並一致同意：將我國之海洋保護區依保護等級強度不同，從最嚴格到最寬鬆，區分為「禁入進入或影響」、「禁止採捕」及「分區多功能使用」等三類保護等級。

三、加強分類學能力建設，逐年完成台灣各類動物、植物與微生物誌之編撰（國科會）

101年度編纂完成並正式出版的台灣動物、植物及微生物誌共10冊。加強物種之調查、鑑定與分類，初步完成台灣產蜻蛉目幼蟲分類形態特徵描述與檢索表製定。調查與登錄台灣水韭等25種嚴重瀕臨絕滅及瀕臨絕滅物種，蒐集以往分布及族群量。

四、加強具指標性之動物、植物、微生物物種族群變化之研究（國科會）

補助族群相關研究計畫有七件，特生中心則以鳥類為指標，針對受威脅鳥類、繁殖鳥類、濕地鳥類及外來種鳥類等類群逐步建置大範



被救援的海龜，在潔白沙灘上，嗅著大海的氣息，奮力爬向沙灘，投入大海的懷抱。



特有中心人員以蟲網移除外來種黑頭織雀的鳥巢。



成分具抑制肺腺癌細胞功效的外來種大花咸豐草。

衛星影像監測發現七股沿海沙洲有朝內陸漂移的趨勢。



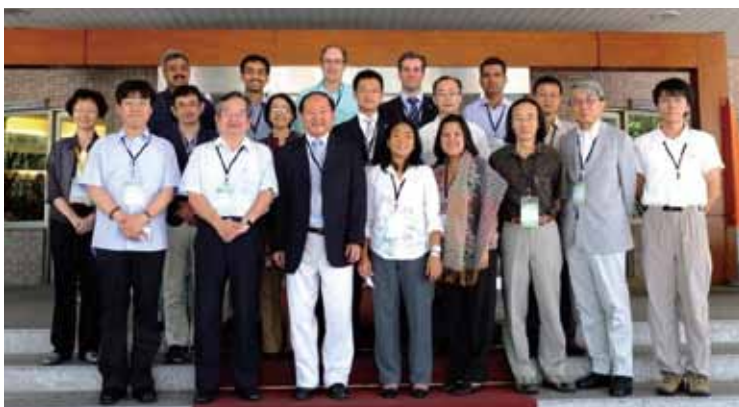
圍、長期性監測系統，並定期發布族群指標監測報告。相關計畫包括「台灣繁殖鳥類大調查（BBS Taiwan）」、「台灣鳥類生產力與存活率監測（MAPS Taiwan）」、「台灣外來鳥種監測網（AIS Stop）」。

五、建構國家生物種原庫（國科會）

建構國家生物種原庫，進行農、林、漁、牧、野生物、微生物遺傳資源研究保育及利用；持續農業種原庫、台灣微生物知識庫及真菌條碼資料庫之維運管理與服務提供。

六、維護及更新生物多樣性監測資料之資訊管理系統

環保署101年辦理「環境資源資料庫整合計畫」；特生中心撰寫中的資料庫則包括「台灣苔蘚植物資源調查與資料建置及應用」、「特



「亞太地區生物多樣性資訊共享暨資料整合發布平台（IPT2）研習會」。

有柯屬植物樣本」以及「繁殖鳥類大調查 BBS Taiwan」累積超過15萬筆調查資料；持續運行情生物多样性資料分享平臺「台灣生物多样性網絡」(Taiwan Biodiversity Network, TBN)。



生物多樣性資料分享平臺「臺灣生物多样性網絡」。

七、每三至五年定期進行陸域、濕地與海洋生物多样性之監測與評估，以掌握及預測其變化

環保署執行嘉義鰲鼓濕地、好美寮濕地、布袋鹽田濕地等3處之濕地環境水體、底泥及生物體之重金屬及有機污染物調查；特生中心推動台灣繁殖鳥類大調查等涵蓋全臺之大尺度且長期監測計畫，每年資訊達4萬筆以上。

八、建立名錄(國科會)

建立國內外來及入侵生物清單，研析生態、經濟危害及管理策略；建立國際高風險入侵種生物清單，研析入侵管道及預防入侵措施

九、建立與執行生物技術研發與衍生產品對生物多样性衝擊之評估能力與管理體系(國科會)

擬定擬復育劣化環境之優先順序與優先擬定之復育；劣化環境經環保署、內政部營建署，以及交通部國道高速公路局及公路總局積極復育。101年度截至10月16日止，達土壤污染管



國家重要濕地保育計畫復育成果。

將軸孔珊瑚移植至環礁潟湖的塊礁上。

制標準之受污染農地計162筆總面積約23.8公頃，為土壤污染控制場址。交通部則針對高速公路沿線劣化環境復育。

十、推動人工濕地之建構，協助改善水文系統及水域生態品質

經濟部水利署蒐集國外排水手冊及準則蒐集；環保署持續推動水質淨化現地處理設施：至101年9月底，共完成106處現地處理場址，總面積529公頃，每日處理約84萬公噸污水，最大可削減生化需氧量達2萬4,000公斤。內政部「國家重要濕地保育計畫」則以「維護濕地生態穩定及多樣性、明智利用(Wise use)濕地資源、重建濕地與社區文化互動與傳承」作為計畫整體目標。

2.4 | 能源與生產分組

一、推動推動工業區能資源整合 (經濟部工業局)

- (一) 101年受理8件綠色工廠標章申請案。提供3家綠色工廠示範輔導、20家清潔生產診斷輔導，協助工廠符合綠色工廠標章所要求之綠建築及清潔生產標準。
- (二) 98年度起選定13座工業區為能資源整合重點推動區域，已完成累計190項能資源鏈結規劃，規劃鏈結量約每年298萬公噸。

二、振興農業措施(農委會)

- (一) 推動農業經營專區，促進農地有效利用：全國建置14處農業經營專區，面積3,500公頃，由農會及農民承租農地，培育年輕農業經營者投入專區生產。
- (二) 建立農業中心衛星體系：輔導農民團體以地方特色產業為核心，建立產業加值平台，結合農民建立穩定的供需關係。
- (三) 休耕地復耕優先種植飼料玉米及雜糧作物等：推廣轉作，種植玉米等合計約72,000公頃。101年推廣有機質肥料面積合計20,000公頃，補助農民施用有機質肥料80,000公噸。
- (四) 輔導產銷班及產業團體採用異地、分齡、批次之生產模式及自動化餵飼系統以提高生產效率：101年1-9月底已辦理12場次異地、分齡、批次之生產模式推廣交流座談會。
- (五) 維持家禽產業產銷平衡維持國產禽品於國內消費市場占有率達80%以上；落實畜牧場登記管理：101年度由農委會持

續辦理查核畜牧場登記及稽查相關工作2,000場以上。

- (六) 推動優良農產品標章：經農委會認證之優良農產品驗證機構共4家，辦理肉品、冷凍食品、食米、蛋品、水產品、乳品及林產品等15項目之產品驗證業務。
- (七) 改善休閒農業區內生產與經營環境，加強環境綠美化：截至101年10月16日止，公告劃定71處休閒農業區。101年1至8月底止，吸引近600萬人次旅遊。
- (八) 鼓勵農民終身學習，辦理農民學院培育在職及新進農民，實施系統性培育及傳承制度，推動專業能力檢核及認證，強化農民專業知能。
- (九) 提供各農田水利會現場調查及資料蒐集之技術支援：協助輔導農田水利會基層員工建構約33萬公頃計6410段灌溉地籍圖；推廣農田水利行動地理資訊系統技術、建置農田水利會灌溉管理地理資料庫、開發農田水利會網際網路灌溉管理地理資訊系統；建構完整灌溉水質監測網，提昇灌溉水質監測合格率。
- (十) 改造漁港為兼具漁業及休閒觀光之現代化漁港：經統計至101年9月止，搭乘娛樂漁業漁船出海人數約達73萬人次；建置專用海水供應進排水路設施，101年



101年9月21日八斗子碧砂遊艇碼頭啟用。



漁業巡護船於海上登臨檢察，遏止違法漁業。

度截至9月底已核定13件工程。另101年輔導約2,439艘漁船安裝船位回報器（VMS），即時監控漁船作業動態。

三、力行節能減碳、提高能源效率 （經濟部能源局）

- （一）輔導中小企業及商圈節能減碳：101年度協助120家中小企業、輔導5個商圈進行節能減碳；針對連鎖企業商業司提供整體節能診斷服務，101年度完成10個。
- （二）完成執行氫能燃料電池機車確證與監理制度之研發、示範與3E效益評估計畫：完成了世界首創氫能燃料電池機車標準確證計畫，歷時共計2年半。目前台電預計於102年完成全部高壓用戶（約23,600戶）之AMI建置。
- （三）推動使用電動機車：嘉南營業處於101年7月7日起於轄屬4站提供電動機車電池交換服務；台北營業處於9座加油站裝設電動機車電池交換機，出租給城市動力公司經營。
- （四）獎勵企業與個人設置再生能源：推動太陽光電申請流程簡化與法規鬆綁，預定於完成修法事宜並公告。建立產業驗證平台，強化示範運行擴大應用實績：提供國內太陽光電模組業者一測多證服

務；於101年4月11日展示國內第一座專業大型的太陽光電戶外壽命測試平台。

- （五）推動「建置澎湖低碳島專案計畫」、開發離岸風力資源：公告示範獎勵辦法，開放業者申請並展開評審，預定102年1月底前公告獲選業者：依規劃共獎勵三座離岸風場開發案。
- （六）企業集團節能簽署，參與自願減量：推動金融、餐飲及鞋店業3個行業別31家集團企業參與自願性節能。推動能源效率分級標示，並完成能源效率分級標示產品登錄管理達9,577款型號。
- （七）LED照明創新應用、開發LED模組化燈具及智慧化控制系統：開發LED人因照明系統應用及推廣；改良及設計符合人因感知的先進平面光源。



☞ 太陽光電戶外壽命測試平台。

2.5 | 交通與生活分組

一、推動公路公共運輸發展計畫

- （一）針對15縣市地區之市區客運及公路總局轄管之公路客運路線進行營運虧損補貼，共計補助957條路線，金額11.02億。
- （二）101年補助部分縣市政府轄管之客運業者及公路客運業者汰舊、購置全新車輛共計388輛營業大客車；另補助143輛之

低地板公車加入營運。

- （三）補助基隆市、高雄市及嘉義縣公車處等業者建置多卡通驗票機及配套硬體設備，除花東及連江地區外，已完成全區客運業電子票證系統建置。另對使用非接觸式電子票證搭乘公路客運之乘客推動實施票價優惠補助。
- （四）藉由定期、公正、公開之營運評鑑衡



桃園機場捷運電聯車運抵機廠。

量，反映公路汽車客運業及市區汽車客運業營運服務現況。

- (五) 鼓勵老舊計程車更新，提供計程車每車3萬元定額的購車補助。環保署另加碼補助每輛車1萬元，合計每輛車可獲補助4萬元。

二、持續推動軌道運輸建設及提升服務效能

交通部鐵路改建工程局、高速鐵路工程局、台灣鐵路管理局及臺北市政府捷運工程局積極推動軌道運輸之相關建設，包括執行都會鐵路立體化、捷運化之軌道運輸工程，提升軌道運輸服務，打造節能車站，持續推動大都會區大眾捷運系統，加速推動高速鐵路在苗栗、彰化及雲林設站。

三、辦理東部自行車路網示範計畫

在東部地區推動「配合節能減碳東部自行車路網示範計畫」，至101年底止本計畫辦理之路線長度約627.7公里，加上其他單位或地方補

助路線可達1,136公里。101年11月10日至18日辦理「2012台灣自行車節」系列活動。

四、結合環保、生態之道路工程計畫

- (一) 國道1號五股至楊梅段拓寬工程計畫：通車後將擴大汐五高架道路之快捷運輸功能及建設效益。
- (二) 完成建構完善的航空城聯外交通建設—國道2號拓寬工程：「國道2號拓寬工程」已於101年5月27日全部完工通車。

五、建構全臺智慧型運輸系統

為使民眾掌握即時交通路況資訊，交通部運輸研究所及台灣區國道高速公路局分別辦理交通服務e網通計畫及建置高快速公路整體路網交通管理系統。

六、進行離島地區港埠建設計畫

於台灣本島與馬祖離島間，提供更安全的海上運輸，「大小金門客運浮動碼頭增建工程」已於101年5月24日完成驗收並使用。

七、宣導道路交通安全教育

道路交通安全督導委員會研訂101年度「機車事故防制」、「高齡者事故防制」及「酒後開車事故防制」等3大宣導主題，主要工作有：加強道路交通工程設施與管理規劃、強化與提升違規道路交通安全講習效能、加強道路交通執法、多元化推動社會及學校交通安全教育。



五楊拓寬工程之平鎮系統交流道埤塘復育。



馬公機場BIPV型太陽光電示範設置工程。



公路總局省道災情通阻資訊App。

八、推廣綠色及生態旅遊

觀光局各風景區管理處，除辦理淨灘、植栽綠化及濕地改善與復育（雲嘉南濱海國家風景區管理處）等活動外，亦辦理推廣生態旅遊（馬祖國家風景區管理處），在旅遊中心設計上採用綠建築工法（馬祖國家風景區管理處南竿遊客中心）。

九、提升氣象預報及地震測報能力

- (一) 執行「災害性天氣監測與預報作業建置計畫」、「海象防災技術研究」計畫。
- (二) 辦理雲嘉南及高屏地區雨量自動測報系統汰換及增設。
- (三) 建置台灣新一代地震觀測網，完成8座井下地震儀觀測站建置，累計完成30個站的建置。
- (四) 強震與地球物理觀測系統效能提升計畫：101年度更新自由場強地動觀測系統63站、結構物強震監測系統3座，以及全球衛星定位觀測系統19站。更新後將可提升強震儀及全球衛星定位觀測系統效能，有效增進觀測資料品質。

十、強化鐵公路、橋梁防災系統

- (一) 臺鐵林邊溪橋改善計畫，於101年1月10日完成切換及車站啟用作業，強化林邊

溪防洪計畫及改善地區排水，解決林邊地區5處平交道所造成之交通問題。

- (二) 執行公路防災預警機制：101年截至9月6日共預警性封路229次，其中148處於封閉後發生公路崩塌等災情，顯見施行防災機制已具成效。
- (三) 提升高速公路橋梁耐震補強標準：自99年起接續推動計畫第2期，總計約有336座橋梁，經費約77億，至101年底完成所有278座橋梁耐震補強設計及發包，並已完成40座橋梁補強。

十一、航空業站導入環境管理系統

臺北國際航空站於101年初建置「環境管理系統」，就環境考量面所涵蓋之航空噪音、廢氣、能源消耗、水資源、廢棄物及社區保護等環境管理機制，完成「臺北國際航空站環境考量面鑑別評核」，共計91項。

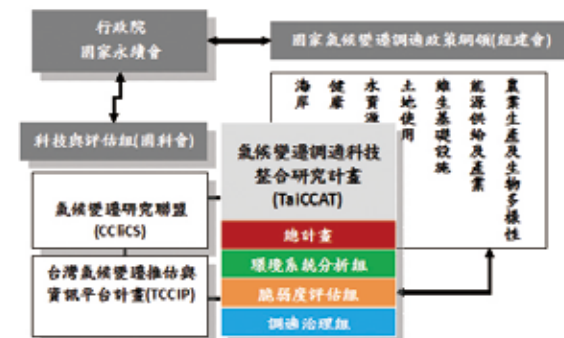
十二、推動馬公機場前中央廊道-機車停車場 BIPV (Building- integrated photovoltaic) 型太陽 光電示範設置工程

馬公航空站建置太陽能發電板面積超過5千平方公尺，可將太陽能轉化成光電能以供利用。

2.6 | 科技與評估分組

一、台灣氣候變遷推估與資訊平台建置計畫

國科會推動之「台灣氣候變遷推估與資訊平台建置計畫」(Taiwan Climate Change Projection and Information Platform, TCCIP)除了加強氣候變遷分析與推估能力、建構降尺度分析關鍵技術,並應用氣候資料進行氣候變遷下災害衝擊風險評估,做為銜接氣候資訊與下游端應用端之能力建構基礎,同時進行氣候變遷跨領域研究與應用服務。以下簡要說明氣候



⬆️ **TaiCCAT定位及其與國科會相關計畫及國家氣候調適政策綱領之關係。**

資料應用與服務的重點成果：

- (一) 資訊平台與資料提供：台灣氣候變遷資訊平台99年底建置101年10月總瀏覽人數超過13,000人次。完成加值的觀測資料與氣候變遷推估資料，已對學界及部會提供資料服務，供學術研究及調適策略研擬參考。
- (二) 資料應用說明：101年10月25日舉辦「台灣氣候變遷科學報告使用與資料應用說明會」，對經建會「國家氣候變遷調適政策綱領及行動方案」及「地方氣候變遷調適計畫」成員說明氣候資料特性及使用的限制，期促成中央及地方政府對氣候變遷的共識，並落實於調適策略及行動方案中。
- (三) 台灣氣候變遷科學報告：完成計67頁的英文版「台灣氣候變遷科學報告2011（精簡版）」，內容包括「台灣氣候變遷科學報告2011」總摘要及關鍵議題；題為：“Climate Change in Taiwan: Scientific Report 2011 (Summary)”，於COP 18中對國際宣傳台灣氣候變遷研究的成果。



臺灣氣候變遷資訊平台首頁
(<http://ttcip.ncdr.nat.gov.tw>)。



「台灣氣候變遷科學報告使用與資料應用說明會」活動海報。

二、建置與維護及整合TaiBIF及與GBIF接軌

由國科會與農委會補助中研院生物多樣性中心建置「台灣生物多樣性資訊網 (TaiBIF)」、「台灣物種名錄 (TaiBNET)」及「台灣生命大百科 (TaiEOL)」，以推動跨部會生物多樣性資料的蒐集與整合為目標，同時也採用國際慣用資料庫標本、資訊通訊協定與軟體工具，分別配合國際上GBIF、Catalogue of Life及EOL提供國際交流的實質合作。相關成果簡要如下：

- (一) 選舉第三屆GBIF中華民國委員會常務委員及主任委員。委員會同意協助林試所在AP-BON相關工作，並以成立CT-BON或T-BON為目標。
- (二) 「台灣生物多樣性資訊入口網 (Tai-

BIF)」，為GBIF國家節點之一，負責推動及整合台灣生物多樣性資料並與國際進行資訊交換及接軌。在導入Darwin core、TAPIR及IPT後已完成跨部會之資訊基礎建設，並整合台灣大部分標本館資料及機構的生態調查資料，目前約18個資料提供者、超過40個資料集及162萬筆資料可在TaiBIF網站提供查詢。

- (三) 台灣電子版生物誌 (<http://biota.taibif.org.tw/>) 為英文版之台灣本土動、植物物種解說資料，此網站利用生命大百科 (EOL) 所開發LifeDesks平台所建構，生物誌累積公開資料共有6,961種，目前可以查詢到3,751種解說資料及5,236

張圖片。

- (四)「台灣物種名錄(TaiBNET)」迄今已收錄，病毒466種、細菌1,440種、古菌6種、原生生物1,361種、原藻1,930種、真菌6,229種、植物8,335種、動物36,303種，總計：1+7界59門143綱668目3,194科18,125屬56,075有效種，外加64,859筆同種異名，大致上已經涵蓋台灣地區大部分的物種，目前仍持續增修。
- (五) TaiBIF與EOL執行長——Erick Mata，利用於台灣舉辦國際研討會之際，達成初步合作協議，以中研院與Smithsonian Institution兩個單位簽訂合作備忘錄(MoU)以維持兩年的合作(至2014.08止)，本計畫將陸續提供英文生物解說資料給予EOL。



↑ TaiBIF資料入口網、操作手冊與相關網頁。

- (六)為推廣GBIF改進的資料共享格式和新的資料發布平台之使用，並提倡資料文章的發表，2012年6月25至27日TaiBIF與林試所共同於集集特生中心舉辦「亞太地區生物多樣性資訊共享暨資料整合發布平台(IPT2)研習會」。
- (七) 2012年6月28-30日舉辦「GBIF亞洲節點委員第四次會議」，會議同意一個亞洲區行動計劃的主要組成。

2.7 | 城鄉與發展分組

一、水資源開發、利用、管理及保育 (台灣自來水公司)

- (一) 加速辦理降低自來水漏水率及穩定供水計畫 101~102年度預計汰換管線長度1,216公里，其中852公里於101年度辦理汰換，另364公里於102年度辦理汰換。
- (二) 加速辦理降低自來水漏水率計畫：101年以前預計建置完成550個分區計量管網，101年度預計建置200個分區計量管網。

二、污水下水道發展(內政部營建署)

- (一) 污水下水道第四期建設計畫：101年度污水下水道編列112億餘元推動，由營建署及各縣市政府積極辦理中。
- (二) 強化自有下水道工程技術，並將污泥資源再利用及減量處理：101年5月25日

針對全國污泥處理方案辦理「下水污泥再利用可行性研究會議」；101年6月6日、8日分別函請台南市政府、台中市政府先行辦理下水污泥再利用先期規劃，於確認可行技術後，再行考量需否設置污泥處理驗證示範廠。

三、城鄉永續發展(內政部營建署)

- (一) 推動政府主導都市更新計畫：自民國94年起至101年9月底，已補助206處都市更新示範地區，補助辦理先期規劃、都市計畫變更及都市更新計畫擬定等招商前置作業。目前持續辦理之都市更新示範計畫地區有150處，其中12處由相關機(構)自行實施或招商實施中；12處招商中；78處辦理招商前置作業中，48處尚在先期規劃階段。
- (二) 輔導民間辦理都市更新：為強化並加速

都市更新，提出「都市更新產業行動計畫」（100～103年），並經行政院核定，藉由法規鬆綁、經費補助、低利貸款、教育訓練及專業團隊協助，提高住戶參與都市更新之意願；設置單一輔導窗口，提供法令及相關措施之諮詢服務，並建立輔導機制，除受理個案申請外，由本署邀請相關部會及地方政府成立聯合輔導小組，主動邀請相關權責機關開會協助解決階段性問題及協調跨機關事項，加速都市更新。

- （三）海岸復育及景觀改善示範計畫：逐年編列經費，透過競爭型評比方式，補助縣（市）政府辦理海岸地區減量、復育及環境整理工作，以維護海岸近自然風貌及海岸景觀改善，已辦理海岸環境改善約224公頃及32,000公尺，回復近自然海岸3,100公尺。101年度核定補助7直轄市、縣（市）8項計畫，總計核定補助經費為2,650萬元。
- （四）營造自然親水河川（環保署、經濟部水利署）：於101年持續推動，引導地方訂定適時適地管理方案，系統化流域水質改善行動計畫，針對污染熱區強化污染源稽查管制及污染整治，針對流域亮點則加強水岸環境活化。11條重點河川溶氧濃度大於或等於2 mg / L之加權合

格率，截至101年10月底止為91.5 %。

四、生態城市綠建築 （內政部營建署、建築研究所）

- （一）獎勵民間建築物綠建築設計及改善示範工作：藉由委託辦理方式提供民間建築物綠建築更新診斷及改造評估之服務至少15案。
- （二）101年度已編列2195萬元獎助18個直轄市、縣（市）政府及部指定之特設主管建築機關辦理加強綠建築推動工作。截至101年度6月底已完成240件綠建築標章與候選綠建築證書評定。
- （三）舉辦綠建築示範基地現場導覽。
- （四）建材標章評定：101年度截至6月底止，計核發94件標章。
- （五）辦理綠建築更新診斷與改造計畫：101年度辦理36件改善案例。

五、提升居住環境（內政部建築研究所）

- （一）建置不動產資訊平台：完成不動產資訊平台建置。
- （二）推動住宅性能評估制度
- （三）推動無障礙住宅評選：101年度無障礙住宅評選，計有91件集合住宅報名。
- （四）辦理「建築耐震標章」評定：總計諮詢案共計有23件，8件新申請個案。

2.8 | 健康與福祉分組

一、保障扶助弱勢、落實社福措施 （內政部）

- （一）自101年1月1日，針對父母自行照顧未滿2歲幼兒者，每月補助2500～5000元，約14萬2,000人受益。老年年金給付加計金額、老年基本保證年金、調整為新臺幣3,500元，身心障礙年金給付基本保障及身心障礙基本保證年金之金

額，調整為新臺幣4,700元。

- （二）推動「提升兒少保護責任通報品質先導計畫」，發展適用國內之責任通報人員指導手冊。發展兒少保護結構化決策模式安全評估工具先導計畫，引進美、加、澳等國兒保系統普遍使用之結構化決策模式（SDM），建立標準化、結構化的評估決策模式，確保兒保社工服務



↑ 101.09.13 「2012兩岸癌症防治交流研討會」，衛生署國民健康局邱局長和與會貴賓合影。

品質達一定水平。

- (三) 長照十年計畫自97年4月1日開始，迄今接受長照服務者已於101年10月正式突破10萬人，服務量占失能老年人口亦已由97年2.3%提升超過25%。
- (四) 移民署建置入出境自動查驗通關系統，並於101年1月1日啟用。10月3日美國開放台灣免簽證，機場港口建置自動通關系統，加強國際反恐及偽變造護照查緝。

二、完善醫療品質與制度（衛生署）

- (一) 101年1月1日起將5歲以下中低收入戶幼兒納入結合型肺炎鏈球菌疫苗（PCV）接種對象，降低該族群幼童因感染肺炎鏈球菌可能導致嚴重的併發症，提升幼童免疫力；101年9月國小新生入學前於衛生所或合約院所在醫師診察下接種MMR疫苗第二劑與Tdap-IPV疫苗；核定懷孕婦女安心就醫一律不鎖卡（期間一

年），以維護孕婦健康。

- (二) 獎勵偏遠地區醫院成立特殊急重症照護中心，以縣市作整體考量，評估民眾特殊之緊急醫療需求，提供急重症醫療服務，並以成立外傷、心血管、腦中風、周產期、急診、兒童重症等照護中心為重點發展方向。迄101年度止，業已核定獎勵17家醫院成立24個照護中心。
- (三) 101年1～9月共計提供369.6萬人次篩檢服務，並已發現3.1萬名癌前病變及癌症（含原位癌）個案。
- (四) 與WHO Collaborating Centre for Health Promotion in Hospitals and Health Care合作辦理20th International Conference on Health Promoting Hospitals and Health Services，此為該國際研討會第一次不在歐洲舉辦，創下報名國家最多（45個）、報名人數最多（1370人）、發表演論文數最多（744篇）的三大突破。
- (五) 舉辦2012 APEC「亞太高齡友善城市與

高齡友善經濟研討會」，研討主題包括：高齡友善城市與高齡友善經濟、高齡友善健康照護及高齡友善社會。舉辦「2012兩岸癌症防治交流研討會」，約300人與會。

- (六) 101年9月26日~9月28日，國民健康局受邀前往瑞典馬爾摩市參加CleanMed 2012 Europe永續醫療會議，分享台灣推行醫院節能減碳經驗；邱淑媿局長並赴香港參與濟學人集團舉辦之「Feeding the World: The 9 billion-people question」高峰會，擔任「Health & nutrition discussion: Asia's double burden」場次的引言人，分享我國推動全國健康體重管理計畫，以對抗非傳染性慢性疾病（non-communicable disease, NCD）的策略規劃與成果。

三、持續推動優良農產品（農委會）

- (一) 101年度擇定具外銷競爭力蔬菜品項輔導設置胡蘿蔔、毛豆及結球萵苣、甘藍及青花菜等蔬菜外銷專區9處面積4,800公頃；導入契作制度，落實安全管理體系，並加強輔導專區用藥，輔助農藥殘留檢驗及教育訓練，以優質蔬菜拓展外銷市場。

(二) 輔導全國農民團體或蔬菜產銷班設置蔬菜溫（網）室76公頃；持續推動吉園圃安全蔬果標章制度，至101年9月止吉園圃蔬果生產面積24,712公頃，產值111.2億。

- (三) 輔導設置蘭花及花卉生產專區21處492公頃，營造產業群落，導入節能、環保、自動化觀念及技術，改進生產設施，發展高效、節能農業。輔導建置37處稻米產銷專業區，全年兩期作計畫契作生產面積1萬5,772公頃。

四、環境品質管理及監督（環保署）

- (一) 完成「毒性化學物質環境流布調查成果手冊」。
- (二) 101年戴奧辛環境監測，平均濃度為0.034 pg I-TEQ / m³相較於91、92年監測平均濃度0.089 pg I-TEQ/m³明顯降低，且遠低於日本環境戴奧辛空氣品質基準值0.6 pg I-TEQ / m³。
- (三) 101年度完成200處電磁波抽測工作（包含極低頻之變電所、高壓電塔及射頻之廣播電台、基地台等發射源），並將檢測結果結合地理資訊系統提供民眾上網查詢。

2.9 | 教育與宣導分組

一、增進全民永續發展認知、提升公民環境素養

- (一) 教育部針對不同教育階段發展相關課程與計畫，如：
- 1.建置資訊平台，鼓勵學校將推動的環境保育之教學及工作成果或心得提報至平台，與其他學校或民眾進行交流分享，101年度有6,269筆提報。
 - 2.開徵求並補助61案環教推廣活動。



101年度全國環境教育輔導計畫成果觀摩會。



⬆ 社區意見領袖生態研習班。(來源：特有生物研究保育中心)

另以專案推動「環境學習中心校外教學推廣計畫」，推薦25個環境學習場域。

3.100學年度下學期私立大學校院開設與企業社會責任課程學校數達9校、課程數計19門，修讀學生計764人。

4.辦理101年度社區大學補助獎勵訪評，以納入「現代公民素養課程－環境永續教育」作為補助獎勵依據。

(二) 經濟部水利署針對水資源永續發展議題，藉各式媒體及相關通路傳達。對莫拉克颱風造成水環境之破壞，編印專書並攝製「2884毫米」3D影片宣導。

(三) 環保署：

1.輔導直轄市、縣（市）政府推動低碳社區計畫：（1）完成52個示範社區之節能診斷，辦理低碳社區建構說明會，逐一訪視社區，說明節能診斷結果及應配合改善事項。（2）社區投入4萬元執行「照明燈具汰換」及「簡易綠化」等措施。

2.鼓勵各界申請環境教育認證：已有15處環境教育設施場所、4所環境教育機構、405位環境教育人員經環保署認證後，投入推廣環境教育。

(四) 國科會101年度補助科學教育及出版刊

物：

1.科普活動：補助相關計畫36件。

2.科普演講：辦理以綠色能源為主題之演講13場，參加人數約2,647人。

3.科普「新知報」：與永續發展、生態環境及氣候變遷主題有關者計14篇。

4.《科學發展》月刊（101年3月出版）以「海洋能源」為專題，希望激發大眾其對永續議題的關注。

5.「知識大講堂」網站：補助辦理科普講座，錄影內容收錄於國科會科技大觀園「知識大講堂」網站。截至101年10月26日止，網站收錄相關演講影片88部，總觀看次數達21,577次。

(五) 經濟部工業局101年度辦理2場次CSR報告書建制說明會及2場次中高階經理人CSR座談會，合計與會人次494人。提供23家廠商CSR報告書諮詢服務與間距分析。

(六) 經濟部能源局以節能六大手法為主軸，製作5支長度約4~6分鐘宣導短片，並結合各式通路進行節電推廣；製作30秒宣導短片於夏月尖峰用電之際，宣導夏月節電行動。

(七) 內政部：補助民間單位辦理長青學苑，促進高齡者社會參與，保障老人提升永續發展知識機會；研訂生態社區評估手冊作為未來推動生態社區評定之參考；辦理社區規劃師駐地輔導計畫。



⬆ 2012全球石首魚保育研究平台研習會。(來源：國立海洋生物博物館)

二、整合政府、民間、企業及學校 推動永續發展

（一）教育部：

- 1.補助縣市辦理「環境教育輔導小組」計畫，鼓勵縣市政府透過相關資源整合，規劃兼具國際性及在地性之環境教育執行計畫與策略。
- 2.共有34校汰換省電節能設備，藉由提升各校硬體設備，進一步落實管理制度，達到永續環安衛校園最終目標。
- 3.自99學年度起，高職教育教材已融入以下內容：（1）增進全民永續發展之知識與認知。（2）全球暖化及氣候變遷議題相關知識。（3）擴大全民參與，提升公民環境素養部分。（4）推動多元文化的教育，促成全國族群的融合、尊重及關懷弱勢種族的發展議題，減少衝突及剝削與殘害少數族群之文化資源。

（二）經濟部能源局：節能志工培訓及節能推廣活動，推廣達34,028人次；與國立科學工藝博物館合作進行節能志工培訓及節能推廣活動；完成節能志工雲端資源網。

三、強化社教館所與媒體 宣導永續與環保

（一）教育部製作永續校園宣導短片，「水資源」、「節能減碳」、「環境永續」、



⬇ 長輩帶領全家四代人，結合原住民舞蹈及戲劇的表演。（來源：內政部社會司）

「健康效率」等4項主題；部屬社教館所的各项常設展示、臨特展及相關教育活動，約45萬人次參觀；國立海洋生物博物館成立海洋教育學習中心。

- （二）經濟部水利署：中區水資源局之「集集攔河堰」設置水資源中心，並持續推廣水環境教育與保育之工作。
- （三）環保署辦理水環境教育暨保育論壇會議；水環境巡守隊轉型為推廣水環境教育之理念，並與社區或學校合作。
- （四）國科會補助製作各類科學主題影視節目，運用媒體普及科學，包含與環境及永續議題相關之節目；101年起透過電視台播出與環境教育相關內容，涵蓋新興替代能源、綠建築、森林生態保育等內容，最高收視率達0.46，累積觸達約740萬人次。

四、推動永續發展教育相關研究與國際合作

- （一）教育部補助中華民國環境教育學會辦理環境教育、永續發展議題相關之國際研討會；透過自然生態保育及環境教育推廣等原則，由全國11條重點河川中選定淡水河、新虎尾溪及二仁溪流域3處設立河川生態教室。
- （二）國科會101年度補助永續發展相關之計劃計15件。



⬇ 體驗芝山綠色瑰寶 環境教育法施行週年活動。

2011年永續發展指標評

3.1 | 我國永續發展指標簡介

永續發展是我國基本國策，也是世界各國追求的共同目標，為建立一個客觀檢視我國永續發展推動成效的依據，永續會於91年參照聯合國1996年公布之第一版永續發展指標系統，於92年5月完成我國永續發展指標系統之建置，並每年公布指標系統計算結果於永續會資訊網站，供各界參考利用。



↑ 永續發展指標系統年度評量結果網頁。

為與國際永續發展

最新趨勢接軌，永續會於97年12月第25次工作會議決議，參考聯合國2007年10月公布之第三版永續發展指標系統及國際永續發展相關指標，自98年1月起研擬我國第二版永續發展指標系統，並於同年12月31日之第29次工作會議中討論通過。永續會第二版永續發展指標系統包含12個面向、41個議題及86項指標，較第一版指標系統範疇更為廣泛。各面向之指標如下：

一、環境面向計12項：包括PSI平均值，空氣污染物年均濃度、水庫品質、海域環境水質合格率、受輕度以下污染河川比率、河川中生化需氧量濃度、垃圾回收率、每人每日垃圾量、環境影響評估監督合格比率、公告列管毒性化學物質數量、中央政府環保生態預算比率、政府鼓勵防治污染

及資源回收財務措施。

二、節能減碳面向計8項：包括燃料燃燒二氧化碳人均排放量、燃料燃燒二氧化碳排放量年增率、每人每日耗電量、能源密集度、資源耗用型產業產值占製造業產值比率、再生能源裝置容量百分比、每年新增綠建築之節能量、平均每萬人所擁有之自行車道長度。

三、國土資源面向計11項：包括山坡地變異比例、地層持續下陷面積比例、開發用地面積比、森林覆蓋之土地面積比、天然海岸比、天然海岸線損失比、有效水資源、製造業用水量占製造業生產價值比率、地下水觀測井水位回升口數、全國檳榔種植面積總和、因天然災害導致傷亡人數。

四、生物多樣性面向計6項：包括生物多樣性

量結果

遺傳資源及種原保存、特定外來植物覆蓋面積、特定外來入侵種種數、生態敏感地比、保護區占總陸域面積百分比、海洋保護區。

五、生產面向計13項：包括事業廢棄物妥善再利用率、有害事業廢棄物再利用率、低放射性固化廢棄物減量率、耕地總面積比、有機耕種面積、每公頃農地肥料使用量、每公頃農地農藥使用量、勞動生產力與單位產出勞動成本、非農業部門支薪女性比率、每人國內生產毛額、國內資本形成毛額占GDP比率、消費者物價指數年增率、各級政府舉借之1年以上非自償債務未償餘額占GNP比。

六、生活面向計10項：包括自來水供應人口百分比、污水處理率、每人每日用水量、公共運輸乘客人次、運輸部門國內能源消耗、每年來臺旅客人次、每萬輛機動車輛死亡人數（公路）、公路養護管理效率、公私部門綠色採購金額、獲頒環保標章適用量。

七、科技面向計3項：包括國內研究與發展之花費占GDP的百分比、經常上網人口比率、每百人中使用行動型電話線路人數。

八、城鄉文化面向計4項：包括遺址保存維護、符合環境衛生永續指標村里數、都市化面積擴張率、都市內每人享有公園綠地面積。

九、健康面向計8項：包括可獲得基本保健設施之人口百分比率、兒童疾病的感染免疫措施、65歲以上民眾接受成人預防保健服務利用率、癌症標準化死亡率、傳染病感染率、18歲以上吸菸率、18歲以上男性嚼檳榔率、兒童營養情況。

十、福祉面向計6項：包括低收入戶的人口比例、住宅供給率、戶數五等位所得差距倍數、國民年金保險投保率、老人社會參與、自殺死亡率。

十一、治理面向計3項：包括定罪人口率、尚輟人數、成人教育參與比率。

十二、參與面向計2項：包括官方開發援助比率、社會福利社區化參與。

3.2 | 2011年永續發展指標之評量

為評量2011年永續發展指標結果，永續會秘書處於101年8月起請各指標主政單位透過永續會之指標資訊系統，進行年度數據及資料之填報。秘書處於10月底完成評量結果初稿後，於11月28日邀請指標主政單位及永續會民間委員，召開「2011年永續發展指標評量結果確認及檢討會議」，確認各項指標之年度數據及研析意見，秘書處彙總後於101年12月底，將「2011年永續發展指標評量結果」公布於本會資訊網站，周知社會各界。



↑ 2011年永續發展指標檢討會。

101年國家永續發展獎

101年國家永續發展獎之評選作業，自101年8月起進行四種獎項之初、複評作業，於10月

11日召開決選會議，共計選出12名得獎單位，得獎單位獲獎實蹟如下：

教育永續發展獎

高雄市美濃區 | 龍肚國小

龍肚國小位於美濃茶頂山下的山凹處，雖處偏遠農村，自古人文薈萃。1920年創校，早期有約3公頃的實習農場，自然生態豐盈。巴洛克風的典雅建築，矗立在林木蓊鬱、草地濃綠、蟲鳴鳥聲不絕的校園；左擁歷史文化，右抱自然生態，處處有孩子學習的天然素材，儼然一座生態大觀園。

龍肚團隊配合國家教育政策，結合地方產業、客家文化，朝著「發揚客家耕讀文化」與「營造生態學校」方向來經營，以客家耕讀為主軸，生命教育為基礎，環境教育為護持，藉

由認知心理學與五感體驗，創造多元學習，提升孩子學習成就與競爭力；從體驗中建立學習高峰、從閱讀中開拓國際視野、從生活中學習先民智慧、從環境中珍愛生態資源，打造一座「生態·人文·創新·永續」的樂活桃花源，讓孩子的生命因體驗而豐盈，生活因學習而圓滿。

對話式環境政策 創意環境課程

與親師生、社區對話，由下而上尋求共識，依學校地域、文化、生態環境特色，訂定中、





客式迎新之一：穿越生態門。



食農體驗・書香蔬香～午餐有著落了。



走讀客家在地文學～鍾理和紀念館。

長期在地性永續環境計畫；營造生態環境美學：環境之改善為教學所用。以自然弱化建築，以藝術美化空間，以空間表現時間，營造空間美學；利用工程進行機會讓學生參與藝術設計，同時兼顧無障礙學習環境，照顧到每一位弱勢學生。

結合水圳及農村產業，推動兒童食農體驗課程，啟發學生五感體驗學習，建立有機樂活校園；實施生態人文的彩虹遠足路線，走讀鄉土；推動綠色校慶及減碳運動會，每年新生和畢業生在校園或社區種植紀念樹；利用每週五導師時間，實施全校環境教育課程，包含生命教育、氣候變遷、自然保育、生態閱讀等，提升師生環教知能，建構環境永續之校園；舉辦多元及創新教學活動-讀萬卷書行萬里路課程：畢旅澎湖無人島一瓶水的生活體驗等。

從生活中落實環保 人文關懷與社區參與

收集校園落葉、果皮和廚餘，製作有機堆肥，並用於改善校園土壤；安排每週一日「有機無肉日」蔬食午餐，使用孩子自種的米或蔬菜，希望能達到自給自足之食用校園；推動學童走路、騎腳踏車上下學，提倡喝白開水運動，健身又節能減碳；落實家庭式責任制，混齡分組做環境打掃。

推動「龍肚3311運動」，落實每天閱讀30分，運動30分，做一件家事或好事，天天說客家話；辦理「生態人文營」，讓孩子親近家鄉生態與人文，落實在地化之教育；期末舉辦社區關懷之旅，帶孩子到社區安養院服務，唱歌表演，慰藉長輩；秉持在地特色的教育活動，參與社區綠色環保活動，推動城鄉與國際文化交流。

環境與生態大幅改觀：打掉圍牆，使校園更通透開放，使學校社區化，社區學校化；落實生態工法、綠建築思維，全校透水性達80%、綠覆率逾75%，完成無障礙學習環境；引進異業或NGO組織資源，共同舉辦環境議題活動，如參與黃蝶祭；與農糧署合作農事體驗課程；栽種多樣性植栽，營造多層次生態環境，使物種越豐盈，保育類生物屢現，目前鳥類38種、蛙類11種、蝶類31種與爬蟲類16種；獲環保署100年環境保護有功學校特優、教育部100年度國民中小學整合空間資源暨發展特色學校。

課程與教學備受肯定：推動耕讀特色課程，稻作課程紀錄片「穀子·穀子」獲96年公共電視小導演大夢想最佳人氣獎，並於97年在澳洲國慶日當作宣揚台灣教育影像；98年榮獲教育部國立資料館特優教育影片；99年探討人與生物的關係所作的「鴨子·鴨子」和環境教育體



⊕ 耕讀童年，歡喜慶豐收～蓄勢待發。

驗紀錄片—「單車壯遊120公里」，榮獲99年教育部國立資料館優良教育影片；98年獲天下雜誌專刊報導—關鍵能力300大特色學校之一；99年獲商業周刊特色教學報導；101年親子天下專刊報導彩虹鄉土遠足課程；推動耕讀特色課程，榮獲教育部100年國民小學推動閱讀績優學校磐石獎。

用心開展原鄉教育夢

「生命不要求我們成為最好的，只要求我們盡最大的努力。」茶頂山環抱的自然生態教學場域，汗滴禾下土的五感體驗教學，傳承客家先民的耕讀文化，用心與生命傳唱原鄉情濃。從學校拓展到社區的文化傳承，讓茶頂山下的孩子與哺育成長的土地間，有了深刻的交融，一所會呼吸的有機校園—茶頂山下生態小學，開啟無盡的生命希望。

新北市八里區 | 長坑國民小學

長坑國小位處於新北市八里區長坑里，北台灣淡水河出海口的左岸，在這河海交界的區域，十三行文化孕育傳承環境、生態與人文永續的種子，該校四十餘年來的教育夥伴，一棒接一棒交接，凝聚親、師、生的共識，匯聚學校、家庭與社會的資源，一起朝向尋根、成長、卓越的目標努力。近年獲得了新北市100年度低碳校園標章認證—銀鵝級標章、100年參加大亞綠集合之河川與城市生態創意改造大賞「雨水回收—創意改造去你家」比賽榮獲特優；101年度績優公廁、97年度全國各級學校節約用電競賽獲第2名等。

地方與學校攜手 展現在地特色

「長吟竹風展特色、坑傳柚香現蝶蹤」，在司令台兩側的對聯就能充分說明，八里的竹筍和文旦柚最為大家稱道，這裡人情味濃厚，學校結合教育局、環保局等資源，加上區公所、

社區家長投入不遺餘力，以永續生態的理念，逐步完成校園綠化、綠籬、生態廊道、水生教材園、多層次植栽綠圍籬、薄層綠屋頂、蝴蝶生態廊道、尋夢園閱覽區、青蛙家族省水洗手檯、節能綠廁、永續能源系統（太陽能及風力發電），及把山泉水引進校內。

青山環繞，空氣瀟漫清新和學童的喜悅，校



⊕ 家長、志工協助蝴蝶廊道建置。



↑ 學校綠屋頂及太陽能發電設施。

園生態系裡有蟲鳴鳥叫、彩蝶翩翩…，置身校園動態即景，莫不心曠神怡，改造轉化傳統校園環境及設施，這是所符合多項綠建築指標之綠色、生態、環保、健康、省能、省資源的美麗學校。

開發結合社區之本土課程，運用學校與社區資源特色，優質豐富的生態教學環境；開發學校與社區本位特色生態課程，以達到環境教材化、環境課程化、課程環境化的目標，與其他學校分享特色課程，並從學校帶動社區的環保

意識：透過社區服務擴大學習場域，結合各領域教學，推動環保教育。

學校環境與社區資源多樣且具特色，周遭自然環境生態豐富，又鄰近八里永續環境教育中心、十三行博物館等完善教育資源，焚化廠、電廠、污水處理廠等相關永續環境實際運作機構，可以充份發揮提供學生良好的學習基礎，永續校園環境與綠色夥伴學校條件充足提供營造多樣化、優質豐富的學習成長環境，長坑大家庭以此基礎，研擬永續教育計畫，目標朝向：

- 整合永續環境、世代公義的教育課程活動規劃。
- 全面提升學生永續認知、情意、技能學習成效。
- 學校發展與建設考量永續環境承載及教育意涵。
- 促進社區關懷生活環境及參與保護的意願與熱忱。



↑ 與社區特色結合～柚吉柚利摘柚體驗。



◉ 伴我成長～牛樟植栽活動。



◉ 節能生態廁所。



◉ 綠意盎然的校園。

打造綠色校園 生活實踐永續

綜合永續發展、傳承地方文化、學校課程精神、徹底落實環境教育、營造環保無污染的綠色校園（綠校園生態植栽、校園建築與景觀等）、生活體驗實踐（具三R精神之資源回收利用與節能減碳習慣）及讓永續理念有感的相关教學活動逐步發展，充分供給孩童快樂成長的學習環境，建構綠能低碳永續、科技能力創新、健康活力國際的優質學校，化願景為具體行動，為孩子塑造優質的能力迎向未來。

正如長坑國小校長所言：「我們大家都是乘坐地球號太空船上的乘客，在永續的航程中，這段時間所消耗的資源是歷來最劇烈的時

刻。」教育所肩負的責任係由學校出發，該校師生全體有共識、計畫及方法，這些過程更堅定信念，配合九年一貫課程實行，對應校園環境改造，創造出屬於長坑特色的教學環境與教材，為社區、社會豎立一個保護生態、落實環境教育的典範。

透過本次參與評選，評審委員們的蒞校指導與建議，更進一步強化該校發展的環節，給予支持提升的動力，未來仍將持續以自然為師，向大地學習，親師生攜手打造人與自然共存共榮的永續發展學園理念，讓長坑連接努力的前輩與後繼，都能在喜悅的氛圍中繼續做對的事，並把對的事做好。

嘉義縣 | 興中國民小學

嘉義縣興中國小，一所創校近百年的「小鄉下、大學校」，本著營造「百年興中、幸福永續」的希望校園，同時呼應嘉義縣發展「田園城市」的施政主軸，該校期望以「1/3環境+1/3產業+1/3文化=嘉義縣的田園城市」，打造生活、生產及生態的三生城市之理念。

以教育學生「博學、健康、好品格」為願景

興中國小自97學年度起以「博學、健康、好品格」作為學校發展願景，期許所有興中兒童可以在博學的奠基之下，健康成長，同時培養「對人感恩、對事盡心、對物珍惜、對己克制」的好品格。

為深耕「愛家、愛校與愛鄉」情懷，近年來，興中更積極發展以學校、社區、家鄉為核心之學校本位課程，善用在地的教材。以在地社區耆老為教師，社區環境為教材；落實學校社區化，社區學校化理想，循序漸進建構本位教材，涵養學生愛家、愛鄉、愛資源的永續價

值觀。

在課程教學方面，除了積極落實生活環保、節能減碳等教學活動課程外；學校「生活魔數師」教師團隊更把社區產業、校園景點與生態環境融入數學元素，發展一系列「數fun興中」的數學課程，讓學生在玩數、說數、愛數過程中，也能體會人文與自然生態平衡發展的重要。

在校園環境永續工程改善方面，積極爭取經費營造校園環境，並讓社區人士共同參與，增進社區人士對永續環境的概念，以達節能、永續、自然建材、親和友善的校園與社區，使學校真正成為社區、地方的生態環境教育中心。

扶助弱勢學生 積極走入社區

興中國小，也同樣面臨所有偏鄉弱縣中小學校的共同挑戰—高齡化、少子化、弱勢化、多元化…，這樣的發展趨勢，讓偏鄉弱縣，資源有限的學校教育的挑戰更為艱鉅，教學現場遭遇的問題更形複雜。

於是，在弱勢扶助與社區人文關懷部分，

🕒 量量看，一步一腳印的水池面積有多大？





➡ 綠籬改造，改善社區環境與人的親和性。



➡ 辦理環保淨街遊行宣導活動，將環保意識拓展至社區。



➡ 結合老樹建置日晷，將數學元素融入校園景點。

興中除積極辦理各項弱勢學生扶助及補救教學計畫外，同時也走入社區，辦理夜光天使、樂活銀髮族教育活動，期望深耕社區，把社區拉進來，齊為教育共盡心力，開辦多元的課輔資源，期望用整個社區的力量，照顧好每一個孩子。

在未來的自我期許上，興中願能一步一腳印地，達到以下的目標：

- 一、改善校園安全動線，創造人性化之校園空間：調整校內外動線，落實人車分道、汽機分流理想，改善停車空間與交通動線。
- 二、活化校園空間，提供教學實施與發表舞台：營造安全、健康、人性、綠化、美化、教材化的永續校園環境，創造學生學

習與發表舞台。

- 三、落實學校社區化，社區學校化理想：強化學校與周圍環境之結合，讓校園透明化、安全化，並延伸校園綠化景觀至社區，以營造社區環境的自然與友善風情，落實學校社區化理想。並落實以永續綠色校園及相關配套課程為統整主軸，讓師生家長能在生活中落實綠色環保行動。

- 四、以問題解決為核心，做中學為策略，推動團隊導向之教師專業社群運作：透過教師專業學習社群的成立，開發相關教學活動，構築了一個無時間與空間限制的傳播平台，提供教師及學生學習天文星象、自然生態、科學專題的網路學習教學媒體。

➡ 回收洗手台水資源，作為校園生態渠道水源。





↑ 到社區量販店了解一下市售包裝米的價格。

五、積極弱勢關懷，創新多元學習輔導機制：

結合社區社輔與學術資源，積極開辦弱勢課輔活動，提供學生多元學習機會，創造教育各種可能。開辦多元的課輔資源，期

望用社區的力量，照顧好每一位孩子。

由於全校師生多年來的努力，於99、100、101年度連續三年榮獲教育部特色學校特優，但興中並不以此自滿，並將持續落實嘉義縣「田園城市」發展願景，以及「百年興中・幸福永續」建構的跨領域核心能力下，持續發展具有興中特色的學校本位課程。

教育，是學校永不放棄的堅定使命，促使其努力在各種問題與挑戰中，尋找各種可能的機會與資源。教育，是教導孩子成人的偉大工程，展現在每一天點點滴滴由人感動人的生活實踐中。

企業永續發展獎

和碩聯合科技股份有限公司

和碩聯合科技股份有限公司於2008年1月1日成立，秉持豐厚的產品發展經驗及生產流程的垂直整合製造能力，致力於提供客戶從極具創意的設計到系統化的生產製造服務一貫流程，完整而有效地滿足顧客的所有需求。藉由全球化布局，跨越地域上的限制，將製造中心及營運據點拓展到世界各地，以提供最迅速且有效的服務。

除各生產廠區早期就皆已通過各項企業社會責任及環保的驗證，如ISO 14001, OHSAS 18000及QC 080000等。在內部亦成立企業社會責任指導委員會，從成立迄今，每兩週皆定期舉行會議來推動企業社會責任及環保相關活動。同時，並加入「電子企業公民聯盟（EICC）」，響應其所推動之企業社會責任活動。

和碩推行永續發展實績分為四大層面來進行介紹：

一、環境層面

● 評估電子產品對環境影響：



↑ 異業結盟設計研發，發揚台灣精神的生活精品。

2009年起率先制定筆記型電腦產品類別規則、協助客戶通過第三類環境宣告認證、協助客戶率先通過筆記型電腦產品PAS 2050碳足跡認證及進行水足跡調查等活動，並針對指定機種之一階供應商，定期調查其溫室氣體排放相關資訊。

● 降低氣候變遷——制定536節能計畫：

為落實節能減碳的理念，由董事長親自宣示推動536節能計畫。從2009年迄今，每年皆

達成節能3%之目標。（536節能計畫：係指自2010年起5年內，每年節省總電力3%以上，總節能金額達到6億元以上）

● **資源再生——蒙娜麗莎畫作：**

以理性與感性兩者兼顧，在藝術科學上有著卓越成就的達文西作為標竿，採用近1500片廢棄主機板，經切割、篩選及編排後，創作出蒙娜麗莎畫作，兼顧美感及廢物回收再利用。

二、經營層面

● **合併營收及營收年增率皆持續成長：**

和碩專注於本業發展，在合併營收上，從2008年5,133億成長到2011年的5,999億。在2012年上半年度更大幅成長到3,911億，與2011年同期相比年增率達到63%。

● **快樂工作・幸福生活——視員工為最珍貴的資產：**

在薪資獎金、休假、福利補助、員工健康與休憩、團體活動、員工競賽及安全環境上，皆盡力對員工達到百分百的照顧與關懷。並承租五星級休閒運動場地供所有員工憑識別證免費使用。同時，員工親友例假日亦可免費使用。



⬆ 資源再生——蒙娜麗莎畫作。

在工作環境勞動安全衛生方面，不僅恪遵法規要求，更以員工舒適安全為更高標準，並於2011年榮獲台北市勞動安全衛生獎。

● **積極回饋地方改善當地之環境品質：**

對於鄰近團體、學校，積極回饋地方需求，如捐款或提供資源，捐款關渡國中/小教育儲



⬆ 「晨光×和碩設計＝愛・夢想無限大」活動。

蓄專戶、捐款桃源國小、提供桃源國中清寒學子晚餐（和碩員工餐廳供餐）及捐助長青老人樂齡基金長者衣物…等；與嘉義基督教醫院合作公益活動（晨光×和碩設計=愛·夢想無限大）及搭配捐款抽和碩所設計之摺燈，邀請該醫院師生北上一同參與公司的夏季及秋季家庭日。

三、技術層面

● 創新設計屢獲國際獎項：

和碩設計為德國iF設計獎常勝軍，在2011年更一舉拿下4座設計大獎，包含包裝設計獎、傳達設計獎以及材質設計獎。和碩產品研發理念心繫對環境友善產品，可由2009年竹材筆電、醋酸纖維板筆電、2010年PLA+Recycled PC創新筆電材質到2011年Paper PP Alloy（紙塑料）等設計連續3年拿下德國iF材質設計獎，窺知一二。

● 多元發展、異業結盟的設計研發實力並發揚台灣精神：

與誠品合作共同推出一系列以台灣設計、台灣製造、台灣品牌為核心精神，並強調



關懷弱勢族群——研發盲文點字學習機。

天然質材與極致工藝結合的「PEGA CASA RENAISSANCE」生活精品。

四、永續發展創新層面

● 關懷弱勢族群——研發盲文點字學習機：

2012年自主開發完成的全新產品-盲文點字學習機，幫助盲童透過簡單步驟即可居家自學盲文拼寫，進一步提升社會適應力。

和碩以「快樂工作、幸福生活」為企業經營理念，期許所有員工皆能以崇本務實的態度對待工作，藉由不同的工作挑戰激發個人潛能，且不斷超越自己，以追求更卓越的表現。同時，透過企業團隊間的合作扶持，使員工皆能享受工作的樂趣與價值，進而創造出超越客戶期望的優質產品，將成功的果實與客戶共享。

持續不斷地致力於各項企業社會責任及環保相關活動的推展，善盡作為企業公民的責任。期能對企業及社會產生推動的助力，讓企業社會責任相關活動得到更多的關注及支持。



董事長及總經理參與秋季家庭日活動。



促進員工安全——申請行人專用道。

歐萊德國際股份有限公司

綠色創新，先發利基

歐萊德2002年創建時，葛望平總經理的父母因腎臟病及癌症於同年相繼過世，於是發願要幫助人們遠離有毒重金屬與化學物質的危害，決心將化妝品事業朝綠色環保發展。

2006年全力將品牌朝綠色永續發展，O'right的「O」，象徵美麗的地球，希望地球上每一



⬆ 全亞洲第一座綠建築化妝品廠。



⬆ 廠房設置太陽能板。



⬆ 生產作業情形。

個人都能做出正確地、適當地「right」行為。秉持為健康把關與友善對待地球環境使命，以「自然、純淨、環保」為理念，「更美、更好」為願景，產品開發以搖籃到搖籃的設計概念，從原料、生產到消費者使用都友善對待，盼能為環境播下綠色種子，發芽並永續深耕。

綠色差異，全球第一

在知名化妝品品牌多以時尚奢華秀、名人代言來展現產品時，歐萊德卻以獨特綠色永續創新走出品牌新價值。為製造更健康更環保綠色產品與提昇競爭力，積極整合上下游供應商形成「綠色供應鏈」；每年更投入許多研發經費去創新，從獨創會長頭髮香水「養髮液」到全球第一瓶會長樹洗髮精「瓶中樹」，不但榮獲經濟部商業服務業「優良品牌」，更創下第一家中小企業榮獲「碳足跡」標章與全球第一瓶「碳中和」洗髮精，為綠色髮妝劃下一個全新的里程碑。

對於這一群為綠色永續打拼的同仁，公司日常提供有機蔬食與公平交易咖啡，每年提供員工國內外生態之旅、聚餐、禮品等獎項，更重要的是提供多元化教育訓練課程，不僅照顧員工健康，更鼓勵員工成長。定期舉辦家庭日，貼近員工家屬，更貼心於每年父、母親節準備賀卡及禮物，感謝員工父母親之辛勞。

綠色榮耀，深獲肯定

歐萊德積極取得綠色環保認證，不斷的獲得好評與客戶、消費者信任。2011年葛總應邀代表中小企業在美國APEC會議中分享綠色創新經驗，深受國際高度肯定。

101年6月5日世界環境日落成啟用「全亞洲第一座綠建築化妝品廠」是目前唯一獲得EEWH綠建築認證相同面積最高等級「黃金級」，啟用以來，從長官、客戶到來自兩岸



↑ 員工旅遊。

TFDA、CPC 外交青年團與香港優異傑出團等幾千名各界人士參訪，宣導教育對自然生態的尊重與愛護，讓每個小角落都充滿友善與感動。

綠色永續，社會責任

歐萊德是唯一一家中小企業連續2011及2012年榮獲「企業社會責任獎」，在綠色創新上的努力與成就，持續受到學術界、政府單位與公會團體關注，不斷邀約葛總經理分享成功經驗，這不僅鼓勵更多中小企業投入綠色環保，更讓綠色MIT向下紮根、進入校園宣導；而受邀演講車馬費用，全數捐助公益回饋社會。

每年定期舉辦公益活動，從2006年起扶助家扶貧童、奧比斯基金會200位眼疾兒童重見光明、88水災重建課輔中心、全球EARTH HOUR關燈一小時活動到與客戶共同加入台大實驗林

20年種樹計畫等等，都有歐萊德社會責任的足跡。

綠色感動，鼓勵人心

「上課比上班重要」這是葛總經理最常掛在嘴上不斷鼓勵員工的一句話，因為唯有不斷的學習，才会有源源不絕的資產去創新。而影響他最深的一段話，來自朱棣文博士對哈佛畢業生的演講內容：「追求專業上的熱情雖然重要，卻不是唯一的目標。將來當你老了，回顧這一生的成就，最大的光榮不會來自於得了甚麼物質或功名，而是你影響了哪些人、帶來了哪些改變…」

這就是歐萊德現在與未來要持續不斷去做的事。這段話影響了葛總經理，也藉由他影響了每一位歐萊德員工與其親友，現在，這段話也深深影響了你。

合勤投資控股集團

1989年朱順一博士創立合勤科技於新竹科學園區，致力於創新通訊產品研發及自有品牌的行銷，建立ZyXEL自有品牌、網通自有技術，與良好的商譽及口碑。2010年，將組織擴大以合勤控股為集團母公司，合勤科技及盟創科技為合勤投控之子公司，合勤科技專注於ZyXEL品牌行銷發展及市

場開發，盟創科技則專注於產品及技術創新與代工製造服務。

合勤投控下的合勤科技連續十年以ZyXEL品牌榮獲台灣十大國際品牌的肯定，在企業社會責任方面，2007年由「亞洲公司治理協會」列為亞洲第二，台灣第一的綠色企業，2009年由遠見雜誌頒發「企業社會責任首獎」。在產品



為員工設立之健康中心。



技術上，2010年獲得「產業科技發展獎」、「工業精銳獎」，2011年獲得「綠色典範獎」。合勤投控及旗下子公司承諾除了善盡己力，努力為股東和投資人爭取最大利潤之外，對社會與環境持續力行，發揚優良價值扮演好企業公民的角色。

公司治理以「誠信」為原則

合勤在公司治理方面強調以「誠信」為原則，符合相關法規並自我要求遵守商業道德規範。努力創造經濟價值，為股東和投資人爭取最大利潤；在遵守商業道德規範方面，在「員工行為規範公約」內訂定了員工執行勤務時，必須遵守的基本行為準則與道德標準，闡述且重申公司既有的理念、價值觀與遵守相關法令之精神。期望員工與合作夥伴企業，在日常工作與業務運作中，應重視並堅守相同之標準，並確保以公正公平方式與其客戶、供應商及競爭者進行交易行為，以期達到公司永續經營的目標。

率先綠化網通產品

合勤積極投入綠色產品研發，率先參與網通產品「碳足跡」盤查、主導制定家用網路產品類別規則（PCR），為綠色環保奠基：

為網通廠商第一家獲環保署「碳足跡標籤」、取得全球第一張VDSL2家用設備碳足跡認證、參與制定全球首份「家用開道器產品類別規則」及「家用網路基礎設備產品類別規

則」，並正式公布於GEDNet網站，成為同業產品的參考指標。合勤希望藉由拋磚引玉的國際曝光，宣示合勤集團及台灣網通廠商對環保議題的重視，也希望帶動台灣企業共同正視環境保護的重要性。

發展綠色產品的技術與功能

合勤集團研發朝向綠色生產、環境保護，研發多項節能技術應用於綠色環保產品中，其功能如「電量使用自動調節功能」、「無線狀態智慧節電管理」、「自動休眠裝置」、「風扇自動減速功能」及「乙太網路智慧節電功能」等，提供消費者更有善環境的節能產品。

層層把關的綠色協同整合管理

合勤集團為徹底落實執行綠色企業管理，自訂一套將產品從「搖籃」到「墳墓」層層把關、整合管理的「綠色協同資訊系統」，讓從原料供應商、生產、製造、運送、使用及棄置各階段，串連整合合勤現有各相關系統流程，同時於每一個環節做好綠色管理。

「綠色產品協同作業資訊管理系統」，包括了「綠色零件及設計資料庫」、「產品生命週期評估（LCA）管理系統」、「產品3R回收率評估資料庫系統」及「綠色供應鏈危害物質禁限用管理系統」，達到綠色產品低毒、減積、易拆解、可回收、省能源等符合環境倫理的企業公民承諾。

健康快樂的員工與溫馨的工作環境

人才是支持公司不斷成長的重要資產，除了創造一個創新及多元的公司文化，公司更致力於提供員工工具挑戰、有樂趣與合理報酬的工作環境。合勤不僅提供具有相當競爭優勢的薪酬

福利，同時持續推出多樣化工作與生活平衡方案，照護員工身心靈的健康。在工作上則透過完整的教育訓練體制及員工規劃發展，協助員工提升專業能力與自我成長，成為公司永續發展的重要推力。

社團永續發展獎

財團法人中華民國野鳥學會

投入鳥類保育 積極加入國際組織

第三部門一直是社會活力的指標，中華民國野鳥學會（中華鳥會）在各地鳥會的支持下，於民國77年成立，是一個以保育活動為主的聯盟，至今已近1/4世紀。民國83年，中華鳥會亦加入全球規模最大，位於英國劍橋的非官方鳥類保育組織「國際鳥盟」--BirdLife International，更積極地投入鳥類保育工作，以及扮演亞洲地區區域性及國際性的重要角色。

中華鳥會，自成立至今，一路上有多方的支持與鼓勵，整體的發展可概略分為三個階段。第一個階段是從1988到1999年，是以賞鳥、環境教育推廣為主。這段時間，中華鳥會扮演的角色除了協助台灣各地鳥會推動活動出版書籍

之外，也積極的與亞洲各地區、歐美地區之鳥會進行多方面的交流。在此十多年期間，鳥會主要藉由各地的賞鳥活動來擴充在地會員，進而穩固鳥會整體的基礎。

動員全國鳥會 投入IBAs調查

2000年至2011年，拜IBAs倡議（野鳥重要棲地 Important Bird Areas, IBA）之賜，讓中華鳥會跨入第二階段。由中華鳥會與各地鳥會提出台灣地區「IBAs」公民劃設為濫觴，當時動員全國各地鳥會進行大規模調查，進行一系列規劃，並劃設全台共53個IBAs，除在國際鳥盟正式登錄之外，更將棲地保育的倡議動作跟國際作連結，召開國際研討會，邀請英、美、日等共21國專家及鳥會參與。時至今日，各地鳥會



📍 大雪山賞鳥大賽為全國鳥友的盛事，近來更與企業結合。



⬇ 積極轉型，從倡議為主的保育團體轉成兼顧保育及生產的社會企業。

亦持續定期監測各地的IBA地區鳥類狀況。此一成果亦公佈在曼谷的「2012亞洲地區IBAs大會」。

除了在國際參與保育，在國內的賞鳥活動也

是從廿年前即推動，並引領民眾關心自然的風潮。在墾丁、彰化八卦山數鷹、台南七股數黑面琵鷺、台南官田復育水雉，並在台北關渡、高雄澄清湖辦賞鳥博覽會，且已經由欣賞深化為研究和保育。全台各地的野生動物保護區、野生動物棲息環境和八座國家公園、一座國家自然公園，也在全國鳥友持續的參與規劃與協助監測下，成為落實自然保育的最重要能量資產。

2012年是中華鳥會踏入社區保育的一年。坪林里山復育計畫，鋪陳了社區參與的棲地復育企業模式，以坪林作為實驗基地，嘗試將農民生計和鳥類的棲地，以及台灣的文化地景結合，在保育農學的概念下，將「生產」與「保育」完美結合。

這一年，中華鳥會推出「坪林里山中心」，透過使用坪林茶博館附近郊山之間置農宅為基地，並以社區參與的過程，社區參與式地改善房舍成為教育基地，進而以保存台灣淺山地區鳥類的生活習性與健康棲息地為主要目標，以台灣特有種—台灣藍鵲作為象徵，推出生產、生態兼顧的「台灣藍鵲茶」。



⬇ 推出台灣藍鵲茶，作為台灣淺山保育、茶文化地景保存的第一步。

透過知識的深掘，找出兼顧水土保持、農藥排除，與鳥類棲地的新興藍鵲農學，中華鳥會嘗試，以社區參與建立社會企業平台，為坪林茶農推廣台灣淺山鳥類棲地的台灣藍鵲茶。



定期定點的生態調查，一直是中華鳥會跟台灣土地的紮根動作。



架設掩蔽帳以方便長期觀察鳥類的生態行為。

結合生產與生態 落實永續生活

中華鳥會近年來深耕地方與社區，從新北市坪林區有機茶園生產的藍鵲茶、雲林縣鳥會聯合生產的有機綠色竹筍，到台南市鳥會在官田區生產的水雉菱角，中華鳥會和地方伙伴融合有機生產與生態保育，並直接落為實質的永續生活。

2012年台灣藍鵲茶的實驗，使中華鳥會從一休閒型、公益型、知識型，以抬頭賞鳥為主的第三部門，在結構上從IBA倡議，跨了一大步地，踏進社會企業；下一步，則是將生產、生態與鳥類棲地護育結合的「彎腰採茶做環保」



亞洲賞鳥博覽會，中華鳥會是五個發起國之一，2011年在我國台南舉辦，亞洲共有14國參加。

實驗。已近25載的鳥齡，中華鳥會期盼，在抬頭欣賞飛禽現身的同時，更要細心聆聽這片土地上「人」的聲音，且讓人與鳥，共同修補自然。

台南縣黑面琵鷺保育學會

台南縣黑面琵鷺保育學會，1998成立至今已14年，從過去、現在到未來，秉持以保護台灣沿海環境，致力於黑面琵鷺及各種自然生態資源保育為目的。志工與會員來自社會各階層，包括當地居民、教師、學生、退休人員、士農工商等，而志工多半經由學會解說員初階培訓開始參與學會運作，或經由志工介紹而參與，目前主要進行關於黑面琵鷺及生態環境研究，藉由研究調查成果提供黑面琵鷺棲息地經營保護，以生態解說教育推廣民眾養成注重生態保育之觀念，推動永續地球村觀念為宗旨。

黑面琵鷺全世界僅有六種，最大的共同特徵是皆有扁平嘴喙。黑面琵鷺（*Platelea minor*）六種琵鷺中最晚被命名的（Temminck and Schlegel, 1849年在日本被命名），族群數量最稀少，為列名IUCN Red List of Threatened Species名單之瀕臨絕種鳥類，僅分佈在亞洲太平洋沿岸，度冬地在台灣、香港、澳門、大陸、越南、日本與南韓等地，台灣台南為黑面琵鷺最大度冬區，每年有逾全球一半以上的到台南度冬，根據香港觀鳥會2012年全球普查結果：共觀察到2,693隻，其中台灣佔1,562隻，佔總數的58%。

解說與教育 生態環境的永續推動

學會目前針對黑面琵鷺生態研究調查有：

- (一) 三寶調查（黑面琵鷺、高蹺鴣、反嘴鴣），每年12月與3月中進行，此三種鳥類在西南沿海皆具有指標性意義，藉由其分佈與數量的調查，以瞭解環境之變化。
- (二) 七股長期鳥類調查，主要根據七股不同樣區如：浮覆地、魚塭、鹽灘、防風林與一般農地，記錄不同環境的鳥類群聚組成差異，瞭解不同月份的鳥類群聚變化，並持續培養及提升調查人員之專業技能。



七股長期鳥類調查—鹽田樣區調查。



解說教育叢書。



以漁網進行魚源調查。

- (三) 全球黑面琵鷺普查，由國際鳥盟支會香港觀鳥會於2003年發起，於每年元月在黑面琵鷺渡冬地進行三天的同步調查，已瞭解目前黑面琵鷺全球數量與分佈。
- (四) 黑面琵鷺腳環調查普查，於每年10月起至翌年5月琵鷺季結束為止，藉由上標黑面琵鷺的腳環調查與全球學研單位與愛鳥人士接軌，可以藉由上標個體進一步瞭解黑面琵鷺遷徙路徑、活動範圍分佈與棲地選用之情形。
- (五) 黑面琵鷺保護區魚源調查，以各種漁法進行魚種之種類、數量及大小重量之調查，除探討黑面琵鷺之食源之外，也可以瞭解棲地之生產力與生物承載量。

根據歷年的研究調查成果，編撰解說教育叢書，進行環境教育，從教室的專題演講、生態講座到戶外生態旅遊，讓不同層級的人，對生態自然產生好奇或學習，進而進一步走向戶外，關懷這片土地。

近年，藉由參與學術研討會分享成果報告，自2007年起於學會網頁架設黑面琵鷺腳環回報系統，更進一步促進與韓國繁殖地研究黑面琵鷺腳環繫放團隊李起燮博士（Dr. Ki-Sup Lee）



一身繁殖羽等待北返的黑面琵鷺。



◎ 參與2010年黑面琵鷺保育與江華泥灘地利用之國際研討會。



◎ 台南縣黑面琵鷺保育學會志工。

進行合作，前往韓國繁殖地進行黑面琵鷺調查與成果分享，除擔任國際黑面琵鷺研究之台灣代表窗口外，也透過志願服務認識到公民參與社會的力量。

志工是社團組織最重要的資產，學會為非政府組織及非營利組織的社會團體，志工參與生態調查超過7,767小時/532人次，參與環境教育與解說導覽達110,100小時/203人次。黑面琵鷺在歷經槍擊、七輕、保護區成立、機場開發、肉毒桿菌等等事件後，成為台灣最閃亮的明星物種，從單一物種保護，推向棲地的保育，這塊棲地除黑面琵鷺外，也提供許多生物在此棲

息，創造了棲地生物資源多樣性，在地的志工與保育團體也為這塊土地下了一個永續註解。

永續為一「學」與「會」的團體

學會是一座橋，在科學與田野之間，在民眾與自然之間，在人與人之間。將觀察視之為探索，此乃「學」，把未知轉換為成長，此乃「會」。未來，延續過去對環境生態的堅持，仍以生態調查與環境教育之宗旨目的，透過志工服務參與，永續為一「學」與「會」之團體。

財團法人台中市私立康善社會福利慈善事業基金會

財團法人台中市私立康善社會福利慈善事業基金會（康善基金會），於民國94年由巨大公司劉金標董事長創辦，因劉董事長有感於週遭的親友罹癌的人數越來越多，再加上自己十多年前曾罹患胃癌治癒，更能夠深知「早期發現；早期治療」的重要性，因此，劉董事長委託其主治醫師擔任基金會第一屆董事長（前台中榮總胃腸肝膽科陳儉鏗主任），以宣導防癌為訴求。

近年來，康善基金會在中部地區舉辦多場健康講座及篩檢，雖然康善的醫療資源豐富，但是在有限的捐款下，光靠醫療專業無法落實宣導目的。

健康永續 校園宣導保健知識

民國97年開始，由現任台中榮總內科部張繼森主任接任第二、三屆董事長，深入校園以宣導「防癌從小做起；健康從校園開始」為主要工作項目，為了落實防癌宣導，讓正確的飲食習慣、醫療資訊帶進校園，特別聘請專業劇團，將「營養教育」、「健康知識」以生動活潑的方式融入戲劇，取代以往制式的教學。另外，依據不同的需求，將營養教育分為三個階段，第一階段「天天5蔬果」校園巡迴，

在學生的前測問卷中發現只有一半的學生會將營養午餐的蔬菜吃完，在看完兒童劇



⦿「天天5蔬果」的校園宣導。

之後，對於「一份蔬菜」和「一份水果」的認識、學校午餐中「蔬菜吃完」的天數、「主動嘗試」以前沒吃過的蔬菜和水果，都在後測問卷回答中呈現明顯進步。



⦿成立CNN防癌特攻隊。

第二階段「均衡飲食」校園巡迴，針對「均衡飲食」問卷調查的結果，有近七成的學生會將營養午餐的青菜吃完，相較97年度的調查，已經進步兩成，相對的也減少食物的浪費。

另外，在豆魚肉蛋類的攝取，針對其中黃豆及黃豆製品的攝取天數，在看完戲劇後學童也有顯著增加，表示學童開始知道黃豆製品不但可以降低膽固醇的攝取也可以代替肉類，是蛋白質的良好來源。第三階段「病從口入」校園



⦿送書到和平鄉的相關報導。

⦿「機構幫助機構」——聯勸會訊的相關報導。



巡迴，經由戲劇的宣導，學生更了解飲料及零食對健康的影響。

康善基金會四年來的宣導，不單只進行營養教育，宣導期間發現和平鄉的孩子有童書的需求，便積極以一個月的時間在中部地區募集到六千多本的童書，將都市的資源帶到山上，雖然康善基金會的員工只有2人，但自始至終都希望為教育下一代的健康而努力。

另外，康善基金會為了做到全方位的服務，民國100年成立CNN（Cancer NoNo）防癌特攻隊，除了延續校園宣導外，也開始結合醫學中心深入社區進行癌症篩檢，還特地籌畫「早日康復-營養照顧計畫」，針對弱勢經濟上有困難的病友，在治療中及恢復期，給予適量的營養品補充，以縮短復原時間提早恢復正常生活。

機構幫助機構 讓資源永續與共享

讓弱勢族群也有健康的身體，是康善基金會近年來的方案服務計畫，有感於社福團體常為了資源不足，而無法提供更好的服務品質，從



⦿大開劇團至校園宣導「病從口入」活動。

民國99年度開始申請聯合勸募的補助經費，輔導社福機構健康營養觀念的提升，並協助廚房衛生達到安全的標準，

另外，為了讓社福機構能夠達到自主管理，開立了健康種子教師培育課程，藉由工具的使用，提升機構的照顧品質，讓孩子在健康的環境下成長。康善基金會現階段以機構幫助機構的模式來完成資源共享的理念，期待未來，能有更多的機構一起響應，朝著社會資源永續的目標邁進。



藉由活潑的舞台表演進行社區宣導。

永續發展行動計畫執行績優獎

推動造林計畫方案（行政院農業委員會林務局）

農委會林務局為配合行政院「國家節能減碳總行動方案」目標，以「營造安全、生態及優質家園」為計畫願景，加強綠色資源保育工作，增加造林面積及品質，維護生物多樣性之生態環境，提供民眾戶外休閒的空間。結合生態、生活、生產於一體之經營方式，發展平地綠境休閒產業，活絡綠資源產業生機。

該計畫具體執行策略：包含加強造林、宣導推廣及技術訓練、輔導社區植樹綠美化、推動企業團體認養造林等工作，以期厚植森林資源，營造優質家園。其自民國97年底至100年執行成果說明如下：

一、**推動造林**：分別從加強國有林、海岸離島及崩場地造林、協調釋出糖休耕蔗田轉



100年5月21日花蓮平地森林園區開園。



↑ 屏東縣九明社區綠美化。



↑ 花蓮縣平地造林—杜英。

作造林、輔導農民參與造林、協調各機關、學校、團體參與造林綠化等途徑擴大造林面積，經統計完成累計新植造林計18,695公頃，已超越預訂目標1,405公頃以上，造林綠化具體成果有四：

- (一) 相當於748座大安森林公園，增加每位國人8.13平方公尺綠地面積。
- (二) 每年可吸收約28萬公噸二氧化碳，相當於34萬6,600台冷氣機1年的碳排放量。
- (三) 每年防止土砂流失及水源涵養效益67.04億元。
- (四) 輔導實際參加獎勵造林計畫之私有地所有人及租地造林人計有6,662公頃，如以每人持有0.5公頃土地估算，可嘉惠超過13,000位農民投入造林。

二、履行國際承諾：2007年亞太經濟合作組織決議在2020年前要再增加APEC會員體區域森林覆蓋面積2,000萬公頃，按國土面積我國負擔11,550公頃相較，超過面積7,145公頃。

三、培育優質苗木：造林綠化成敗首在苗木品質之良窳，本局培育優質苗木計有7,630萬株，所育苗木提供各級政府機關、團體、學校等辦理造林綠化。

四、造林宣導推廣及技術訓練：為使國人瞭解獎勵造林政策及提昇環境保護意識，於全國業鄉鎮舉辦造林宣導說明會、獎勵造林檢測技術講習班並辦理全國植樹及贈苗活動，經統計造林宣導及檢測技術訓練達504場次，實際參與人數81,923人。全國植樹及贈苗活動舉辦363場次，參與活動人數已逾44萬餘人次。

五、社區植樹綠美化補助：從「點」開始鼓勵全國各地社區主動投入植樹綠美化行列，冀以提昇環境品質，已補助1,479個社區，累計栽植面積計338公頃。

六、推動企業、團體認養造林：鑒於「政府資源有限，民間力量無窮」，為擴大民間參與造林途徑，及考量企業團體日益重視社會責任，自97年起推動企業團體認養造林，現已超過50家以上企業、團體參與認養造林482公頃，此可有效提昇政府與民間合作關係。

七、規劃設置平地森林園區：於花蓮、嘉義、屏東3處超過1,000公頃平原森林上規劃大型園區：

- (一) 花蓮大農大富園區—樂活森林園區：作為休閒樂活、有機生產、土地歷史與環境療癒、在地文化及永續發展等多元遊憩體驗之縱谷園



↑ 新竹縣山坡地造林—台灣肖楠。

區，並結合花東鐵道慢遊之旅。

(二) 嘉義東石鰲鼓園區—國際級濕地公園：作為北迴歸線上海岸至森林資源之展示櫥窗，發展環境教育及強

化濕地保育。

(三) 屏東林後四林園區—大武山低海拔自然森林：作為山域、平原環境修復的生態園區，發展地方環境創意產業與文化體驗。

其中，花蓮園區已於100年5月21日開園，嘉義園區整體規劃勇奪「美國景觀建築協會」ASLA 2011年分析規劃領域專業組首獎。

八、研訂造林相關規範：為利造林計畫推動，擬具8項造林政策相關法規並製作各式手冊及摺頁，提供執行單位、民間團體及民眾使用，以提升行政效率及便民服務。

九、試驗監測研究：針對造林地林木生長、水文、病蟲害、經營利用及社區意識等議題，透過科學數據檢討修正政策。

翡翠水庫永續水環境綠色水庫行動計畫（臺北翡翠水庫管理局）

翡翠水庫居新店溪水源調控樞紐，為大臺北都會區民生及公共用水主要水源，目前供水服務人口約500萬人。該行動計畫即在建構與落實翡翠水庫的永續經營基石，秉持「蓄豐濟枯、造福市民」理念，積極建構水量足、水質好的安全永續水環境，依據三大願景，發展永續管理模式，推動永續水環境綠色水庫行動計畫。該計畫重要成果摘述如下：

一、優質翡翠—供應質優量足原水，奠定經濟繁榮基礎

1. 創新研發風險推演法、降雨預報推演法以推估未來水情，強化水量調控風險管理，避免大臺北地區發生缺水危機，近4年缺水率為零，原水供應滿足率100%；並於98、100年北臺灣枯旱期間全力支援擴大供水。
2. 颱風期間攔蓄利用量近4年年平均約2億立方公尺，協助削減下游河川洪峰流量

與降低洪水位。

3. 針對大壩重要安全監測項目運用現代化技術分析，自行研發自動化診斷系統，首開國內大壩安全自動化診斷之先河。

二、生態翡翠—建構低碳綠能生態化水庫

1. 加強水土保持與水源涵養，並與相關機



↑ 溫室氣體盤查由環保署長授證。



📍 翡翠水庫水質採樣作業。

關合作治理水庫周邊崩坍地。運用水庫水質分層自動監測系統即時資訊，進行蓄清排濁之水力排沙策略操作，97至100年共排除約9萬立方公尺的泥沙量。

水庫淤積率為5.85%，近4年平均淤積率更降至0.83%。

- 2.在例行每週、每月人工採樣檢測外，建置7處水質自動監測站，發揮水庫上游污染源早期預警機制，並透過大壩站分層水質即時資訊，適時進行蓄清排濁調蓄操作。透過各項防污減污措施，經由既設19個水質採樣站定期採樣檢測物化性與藻類共34項水質檢測結果，水庫的卡爾森優養指數（CTSI），近4（97-100）年平均為40.92，顯示水質穩定良好。
- 3.於颱風期間排放低濁度庫水以協助稀釋、降低南勢溪高濁度河水，避免新店溪自來水取水濁度過高發生缺水危機。
- 4.於100年獲環保署授證成為全臺第一個完成溫室氣體盤查並通過查證的水庫；該局對溫室氣體淨減碳效益年約12.1萬公噸；加速汰換老舊耗電設備、實施照明時間管制與省電省油方案及宣導節能；降低路燈光害營造環境生態友善環境，於101年建置綠能載具（電動船、電動車及電動機車），利用電廠自產電



📍 大臺北永續水源。

能充電。

5.為加強水環境生態保育與復育，辦理及協助生態資源基線調查工作，進行翡翠樹蛙生活史研究。烏來杜鵑為本地特有種，近年扦插繁殖超過1萬株苗木；創建臺灣水庫界之蕨類主題教室，自97年起已超過3萬人次參訪蕨園130餘種原生蕨類。

三、教育翡翠－推動全民參與水資源保育

- 1.依據100年調查顯示，高達97%的受訪者滿意自來水的「供水穩定度」，88.7%的受訪者滿意「自來水水質」。
- 2.翡翠水庫所在之新店溪青潭水質水量保護區每年平均附徵約2.88億元水源保育與回饋費，體現受益付費受限得償政策。
- 3.成立「翡翠水庫環境學習中心」及網站，並於100年11月17日成為我國第一個取得環教設施場所認證的政府機關，辦理一般及市政參觀、水源故鄉巡禮、學生導覽活動及生態研習營、解說志工進階訓練等活動，總量管制每年16,000人。
- 4.在結合集水區居民攜手共同護水源方面，除提供原居民掃墓交通船，因集水區茶園面積約1,275公頃，為免營養鹽隨暴雨沖刷流入水庫，與相關單位推行



聯合巡查集水區污染源。

「坪林地區施用有機液肥示範計畫」，針對茶農舉辦講習會，教導農民液肥施用方法及注意事項，同時補助茶農使用有機液肥以減少化學肥料誘因。

展望未來，仍將自我惕勵，精進大壩安全管理、持續辦理水土保育與防淤減淤措施、提升水庫操作運轉與供水調控效能、加強污染防治與污染削減措施、持續節能減碳與供應綠色電能、營造生物棲地友善環境，推廣綠能載具示範、與水源區居民合作降低污染及強化互利共生措施、深耕水環境教育宣導與提升民眾參與。並與水源區權管機關緊密合作，擴增水質水量保護工作、提升污水處理率、推動茶園合理化施肥降低非點源污染、持續聯合稽查污染源、推動水庫保護帶以削減入庫營養鹽等項。

森林環境教育資源整合暨推廣平台建置計畫（行政院農業委員會林務局）

林務局為台灣森林經營管理機關及保育業務的中央主管機關，也是台灣最大的自然資源管理單位，更應主動整合並推廣環境教育資源，提供第一手的學習經驗，引起人們對環境永續的知識、態度、技能，且能認知永續性的價值，為追求永續發展而解決問題、採取行動。

民國94年7月林務局修正森林遊樂區設置管

理辦法時，正式將環境教育納入森林育樂之重要目的，並自95年起擬訂林務局自然教育中心發展系統與推動策略，自96年至98年分三階段，於轄下之森林遊樂區、林業文化園區、樹木銀行等地設置8個自然教育中心，導入專業人力，系統性發展課程方案，結合正規及非正規教育，提供戶外教學、主題活動、專業研習、特別企劃、環境解說等五大類服務，並配



① 存放木材的儲木池成為生態池。

合100年6月5日環境教育法的施行，成為台灣最完整的森林環境學習網絡。

林務局自然教育中心以「師法自然，快樂學習」為宗旨，以「讓更多人瞭解林業」、「確保高品質的服務」、「被認定為戶外環境教育的領航者」為十年（101至110年）願景，具體實現林務局「維護森林生態，保育自然資源」的核心價值。目前服務能量逐年提升，截至100年底止推出逾250套方案，平均每年提供10萬人次以上之學習機會，並廣泛運用網路社交媒介提供線上服務，同時以出版品達成遠距之



① 森林是全民重要資產，需要大家一同關心。



① 以綠建築思維改善舊建物，成為自然教育中心的教學及辦公空間。

環境溝通，亦同步透過國內外交流與合作、人力培訓、學習成效評估、評鑑機制、績效管理等策略，持續提升服務品質，確保永續成長。

為永續經營該森林環境教育資源整合暨推廣平台，相關自然資源管理、法令政策、場域設施、經營管理、人力資源、財務規劃等面向均朝向永續發展之策略運作，期林務局之發展經驗能成為國內環境學習中心發展之典範。

友善外交之國際合作

林務局不但與英國田野學習協會（Field Studies Council）簽署合作備忘錄，約定共同為推動環境教育努力。更於首屆APEC林業部長會議與其他國家分享自然教育中心之推動經驗、辦理第三屆亞洲動物園教育者研討會參訪行程、與日本合辦「311福島大地震孤兒森林療癒活動」等，透過各種機會與國際交流。

獲獎項肯定與環教場所認證

99年度林務局「自然教育中心建置發展與服務品質提昇專案」榮獲行政院第二屆「政府服務品質獎」肯定。另配合環境教育法施行，8處自然教育中心於101年7月已全數取得環境教育設施場所認證，並有15名人員取得環境教育人員認證。

隨時代進步之發展策略

面對社會經濟結構的改變、12年國教的規劃

實施、環境教育法上路等外部課題，以及自然資源管理、法令政策、場域設施、課程方案、人力資源、經營管理、財務等內部議題，林務局採取行動研究模式，創造「學習型組織」，促使每一位成員持續增能、創新思考、聚集熱忱、凝聚共識，以不斷的學習來解決問題。林務局推動森林環境教育資源整合暨推廣平台的發展歷程可作為其他環境學習中心建構之標竿經驗，團隊成長與經營管理模式亦可成為其他公部門相關組織之學習典範。

森林經營需大眾共同參與

林業，乃千秋萬世的志業，而今日林業的林業人正面臨著土地的挑戰（如何與天地共生、什麼對公共價值最有利…）、水的挑戰（颱風豪雨、林地崩塌、缺水乾旱、漂流木…）以及權利的挑戰（知識技術的傳承、溝通、說服、協商、決策…），林務局更需要促進公眾參與，強化政策論述能力，運用環境教育及環境傳播管道，凝聚國人對森林經營的共識。

未來期待林務局自然教育中心持續累積營運發展經驗，建立互動交流機制，結合更多元且有意願推動環境教育之個人與組織，共同推



望遠鏡讓人看得更遠，也開啟孩子對未來的視野。



透過自製的窺桶，認識平常看不到的水中世界。

動具有全民參與性、終生學習性的環境教育工作，打造「師法自然、快樂學習」的優質自然教育場域，真正提昇全體國民環境素養，進而促進我國永續發展。



與林務局自然教育中心走入森林，用心傾聽森林。

參加2012聯合國永續發

5.1 | 緣起及籌備過程

2010年12月聯合國第64屆大會決議於2012年6月在巴西里約召開「聯合國永續發展大會（UNCSD）」，簡稱為Rio+20，並以「永續發展及消除貧窮脈絡下之綠色經濟」及「永續發展體制」為二大討論主題。此次大會係聯合國繼1992年「地球高峰會」、2002年「永續發展世界高峰會」後，第三度邀請各國元首舉行高峰會，共同討論當前人類追求永續發展所面臨的問題。

自聯合國永續發展委員會於網站發表將於2012年辦理Rio+20後，永續會於2010年10月第30次工作會議中討論參與Rio+20事宜，後續並召開3次研商會議，邀請相關部會及永續會委員等參加，以集思廣益。

100年9月吳敦義前院長主持國家永續發展委員會第24次委員會議時指示：1. 預定於101年6月在巴西里約舉行的「2012年聯合國永續發展大會」係10年一次的聯合國重要高峰會，身為地球村一分子，我國不應缺席。請永續會負責本院之籌備參加及分工事宜；2. 請相關部會編列預算出席「2012年聯合國永續發展大會」，另亦請相關部會補助國內民間團體共同參與。

101年5月上旬，陳冲院長核定由環保署葉欣



聯合國永續發展大會之會場外觀。

誠副署長擔任團長，率領行政院代表團赴巴西里約出席Rio+20。

行政院代表團出席Rio+20之目的包括：

- （一）參與10年一次之聯合國高峰會議，對國際展現及宣示：「中華民國願與全球各國共同追求人類永續發展，善盡地球村成員之責」。
- （二）掌握全球永續發展最新趨勢，及早擬定我國永續發展相關因應對策。
- （三）藉由出席Rio+20及雙邊會談等，將我國永續發展及綠色經濟之推動成效及願景，周知國際各界。



大會產出文件以「我們想要的未來」呈現。



展大會 (Rio+20)

(四) 依據本次Rio+20結論及產出文件，修正我國永續發展相關策略，以加速我國邁向永續發展之境。

本次行政院代表團參與Rio+20的籌備工作及過程包括：

(一) 召開4次行前團務會議

(二) 補助國內民間團體辦理Rio+20場地展示攤位

(三) 大會報名及參與周邊會議之籌備

(四) 與我國民間團體、青年暨學生團體及地方政府代表團間之聯繫

(五) 籌備「雙邊會談」相關資料

5.2 | 代表團出席聯合國永續發展大會之主要活動

我國代表團分別於101年6月14日及16日出發，並分別於15日及17日抵達巴西里約。周邊會議（主場及非主場）於6月13日至22日舉辦。

我國環境品質文教基金會主辦之場內周邊會議於6月16日下午舉行。外交部另邀請我國友邦宏都拉斯與尼加拉瓜環境資源副部長擔任講

員，國際多樣化強。此為我國首次於聯合國永續發展會議中之場內周邊會議，意義重大，現場座無虛席、圓滿成功。

6月18日上午代表團團員參加永續發展對話、周邊會議及永續發展學習；下午2至3點參加由環境品質文教基金會於大會會場外舉行之非主場周邊會議。

5.3 | 聯合國永續發展大會討論主題及相關活動

大會討論主題

Rio+20有兩大討論主題：(1) 永續發展及消除貧窮之脈絡下的綠色經濟；(2) 永續發展體制架構。主要目的為評估已執行之永續發展進展及尚存的差距、處理新出現的挑戰，以及對永續發展重新作出政治承諾。大會秘書處另定7項關鍵議題為就業、能源、城市、糧食、水、海洋及災害。設定這些關鍵議題的主要目的在於提供決策者及其他相關的利害關係人能夠在大會期間，聚焦討論並檢視這些較為緊迫且需要優先處理的問題。

大會相關活動

(一) 永續發展對話 (SD Dialogue)：針對

本次大會二主題之綠色經濟、永續發展體制架構，及7項關鍵議題，巴西政府獲得UNDP支持，於6月16日至19日辦理四天公民社會「永續發展對話」論壇。



代表團團長葉欣誠副署長（左三）與我民間團體代表合影。



代表團團長葉欣誠副署長(右三)與我國民間團體於大會之展示會場。

參與對象為公民社會之高層代表，包括私部門、NGOs、科學社群以及主要團體等。整個參與過程是公開且行動導向辯論，對話方式係於大會前透過全民於網路票選(<https://www.riodialouges.org/login>)，並於Rio+20會場進行對話，最後加上與會人士及與談專家票選等3方式以獲取最終共識，作為各國元首及代表之討論參考。根據Rio+20統計，共計1787人參與會場討論。

(二) 夥伴關係論壇：為強化夥伴關係之重要性，聯合國體系之單位於6月20日至22日辦理夥伴關係論壇，共計5場次，分享夥伴關係糧食及營養安全、健康、性別平等、永續性及想要的未來等之貢獻，及永續發展落實於企業及草根階層之挑戰、學習及機會。

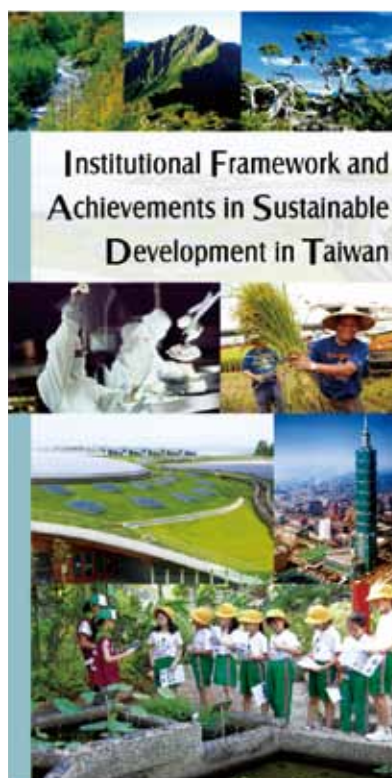
(三) 永續發展學習：提供與會者永續發展相關能力建構，Rio+20規劃一系列永續發展議題學習課程，邀請專家或國際組織規劃3小時課程。欲參與者可以事先在網站上

報名，或至現場報名。

(四) 國家展示館：位於Riocentro主會館對面的Parque dos Atletas (Athletes' Park)，作為展示聯合國會員國、巴西政府之永續發展成果之場地，展示57個國家永續發展作為，總面積為7,000平方公尺，還包括33個國際組織及特別機構，總面積1,305平方公尺。

(五) 其他民間活動：來自世界各國的人民及民間團體於Flamengo Park (Parque do Flamengo)的人民高峰會會場辦理活動，相對於各國代表於Riocentro討論Rio+20產出文件內容，公民社會自6月15日於Flamengo Park進行一系列的討論。並於6月28日提出高峰會產出宣言。

另外，亦於Pier Mau擺設攤位展示各自國家或團體的文宣物品。由環保署補助的我國民間團體(台灣環保聯盟)，亦於該場地設置攤位，展示我國文宣資料。



出席聯合國永續發展大會Rio+20之宣傳摺頁。



5.4 | 聯合國永續發展大會結論及參與成效



◀ 聯合國潘基文秘書長於Rio+20閉幕致詞。

本次Rio+20大會宣告於6月22日圓滿落幕，在各國依序發表完各自的工作與承諾，並進行討論後，本次大會結論以產出文件「我們想要的未來」（The Future We Want）」呈現。

聯合國秘書長潘基文於Rio+20閉幕致詞時針對「我們想要的未來」表示，「我們想要的未來」是人類社會、環境與經濟發展的重要基本原則，主要內涵包括：（1）如何以綠色經濟為工具，達成永續發展目標；（2）將研訂永續發展目標(SDGs)；（3）強化聯合國環境規劃署(UNEP)功能；（4）採取必要措施，以提昇國家福祉；（5）提出永續發展之財務策略；（6）建構永續生產及消費架構。「我們想要的未來」全文分為6個章節、283項條文。6個章節分別為：第1章「我們共同的願景」、第2章「更新政治承諾」、第3章「永續發展與消除貧窮脈絡下的綠色經濟」、第4章「永續發展體制架構」、第5章「行動及後續發展架構」、第6章「執行方法」。

「我們想要的未來」文件提出13項邁向人類永續發展的「我們共同願景(Our Common Vision)」，如下：

- （1）我們各國國家元首、政府首長與高層代表，於2012年6月20至22日在巴西里約熱內盧會談，在民間社會充分參與的情況下，重申我們對永續發展的承諾，並為地球現在與後代子孫保證，促進經濟、社會及環境上的永續發展未來。
- （2）消除貧困是當今世界面臨最大的全球性挑戰，並且是永續發展不可或缺的要件。在這方面，我們的第一要務是致力為人類免除貧困及飢餓問題。
- （3）我們確認有必要進一步將各個層次在經濟、社會及環境方面的問題納入主流的永續發展，並認定其相互關連性，以實現所有層面的永續發展。
- （4）我們認識到，消除貧困、改變無法永續的消費及生產模式，促進永續消費及生

產模式，保護自然資源是永續發展總體目標及基本要求。我們重申必須透過以下行動實現永續發展：促進持續、廣泛及公平的經濟成長，創造更大的機會，減少不平等，提高基本生活水準；強化公平的社會發展與包容性；促進綜合及永續性自然資源與生態環境管理，尤其是支持經濟、社會及人類發展的同時，促進生態系統的保護、再生及修復，並面對新興挑戰的適應能力。

- (5) 我們重申我們的承諾，盡一切努力在2015年前加快實現國際協定的發展目標，包括「千禧年發展目標(MDGs)」。
- (6) 我們認識到人是永續發展的核心，因此我們致力於推動一個公正、公平及包容的世界，此外，我們承諾攜手努力促進永續性及包容性的經濟成長、社會發展、環境保護，從而惠及世人。
- (7) 我們重申，我們將繼續遵循「聯合國憲章」的宗旨及原則，並充分尊重國際法及其原則。
- (8) 我們還重申自由、和平及安全的重要性，尊重所有人權包括發展的權利及適當生活水準的權利，諸如食物權、法律、性別平等及賦予婦女權力，以及對公正與民主的社會發展之整體承諾。
- (9) 我們重申對「世界人權宣言」的重視，以及其他有關人權與國際法的國際文書；我們強調所有國家的責任需符合聯合國憲章，尊重、保護及促進世人的人權及基本自由，而無任何因種族、膚色、性別、語言、宗教、政治、民族、財產、殘疾或其他狀況而有所區別。
- (10) 我們承認在國家、國際水準及一個有利的環境中，民主、善治及法治是永續發展所不可或缺的，包括永續性與包容性的經濟成長、社會發展、保護環境及消除貧困飢餓。我們重申要實現永續發展

目標，我們需要有效、透明、負責及民主的各層體制。

- (11) 我們重申加強國際合作的承諾，以解決有關世人特別是發展中國家在永續發展的一貫挑戰。在這方面，我們重申必須實現經濟穩定及持續經濟成長，促進社會公平，保護環境，同時加強性別平等、賦予婦女權力及世代平等的機會，同時提供兒童保護、生存及發展，包括透過教育使其充分發揮潛力。
- (12) 我們決心採取緊急行動以實現永續發展，因此我們重新對永續發展提出承諾，評估「2002永續發展高峰會議」的最新執行進度及差距，並解決新興的挑戰。我們表達面對本次大會主題的決心，亦即永續發展與消除貧困脈絡下的綠色經濟及永續發展體制架構等2項主題。
- (13) 我們認可世人有影響他們的生活及未來、參與決策及表達他們關切的機會，我們強調永續發展需要具體及緊迫的行動，必須透過人民、政府、民間社會及私人企業的廣泛聯盟來實現，大家共同攜手努力，以確保我們當代及後代子孫的未來。

本次行政院代表團於行前，不僅依大會的2大主題及7大關鍵議題，進行專業分工，也依照大會於會前提出的「我們想要的未來-零草案」的相關條文進行討論。且於參與大會的相關會議及活動期間，包含Rio+20主場及周邊會場之活動，本次Rio+20大會、主場周邊會議、永續發展對話(Sustainable Development dialogue)、夥伴論壇(Partnership Forum)、永續發展學習課程(SD-Learning)、國家館展覽等，由代表團團員各自依照分工及行前會議的討論與分析，針對所需收集相關主題及議題的資料，並做成結論。

代表團除了參與聯合國發展大會相關周邊會

議及活動外，亦與多個國家或國際組織進行雙邊會談，成功促進我國在國際社會中，尤其在永續發展領域上的能見度。在會談中雙方所提出的論點與本次大會產出文件的結論，更是異

曲同工之妙，對於未來雙方合作落實本次大會產出文件所承諾的部分，皆留下可共同合作的機會。

5.5 | 代表團參與聯合國永續發展大會之周邊與雙邊會議

參與周邊會議成效

（一）參與主場周邊會議的成效：

6月16日下午1:30由環境品質文教基金會及行政院農委會林務局主辦之主會場周邊會議，為我國首次於聯合國永續發展會議中之主場周邊會議。會議主題為「森林、生計與綠色經濟」。我國自2009年八八風災後，規劃永續山林計畫，積極推動災區山林復育並兼顧災民生計、水土保持，實踐因應氣候變遷人道救援之嶄新具體行動，分享在地方、城市及國家層級上，推動林業永續管理的機會及障礙。

周邊會議由環境品質文教基金會董事長謝英士律師致詞揭開序幕，並由團長葉欣誠副署長以「台灣的環境治理」為主題發表演說，提出需藉由機構間的合作推動永續發展，並以我國

為例，未來環境和自然資源部整合，管理污染控制、應對氣候變遷、流域管理、預防疾病及自然保護。

林務局楊宏志副局長則說明「台灣森林管理與保育」，分享台灣的森林管理和保護之成功因素，主要來自與依賴森林維持生計的相關者合作。中華民國紅十字會林秀芳副秘書長以紅十字會的經驗，發表「氣候變遷與人道救援」，描述台灣在2009年莫拉克颱風後之救援、緩和及重建經驗，並指出社區參與、地區敏感度及永續發展原則為應對自然災害的關鍵。

我國也邀請諸多友邦官員與國際環保團體負責人發表演說，宏都拉斯環境部次長Marco Jonathan Laínez Ordoñez介紹該國



代表團出席場內周邊會議情形。

「ECOSISTEMAS計畫」，說明資源效率及永續消費投資可帶來生物多樣性保護和農村社區發展的多重效益；尼加拉瓜部長級總統府國策顧問Paul Kelly介紹其國家發展計畫，因植根社會主義做法，有效改善平等性、提高就業率，與促進中美洲之經濟成長；國際永續發展法律中心Héctor Velasco-Perroni教授談目前最熱門的「REDD+（減少毀林和森林退化以及其他林業活動所致排放量）發展法」，並由墨西哥、越南和贊比亞對於REDD+法律之籌備進展，注意到地方政府藉由國家法律、地方碳市場及社會發展計畫，建立聯邦立法的基础工作之積極度。

而巴西的FGV（Fundação Getúlio Vargas，一推動高等教育之組織）組織代表Maria Fernanda Gebara Abifadel女士分享巴西的REDD+的進展及挑戰。她指出，非政府組織、巴西各州政府和民間社會共同已著手巴西REDD+準備活動，包括利益共享及森林監測，但有關土地使用權、程序和政府機構間的縱向和橫向協調必須加強。

本次周邊會議，我國行政院團團員、民間團體成員與學生成員齊聚一堂，也有許多外國友人參與現場，共計80多個座位座無虛席。本場次周邊會議除接受我國TVBS與自由時報等媒體予以報導，讓國內民眾共享會議情形外，亦榮獲駐大會「媒體國際永續發展中心（International Institute for Sustainable Development, IISD）」於聯合國永續發展會議資訊分享平台（UNCSD-L）推薦與會者參加的



↑ Rio+20大會之會場內情景。

周邊會議之一。

（二）我國參與非主場周邊會議的成效

6月18日下午3點環境品質文教基金會亦舉行一場次非主場周邊會議，主題與主場周邊會議相同，但強調環境教育面向。葉欣誠副署長以「台灣邁向永續發展之環境教育——歷史及挑戰」為題、楊宏志副局長以「台灣森林管理與保育」為題發表演說；另邀請日本立教大學阿部治教授介紹日本的「永續發展教育」。

（三）補助民間團體共同參與Rio+20之活動

環保署補助民間團體（台灣環保聯盟-台灣綠領團）於Rio+20大會會場外辦理攤位展示活動；永續會團亦於6月17日參加我國民間團體於Flamengo Park辦理之活動及參訪於Pier Maua之展示攤位。

雙邊會議成效

代表團於出國前，由相關部會團員研提擬進行雙邊會談國家及議題，並透過外交部洽詢。於大會期間進行之雙邊會談包括：（一）6月16日與布吉納法索環境部4位官員、19日再與其部長Jean Couliadiati進行雙邊會談；（二）19日與巴西Leal眾議員進行雙邊會談；（三）20日與甘比亞環境暨森林部部長Hon. Faton Ndeye Gaye及歐盟國際處處長Timo Makely進行雙邊會談；（四）21日與巴西Sarney眾議員及Rollenberg參議員進行雙邊會談。

友邦於Rio+20對我國之發言

（一）布吉納法索：布吉納法索代表團團長環境部部長於大會中發言籲請Rio+20大會接納我國參與大會，其表示國際社會目前努力朝向低碳經濟及永續發展，中華民國（台灣）之經濟實力與永續發展投資，應被納入此一全球趨勢，布國呼籲Rio+20大會接納台灣成為永久觀察員。

（二）吐瓦魯：吐瓦魯代表團團長泰拉維總理發言聲援我國參與國際組織：經查泰總理昨（20）日之發言除002號電所呈報

內容外，另包括下述內容：「台灣之有意義參與聯合國附屬機構及為達成對國際社會永續發展共同願景之貢獻應被毫無保留地認可」。

(三) 聖克里斯多福：聖克里斯多福代表團團

長道格拉斯總理發言助我國：克國政府盼大會主席注意台灣被排除在全球環境治理之外，並強烈呼籲應提供台灣參與全球永續發展機制及談判之機會。

5.6 | 代表團歸國後續工作

赴行政院會報告出席Rio+20之結果與建議

代表團歸國後，行政院邀請代表團赴行政院3305次院會報告Rio+20結果及心得建議，葉欣誠副署長7月5日赴行政院院會進行「我國行政院代表團出席Rio+20報告」。院會決議為：

- (一) 此次巴西里約舉辦之聯合國永續發展大會的兩大主題為永續發展體制架構及綠色經濟，「綠色經濟」範疇大於「綠能產業」，代表團出席此次聯合國永續發展大會，透過多邊及雙邊交流，為未來發展趨勢，我們應予重視。我代表團出席聯合國永續發展大會，透過多邊或雙邊交流，使各國了解我國永續發展及綠色經濟等方面努力及推動成果，值得肯定。
- (二) 請代表團團長葉欣誠副署長將此次大會各項議題結論及相關文件需要進一步說明的，提行政院國家永續發展委員會議做專題說明並進行研討，讓相關部會對推動綠色經濟可以配合的部分進一步了解。譬如勞委會在推動綠色經濟方面也會有所關聯，而非僅限於過去著力之「綠能產業」。
- (三) 此次大會未能如預期成立世界環境組織（WEO），但將強化聯合國環境規劃署（UNEP）的功能，並更廣泛的徵求會員（universal membership），請環保署及外交部等相關機關密切注意其發展，爭取我國參與空間，透過國際合作對我國永續發展政策建立更好的基礎。

辦理「2012年聯合國永續發展大會（Rio+20）會後研討會」

環保署及永續會於行政院代表團歸國後4週之7月22日至23日，在台北市集思會議中心辦理「2012年聯合國永續發展大會會後研討會」，邀請參加Rio+20的NGO團、青年團、學者專家、縣市政府團及行政院團代表，報告及分享參加Rio+20的心得及建議，另並介紹大會產出文件「我們要的未來」，計2百多位各界人士參加。報告人包括：

- (一) 民間團體代表：環境品質文教基金會謝英士董事長、台灣青年氣候聯盟李芝融同學、台灣環境保護聯盟王俊秀會長、主婦聯盟環境保護基金會陳曼麗董事長、台中市新環境促進會、陳炳煌理事、社區營造發展協會李永展理事長。
- (二) 專家學者：中央大學通識教育中心李河清教授、台灣大學政治系林子倫教授。
- (三) 行政院團代表：經建會都市發展處經郭碧玉處長、經建會都市發展處徐旭誠簡任技正、農委會林務局楊宏志副局長、內政部營建署城鄉發展分署洪嘉宏分署長、農委會漁業署吳明峰科長、經濟部工業局陳良棟專門委員、台江國家公園管理處黃光瀛課長、環保署永續發展室曹賜卿主任研究員。
- (四) 縣市政府團代表：台北市環保局王大鈞大隊長、台中市環保局莊永松副局長、台南市環保局張皇珍局長、高雄市環保局林燦銘科長等。

永續會民間委員專訪



▶ 讓永續內化成台灣基石 完成永續會階段性任務

林俊興 委員
(祐生研究基金會 董事長)

有幸身為行政院永續發展委員會的委員，個人近年來聚焦於整體系統，觀察永續會十餘年來的發展歷程。就總體架構而言，永續發展委員會與相關部會最大的突破與成就，就在於完成行政院「國家永續發展政策綱領」的修訂，並與各部會的行動計畫套疊，同時配合相關永續發展指標，能自我檢視相關政策的績效。目前雖然還無法立即見到效益，但整體架構已大致完備，相信可以提供未來參與永續發展政策的決策者能綜觀全局，以有效的操作工具促動台灣的永續發展。

因為我們都知道，永續發展包括三個面向：社會、經濟與環境，這三者不可偏廢，而永續的最終願景，就是將三者合而為一。因此，讓永續發展的整體架構具備均勻性與統合性就變得非常重要。若缺乏一套可供掌握未來樣貌的系統或架構，將會使得參與決策者，難有環視全局的機會，就更無法看出永續發展是否夠均勻、統合，而易淪於偏向的窘境。

無可諱言，此次「國家永續發展政策綱領」的修訂，對於台灣而言，是一項重大的突破，不過並不意味著永續的未來已是一片坦途，而是代表著在這份綱領的架構下，決策參與者要有推動的決心，從不同的面向著手，朝著綱領所設定的目標，匯整各方的力量，才有可能建構循環型的發展體系，努力達成循環型的社會以及循環型的經濟，才能與環境共生，如此才有可能成就台灣永續的未來。

相較於他國的永續發展機制，台灣國家永續的推展進程，與國外的案例各有千秋，我們

是隨著現代化發展的沿革，自主努力而成的系統。若我們審視台灣現行的永續發展機制，就算加上「國家永續發展政策綱領」，仍未完全涵蓋所有的政治與行政作為，易言之，我們雖然提出許多符合永續願景的目標、政策，並提出對應的行動計畫，但這些行動計畫與目前執行中的其他計畫是相互依存？還是相互抵制？仍有極大的探討空間，這也就需要比照國外發展出一套政策永續性的評估工具，做進一步的評量。

就評估工具而言，目前行政院永續發展委員會秘書處，正透過專案委託的方式著手草擬，雖然評估工具大致上已經設想完成，可是要達到全面化的實施，還需一段時間與過程，以及相關的立法機制來支持，這個部分仍還需要持續的努力。期許未來政府在各項政策實施之前，都能夠藉由這套評估工具，自我評量是否符合永續的要件，俾使各項政策能與「國家永續發展政策綱領」的政策方向相輔相成。

總而言之，從綱領的落實、行動計畫的推動到永續性的自我評估，都必須使其結構化，完成結構化的作為之後，再配合政府的組織再造，讓政府各部會在體制內，自然形成一套完備的永續機制，而毋須再仰賴行政院永續發展委員會，而使得永續成為各單位常態化的自主運作。意即，當永續發展衍化成內化的機制，屆時行政院永續會就能功成身退，而台灣能承續永續的精神，發揮永續的精髓，使得國家達到全面而真正的永續發展。



▶ 扮演政府永續經營的監督者與守護者

余範英 委員（余紀忠文教基金會 董事長）

永續發展，是永遠的進行式，更是個永遠沒有終點的長期目標。個人擔任永續委員多年，從參與永續會各項會務及觀察政府部會的推動績效上，感覺國內在推動永續工作雖有些許成就，但囿於許多體制與背景因素，使永續會的功能受到相當侷限。

永續會目前運作的缺點，個人認為有以下幾點：

1. 開會期程不定或長期停開，且負責首長未每次出席。
2. 永續會決議未如環境基本法第29條所規定：決策交由相關部會執行。使決議未能發揮實質效能，常束之高閣。
3. 相關部會的永續議題相關施政、決策，未事先照會或邀請永續會成員討論，致使永續會無法參與或扮演督導角色。

目前永續會的設置法源為環境基本法，予人永續會只關注環境的印象，與永續會應兼顧環境、經濟、社會三層面的理想，仍有一段距離，同時政府相關經濟、社會決策也缺少永續會的聲音。建議未來能爭取將永續會設置在行

政院組織法中，一來符合組織設置的程序要求，二來也可提高永續會層級，使功能更彰顯。

其次，永續會不應只存在中央政府的組織架構與決策流程中，為反映當前國人普遍重視環保永續，各個地方也強調永續的重要，包括環境基本法、設置要點等永續會法源，都應明文規定提供永續會足夠資源，並要求地方政府設置永續會，強化中央與地方政府永續會之縱的整合，讓全國上下明白、參與、實踐永續家園的理念。

再者，國內的永續發展推動上，尚有許多與民眾互動的落差亟需磨合，如：環境生態的涵養保育與經濟發展競爭需求的落差，永續概念與制度政策連接的落差，公民社會與政府治理管理之間、在地與全球永續策略之間，在在需要彌平存在已久的鴻溝，儘速接軌。

深自期許，迨政府組織改造啟動後，永續會改隸屬國家發展委員會，並重新研擬永續會設置要點，以徹底改進上述缺失，讓永續會功能確實發揮，敦促國家進步，落實永續經營台灣

的政策目標；永續會委員之遴選、運作規則、永續會相關會議（如工作會議、委員會議）的召開、決策流程及後續追蹤，亦應法制化，並隨時檢討。

未來永續會設置要點應認知，法令只是最低

限度要求，在設置要點條文中，應授與永續會實質的發展空間與賦予權限，如能配合擁有理想之主事者共同努力，當能追隨國際潮流，擴大視野格局、呼應民間需求，讓永續會恰如其分地扮演政府永續經營的監督者與守護者。



▶ 永續發展的理念與實踐

駱尚廉 委員（台灣環境管理協會榮譽理事長）

「永續發展」自1992年巴西地球高峰會議以降，從聯合國、國際組織、各國政府、學術機構到民間，不斷透過研究或研討，試圖找出具共識的理念與內涵，而永續從最初的環保與生態觀點，如今拓展至社會經濟與執行制度層級，範疇已大幅擴增。

為落實永續理念，各國多建置一套永續發展的評量系統，作為評量國家各發展是否邁向永續的指標。永續發展指標的建立，應嚴密扣合永續發展的理念與內涵，但永續發展的定義眾說紛紜，而所作的各種抽象定義，若無法與現實國家發展經驗聯結或落實在當前政經社文條件中，將流為文字遊戲，對政策引導作用不大，故，要超越這些永續發展定義，應首先認清永續發展的基本理念。

永續發展理念包括：注重環境涵容能力（Carrying capacity），嚴守環境的涵容能力，不作過度開發；強調跨代正義（Intergenerational justice），希望在發展與資源使用過程中，避免下一代發展機會受到壓縮或其資源使用權利被剝奪；化解外部性問題，要求經濟內部化（Economy internalization），避免環境污染之外部性不經濟的問題，以追求真正的經濟福祉；要求制度能力強化（Institutional capacity-building），建立誘因與監督考核，尊重科學精神、市場機能、民主及法治等多元價值，強化制度能力，避免無法轉圜的錯誤決策。

是以，永續發展應兼顧環境生態、社會經濟、與政策制度三個面向，三者環環相扣，缺一不可。對環境品質、生態資源現況的調查與掌握，需有厚實的科學基礎；社經制度面的回應與設計也有賴科學資訊作為決策基礎；而環境生態受到不合理的衝擊，係源自人類社會的行為與活動，故亦需從社會制度面的永續角度思考。

檢視近5年的永續發展指標結果：環境污染逐漸改善，但生態資源仍趨向不永續；經濟結構已逐漸轉型，惟社會壓力仍未減緩；針對台灣面臨的現況及壓力，指標顯示政策層面已朝永續發展努力，但應積極推展永續環境教育，以提升全民環境素養。

由於99項指標太多，使評分難以發揮指標功效，常有「一個指標、各自表述」的現象。例如蘇花高、六輕五期、國光石化等環評案，環保團體著重在二氧化碳排放量管制、水土資源、生態保育及國民健康等，強調「永續」的重要；但開發單位仍以諸案可減緩交通、經濟及社會壓力，且將以嚴格監督及管理制度等工具，減輕開發案帶來的負面影響，極力突顯「發展」所帶來的好處。一著重「永續」，一突顯「發展」，各執一端，難以交集。

可喜的是，永續發展並非全無進展，例如在各國科學家和企業家的共同探索下，推廣綠色化學等環境友善技術，實施清潔生產，從源頭

控制污染，倡導產業生態學，發展生態工業、生態農業，建設生態城鄉，研發永續能源，發展循環經濟等，這種種研發成果，已讓永續發

展這悠遠遙長、將明未明的道途，綻現一道道燦然的曙光。



►讓永續的「理想」與「實務」更密合

廖惠珠委員（淡江大學經濟系教授）

行政院國家永續發展委員會自民國86年成立，這十餘年來，完成的建樹頗多，就近年擔任永續委員的經驗與觀察，個人認為，永續會至少完成四項值得肯定的成就：

一、完成多項重要的永續相關文件

如：「台灣永續發展宣言」、「永續發展政策綱領」及「永續發展行動計畫」等重要文件，為推動永續工作奠定厚實基礎。

二、協助國家永續發展法案的擬訂

「國土保安及復育計畫」（草案）於永續會委員會議中歷經多次討論，在討論過程中，來自部會的代表與專家學者的意見得以充分交流、激盪與匯整，使得永續相關法案的內涵更豐富而妥切，並將衝突的歧見消弭至最低，使永續精神充份融入法案。

三、督促相關部會強化永續發展政策

針對「節約能源及生質能源推動策略」、「維持海岸線自然風貌、自然海岸線比例不再降低」等議案，皆於委員會議中通過決議，形成具體落實之上位政策，促使行政院各部會依循辦理，是為永續會發揮實質督促之積極角色。

四、提昇教育、企業與民間團體的永續經營

透過國家永續發展獎四種獎項組別（教育、社區、企業與社團）的遴選與頒發，自初評到決選的程序，特別是複評流程，參與的永續委員，從各自專精的領域出發，提供專業又深入的改進建議；同時，

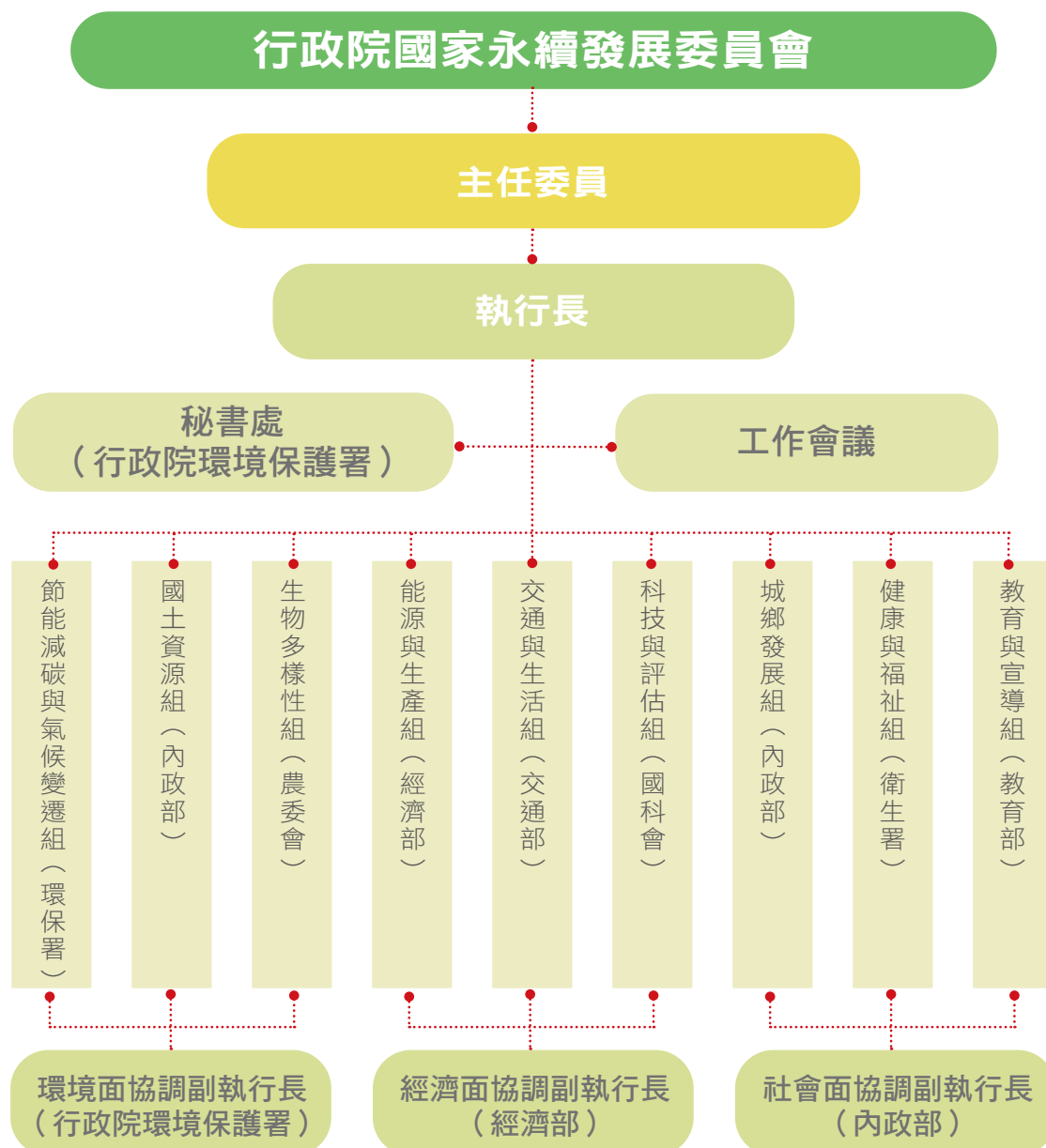
部分中小企業對永續會較不熟悉，委員亦適時介紹並分享永續會的定位與功能，並進一步開拓受評單位更寬闊的國際視野，協助其落實更深遠又多元的永續經營。

當然永續會仍有一些值得改進的地方。首先個人建議：國家永續發展委員會宜提昇「能見度」。個人曾參與全國NGOs的環境會議，發現與會相當多的社團代表並不知道國內已成立永續會多年，可見永續會知名度有待提升。畢竟政府的資源還是比較豐富，讓國內各階層對永續會有普遍認知，不僅可協助民眾理解政府的用心，更可發揮領頭羊的作用，大家一起努力構建永續的未來。提升「能見度」可借由更深入普及的做法。例如日前舉辦的全國氣候變遷會議，其分別在北中南東四區舉辦，不侷限在中央，深入地方，直接與民眾面對面交流，即能使永續會在民間的辨識度大幅提高。

其次是永續會「宜再強化理想與實務的結合」，根據個人參與永續會會務經驗，常見來自不同專業領域的非政府委員，如社團、專家與學者等背景者，對政府部會的出席代表提出各項建言，但所獲取的成果相當有限。其問題多源自相關法源不夠完備，行政單位在執行上無法可據，故對民間委員的建議「無計可施」。簡言之，此現象是存在理想與實務之間的重大差距，期許雙方能共同設法彌平這鴻溝，使彼此溝通更順暢，將使永續政策不純然是理想，而為能逐步落實的工作藍圖！

附錄一

行政院國家永續發展委員會組織圖



附錄二

行政院國家永續發展委員會 第16屆委員名單

政府部門委員

姓名	職稱	姓名	職稱
江主任委員 宜樺	行政院 院長	葉委員 匡時	交通部 部長
管委員兼執行長 中閔	經濟建設委員會 主任委員	陳委員 保基	農委會 主任委員
李委員 鴻源	內政部 部長	朱委員 敬一	國科會 主任委員
蔣委員 偉寧	教育部 部長	邱委員 文達	衛生署 署長
張委員 家祝	經濟部 部長	沈委員 世宏	環保署 署長

民間委員

學者專家	
姓名	職稱
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蔣本基	國立台灣大學環境工程學研究所 教授
陳宏宇	台灣大學地質科學系 教授
吳再益	台灣綜合研究院 院長
廖惠珠	淡江大學經濟系 教授
陳郁蕙	台灣大學農業經濟系 教授
葉毓蘭	中央警察大學外事警察學系 副教授
馮正民	交通大學交通運輸研究所 教授

社會團體代表	
姓名	職稱
余範英	余紀忠文教基金會 董事長
林俊興	祐生研究基金會 董事長
賴榮孝	中華民國荒野保護協會 理事長
宮榮敏	中華民國化學工業責任照顧協會 常務理事
周春娣	環保媽媽環境保護基金會 董事長
陳士章	台灣原住民族人文關懷協會 理事長
林益厚	都市更新研究發展基金會 董事
劉麗珠	自行車新文化基金會 執行長
駱尚廉	台灣環境管理協會 榮譽理事長
謝長富	台灣生物多樣性保育學會 理事長



2012

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Preface

On 23 August 1997, the National Council for Sustainable Development (NCSD) was established by Executive Yuan to construct healthy sustainable homeland and pursue national sustainable development. Besides evaluating issues related to sustainable development, the NCSD completed important documents such as include the “Taiwan Sustainable Development Declaration,” “Taiwan Agenda 21,” and the “Sustainable Development Action Plan”.

Premier of the Executive Yuan, Sean Chen appointed the Deputy Minister of Environmental Protection Administration Shin-Cheng Yeh as the leader of the delegation of Executive to participate in Rio+20 in Rio de Janeiro. We shall not be absent in the Rio+20 held once a decade in June, 2013, as we are a member of global village. The participating Rio+20 details of delegation were reported in Chapter 5.

This year's annual report compiles the significant achievements made by public, private and civil sectors toward sustainable development in 2011. Topics covered in this edition include Current Status and Achievements of the NCSD (Chapter 1); Summary of Working Group Achievements (Chapter 2); Evaluation of Taiwan's Sustainability Indicators in 2011 (Chapter 3); 2011 National Sustainable Development Award Recipients (Chapter 4); the Participation of United Nations Conference on Sustainable 2012 (Chapter 5) and Words from Our Members (Chapter 6). The appendix provides a chronicle of important events related to sustainable development, the organizational framework of the NCSD and the names of council members.

The Annual Report on National Sustainable Development is published each year for the purpose of providing the international community with a better understanding of our nation's efforts and achievements toward sustainable development. Another objective of the report is to raise public awareness of sustainable development and encourage more people to work together in attaining the vision of sustainable development.

Current Status and Achievements of NCSD in Taiwan

1.1 | Meetings Convened

1. Committee Meetings

The 25th National Council for Sustainable Development Meeting (hereinafter referred to as NCSD Meeting) was convened on 9 September 2011 and presided over by Executive Yuan Premier and NCSD Chairman Sean Chen. Participants at the meeting included government and civil committee members of the NCSD and representatives from various relevant agencies. Two themes were discussed at the meeting:

(1) the results and responses from the NCSD delegations participation in the 2012 United Nations Conference on Sustainable Development (Rio+20) and Promoting Low-carbon Sustainable Homeland (draft). Regarding the results and responses from the

NCSD delegation participation in the 2012 United Nations Conference on Sustainable Development (Rio+20), Premier Sean Chen stated: (1) The contents of documents from the 2012 United Nations Conference on Sustainable Development (Rio+20) must be further reviewed and analyzed and subsequently adopted into the nation's current sustainable development related documents and plans; (2) In congruence with international sustainability trends, a feasibility study for the nation's green economy promotion was drafted, and the efforts made at the last (34th) Working Meeting to form the Green Economy Task Force with the Council for Economic Planning



↑ The 25th NCSD Meeting was presided over by Premier and NCSD Chairman Sean Chen (middle).

serving as the convening agency and NCSD CEO Chi-ming Yin in charge of planning affairs are worthy of commendation. A Green Economy is a mindset and execution approach demanding effective promotion and implementation throughout all levels of government tasks and spheres of society; and (3)



↑ NCSD CEO Yin Chi-ming (the third one from right) presided over the NCSD Working Meeting.

In regards to the United Nations Conference on Sustainable Development initiative to strengthen the United Nations Environment Programme's (UNEP) capacity through universal membership, the Secretariat is asked to study the definition of universal membership and continue tracking the possibility of participation.

- (2) Regarding the Promoting Low-carbon Sustainable Homeland (draft), Premier Sean Chen stated: (1) In accordance with the 184 items of action proposed in the Promoting Low-carbon Sustainable Homeland (draft), each unit is asked to evaluate and take inventory to determine which of those agencies currently possess the level of technical, economic, and administrative capacities for executing these items; and (2) Following up, the EPA is asked to invite relevant units to conduct studies and when needed coordinate and discuss matters at NCSD Working Meetings.

2. Working Meetings

Three NCSD Working Meetings were convened

on March 30, August 13, and December 4, respectively. CEO Chi-ming Yin, presided over the meetings and participants included government and civic committee members of the NCSD and representatives from various agencies.

- (1) The 33rd NCSD Working Meeting was convened on March 30. Two themes were discussed: framework for Promoting Low-carbon Sustainable Homeland and preparations for the NCSD delegation's attendance at the 2012 United Nations Conference on Sustainable Development (Rio+20) in Rio, Brazil.
- (2) The 34th NCSD Working Meeting was convened on August 8. Two themes were discussed: results of the NCSD delegation's attendance at the 2012 United Nations Conference on Sustainable Development (Rio+20) in Rio, Brazil and appraisal mechanisms for Promoting Low-carbon Sustainable Homeland (draft).
- (3) The 35th NCSD Working Meeting was convened on December 30. The theme discussed: participation in the Rio+20 voluntary commitments.

1.2 Participation in the 2012 United Nations Conference on Sustainable Development (Rio+20)

1. Attending the 2012 United Nations Conference on Sustainable Development (Rio+20)

The United Nations convened the decennial United Nations Conference on Sustainable Development (Rio+20) in June 2012 in Rio, Brazil. This summit included participation by 188 countries, three observing members, and 9,856 major groups. A total of

57 heads of state, 31 heads of government, 487 ministers, and 45,000 people in all attended the convention coming together to find resolutions for advancing global prosperity, reducing poverty, and promoting social equity and environmental protection. Two major themes were discussed: Building a green economy to achieve sustainable development and lift people out of poverty, and an institutional framework for sustainable development.

EPA Deputy Minister Shin-Cheng Yeh led the nation's 35-member delegation comprised of government officials from the Ministry of Foreign Affairs, the Council for Economic Planning and Development and Industrial Development Bureau of the Ministry of Economic Affairs, Council of Agriculture, Forestry Bureau, Ministry of the Interior, Urban and Rural Development Branch and National Parks, and representatives from various industrial and academic organizations. The city governments of Taipei City, Taichung City, and Tainan City, Kaohsiung City Environmental Protection Bureau, Environmental Quality Protection Foundation, Taiwan Institute for Sustainable Energy Research Foundation, and Taiwan Environmental Protection Union also sent participating members. Aside from attending Conference meetings, the delegation actively participated in side meetings and activities, and engaged in bilateral dialogue with numerous



UN Secretary General Ban Ki-moon presided over the meeting in Rio+20.

nations and international bodies. For more details, please refer to Chapter 5.

2. Follow-up Initiatives from Attendance at the 2012 United Nations Conference on Sustainable Development (Rio+20)

- (1) The delegation returned home and on July 5 attended the 3,305th Executive Yuan Cabinet Meeting and on September 11 the Premier presided over the 25th NCSD Meeting reporting the results of participation in Rio+20. The Premier indicated: The Secretariat of the NCSD is requested to further evaluate and analyze the contents of documents from the 2012 United Nations Conference on Sustainable Development (Rio+20) and adopt these initiatives into the nation's current sustainable development related documents and plans.
- (2) From July 22-23, the NCSD held the Follow-up Meeting of the 2012 United Nations Sustainable Development Conference (Rio+20) inviting industry and academic representatives, government agencies, civic organizations, and public citizens interested in sustainable development concerns to participate in discussions and exchange views with speakers. In addition to inviting representatives of government agencies and civic organizations to share their experiences

and provide suggestions at the Meeting, the Rio+20 The Future We Want—outcome document was also publicly introduced.

- (3) Following a review and analysis for adopting the Rio+20 The Future We Want—outcome document into the nation's current sustainable development documents and plans (Sustainable Development Action Plan, Sustainable Development Indicators, and Sustainable Development Policy Guidelines), the NCSD proposed preliminary recommendations that include: Each chapter will have a corresponding section on The Future We Want and the nation's Sustainable Development Indicator System will make recommendations (including recommendations for updated themes and indicators) corresponding to The Future We Want. Additionally, working meetings and relevant agencies were called together to address this matter, and following discussions

the government agencies in charge of studying and evaluating each chapter have been asked to explore the possibility of adopting relevant topics and amending the nation's sustainable development policies. Sustainable development working groups have also been requested to invite civic committee members to convene a Working Meeting that addresses the 283 articles in The Future We Want and to evaluate whether or not updates can be made to the action plan.

- (4) In response to trends towards greater green economy promotion worldwide, on August 13 the NCSD convened the 34th Working Meeting, putting forth a resolution for the Council for Economic Planning and Development to establish a Green Economy Ad Hoc Committee (Task Force) to serve as a convening agency to draft the nation's feasibility plan for promoting a green economy.

1.3 | Evaluation Results of the 2011 Sustainable Development Indicators Announced

- (1) As objective criteria to evaluate implementation results of the country's sustainable development efforts, the Secretariat of the NCSD announced the Sustainable Development Indicators (SDI) evaluation results. Indicator calculations for the 2011 SDI were calculated by the relevant computational authority in August 2012 and following evaluation and analysis an Annual Indicator Assessment Report (draft) was completed. These results were discussed at the Annual Indicators Assessment Meeting convened by the NCSD and after confirming the validity of each indicator calculation, evaluation result, and document content, the final results were announced on 31 December 2012 on the NCSD website.
- (2) The 2011 Sustainable Development Indicator

Assessment Report is categorized into 12 aspects: environment, energy conservation and carbon reduction, land and natural resources, biodiversity, production, livelihood, science and technology, urban and rural culture, health, welfare, governance, and participation. Each indicator's annual assessment results are organized by aspects, themes, indicator names, definitions, relevance to sustainable development, interpretation and analysis, annual data sheet, and annual trend graph. The announcement of the 2011 indicator assessment results consist of 12 aspects and 41 themes, and a total of 86 indicators. For more information, please visit the NCSD website at <http://nsdn.epa.gov.tw/CH/DEVELOPMENT/2011TAIWAN.HTM>.

1.4 | Sustainable Development Action Plan

Installment of the Sustainable Development Action Plan tracking management and data testing data system was completed, and relevant units were requested to receive structured educational training from August 9-10. Also, an online form can be filled out and posted on the NCSD information website to announce

Sustainable Development Action Plan tasks completed during the first and second half of 2012, providing a venue for everyone to view. For more information, please visit the NCSD website at <http://nsdn.epa.gov.tw/CH/DEVELOPMENT/DEVELOPMENT.HTM>

1.5 | Selection and Commendation of the 2012 National Sustainable Development Award

The 1992 Earth Summit/United Nations Conference on Environment and Development (UNCED) advocated the "think globally, act locally" concept to encourage more people to participate in sustainable development work. The 2002 World Summit (WSSD) ratified the United Nations Sustainable Development Action Plan to encourage all nations to action for the sustainable development of humanity. In congruence with global sustainable development trends, the NCSD encourages everyone to participate in sustainable development action plans. Since 2004, the NCSD has held the National Sustainable Development Award, screening and selecting those among various categories with exceptional

achievements in sustainable development action and providing award recipients the opportunity to share their experiences and further advance sustainable development throughout all spheres of society.

The National Sustainable Development Award is held to encourage public participation in sustainable development efforts. Through sharing and learning from experiences, the spirit of sustainable development reaches deep into the fabric of society and the daily lives of the people. The 9th annual 2012 National Sustainable Development Award ceremony was held this year with a three-phase selection process consisting of a written preliminary examination, field reviews, and the final selection. The four award categories

were education, corporation, civic, and sustainable development action plan implementation; and 12 winners were selected. The commendation ceremony was held at the main auditorium of the Executive Yuan on 6 December 2012 at 2 pm, and awards were presented personally by Executive Yuan Premier Sean Chen to commend exceptional achievements in sustainable development promotion. For detailed reports on each award winner, please refer to Chapter 4.



↑ Premier Sean Chen presented the National Sustainable Development Education Award to the winner.

Summary of Working Group Achievements

2.1 | Energy Conservation, Carbon Reduction and Climate Change Working Group

1. Establishing greenhouse gas management infrastructure (EPA)

Promotional efforts in 2012 included: Completed first reading of the Greenhouse Gas Reduction Act (draft), and will complete due process by the Legislative Yuan; announcement of six air pollutants (CO₂ included), with priority on the emission of greenhouse gases reporting process by industries; announced amendments of the Principles Governing Promotion of Early Stages of Greenhouse Gas Exchange Plan, and processed 23 pilot cases, 22 exchange cases and 17 reduction method cases; announced the Code Format Governing the EPA Greenhouse Gas Reduction Amount, and processed 14 cases of volume reduction application; Implemented certification system of greenhouse gas and in total, one accreditation institution and nine

certification agencies had been approved, and completed the Technical Directions for Carbon Footprint Inspection of Products and Services; completed the Implementation and Announcement Directions for Carbon Neutrality, and established the Carbon Neutrality Management Platform; continued to promote voluntary inspection with 452 companies voluntarily submit inspection results; activated the National Greenhouse Gas Reduction Trading Platform.

2. Encouraging international participation

(1) Deputy Minister of the EPA, Mr. Tzi-Chin Chang, led a delegation of domestic representatives and experts to attend the United Nations Framework Convention on Climate Change 17th Conference of the Parties/Parties to the



↑ 2012 Taiwan Cycling Day held to promote cycling for carbon reduction.

Kyoto Protocol (UNFCCC COP17/CMP7). Representatives from Taipei City, Tainan City, Kaohsiung City, Taiwan Institute of Sustainable Energy (TAISE) and Environmental Quality Protection Foundation were part of the delegation.

- (2) Attended the UNFCCC COP18/CMP8.
- (3) Organized the 2012 5th International Workshop on Pacific Greenhouse Gases Measurement in September.

3. Expanding public participation

Four regional citizens meetings were held in east, southern, northern and central parts of the nation from 2011-2012; more than 1,300 participants attended these meetings, which focused on themes concerning national climate change. On 19 May 2012, the National Climate Change Symposium: World Cafe was held to facilitate exchanges of around 500 officials and civic representatives with regard to assembled themes. The Taiwan 20XX: Preparations for Taiwan in the Face of Climate Change symposium was held from 5 to 6 June; 300 participants gathered to deliberate on the short-, mid- and long-term policies and plans in response to climate change; President Ma Ying-jeou personally graced the occasion to listen to the summaries by the said representatives.

4. Integrating government agencies (CEPD)

The Council for Economic Planning and Development (CEPD) organized the Promoting Climate Change Adaptation Strategy Guidelines and Action Plan working group which completed draft of the National Adaptation Programmes of Action (NAPA); completed drafting of the National Climate Change Adaptation Policy Guidelines; completed drafting of the National Climate Change Adaptation Public Education Plan and promoted formulation of regional implementation plans; Taipei City and Pingtung



↑ EPA Minister Stephen Shu-hung Shen gave the opening speech in World Cafe.



↑ The World Cafe held by EPA.

County were selected in 2012 as demonstrations.

5. Counseling the greenification of industries (MOEAIDB)

- (1) 1,110 cases of volume reduction measures were implemented by 241 enterprises through participation in the Ministry of Economic Affairs (MOEA) voluntary emission reduction agreements in 2012; a total of NT5 billion was invested and 1.18 million tonnes were reduced, giving a derivative economic benefit of NT4.8 billion.
- (2) Energy conservation and carbon reduction technical consultation and guidance were provided to the manufacturing industry through a professional team. One thousand two hundred and fifty improvement plans were made to 388 factories over a span of 1,800 consultation cases in 2012. Foreseeable reduction of CO₂e is estimated at 160,000 tonnes.
- (3) Eleven localized reduction measures were developed in 2012, and nine enterprises were incorporated as part of the demonstrations

of greenhouse gas trade-off plan, with an estimated access to 840,000 tonnes of CO₂e quota (a ten-year period); organized training courses for low-carbon industry professionals, and through development of diagnostic tools, organizing of energy reduction and carbon conservation accomplishment demonstrations, as well as matching of industry-based reductions, the positive effects of such reductions can be enhanced.

- (4) Promoted green buildings to support energy conservation and carbon reduction (ABRI): 347 cases of green building marks and candidate green building certificates were passed as of end of September 2012. One hundred thirty-five point eight million kw of power, 4.64 million tonnes of water and 69,700 tonnes of carbon emission were estimated to reduce annually.
- (5) As of 25 October 2012, 36 cases of inspection and registration cases were conducted through telephone inquiry of enterprises under assistance. This was coupled with inspection of underlying statistics of on-site quality. Around 50% of the energy industry was registered. As of mid-November 2012, the registration rate achieved the set goal of over 95%.
- (6) Completed document inspection, on-site inspection and verification of inspection quality statistics of ten energy-industry related enterprises (venues), and conducted discussions of said statistics in accordance with ISO14064-1 regulations.
- (7) Gradually enhanced automobile and motor-cycle energy efficiency standard; a full-

scale implementation of enhanced energy efficiency standard (10% increase) began in force in 2012; the new phase of such increase (15%) will be in force in 2015, for a total of 25% increase in efficiency. An expert consultation meeting was held on 13 September to gather expert opinions on the next phase of automobile energy consumption management and standard, and to provide legislative reference for automobile energy consumption standard. A press conference was held on 24 October 2012.

6. Promoting green LOHAS and low-carbon transportation (EPA)

- (1) Based on statistics of government agencies, civic corporations and green shops, a total of NT13.5 billion was spent on green consumption as of end of October 2012; The Tourism Bureau of MOTC organized the 2012 Taiwan Cycling Day, cycling and tourism events to promote cycling in Taiwan.
- (2) An environmental protection low-carbon platform was established and 4,363 activities were registered thus far; New Taipei City, Taichung City, Tainan City and Yilan County piloted such low-carbon measures. On 9 June 2012, the EPA and Kinmen County jointly activated the Green Energy and Low-Carbon Transportation System Master Plan – to actualize city-level greenhouse gas inspection and registration; in 2012, Taichung City and Yilan County were selected as demonstration sites to conduct on-site inspections.

2.2 | National Land and Resources Working Group

1. Water resource development, utilization, management and conservation (Water Resources Agency, MOEA)

- (1) Promoted Zhongzhuan Retention Basin project: Work commenced on 3 June 2012 and is scheduled for completion in June 2015. The project will create a 4.92 million-

cubic-meter retention basin that provides timely backup during times of high turbidity the Yuanshan Weir, and support for Shihmen Reservoir during water resource allocation mechanism. The retention basin will provide backup to water resources and steady water supply to the region.

- (2) Promoted management of Tsengwen, Nanhua and Wushantou reservoirs and stabilized water supply for the southern region: suppressed sand collection of 9.9 million m³ at the watershed area, reclaimed 260 hectares of national rental land of the Forestry Bureau, reduced sludge accumulation of approximately 1.56 m³ at the Tsengwen Reservoir watershed area, removed 69,000 tonnes of driftwood at Tsengwen Reservoir and 33,000 tonnes at Nanhua Reservoir; a total of 701,200 m³ of sludge were reduced at the aforementioned reservoirs.
- (3) Sustainable Environment and Green Reservoir Action Plan for Feitsui Reservoir (Taipei Feitsui Reservoir Administration): Implemented self-developed Precipitation Prediction Method to predict water levels at reservoirs, adopting a 10-days-based progressive inspection method to stabilize water supply to the greater Taipei area.

2. Conservation and management of underground water resources (WRA)

- (1) Strengthened underground water management and prevention of land subsidence: land mass that suffered subsidence was reduced to 534.4 km², and the trend had been alleviated.
- (2) Strengthened underground water recharge and nurtured underground water environment: Completed underground water recharge facilities for Zhuoshui

River, with an estimated 40.88 million tonnes of water recharged at the Changhua and Yunlin area; continued to encourage local governments in strengthening underground water patrols and successfully averted the setting up of 51 new wells, blocked 100 existing wells and blocked 501 illegal wells.

3. Sustainable management of maritime resources (Fisheries Agency)

Public announcement of a classification system for maritime protection zones on 8 June 2012, divided into 3 categories: prohibition from entering or influencing, prohibition from harvesting and multi-purpose zone.

4. National land planning and management (CPAMI)

- (1) Promoted legislation of the National Land Planning Act: Review of the entire act in collaboration with pertinent agencies and local governments was completed; the Act was deliberated by the Executive Yuan on 31 October 2012.
- (2) Established a comprehensive national land monitoring system: In 2012, four phases of land utilization change detection, non-urban land development plan change detection and phase two coastline change detection were organized.



⚙ Zhongzhuang Retention Basin project.

- (3) Satellites were used to conduct plain change detection (SWCB): Five plain detection tests were completed and results were uploaded to the Plain Management Information System.
- (4) Current survey and evaluation of landslide potential rivers (SWCB): In 2012, 290 evaluations of landslide potential rivers were scheduled; as of the end of June, 123 such surveys were completed.

5. National Land Conservation Area

- (1) Overall mountain conservation and disaster prevention plan (SWCB): 36 cases of land remediation for landslide were organized, covering a total of 15 hectares of remediated land in 2012.
- (2) Treatment plan for flood-prone areas (WRA): 405 km² of land had been treated as of the end of June 2012.

6. Integrating regional areas to be in line with the international community, and promoting wetland ecological remediation (CPAMI)

- (1) Assisted local promotion of key national wetland action plan and management of operations: The Taiwan Wetland's Ramsar Citizen focused on the maintenance of wetland ecological stability and diversity, wise use of wetland resources, remediation of wetlands, and cultural interaction and legacy with surrounding communities. The plan collaborated with the Forestry Bureau, WRA, EPA and MOE in the management of wetlands; local governments, academic institutions and local environmental groups were included as well. NT92.7 million were budgeted for cross-ministerial collaborations in 2012; in particular, the Ministry of the Interior invested NT33.8 million in assisting 16 county and city governments in implementing 27 projects, including the investigation, planning, design, ecological facilities, monitoring, patrol



↑ Cross-ministerial promotion of key national wetlands.

and education of the public pertaining to the maintenance and remediation of wetlands.

- (2) Strengthened international exchanges and cooperation: From 14 to 22 April 2012, three international experts were invited to Taiwan to conduct one keynote speech and two international exchange workshops on wetland conservation. In addition, delegation from Taiwan was sent to Orlando, USA to participate in the 9th INTECOL from 1 to 10 June.
- (3) Established Wetland Sustainability Act and Management System: The Wetland Conservation Act draft was sent to the Executive Yuan on 30 March 2012. The Act contains 8 chapters and 42 articles.



↑ In June 2012, Delegation from Taiwan we sent to Orlando, USA to participate in the 9th INTECOL.

2.3 | Biodiversity Working Group

1. Hotspot investigation and confirmation of land and maritime biodiversity possibilities

Green Island, Dongsha, Lanyu, Kenting and Nansha are hotspots for Taiwan's maritime biodiversity. The National Science Council (NSC) promoted an integrated plan in one of the regions in terms of investigation and monitoring; the MOI executed Hotspot Investigation and Confirmation of Land and Maritime Biodiversity in Kenting National Park, and the Kenting National Park Headquarters had six research projects pertaining to biodiversity in 2012; the results were abundant. The Taiwan Endemic Species Research Institute (TESRI) of the COA analyzed hotspot distribution of Taiwan's land organisms and conducted porosity analysis in the protected

regions using a geographical information system and spatial distribution prediction model.

2. Twenty percent of maritime region incorporated as Protection Region prior to 2020 (Fisheries Agency)

The Fisheries Agency is responsible for the announcement and promotion of our country's maritime protection classification system. Two cross-ministerial coordination meetings were held on 27 April and 17 May, and reached the resolution that respective maritime competent authorities for the protection of the ocean should formulate their annual protection plans; the decision was unanimous among the competent authorities and scholars; there will be three classification categories, designated upon the



↑ Vice President Wu presented the logos of classification of maritime protection zones.

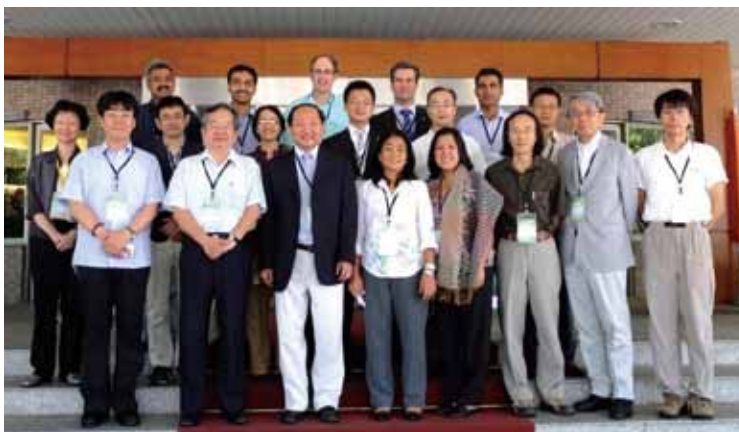
level of maritime protection:

3. Strengthening the establishment of dichotomy for the compilation of Taiwan's various animals, plants and microorganisms catalogs (NSC)

Ten catalogs of Taiwan's animals, plants and microorganisms were completed and published in 2012. Works will be directed toward the strengthening of species research, verification and classification; preliminary tasks were completed regarding the features description and index of Taiwan's odonata larvae. Twenty-five species of Isoetes on the brink of extinction were measured and cataloged based on their previous distribution and population.

4. Strengthening research on changes of indicative animals, plants and Microorganisms (NSC)

Seven cases of pertinent research plans were subsidized. The TESRI chose birds as indicator, and expanded the scope, built long-term monitoring systems and regularly announced indicative monitoring reports with regard to endangered bird species, breeding bird species, wetland bird species and invasive bird species. Pertinent plans include Breeding Bird Survey Taiwan, Monitoring Avian Productivity and Survivorship Program (MAPS Taiwan) and AIS Stop.



2012 Asia-Pacific workshop on sharing biodiversity information and the Integrated Publishing Toolkit (IPT2).



the rescued sea turtle moves toward the ocean.



The TESRI personnel moves away the invasive bird Black-headed Weaver's nest.



The invasive species *Bidens pilosa* var. *radiata*.



The Chigu sandbank changed over time toward the direction of land.

5. Establishing National Biodiversity Model Resource Center (NSC)

Established a National Biodiversity Model Resource Center for conservation and utilization of the genetic resources of agriculture, forestry, fishery, husbandry and wildlife animals and microorganisms; continued the maintenance of operation and services for agriculture model resource center, Taiwan microorganism knowledge database and fungi barcoding database.

6. Maintaining and upgrading the Information Management System of biodiversity monitoring

The EPA organized the Environmental Resources Database Integration Plan in 2012; TESRI edited over 150,000 entries for the database, including Taiwan Bryophyta Resource Investigations and Information Establishment and Application,

Unique Lithocarpus Sample and Breeding Bird Species Investigation BBS Taiwan; continued to operate Taiwan Biodiversity Network (TBN).



⬆ Taiwan Biodiversity Network (TBN).

7. Regular monitoring and evaluation of land, wetland and maritime biodiversities every three to five years

The EPA conducted detections for heavy metals and pollutants of environmental water, sludge and organisms of three wetlands: Chiayi Aogu Wetland, Haomeiliao Wetland and Budai Salt Pan Wetland; BBS Taiwan investigation led by TESRI encompassed a large-scale and long-term monitoring, with an expected annual data entries of over 40,000.

8. Establishing directory (NSC)

Established a list of domestic and foreign invasive species, analyzed ecology, economic defects and management strategies; established a list of international high-risk invasive species and formulated preventive measures.

9. Evaluative capacities and management system of the impact on biodiversity through the establishing and implementing of biotechnology research and derivative products (NSC)

Formulated a list of priorities for the remediation of inferior environments; inferior environments will be actively remediated by the EPA, CPAMI,



⬆ The rehabilitation results of National Important Wetlands.

⬆ Transplanting finger corals.

Taiwan Area National Freeway Bureau and Directorate General of Highways. As of 16 October 2012, 162 lots of land spanning 23.8 hectares of farmland were deemed polluted in accordance with soil contamination control standards. The MOTC conducted inferior environment remediation along the national highways.

10. Promoting the establishment of artificial wetlands to improve the quality of hydrological system and aquatic ecology

The WRA assembled international drainage manuals and standards, and the EPA continued to promote on-site water purification treatment facilities; as of the end of September 2012, 106 on-site treatment venues were completed,

covering an area of 529 hectares that is capable of treating 840,000 tonnes of polluted water daily, with a maximum reduction of 24,000 kg of BOD (biochemical oxygen demand). MOI's Taiwan Wetland's Ramsar Citizen focused on

the maintenance of wetland ecological stability and diversity, wise use of wetland resources, remediation of wetlands, and cultural interaction and legacy with surrounding communities as its objectives.

2.4 | Energy and Production Working Group

1. Promoting energy integration of industrial parks (MOEAIDB)

- (1) Eight green factory marks were processed in 2012. The group provided demonstration assistance to 3 green factories and 20 cleaning companies; assisted in meeting green building and clean production standards for those companies applying for green factory mark.
- (2) From 2009 onward, 13 industrial parks were selected as energy integration pilots; 190 items of energy integration were completed thus far; an annual integration of 2.98 million tonnes was planned.

2. Invigorating measures for agriculture (COA)

- (1) **Promoted agricultural business zones and advanced better utilization of farmlands:** 14 business zones were established nationwide that covered 3,500 hectares; the farmlands were rented by farm associations and farmers that aid young farming business people into production.

- (2) **Established agriculture central satellite system:** Assisted farm associations in popularizing local unique products, established a value-added platform for the industry, and integrated a stable supply-demand relationship among the farmers.

- (3) **Priority for corn and grain crops in the restoration of fallow lands:** Promoted crop rotation and planted around 72,000 hectares of corn. Twenty thousand hectares of land were soiled with organic fertilizers in 2012, and 80,000 tonnes of organic fertilizers were subsidized to farmers.

- (4) **Counseled marketing classes and industrial group purchases in adopting land separation, age category and batch production model, as well as automatic feeding systems to increase production efficiency:** 12 rounds of land separation, age category and batch production model symposiums were held from January to September 2012.

- (5) **Maintained poultry marketing balance with a 80% market share of domestic poultry; implemented husbandry farm registration and management:** More than 2,000 incidents of husbandry farm registration and inspection conducted by the COA in 2012.

- (6) **Promoted CAS label products:** Four accreditation agencies were certified by the COA and responsible for the testing of 15 food



⬆ The Bi-Sha Fishing Port (Keelung) started on 21 September 2012.



⬆ The fishing patrol boat inspects on ocean against illegal fishing.

items such as meat, frozen food, grain, eggs, water, dairy and forestry products.

(7) Improved production and operation environment of agriculture leisure areas and environmental greenification: As of 16 October 2012, 71 agriculture leisure areas were planned. From January to August 2012, the areas attracted more than 6 million people.

(8) Encouraged farmers in lifelong learning, organized Farmers' Institute to develop current and new farmers, implemented a systematic development and nurturing system, promoted testing and certification system of professional abilities, and strengthened professionalism of farmers.

(9) Provided technical support for on-site investigation and information gathering for DOIE (Department of Irrigation and Engineering): Assisted and counseled grassroots personnel of DOIE in constructing around 330,000 hectares (6,410 lots) of cadastral maps; promoted GIS technology for DOIE, established irrigation geographical database for DOIE, developed DOIE Web GIS; established comprehensive irrigation water monitoring network to improve irrigation water quality passing rate.

(10) Converted harbors to modern harbors that embrace both industry and leisure: As of September 2012, 730,000 people traveled to the ocean for recreational purposes; established specialized sea water supply drainage facilities and as of September 2012, 13 projects were approved. In 2012, around 2,439 fishing boats were equipped with VMS to assist in the monitoring of fishing boat operations.

3. Advocating energy conservation and carbon reduction to improve energy efficiency (MOEABOE)

(1) Counseled SMEs and business districts to

implement energy conservation and carbon reduction: In 2012, the BOE assisted 120 SMEs and 5 business districts in reducing energy consumption; 10 chain stores were provided with diagnostic services in terms of overall energy efficiency.

(2) Completed research, demonstration and 3E (economy, efficiency and effectiveness) evaluation plan for hydrogen fuel cell motorcycle certification and monitoring system: 2.5 years were spent on the successful completion of the world's first hydrogen fuel cell motorcycle certification system. Currently, Taipower estimates the completion of 23,600 AMI establishments by 2013.

(3) Promoted the use of electric motorcycles: Chianan Center provided four electric motorcycle battery swapping service stations in its administrative district from 7 July 2012 onward; Taipei Center had nine such stations at petroleum stations, which were operated by CityPower Corporation.

(4) Encouraged the establishment of renewable energy by corporations and individuals: Promoted the simplification and de-regulation of solar power applications, and results of amendments will be announced. Established industry certification platform to strengthen demonstration and broaden practical application: provided one-test-multiple-certification service for domestic solar power module owners; demonstrated the country's first professional large-scale outdoor solar



↑ The first large-scale solar power battery lifespan testing platform.

power battery lifespan testing platform on 11 April 2012.

- (5) Promoted Low-Carbon Island Plan for Penghu, developed off-shore wind power resources:** Announced measures governing demonstrations and evaluations began for industry owners. Winners will be announced by January 2013; three offshore wind power development sites will be awarded based on the plan.
- (6) Voluntary energy reduction participation from corporations:** Facilitated 31 enterprises from the finance, catering and shoe

industries to participate in voluntary energy reduction. Promoted energy efficiency classification labels and completed draft for Energy Efficiency Classification Label System: 9,577 product models were registered and managed based on the Energy Efficiency Classification Label System.

- (7) Innovative application of LED lighting, developed LED modules and AI-control systems:** Application and promotion of LED people-based lighting system; improved and designed people-based sensory flat-panel source.

2.5 | Transportation and Livelihood Working Group

Accomplishments of traffic and transportation related tasks by the MOTC included:

1. Promoting public road and transport development plans

- (1) Subsidies were provided to public transport of 15 counties and cities and public routes operated by the Directorate General of Highways, MOTC; altogether, 957 routes were subsidized with an amount of NT1.102 billion.
- (2) 388 buses were replaced by new ones for the public transport and public routes at certain counties and cities in 2012; another 143 low-floor buses were added as part of the operation.
- (3) Assisted Keelung City, Kaohsiung City and Chiayi County bus service operators to establish multi-card checking machines and related hardware; besides Hualien, Taitung and Matzu regions, bus services in all regions had an electronic ticket system established. In addition, ticket incentives were provided to non-contact electronic tickets.
- (4) Operation conditions of highway and city bus services were evaluated on a regular, fair and open basis.



↑ EMU of Taiwan Taoyuan International Airport Access MRT System.

- (5) Encouraged upgrading of old taxis by providing NT30,000 subsidy to each purchase of a new taxi. The EPA added another NT10,000, making the total subsidy up to NT40,000.

2. Continuing to promote railway transport construction and upgrading services

Railway Reconstruction Bureau, Bureau of High Speed Rail, Taiwan Railways Administration and Department of Railway Transit Systems actively promoted pertinent construction of railway transportation, including connection of metropolitan railroad, rail transportation of metros, improving rail transportation services,

molding energy conservation stations, continuing promotion of metropolitan public metro system, speeding construction of THSR stations in Miaoli, Changhua and Yunlin.

3. Organizing demonstration plan for Eastern bicycle path networks

The Eastern Bicycle Path Networks Demonstration Plan in Response to Energy Conservation and Carbon Reduction was promoted in the eastern Taiwan region. As of the end of 2012, 627.7 km of path had been planned, and can reach a total of 1,136km of path with the inclusion of routes from other subsidized agencies. A 2012 Taiwan Bicycle Festival series of events was held from 10 to 18 November 2012.

4. Integrating environmental protection and ecological road projects

- (1) Widened Wugu to Yangmei section of National Highway 1: After completion of the project, transportation speed and benefits of Daxi 5 Viaduct will be enhanced.
- (2) Completion of National Highway 2 Widening Project – transportation infrastructure of Taoyuan Aerotropolis's connection: the project was completed on 27 May 2012.

5. Establishing pan-Taiwan smart transportation system

To facilitate the general public with the latest traffic information, the IOT and TANFB respectively organized the Traffic and Transportation Service Center, and internet management system for

highways and freeways.

6. Completing offshore harbor construction plan

Provided safer maritime transportation between Taiwan and Matsu islands. Addition of Floating Harbors for Kinmen Services Project finished inspection and began operation on 24 May 2012.

7. Advancing road traffic safety education

The Road Traffic Safety Inspection Committee formulated three main themes of motorcycle accident prevention, accident prevention for the elderly and DUI accident prevention for the year 2012. Main tasks included: strengthening road traffic project facilities and management planning, strengthening and improving effectiveness of road traffic safety seminars, tightening the regulation of road traffic safety, providing more diverse ways of promoting community and school road traffic safety education.

8. Promoting ecotourism

Administration offices of the Tourism Bureau at various scenic areas organized beach cleaning, planting and wetland remediation (South west Coast); in addition, ecotourism (Matsu) and construction of green buildings at tourism centers (Matsu – Nangan Tourism Center) were adopted.

9. Improving weather forecast and earthquake detection capabilities



⬆ The pond recovery of Widened Wugu to Yangmei section of National Highway 1.



⬆ Magong Airport - BIPV (Building- integrated photovoltaic) demonstration project.



⬆ Provincial Highway Disaster and Traffic Information APP.

- (1) Implemented the Establishment Plan for the Monitoring and Reporting of Severe Weather, and Sea Weather Prevention Technology Research Plan.
- (2) Organized renewal and addition of precipitation automatic detection system in Yunlin, Chiayi, Tainan, Kaohsiung and Pingtung area.
- (3) Established a new generation seismic observation network and completed 8 underground seismic detection stations; altogether, 30 such stations were completed.
- (4) Earthquake and geophysical monitoring system enhancement plan: In 2012, 63 geophysical database management system stations, 3 structural strong-motion systems and 19 global positioning monitoring systems were upgraded. After the upgrade, monitoring system efficiency of seismography and global satellite positioning monitoring system was improved, giving better quality of monitoring information.

10. Strengthening disaster prevention system for railways, road and bridges

- (1) TRA Linbian River Bridge improvement plan completed transfer and station activation work on 10 January 2012. The plan reinforced flood prevention plan and improved regional drainage, thereby alleviating traffic problems in 5 railway level crossings in Linbian area.
- (2) Implemented prevention mechanism for road disasters: 229 preventive road blocks had

been in place as of 6 September 2012; 148 of those blocks avoided road slides, demonstrating the effectiveness of such mechanisms.

- (3) Improved shock reinforcement for highway bridges: The plan is currently in its second phase since its inception in 2010; 336 bridges were reinforced, with NT7.7 billion in budget. As of the end of 2012, reinforcement designs for 278 bridges were commissioned and completed, and 40 such bridges were reinforced.

11. Introducing environmental management system for the aviation industry

Taipei International Airport established its Environmental Management System in early 2012. Ninety-one items that encompassed environmental management mechanisms such as aviation noise, exhaust fumes, energy consumption, water resources, waste and community protection were completed through the Discernment and Evaluation of Environmental Considerations for the Taipei International Airport.

12. Promoted Central Corridor of Magong Airport – BIPV (Building- integrated photovoltaic) motorcycle parking lots demonstration project.

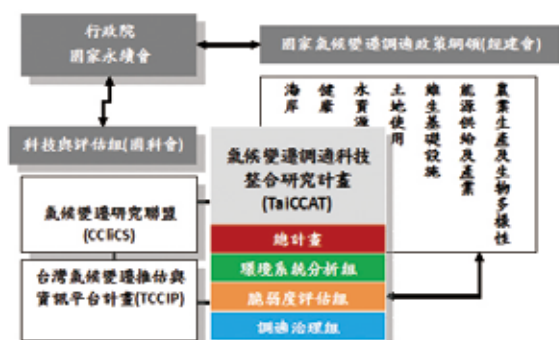
Over 5,000 m² of solar power panel established at Magong Airport, providing solar power into usable electricity for the airport.

2.6 | Technology and Evaluation Working Group

1. Taiwan Climate Change Projection and Information Platform

The Taiwan Climate Change Projection and Information Platform (TCCIP) initiated by the NSC provided the following functions: strengthening analysis and forecast capabilities of climate change; establishing downscaling

key technologies; applying weather information to conduct disaster impact risk evaluation; integrating climate information and downstream application capabilities; conducting climate change cross-discipline research and application. The following provided key accomplishments of climate information application and services:



↑ The status of Taiwan integrated research program on Climate Change Adaptation Technology (TaiCCAT).

(1) Information platform and provision of information:

The TCCIP was established by the end of 2010; more than 13,000 hits were registered as of October 2012. The value-added information of observation data and climate change forecast provided timely information services to the academia and ministries in terms of research data and adjustment strategies.

(2) Information application explanations:

The Workshop for Instruction in Taiwan Climate Change Scientific Report was held on 25 October 2012, to demonstrate the characteristics of climate data and restrictions of application to members of the CPAMI's National Climate Change Adjustment Policy Guidelines and Action Plan, and Local Climate Change Adjustment Plan. The meeting helped promote the reaching of consensus between the central and local governments, of which adjustment strategies and actions plans were realized.

(3) Climate Change in Taiwan: Scientific Report

(Summary) : The 67-page English version of the 2011 Climate Change in Taiwan: Scientific Report publicized Taiwan's efforts on climate change research to the international community.

2. Establishing, maintaining and integrating TaiBIF and GBIF

The Biodiversity Research Center, sponsored by

the NSC and COA, established the TaiBIF, TaiBNET and TaiEOL. The objective was to gather and assimilate cross-ministerial biodiversity information; at the same time, international standards for database labeling, information communication coordination and software tools were utilized. Exchanges with GBIF, Catalogue of Life and EOL provide substantial international exchanges. Pertinent accomplishments were summarized as follows:

(1) Chairman and general affairs members of the 3rd GBIF were elected. The committee agreed to assist the Taiwan Forestry Research Institute in conducting AP-BON work, with the objective of establishing CT-BON and T-BON.



↑ Taiwan Climate Change Projection and Information Platform (TCCIP).



↑ Workshop for Instruction in Taiwan Climate Change Scientific Report.

- (2) TaiBIF is one of the national nodes of GBIF, which is responsible for promoting and integrating biodiversity information of Taiwan with the international community. After introducing Darwin core, TAPIRE and IPT, a cross-ministerial information infrastructure is complete. It integrated most of herbarium information and ecological investigation information of agencies. Currently, the TaiBIF website provides access to 18 providers, 40 information collections and 1.62 million entries.
- (3) Biota Taiwanica (<http://biota.taibif.org.tw/>) has an English version that explicates Taiwan's indigenous animals and plants. The website is developed using LifeDesks platform of EOL. Thus far, 6,961 kinds of public species information, 3,751 types of explanations and 5,236 pictures are available.
- (4) Catalog of the TaiBNET thus far included: 466 viruses, 1,440 bacteria, 6 archae, 1,361 protozoa, 1,930 chromista, 6,229 fungi, 8,335 plantae, 36,303 animalia. In total, there are 1+7 kingdoms, 59 phylum, 143 class, 668 order, 3,194 family, 18,125 genus and 56,075 effectives' species. Further, there are 64,859 alternative name entries. In effect, TaiBNET includes most of the living organisms in the Taiwan region, and more are being added continuously.



↑ TaiBIF's website, manual, and related web pages.

- (5) Erick Mata – CEO of TaiBIF and EOL – utilized opportunities at international symposiums in Taiwan to facilitate preliminary cooperative agreements. Academia Sinica and the Smithsonian Institution signed a 2-year MoU (until August 2014). The plan will continue to provide English explanations of collected organisms to EOL.
- (6) TaiBIF and Taiwan Forestry Research Institute jointly hosted 2012 Asia-Pacific Workshop on Sharing Biodiversity Information and the Integrated Publishing Toolkit (IPT2) at Jiji Endemic Species Center from 25 to 27 June 2012 to promote improvement of information sharing format and use of new information announcing platform.
- (7) The 4th GBIF Asia Node Committee Meeting was hosted from 28 to 30 June 2012. Consensus of the meeting was to compose one action plan for the entire Asian region.

2.7 | Urban and Rural Development Working Group

1. Water resource development, utilization, management and conservation (Taiwan Water Corporation)

- (1) Lowered water leakage rate and stabilized water supply plan: From 2012 to 2013, 1,216km of water pipes were replaced: in particular, 852km of those were replaced in 2012, with the remaining 364km to be replaced in 2013.
- (2) Accelerated water leakage reduction plan: Established 500 district metered network prior

to 2012; an additional 200 district metered networks to be built in 2012.

2. Sewage system development (CPAMI)

- (1) Fourth phase of Sewage system development: NT11.2 billion set aside for the project, which was handled by the CPAMI and various county and city governments.
- (2) Strengthening own sewage system technology and recycle sludge resources and volume

reduction: A Sewage Sludge Recycling Feasibility Meeting for the nation was held on 25 May 2012 on a nationwide scale; on 6 and 8th June 2012, preliminary planning was done at Tainan and Taichung City Governments. After confirmation of the aforementioned feasibilities, considerations will be taken into account in the setting up of sludge treatment plants.

3. Urban and rural sustainable development (CPAMI)

- (1) Promoted government-led urban renewal projects: From 2005 to September 2012, 206 demonstrate sites were subsidized, and preliminary invitation to bid works was formulated: early phase planning, urban change plan and urban renewal plan. Currently, 150 urban renewal demonstration sites are in progress of being developed; in particular, 12 of those sites are self-managed by pertinent agencies; 12 sites are in the bidding process; 78 sites are in the preliminary invitation to bid stage and 48 sites are still at the early planning phase.
- (2) Assisted private participation in urban renewal: To strengthen and accelerate urban renewal, the Urban Renewal Industry Action Plan (2011-2014) was proposed and approved by the Executive Yuan; the plan aims to enhance residents' willingness to participate in urban renewal through loosening of regulations, providing subsidies, lowering interest rates, providing education training and assistance from professional teams; a counseling window was established to provided consultation services of pertinent regulations; a consultation mechanism was established to provide support to applications. The EPA invited assistance from relevant agencies and local governments to form a coalition consultation working group; the group actively invite pertinent competent agencies

to assist in problem-solving and facilitate cross-ministerial coordination at various stages of the plan. This measure accelerated the urban renewal process.

- (3) Demonstration Plan of Coastal Line Remediation and Landscape Improvement: Budgets were allocated annually; competitive evaluations allowed county and city governments to conduct coastal area reduction, remediation and environmental cleaning tasks. These measures maintained the natural form of coastal lines and improved the coastal landscapes. Two hundred and twenty-four hectares and 32,000 meters of coastline environment had been improved, and nearly 3,100 meters of natural coastal line has been remediated. In 2012, 8 projects from 7 direct municipalities, county and city governments were approved and subsidized, with a total budget of NT26.5 million.
- (4) Created a natural environment for rivers (EPA, WRA): Actions began from 2012 onward to guide local governments in formulating timely management plans and systematically improve water quality of river basins. Pollution inspection control and remediation were targeted toward pollution hotspots, and invigoration of riverside environment was targeted toward river basin highlights. Weighted pass rate for dissolved oxygen concentration level of 11 key rivers (greater or equal to 2 mg/L) reached 91.5% as of October 2012.

4. Green building for eco-cities (CPAMI, ABRI)

- (1) Encouraged public green building design and improvement demonstrations: At least 15 cases of green building diagnosis and improvement evaluation services were commissioned to the general public.
- (2) NT21.95 million were allocated for the year 2012 to assist 18 direct municipalities and

county/city governments and designated competent architecture agencies to promote green buildings. As of June 2012, 240 cases of green building label and candidate building certifications were completed.

- (3) Organized on-site tour at green building demonstration venues.
- (4) Building materials mark evaluation: 94 marks were passed as of June 2012.
- (5) Organized green building renewal diagnosis and improvement plan: 36 improvement cases were organized in 2012.

5. Enhancing living environment (ABRI)

- (1) Established a real-estate information platform: Completed the construction of such a platform.
- (2) Promoted functionality evaluation mechanism for households.
- (3) Promoted barrier-free household evaluation: 91 congregate housing projects signed up for the event.
- (4) Organized earthquake-resistant building mark evaluation: There were 23 consultation cases, of which 8 cases were first-time applicants.

2.8 | Health and Welfare Working Group

1. Protection for the weak and actualizing welfare measures (MOI)

- (1) From 1 January 2012 onward, NT2,500 to 5,000 subsidies were provided to parents looking after toddlers (less than 2-years-old) on their own, with approximately 142,000

people benefiting from this measure. Annuity payments and basic guaranteed amount for the elderly was adjusted to NT3,500. Annuity payments and basic guaranteed amount for the disabled was adjusted to NT4,700.

- (2) Promoted Pilot Plan for Enhancing Child



📍 2012 Cross-Strait Conference on Cancer Prevention and Control.

Protection Alert Quality, and developed appropriate manuals for domestic alert personnel; child protection structure strategic model evaluation tool pilot plan introduced structured decision making (SDM) model common in children protection system in countries such as the US and Australia. The model aimed to establish a standardized, structured decision-making strategic model to ensure that qualities of social workers for children reached a certain level.

- (3) Ten Year Hospice Plan began on 1 April 2008 and had looked after 100,000 elderly as of October 2012. The plan cared for more than 25% of all disabled elderly, a significant increase from the 2.3% figure in 2009.
- (4) The National Immigration Agency established the automated immigration clearance system (e-Gate), effective from 1 January 2012 onward. On 3 October, the US declared visa-free for Taiwanese passports, and e-Gates were established at airports and harbors, strengthening international anti-terrorism and preventions of forged passports.

2. Comprehensive medical services and system (DOH)

- (1) PCV vaccines were provided for children aged 5 and below of middle and low-income families, thereby lowering any serious complications if contaminated with pneumococcal conjugate and enhancing the children's immune system; second dose of MMR vaccine and Tdap-IPV vaccine were administered to new elementary school students in September 2012 at various health clinics or affiliated hospitals; health insurance cards are fully accessible for a year for all pregnant women to ensure their health.
- (2) Encouraged the establishment of critical or major illness care centers at remote hospitals. Planning was done on a county-by-county basis, with considerations for the people's requirements for special treatment – development was focused on external injury, cardiovascular, illnesses stroke, perinatology, emergency and child care. As of 2012, 24 care centers in 17 hospitals were approved and aided.
- (3) Screening services for 3.696 million people were provided from January to September 2012, and 31,000 cases of pre-cancer mutations or cancers (carcinoma in situ) were discovered.
- (4) Jointly organized the 20th International Conference on Health Promoting Hospitals and Health Services with WHO Collaborating Centre for Health Promotion in Hospitals and Health Care; the conference broke three records for the sessions it held outside of Europe: most countries (45), most participants (1370) and most published theses (744).
- (5) Organized the 2012 APEC Asia-Pacific Conference on Age-friendly Cities and Age-friendly Economy, which discussed topics such as: age-friendly cities and age-friendly economics, age-friendly health care and age-friendly society. Three hundred participants attended the 2012 Cross-Strait Cancer Prevention Symposium.
- (6) The Bureau of Health Promotion was invited to participate in the 2012 CleanMed Europe (held in Malmo, Sweden from 26 to 28 September 2012) - Sustainability reporting and responsibility in healthcare session, to share Taiwan's energy conservation and carbon reduction efforts in hospitals: Director Shu-Ti Chiu traveled to Hong Kong to participate in the Feeding the World The nine billion-people question Summit organized by the Economist Group and acted as an introductory spokesperson for the health & nutrition discussion: Asia's double burden session. Director Chiu shared our nation's National Health and Weight Management Plan, as well as the plans and accomplishments of

combating non-communicable diseases (NCD).

3. Continue promoting excellent agricultural products (COA)

- (1) In 2012, vegetables deemed competitive abroad were subsidized, and 9 lots spanning 4,800 hectares were set aside for carrots, edamame, iceberg lettuce, brassica oleracea and broccoli; contract-based farming was introduced, safety management implemented, use of pesticides was counseled, inspection of insecticide residue and education training were provided to empower foreign marketing abilities.
- (2) Counseled national farming associations and established 76 hectares of greenhouse agriculture; continue to promote CAS certification. As of September 2012, CAS fruits spanned 24,712 hectares and produced a value of NT\$11.12 billion.
- (3) Assisted in the planting of orchidaceous and flowers in 21 lots spanning 492 hectares, creating an industry agglomeration and introducing energy conservation, environmental consciousness, ideas and

techniques of automation, thereby improving production facilities, efficiency and saving energy. Counseled the establishment of 37 rice production areas, and through a two-year contract-based farming, 15,772 hectares were dedicated to the planting of rice.

4. Environmental quality management and supervision (EPA)

- (1) Completed Manual of Inspection Results for Toxic Chemical Substance Distribution in the Environment.
- (2) 2012 dioxin environmental monitoring: the average concentration of 0.034 pg I-TEQ/ m³ was significantly lower than the 0.089 pg I-TEQ/ m level in 2002 and 2003, and lower than the standard dioxin level of 0.6 pg I-TEQ/m³ in Japan.
- (3) Completed random inspection for electromagnetic waves (EMW) at 200 sites in 2012, including extremely low voltage transformers, high voltage towers, broadcast stations and transmission bases, and the results were available to the public in collaboration with the GIS.

2.9 | Education and Promotion Working Group

1. Improving knowledge and understanding of sustainable development and environmental consciousness of the general public

- (1) Developed related courses and plans for different levels of education, such as:
 - A. Established an information platform to encourage schools to share their achievements with other schools and the general public regarding the education of environmental protection efforts and work results; 6,269 entries were submitted in 2012.
 - B. Invitation to bid and assisted 61 cases

- of promoting environmental education. Further, the Situational Learning Center: Outdoor Learning Promotion Plan advocated 25 such learning environments.
- C. Opened 19 CSR courses in 9 schools for the second semester of the academic year 2011, with 764 students attending such courses.
- D. Organized incentive inspection visits for community colleges in 2012; Modern Citizen Cultivation Course – Sustainable Environment Education was adopted as the basis for incentive.



↑ 2013 Consequence Event of Environmental Education Counseling Plan.

- (2) WRA utilized various sources of media and distribution channels to educate the public about the theme of sustainable development. A book was published and a 3D promotional film "2884 mm" was produced to increase awareness of the destructive impact that Typhoon Morakot had on the environment.

- (3) The Environmental Protection Administration:

A. Counseled direct municipalities, county and city governments in promoting a low-carbon community:

- i. Completed energy diagnosis for 52 demonstration communities, organized low-carbon community establishment meetings; these communities were visited respectively to explain the results of diagnosis and corresponding improvement measures.
- ii. NT40,000 were invested to upgrade lighting facilities and simplify greenification in communities.

B. Encouraged all spheres to apply for environmental education certification:

15 environmental education facilities, 4 environmental education facilities and 405 environmental education personnel were

devoted to environmental education after having been certified by the EPA.

- (4) 2012 NSC subsidized science education and publications:

- A. Popular science activities: 36 cases were assisted.
- B. Popular science lectures: 13 themes regarding green energy were organized, with 2,647 people participating in the events.
- C. Popular science New Knowledge Gazette: 14 articles related to sustainable development, ecology and climate change.
- D. Monthly publication of Science Development (published March 2012) focused on the theme of ocean energy, hoping to attract the public's attention on such sustainable topic.
- E. Knowledge website: popular science seminars were included on NSC's Sci-Tech Vista website. As of 26 October 2012, 88 related videos were collected, with 21,577 hits in viewership.

- (5) The MOEAIDB organized two explanatory meetings for CSR reports and two CSR

symposiums for mid- and high-level managers in 2012. Four hundred and ninety-four people participated in the event, and CSR report consultation and distance analysis for 23 corporations were supported.

- (6) Six key themes underlay Bureau of Energy's energy conservation measures: five 4-6 minutes promotional videos were produced and distributed through various channels: a 30-second promotional video was produced during the peak of electricity use in summer.
- (7) The Ministry of the Interior: Assisted private organizations in hosting colleges for the elderly, promoting the elderly's participation in society and guaranteeing their opportunity in gaining knowledge on sustainable development; developed evaluation manual on ecological community as reference for future promotion of ecological community; organized plans for community planners to stay and assist.

2. Integrating resources from the government, the general public, corporations and schools to further sustainable development

(1) The Ministry of Education

A. Assisted counties and cities in organizing



↑ Ecological Workshop for Community Opinion Leaders.



↑ 2012 Workshop for the Global Seiaenidae Conservation Network.

Environmental Education Counseling Work Group, encouraging resource integration across county/city governments, and formulating plans and strategies for environmental education of international and domestic scope.

- B. Thirty-four schools replaced old electrical facilities with energy-saving ones and through such upgrades, the objectives of a achieving sustainable environment and secure campus is achieved.
- C. Since the 2010 academic year, contents for higher education included the following: (1) knowledge and understanding of national sustainable development; (2) related knowledge on global warming and climate change; (3) enhanced public participation to improve citizen awareness of the environment; (4) promoted diversified education to forge national unity among various ethnic groups, facilitated respect and care for the welfare of the disadvantaged, lowered conflict and depletion of cultural resources of minority groups.

(2) Bureau of Energy: Training of energy volunteers and energy conservation activities impacted 34,028 people; collaborated with the National Science and Technology Museum to conduct aforementioned activities; completed cloud resource network for the energy volunteers.

➡ A family of four generations gave the performance with aboriginal song and dance.



3. Strengthening social education centers and promoting sustainability and environmental protection

- (1) The MOE produced sustainable campus promotional video that encompassed four themes: water resources, energy conservation and carbon reduction, environmental sustainability and health efficiency; respective social education centers displayed various exhibits, displays and educational activities, which attracted 450,000 visits; the National Museum of Marine Biology and Aquarium established a Marine Education Learning Center.
- (2) WRA: Central Region Water Resources Office established a water resource center at Jiji Weir and continued water environment education and conservation work.



↑ Event held for implementing Environmental Education Act one year.

- (3) EPA organized water environment education and conservation symposium: Water environmental patrols took up alternative role as promoters of water environment education, collaborating with communities and schools.
- (4) NSC assisted the production of various science related television shows that covered themes related to the environment and sustainability, using media to popularize science; in 2012, television broadcast included new themes such as renewable energy, green buildings and ecological conservation. Television rating points registered 0.46 at its peak, and an estimated 7.4 million views were registered.

4. Promoting related research and international cooperation on education of sustainable development

- (1) The MOE assisted the Chinese Society for Environmental Education in organizing international symposiums on environmental education and sustainable development; river ecology classrooms were established at Tamsui River, Xinhwei River and Erren River out of the country's 11 main rivers, in accordance with principles of natural ecological conservation and environmental education promotion.
- (2) NSC assisted 15 sustainable development related projects in 2012.

Evaluation of Taiwan's Sustainability Indicators in 2011

3.1 | Summary of Taiwan's Sustainable Development Indicators

Sustainable development is a fundamental national policy and a common goal pursued by nations worldwide. To establish an objective evaluation of the nation's sustainable development progress, in 2002 the NCSD referenced the first edition of the Sustainable Development Indicator (SDI) system announced by the United Nations (UN) in 1996 as a framework to develop the Taiwan's own sustainability indicators. The nation's SDI system was established in May 2003 and the computational results are posted annually on the NCSD website as a reference for all parties.

To keep in step with the latest international

sustainable development trends, a consensus was made at the NCSD 25th Working Meeting in December 2008 to reference the framework of the UN's third edition of the SDI system announced in October 2007, along with other relevant international SDIs. Drafting of the nation's second edition of the SDI system began in January 2009 and was approved during discussions at the 29th Working Meeting on December 31 of that same year. The NCSD's 2nd SDI system includes 12 themes, 41 sub-themes, and 86 indicators, which is considerably more encompassing than the 1st edition. The themes and corresponding indicators

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National Council for Sustainable Development Network

中文 | EN

選單

- 本會介紹
- 本會相關會議決議
- 永續發展指標
- 本會工作分組業務
- 國家永續發展獎
- 國家永續發展年報
- 永續發展政策綱領
- 永續發展行動計畫
- 本會完成文件
- 其他成果
- 永續發展小百科
- 文章發表
- 國內外永續發展新聞
- 意見信箱
- 回首頁

永續發展指標系統年度評量結果

2011年 2010年 2009年 2008年 2007年

2006年 2005年 2004年 2003年



↑ Taiwan Individual SDI Information Management System.

are as follows:

1. Environment (12 indicators):

PSI (pollution standards index), air pollutant concentrations, water reservoir quality, marine environment quality and marine environmental water quality, ratio of rivers suffering minor pollution, biochemical oxygen demand (BOD) concentration, garbage recycling rate, daily per capita garbage volume, environmental impact assessments (EIA) approval rate, number of publicly announced toxic substances placed under monitoring, ratio of environmental and ecological budget by the central government, and financial measures in promoting pollution prevention and recycling.

2. Energy Conservation and Carbon Reduction (8 indicators):

Per capita CO₂ emissions due to fuel combustion, annual increase of CO₂ emissions due to fuel combustion, daily per capita power consumption, energy concentration, ratio of resource-consumption based industries to manufacturing industry, percentage volume of renewable energy, energy conserved due to green buildings, and bicycle path length per 10,000 people.

3. National Land Resources (11 indicators):

Slope variation ratio, subsidence land ratio, developed land ratio, forest coverage area, natural coast ratio, natural coastline loss ratio, effective

water resources, ratio of water usage to production value of the manufacturing industry, underground water recharge volume (tonnes), total national land area with betel nut plantations, planting betel nuts, and human casualties and economic loss due to natural disasters.

4. Biodiversity (6 indicators):

Genetic resources and species preservation of biodiversity, change in specific wild life population, land area covered by specific exotic plants, populations of specific exotic invasive species, eco sensitive area, ratio of protected area to total land area, and marine protection area.

5. Production (13 indicators):

Reuse rate of industrial waste, reuse rate of toxic industrial waste, reduction rate of low-radioactive solid waste, ratio of cultivated land, area of organic cultivation, fertilizer usage rate per hectare of farmland, pesticide usage rate per hectare of farmland, labor production and unit production cost, ratio of females receiving salary in non-agricultural sectors, per capita GDP, ratio of gross domestic capital formation to GDP, annual increase in consumer price index (CPI), and ratio of all levels of government borrowing above 1 year with outstanding non self-liquidating debt to GNP.

6. Livelihood (10 indicators):

Percentage of population with access to suitable

drinking water, sewage treatment rate, daily per capita water consumption, number of times public transport journeys, domestic energy consumption by transport sector, number of tourist visits in Taiwan, road casualties every 10,000 vehicles, road maintenance efficiency, total green procurement of public and private sectors, and number of green marks awarded.

7. Technology (3 indicators):

Percentage of GDP spent on domestic R&D, ratio of internet users, and number of people using handphones for every 100 people.

8. Urban and Rural Culture (4 indicators):

Preservation of ancient monuments and sites, number of villages in compliance with SDI, expansion rate of urban areas, and green area per capita.

9. Health (8 indicators):

Percentage of population with access to basic health care infrastructure, infection controls and

immunization measures for children's diseases, usage rate of preventive health insurance by those 65 and above, standardized cancer mortality rate, infection rate of contagious disease, smoking rate of those above 18, betel nut use rate of those above 18, and children's nutritional health.

10. Welfare (6 indicators):

Ratio of low-income families, accommodation rate, average family income and expenditure per household by five equal divisions of households according to disposable income, National Pension Plan coverage ratio, elderly participation in society, and suicide rate.

11. Administration (3 indicators):

Crime rate, dropout students, and adult education participation ratio.

12. Participation (2 indicators):

Official Development Assistance (ODA) ratio and community-based participation of social welfare.

3.2 | Evaluation of 2011 Sustainable Development Indicators

To evaluate the results of the 2011 sustainable development indicators (SDI), the NCSD Secretariat requested the competent authorities for each indicator to fill in and submit year-end data and information via the online NCSD indicator information system, starting in August 2012. The Secretariat completed the preliminary draft of the evaluation results at the end of October, and on November 28 invited competent authorities for the indicators and NCSD civic members to convene the 2011 Sustainable Development Indicator Advisory Meeting. At the meeting, the year-end data was further analyzed and reviewed, with the Secretariat subsequently

compiling this data and publishing the final 2011 Sustainable Development Indicator Evaluation Results at the end of December 2012 on the NCSD website, making this information available to the general public.



📍 Sustainable Development Indicator Advisory Meeting.

2012 National Sustainable Development Award Recipients

The 2012 National Sustainable Development Award preliminary selection and reassessment tasks for the four categories began in August 2012. Reassessment for each category was

completed on October 3, and a runoff selection meeting was convened on October 11. Twelve winners were chosen among the four categories with an introduction of each provided below:

Education Sustainable Development

Longdu Elementary School of Meinong District, Kaohsiung City

Longdu Elementary School is located in a cove at the foot of the Meinong Tea Hills and though it is a remote, rural agricultural area, people have lived there since ancient times. The school was established in 1920 and in the early days roughly three hectares of land were devoted to practical farm training with a flourishing natural ecosystem. On the school grounds, elegant baroque style architecture stands amidst lush forests, dark green grasslands, and the perpetual sounds of insects and birds.

On one side, there is history and culture, and on the other, a natural environment with natural materials for children to learn everywhere, a true ecological showcase.

The Longdu team coordinated with the National Education Policy, integrating local industry and Hakka culture in striving towards Cultivating Hakka Farming-Reading Culture and Building an Eco-School for future development with Hakka farming-reading culture at its core, life education at its foundation, and environmental





↑ Passing through the ecological corridor welcoming new students' Hakka-style.



↑ Food and agriculture experience, the scent of learning and vegetables-lunch is in the bag!!



↑ Visiting and reading local Hakka literature onsite-the Chung li-ho Memorial.

education for protection and sustainability. A multi-faceted learning experience is created that applies cognitive psychology and encourages awareness of the five senses to elevate children's learning achievement and competitiveness. Maximizing learning potential/ achieving peak performance through firsthand experience, broadening world perspectives through reading, learning about the knowledge of ancestors/ earlier generations through daily living, and cherishing ecological resources through interaction with the environment, to build an "ecological, humanitarian, innovative, and sustainable" LOHAS paradise that fulfills and enriches the children's lives through experience and fosters livelihood through learning.

Dialogue-based/Interactive environmental policy for an innovative environmental curriculum

Parents, teachers, and students get together with others in the community to discuss and seek a consensus from the bottom up, formulating mid- to long-term local sustainable environment plans based on the school's unique locality, culture, and ecological environment that uses environmental improvement as a teaching tool/ focus/approach to build a beautiful ecological

environment. Spatial aesthetics are created through the use of natural construction, artistic spaces, and the expression of time through space. The construction process provides students a chance to participate in artistic design simultaneously combining both a barrier-free learning environment and caring for every disadvantaged student.

Water ditches and rural industries were integrated to promote children's food and agriculture experiential learning courses, arousing the senses of students through experiential learning and creating an organic LOHAS garden. Also, ecological long-distance walking paths were made to help explore the local geography and history. To commemorate the green campus anniversary and carbon reduction sporting event, each year new students and alumni plant a memorial tree either on campus or in the community. Every Friday a facilitator oversees the environmental education curriculum for the entire school, including classes on life education, climate change, nature conservation, and ecological reading, elevating the environmental education knowledge and abilities of students and teachers and building an environmentally sustainable campus. A multi-faceted and innovative teaching activity is also organized—



📍 Farming-reading youth enjoying a plentiful harvest-ready to go!

the "Reading a thousand books and walking a thousand miles" course, or a graduation trip to an uninhabited island of the Penghu Archipelago to experience life with just a bottle of water.

Practicing environmental protection in daily life through community participation and concern for humanities

Students collect fallen leaves, fruit peels, and kitchen waste to make organic compost that is used to improve the soil quality on campus. Monday of each week is designated as Organic Vegetarian Day, serving vegetarian lunch using the rice and vegetables grown by the children in hopes of achieving food self-sufficiency on campus. Students are also encouraged to walk or ride bicycles to and from school and to drink plain tap water, thus staying fit and reducing carbon emissions, and a family accountability system has been initiated encouraging mixed-age group teams to participate in cleaning up the environment.

To carry out the Longdu 3311 Movement, 30

minutes each day is set aside for reading and exercising respectively, either a chore at home or a positive activity in general must be completed everyday, and speaking the Hakka language daily is mandatory. An ecological culture camp is also organized allowing children to take a closer look at the ecology and culture of their homeland, providing a truly localized education. For the semester finals, community outreach fieldtrips are organized taking the children to community nursing homes where they give singing performances and comfort the elderly. This is an educational movement that upholds the unique local qualities, participates in community green environmental protection activities, and advances domestic and international cultural exchanges.

Significant environmental and ecological improvement: breaking down walls for a transparent and open campus that is community-based and a community that is campus-based. Green building concepts and ecological engineering methods have been implemented, resulting in the entire school's water permeation of 80% and the ratio of green cover of over 75% a barrier-free learning environment. Cross-industry and NGO resources have been introduced working together to sponsor environmentally-themed activities, such as participation in the Yellow Butterfly Festival, and cooperation with the Agriculture and Food Agency resulting in the design of an experiential farming course. A broad diversity of flora have been planted to create a multi-tiered ecological environment that fosters an increasing abundance of species. The biological record of protected species now contains 38 bird species, 11 frog species, 31 butterfly species, and 16 species of reptile. In 2011, the school received the Environmental Protection Administration Environmental Protection School Excellence Award, and also was selected by the Ministry of Education as the 2011 Elementary and Middle School Integrated

Spatial Resources and Development School of Distinction.

Overwhelming affirmation of curriculum and instructional methods: To promote their special farming-reading course, a documentary about rice entitled "Rice, Rice" was made. This film won the 2007 Public Television Young Director's Best Vision Award, it presented a portrait of Taiwan's education at the 2008 Australia Day celebration, and in 2009 received the Ministry of Education National Archive Specialty Education Film Award. In 2000, the school made "Duck, Duck" a film exploring the relationship between humans and other organisms, and an experiential environmental education documentary called "The 120 km Grand Cycling Tour" that won the 2000 Ministry of Education National Archive Excellent Educational Film Award. In 2009, CommonWealth Magazine covered the school in a special report—on the top 300 featured key capacity schools; in 2000, Business Week magazine featured the school in a specialty education report; in 2012, the CommonWealth Magazine Better Parenting and Educating

segment reported on the Rainbow Village Long Walk Course; and for its promotion of the farming-reading specialty course it was awarded the Ministry of Education 2011 Elementary School Promotion of Reading Achievement Excellence Bedrock Award.

Striving to actualize the native land education dream

"Life doesn't require us to be the best, just to put forth our utmost efforts." Natural ecology teaching sites surround Tea Top Mountain, sweat drips down into the rice paddy soil while the five-senses experiential learning and the farming-reading culture of Hakka ancestors is passed down devoted to bringing the traditional songs of the native land back to life. Cultural heritage is being passed down from the school into the community nurturing a harmonious synthesis of growth in both the children and the land below Tea Top Mountain. This is an organic campus that breathes—an ecological elementary school below Tea Top Mountain opening up infinite hope for life.

Changkeng Elementary School of Bali District, New Taipei City

Changkeng Elementary is located in the Bali District in New Taipei City bordering the Tamsui River Estuary along the coast of northern Taiwan. The area is home to thirteen cultural heritage environments and ecological and humanities sustainable seedlings. For over 40 years, the school has been an educational partner, passing the tradition down one after another, with parents, teachers, and students alike conglomerating resources of the school, families, and community, hand-in-hand searching for their roots, development, and excellence. In recent years, the school has received the New Taipei City 2011 Annual Low Carbon School Certification—the Silver Goose-level Mark; in

2011, it also received an Honor of Excellence Award from participation in the Greater Asian Green Alliance Waterways and Urban Ecological Innovative Remodeling Award "Rainwater Recycling—Innovative Home Remodeling" Contest; it won the 2012 Annual Public Toilet Merit of Excellence; and it won 2nd Place in the 2008 Annual National All-Level Schools Energy-Saving Electricity Use Competition.

Locals and school joining hands to manifest unique local characteristics

"Bamboo whistles in the breeze and butterflies leave traces in the fragrance of pomelo scent" is readily envisioned from the vantage along both



↑ Parents and volunteers help build the butterfly corridor.



↑ The school's green roof and solar power electricity generating installations.

sides of the grandstand. Bali is well known for its bamboo shoots and pomelo fruit and the friendly nature of its people. The school has integrated the resources of the Department of Education and Environmental Protection Bureau, coupled with district offices and parents going all out while guided by sustainable ecology concepts to gradually complete various projects on campus, such as overall greening, hedgerows, ecological corridors, aquatic education garden, multi-level hedgerow enclosures, thin-layered green roof, a butterfly ecological corridor, paradise reading area, frog family water-saving hand washing basin, energy-saving toilets, sustainable energy systems (solar power and wind generators), and accessing mountain spring water for use on campus.

Surrounded by green hills, clean fresh air, and the joy of students, the campus ecosystem is home to the sounds of insects and birds, and the

fluttering rainbow brilliance of butterflies, etc. The developments on this campus are inspiring, and it's hard for anyone not to feel relaxed and happy there. The renovations transformed the traditional campus environment and facilities in line with the various green building indicators of being green, ecological, environmentally friendly, healthy, energy-saving, and resource-saving.

The development of local courses integrated within the community utilizes the unique resources of the school and community to provide a quality and fulfilling ecological education environment. The unique local characteristics of the school and community were developed to achieve the goal of making the environment the teaching material, the environment a curriculum, and a curriculum the environment. The school also shares its special curriculum with other schools as well as its model of school serving as a catalyst in leading the way for community environmental consciousness: utilizing community services to expand learning venues and integrating the teachings of various disciplines to advance environmental education.

The school environment and community share diverse and unique resources and has a complete selection of educational resources including a flourishing ecology of the surrounding natural environment and close proximity to the Bali Sustainable Development Environmental Education Center and Shihsanhang Museum of Archaeology. An incineration plant, power plant, and sewage treatment plant provide practical operations related to sustainable environment that can enhance students' capacity to establish excellent learning base. A sustainable campus environment and green partner schools provide sufficient conditions for building a diverse and quality learning and development environment. Changkeng's big family has established this foundation and drafted a sustainable development education plan incorporating the following goals:

Combine sustainable environment and generational justice educational course activity planning.

Comprehensively elevate students' learning achievement involving sustainable knowledge, attitudes, and skills.

Have school development and construction initiatives take into consideration sustainable environmental load and educational implications.

Encourage community concern for their daily living environment and the desire and devotion to participate in protection efforts.

Creating a green campus and practicing sustainability in daily activities

Synthesizing sustainable development, the transmission of local cultural traditions, the spirit of the school's curriculum, thorough implementation of environmental education, building an environmental protection pollution-

free green campus (green campus ecological planting, buildings, landscape, etc.), applying sustainable concepts into daily activities (the 3R's consisting of resource recycling and reuse, and energy saving and carbon reduction habits) and enabling sustainable concept educational activities to gradually take root and develop. Provide children with a sufficient learning environment to grow happily; and establish green energy and low carbon sustainability, innovative technological capacity, and a healthy, vibrant international quality school transforming vision into action to give children the capacity to shape their future.

Just as the principal of Changkeng Elementary School said: "We are all passengers on the sustainable spacecraft Earth, and the present period of our voyage marks a time of unprecedented resource consumption." The responsibility of education begins in the schools and requires the common consensus, planning, and methodology of all the school's teachers and students, and this process has further solidified convictions. In coordination with the



⬆ Integrating unique features of the community—experiencing pomelo harvesting.



➤ Growing up together—cultivating Antrodia activities.



➤ Energy-saving eco toilets.

Nine Year Integrated Curriculum implementation and in line with campus environment reforms, Changkeng's has created its own learning environment and teaching materials to establish an ecologically friendly and practicable environmental education model for the entire community and society.

The fact that the school was asked to participate as a member of this year's selection committee to offer its guidance and suggestions indicates the high regard for the

school's advanced degree of development and achievements. In the future, the school will continue with its philosophy of using nature as teacher, learning from the Earth, and encouraging parents, teachers, and students to work together hand-in-hand to build a sustainable development campus garden that allows Changkeng to perpetuate the arduous efforts of predecessors and continue to work for the cause of good in a pleasant environment and get the job done the right way.

Hsingchung Elementary School, Chiayi County

Hsingchung Elementary School of Chiayi County was founded nearly a century ago as a "big school in the small countryside". In efforts to create a "Hsingchung Centennial Sustainable Well-being" campus while simultaneously echoing Chiayi County's core development "Garden City" policy measures, the school hopes to use the "1/3 environment + 1/3 industry + 1/3 culture = Chiayi County Garden City" concept to create the three vital elements of a vibrant community—livelihood, production, and ecology.

Scholarly, Healthy, and Uprstanding Character vision on educating students

Since the beginning of the 2008 academic year, Hsingchung Elementary School has

promoted the Scholarly, Healthy, and Uprstanding Character educational development vision believing that all children at Hsingchung can build a scholarly foundation for healthy development, and at the same time cultivate an upstanding character of "gratitude towards others, devotion to deeds, cherishing the surroundings, and exercising restraint on oneself".

Striving to nurture "love of family, school, and community", in recent years Hsingchung has more energetically developed the school, community, and homeland as the heart of the school's curriculum and utilized local teaching materials. Community elders have been invited to serve as instructors and the community environment as teaching materials. Putting the ideals of a community based school and

a school based community into practice, and gradually taking steps towards establishing its own teaching materials and instilling students with the sustainable values of loving their family, community, and resources.

For course instruction, aside from actively implementing environmental protection and energy saving and carbon reduction into daily life teaching activity coursework, the school's Magic of Life Math Teacher teaching team combines community resources, campus scenic spots, and the ecological environment with elements of mathematics developing a series of math courses called Numbers Fun Hsingchung. Through the process of playing with math, talking about math, and learning to love math, the students also experience the importance of a balanced development encompassing humanities and natural ecology.

For campus sustainable construction improvement projects, the school energetically seeks funding for building the campus environment and encourages community participation. These communal efforts advance the people's conception of sustainable development and make it possible to create a

compatible and friendly school and community using energy-saving, sustainable, and natural building materials. This has enabled the school to really become the ecological and environmental education center in the community and locality.

Assisting disadvantaged students actively enter society

Hsingchung Elementary School also faces the same challenges as other elementary and middle schools in remote rural disadvantaged townships—an aging society, low birth rates, disadvantaging trend, diversification, etc. These development trends have left remote rural disadvantaged townships with limited resources and placed further challenges and complications on school education and teaching venues.

Therefore, to support the disadvantaged and address community humanities concerns, Hsingchung has actively organized various disadvantaged student assistance and remedial teaching programs, and has also made its way into the community launching a Night Illumination Angel and LOHAS Silver-Haired Senior Citizens educational activities. By reaching out and planting roots in the community, it is hoped

that this will bring the community to the forefront of education efforts, and by opening up diversified educational assistance resources, it hopes to utilize the strength of the entire community to provide better care for each child.

Hsingchung upholds high expectations and intends to take one step at a time to achieve the following goals:



➡ Measure the pool bed for yourself, one step at a time, to see how big it is.



↑ A green hedgerow improving the community environment and bringing people closer together.



↑ Holding an environmental protection clean street advocacy parade in efforts to expand environmental awareness throughout the community.



↑ Integrating old trees to form a sundial, fusing mathematical elements into the campus attractions.

1. Improve campus safety and establish a

humanistic campus environment: Regulate traffic movement on and outside of campus making separate lanes for pedestrians and vehicles and devising optimal traffic flow schemes to improve parking space and traffic movement.

2. Invigorate campus space by providing

teaching and speaking platforms: Build a safe, healthy, humane, green, beautiful, and teaching friendly sustainable campus environment.

3. Implement the concept of a community-based school and a school-based community:

Consolidate the integration of the school and surrounding environment to create a transparent and safe campus and extend the campus green landscape into the community to build a natural and friendly community environment that puts the community-based school concept into practice. Also, implement a curriculum that integrates sustainable green campus and related supporting coursework which will give teachers, students, and parents the chance to get involved in making green environmental protection a reality.

4. Activate a professional learning community with problem-solving at the core and learning-by-doing as the strategy:

Establish professional learning communities, develop related teaching activities, and build a communications platform free of temporal

or spatial limitations that provides teachers and students with online multimedia learning instructional tools to learn about astronomical constellations, natural ecology, and other science topics.

5. Care for the disadvantaged through innovative and diverse learning assistance mechanisms:

Integrate community assistance and academic resources to actively open disadvantaged auxiliary course activities, providing students with diverse opportunities and creating a variety of educational possibilities. By tapping into these diverse auxiliary course activities resources, it is hoped that the power of the entire community can come together and take good care of every child.

Ongoing efforts over the years by the school's teachers and students have resulted in receiving the Ministry of Education Specialty School Excellence Award three consecutive years (2010,



↑ Recycled hand-washing-basin water resources forms an ecological irrigation ditch on the campus grounds.

2011, and 2012). However, Hsingchung hasn't rested on its laurels, instead it has continued implementing Chiayi County's Garden City development vision and driven by interdisciplinary cooperation at the heart of the "Hsingchung Centennial Sustainable Well-being" the school continues to develop its own curriculum featuring Hsingchung's distinct local qualities.

Education is the school's relentlessly enduring lifeline and the catalyst that propels it in search of all possibilities and resources to confront difficulties and challenges. Education and its responsibility for providing guidance to children and adults is a work of immense magnitude and little by little, bit by bit touches the daily lives of everyone in the community.

Sustainable Enterprise Award

Pegatron Technology Co., Ltd

Pegatron Technology Co., Ltd. was founded on 1 January 2008 with extensive experience in product development and vertically integrated manufacturing capabilities. It is committed to providing customers with products ranging from cutting-edge innovation designs to systematized production and manufacturing services, comprehensively and effectively satisfying all of their customers' needs. Globalization has made regional barriers obsolete, and the expansion of manufacturing centers and operational bases across the globe provides the fastest, most effective, and most efficient services.

Besides, each of its production plants receiving approval of certification for various corporate social responsibility and environmental protection efforts in its early stages, such as ISO 14001, OHSAS 18000, and QC 080000. It has established an in-house Corporate Social Responsibility Steering Committee, and since its establishment it holds regular bimonthly meetings to advance corporate social responsibility and environmental protection related activities. Simultaneously, it also joined the Electronic Industry Citizenship Coalition (EICC) echoing its promotion of corporate social responsibility activities.

Pegatron's sustainable development performances are classified into four sections/aspects/levels with an introduction provided below:



Design and R&D from diversified development and cross-industry alliances strengthening and exhibiting Taiwan's spirit through quality daily living products.

1. Environmental Level

● Assessing the environmental impact of electronic products:

In 2009, the company became the first to formulate classification regulations for notebook computer product categories, assisted customers gain approval of third category environmental declaration certification, assisted customers become the first to gain approval of the notebook computer product PAS 2050 carbon footprint certification, conducted water footprint studies, and conducted periodic surveys of greenhouse gas emissions for several designated first-tier suppliers.

● Minimize climate change—formulates the 536 energy-saving plan:

The chairman of Pegatron personally

announced the launch of the 536 energy-saving plan, which puts energy-saving and carbon reduction concepts into effect; and since 2009 up to the present, the annual energy saving target of 3% has been achieved. (The 536 Energy-Saving Plan stipulates that within a five-year period starting from 2010 annual energy saving of 3% or above and a total energy-saving amount of at least NT\$600 million must be achieved.)

● **Renewable resources—Mona Lisa portrait:**

Considering both the rational and emotional aspects, this rendition of Leonardo da Vinci's Mona Lisa embodies the archetype of remarkable accomplishments in the arts and sciences. It contains nearly 1,500 pieces of waste motherboard that was cut, selected, and arranged to recreate a Mona Lisa portrait and give waste recycling and renewal an aesthetic touch.

2. Operation Level

● **Continued increases for consolidated revenues and annual revenue growth rates:**

Pegatron is dedicated to the development of this industry and has witnessed consolidated revenues grow from NT\$513.3 billion in 2008 to NT\$599.9 billion in 2011. The first half of 2012 has seen even more substantial growth with consolidated revenues of NT\$391.1 billion, a growth rate increase of 63% compared to the same period in 2011.

● **Happiness at Work and Well-being**

in Life—Pegatron employees are the most cherished resource:

In salary and bonuses, vacation time, welfare benefits, employee health and recreation, group activities, employee contests, and a safe environment, Pegatron strives to cover 100% of employee needs and concerns. To this end, it has contracted a five-star fitness



↑ Renewable resources re-creating the Mona Lisa.

and recreation center giving employees free access with their employee IDs, while family and friends of employees can also use these facilities for free on holidays. Regarding labor safety and health in the work environment, the company not only complies with but is dedicated to exceeding regulatory standards to ensure employee comfort and safety, and in 2011, its efforts were acknowledged when it received the Taipei City Labor Safety and Health Award.

● **Giving back to the local community by improving the environmental quality of life:**

Pegatron is actively engaged in giving back by serving the needs of neighboring organizations and schools in the local community, such as



↑ Dawn rays × Pegatron Design = Boundless Dreams Activity.

donating funds and providing resources. It has made donations to the Guandu Elementary/Middle School education savings account and Taoyuan Elementary School, provided evening meals for needy students at Taoyuan Middle School (supplied by the Pegatron employee cafeteria), and donated items such as clothing etc. for the elderly at Changching Senior Citizens Joy of Aging Foundation. Pegatron has cooperated with Chiayi Christian Teacher's Hospital to hold charitable events (Dawn rays × Pegatron Design = Boundless Dreams Activity), donated the company's foldable lamps as raffle donation prizes, and invites hospitals staff and students to head up north to participate in Pegatron's Summer and Fall Family Day events.

3. Technical Level

● Winner of international awards for innovative designs:

Pegatron's designs have received numerous acclaims from Germany's iF design awards, and in 2011 alone the enterprise received four design awards, including the Package Design Award, Communication Design Award, and Materials Design Award. Environmentally friendly products are at the heart of Pegatron's product R&D efforts, and this is evident from winning Germany's iF design awards Materials Design Award three consecutive years in a row—



➡ Caring for disadvantaged groups—R&D of braille learning device.

bamboo laptop and acetate fiberboard laptop (2009), PLA + Recycled PC innovative laptop materials (2010), and Paper Polypropylene Alloy (2011).

● Design and R&D from diversified development and cross-industry alliances strengthening and exhibiting Taiwan's spirit through quality living products:

In collaboration with Eslite Bookstore, Pegatron launched a series entitled Taiwan Design, Taiwan Manufactured, and Taiwan Brands with the spirit of Taiwan as the central theme, and an emphasis on natural materials combined with the ultimate integration of craftsmanship and art—PEGA CASA RENAISSANCE quality living products.

4. Sustainable Development Innovation Level

● Caring for disadvantaged groups—R&D on braille learning device:

In 2012, Pegatron independently completed development of an entirely new product—a Braille learning device, designed to help blind



➡ Advancing employee safety—petitioning for pedestrian lanes.

➡ Pegatron Chairman and General Manager participate in Fall Family Day Activity

children learn how to spell simply and easily at home on their own and thus advancing their progress towards social adaptability.

Happiness at Work and Well-being in Life is Pegatron's operational concept and it hopes that all employees will take great pride in their work and through the challenges faced on the job inspire them to actualize each individual's potential, continuously striving to surpass themselves in the pursuit of superior performances. Simultaneously, by building close, cooperative and supportive relationships

among work team members, employees genuinely enjoy and value their endeavors and create exceptional products that exceed customer expectations and share the fruits of success. Pegatron persistently devotes energies towards the advancement of corporate social responsibility and environmental protection activities, working to fulfill its responsibility as a corporate citizen. These efforts are helping corporations and society generate greater attention and support for corporate social responsibility related activities.

O'right International Inc.

Pioneering niche in green innovation

O'right was founded in 2002, and during that same year, General Manager (GM) Wang-Ping Ge's parents passed away due to complications of kidney disease and cancer. As a result, he vowed to help people extricate themselves from the grips of dangerous substances, such as toxic heavy metals and chemicals, and has been determined to shift the tides of the cosmetics industry towards green environmental protection development ever since.

In 2006, the brand made a commitment to green sustainable development. The "O" in O'Right symbolizes the holistic beauty of the earth hoping that everyone on the planet can manifest the "right" behavior. O'Right

propones health concerns and friendliness to the earth's environment as its mission, backed by an underlying philosophy of Nature, Purity, Environmental Protection and the unwavering vision of Greater Beauty, Greater Good. Product development is based on the cradle-to-cradle design concept, from raw materials and production to consumer use, all facets encompassing environmentally friendly principles in hopes that Green Seeds can be spread throughout the environment and one day sprouting to establishing sustainable roots.

World's first green product differentiation

Renowned cosmetic brands use extravagant fashion shows and celebrity endorsements to display their products, but O'right relies on unique green sustainable innovation to imbue new value in its brand. To produce even healthier, more environmentally friendly green products and increase its competitiveness, the company actively integrates upstream and downstream suppliers forming a Green Supply Chain. Each year funds are allocated for R&D to promote innovation, resulting in the creation of its revolutionary original hair growth perfume "tonic" and the world's first "tree in a bottle"



↑ Asia's first cosmetics Green Factory in compliance with Green Building standards.



↑ Solar panels installed on roof of plant.

shampoo. These products have not only received the Ministry of Economics Affairs Commercial Services Excellent Product Award, but prompted the company to become the first small and medium enterprise (SME) to be awarded the Carbon Footprint label and the world's first bottle of "carbon neutral" shampoo, propelling Green Hair Care products to carve new milestones.

For O'right's hard-working colleagues dedicated to green sustainability, the company provides fresh organic foods and fair trade coffee every day, rewards employees with local and overseas eco tours, dinner gatherings, and gifts, and offers diverse educational training courses of even greater value. It is quite clear that O'right looks out for both employees' health as well as encourages their personal development. Family Days are periodically held bringing families of employees closer together, and every year cards and gifts are prepared for Mother's and Father's Day to thank employees' parents for all their loving care and efforts.

Green honors and acclaims

O'right has actively obtained green environmental protection certifications and continues to receive favorable affirmation and the trust of customers and consumers. In 2011, GM Ge was invited to represent SMEs at the APEC Meeting in the US, sharing green innovation experiences and receiving considerable international recognition. As the sun set on the 5

June 2012 World Environment Day, the company christened the opening of Asia's first Cosmetics Green Factory Complying with Green Building Standards, and is currently the only cosmetics plant to receive the EEWB Green Building Gold Certificate (the Gold Level being the highest level designation awarded for a plant of its size). Since opening up this plant, thousands of officials and customers representing various disciplines from both sides of the straits have visited, including the Taiwan Federal Drug Authority (TFDA), the Communist Party of China (CPC) Youth League, and Hong Kong's Excellent Outstanding Group. O'right's intent is clear, promoting and educating respect and concern for the natural ecology, and filling every nook and cranny with friendliness and compassion.

Green sustainability and social responsibility

O'right is the only SME to receive the Corporate Social Responsibility Award for two consecutive years, 2011 and 2012. Its efforts and achievements in Green Innovation have continued to receive the attention of academia, government agencies, and civic groups as GM Ge remains a popular figure for guest speaking appearances, sharing his experiences and achievements. These achievements have encouraged more SMEs to participate in green environmental protection efforts and prompted green MIT to become more families rooted and widely disseminated on campuses. Additionally, GM Ge pays for all his traveling expenses and fees when attending lectures, and any proceeds that he does receive are given back to society through charitable donations.

Public welfare events are convened annually on a regular basis, and since 2006 these events have included extending support and assistance to economically disadvantaged children, the Orbis Foundation who helped 200 children with eye diseases to see again, the August 8

flood reconstruction after-school educational centers, participation in Earth Hour lights-out-for-an-hour activity, cooperating with customers to participate in the National Taiwan University Experimental Forest 20-year Tree Planting Plan, etc.

Green compassion touching people's hearts

"Attending class is more important than work"—this is what GM Ge constantly encourages employees to do; because only through continuous pursuit of learning can one be filled with a limitless supply of assets for innovation. The

passage that has had the greatest influence on him is from an excerpt of Dr. Steven Chu's speech to Harvard University graduates: "Enthusiastically pursuing a professional career, though important, is not the only goal for the future. When you get older and look back on the achievements of this life, the greatest honor comes not from material objects or fame, but the effect you had on people and the changes that this influence brought about..."

This is what O'right does now and will continue to strive for in the future. This passage influenced GM Ge and through him it has influenced every O'right employee, their friends, and now, this

passage has also deeply influenced you.



Employee outing

ZyXEL Investment Holdings Group

ZyXEL Communications Corporation was founded by Dr. Shun-Yi Chu in 1989 at the Hsinchu Science-based Industrial Park. The company is devoted to the R&D of innovative communications products and marketing its own brand. ZyXEL has successfully established itself as an original brand manufacturer (OBM) and also has its own network communications technology, along with an excellent reputation of goodwill and integrity. In 2010, the organization expanded into a holdings company subsidiary of a parent conglomerate. ZyXEL Communications Corporation and MitraStar are subsidiaries of ZyXEL Investment Holdings Group. ZyXEL Communications Corporation specializes in ZyXEL brand marketing development and market

development, while MitraStar specializes in product and technology innovation and OEM manufacturing services.

The ZyXEL Investment Holdings Group subsidiary ZyXEL Communications Corporation's ZyXEL brand has been honored as among Taiwan's top ten international brands for the past ten years straight. Well-regarded in the area of corporate social responsibility, in 2007 it was ranked second in Asia by the Asian Corporate Governance Association and recognized as Taiwan's first Green Industry, and in 2009 Global Views Monthly magazine awarded the company with a Corporate Social Responsibility Award. For product technology, in 2010 it was awarded the Industrial Technology Development Award



⬆️⬅️ A health center is established for employees.

and Industrial Excellence Award, and in 2011 it received the Green Classics Award. Besides maximizing its potential and striving to attain the highest profits for shareholders and investors, ZyXEL Investment Holdings Group and the subsidiaries under its flagship are committed to promoting the vitality of society and environment and manifesting its value by serving its role as a responsible corporate citizen.

“Integrity” corporate governance principle

ZyXEL's corporate governance emphasizes the principle of “integrity” complying with relevant regulations and also independently volunteering to abide by business ethics standards. ZyXEL strives to create economic value to maximize the profits of shareholders and investors. Regarding business ethics standards compliance, as stipulated in the Employee Code of Conduct Agreement, when employees perform their duties they are required to abide by basic conduct norms and ethical standards, resonating the spirit of the company's philosophy, values, and ideals and complying with relevant laws. During day-to-day work and operations, employees and partnership enterprises are expected to heed closely and obey relevant standards, and also ensure that fair and equitable methods are employed when engaging in transactions with customers, suppliers, and competitors to achieve the company's goal of sustainable operations.

Leader in green network communication products

ZyXEL is actively involved in R&D of green products, pioneering the way in Carbon Footprint inventory participation and assuming a leading role in instituting home network product category rules (PCR) that have laid the foundations for green environmental protection—the first network communications manufacturer to receive the Environmental Protection Administration's Carbon Footprint Label, received the world's first Carbon Footprint Certification for VDSL2 home appliances, participated in formulating the world's first Home Gateways Product Category Rules and Home Network Infrastructure Devices Product Category Rules, and officially published the GEDNet website becoming the reference index for the industry's products. ZyXEL hopes to attract international spotlight and bring attention to the environmental protection initiatives of ZyXEL Group and Taiwan's network communications manufacturers, and also hopes to encourage Taiwan enterprises as a whole to squarely confront the importance of environmental protection.

Developing green products technology and function

ZyXEL Group's R&D is geared towards green production and green environmental protection, conducting R&D on a variety of energy-saving technology applications for its green environmentally friendly products with functions

like auto regulation of power, wireless scheduling, auto sleep mode, fan auto tuning mode, and Ethernet smart power saving, etc., providing consumers with environmentally friendly energy-saving products.

Green collaboration integrated management across the board

ZyXEL Group comprehensively implements green industry management by devising a customized set of "cradle to grave" collaboration and integrated management, or Green Collaboration Integrated Management, allowing for linked integration of the raw material supplier, producer, manufacturer, transporter, user, and disposal phases for ZyXEL's existing relevant system processes, while simultaneously executing green management practices throughout every link in the chain.

The Green Product Collaboration Information Management System includes Green Component and Design Database, Product Life-cycle Assessment (LCA) Management System, 3R Product Recovery Assessment Databank System, and Green Supply Chain Hazardous Substances

Restrictions Management System to achieve low toxicity, debulking, easy disassembly, recoverability, and energy-saving green products that satisfy a corporate citizen's commitment to environmental ethics.

Healthy, happy employees in a pleasant work environment

Talent is an important asset for propelling the continued growth of a company. Besides creating an innovative and diversified company culture, ZyXEL is dedicated to providing employees with a challenging and pleasurable work environment and equitable remuneration. ZyXEL salary and benefits merit considerable competitive advantage, and it continues employing and developing diverse work-life balance programs that care for the physical, mental, and spiritual health of employees. A comprehensive educational training system and employee planning development assists employees enhance professional capacity and encourages personal growth to become a vital driving force for the company's sustainable development.

Civic Sustainable Development Awards

Chinese Wild Bird Federation

Investing in bird conservation and joining international organizations

The Third Estate has consistently been the indicator for a society's vitality. The Chinese Wild Bird Federation (CWBF), backed by the support of local ornithological groups, was founded in 1988 as a coalition whose principal initiative is conservation and has been doing so for nearly a quarter of a century. In 1994, the CWBF also joined the world's largest unofficial bird conservation organization, Bird Life International, located in Cambridge, UK, becoming more actively involved in bird conservation work and

going on to assume a pivotal role in this field both in Asia and the world.

Since its inception, CWBF has received support and encouragement from all sides, and its overall development can be roughly divided into three phases. The first phase occurred from 1988-1999 and mainly entailed the popularization of bird-watching and environmental education. During this period, aside from performing a role assisting Taiwan's local ornithological groups promoting activities and publishing books, CWBF also energetically engaged in various exchanges with ornithological groups throughout Asian,

➡ Big Snow Mountain Bird-Watching contest is a grand occasion for bird enthusiasts from across the nation, and private enterprises have joined together in recent years.



Europe, and the US. Over period of this more than ten years, CWBF primarily promoted local bird-watching activities across the nation to expand its local membership and further solidify the foundation of ornithological groups as a whole.

Mobilizing the nation's ornithological groups participation in IBAs surveys

From 2000-2011, thanks to the support of Important Bird Areas (IBAs), CWBF was able to make the stride into its second phase. CWBF and local ornithological groups advanced IBAs in Taiwan with citizens as the source of designation. At that time, ornithological groups nationwide

were mobilized to conduct large scale surveys and planning, which resulted in the designation of 53 IBAs. In addition to formally logging into BirdLife International (BLI), this partnership effectively connected habitat conservation initiatives with the international community, convening international seminars and inviting experts and ornithological groups from a total of 21 nations, including England, the US, and Japan, to participate. To this day, local ornithological groups continue to conduct periodical surveys on the status of birds in their local IBA region.

Besides international participation in conservation, the promotion of local bird-watching activities also began twenty years ago and has propelled the tide of public concern for the natural environment. Eagles were counted at Kenting and Changhua's Bagua Mountain, black-faced spoonbills were counted in Chigu, Tainan, the pheasant-tailed Jacana was recovered in Guantian, Tainan, and bird-watching fairs were held in Guandu, Taipei and Chengching Lake, Kaohsiung. Wildlife sanctuaries sprung up all over Taiwan with wildlife habitat environments and eight national parks, a national nature park, and bird enthusiasts across the nation continued participation in planning and monitoring assistance, the essential element and life force of nature conservation implementation.

2012 was the year CWBF began working on community conservation efforts. The Pinglin Village Mountain Recovery Plan was launched,



➡ Transitioning from a conservation advocacy group to a social enterprise, taking into consideration both conservation and production.



⬆ Periodic fixed point ecological surveys allow the Chinese Wild Bird Federation to set root in Taiwan's land.



⬆ A bird-watching enthusiast setting up a camouflage tent to facilitate long periods observing ecological behavior of birds.

Pinglin District organic tea farm production of Blue Magpie Tea and joining Yunlin County's Wild Bird Society to produce organic green bamboo shoots to Tainan City Wild Bird Society's production of Pheasant-tailed Jacana Water

laying out a business model for community participation in habitat recovery and making Pinlin a pilot experiment to determine whether a farmers' livelihood and bird habitat and the fusion of Taiwan's cultural landscape and conservation farming concepts could successfully create a perfect combination of "production" and "conservation".

This year the CWBF launched the Pinglin Village Mountain Center utilizing an abandoned farmhouse in the hills surrounding Pinglin Tea Museum for a base with the community taking part in renovating the structure turning it into an education center. Motivated by the principal goal of preserving the lifestyles and healthy habitats of birds in Taiwan's low-elevation mountains, the endemic Formosan Blue Magpie was chosen as the symbol for the launch of Formosan Blue Magpie Tea, combining production and ecology.

Engaging in extensive study seeking methods for both soil and water conservation and pesticide elimination, and with the bird habitat of the emerging Blue Magpie Farming, CWBF set up a social enterprise platform through community participation using Pinglin Tea Farm to promote Taiwan's low-elevation mountain bird habitat Formosan Blue Magpie Tea.

Combining production and ecology and practicing sustainable living

In recent years, CWBF has taken root in localities and communities from New Taipei City's

Chestnuts in Guantian District. CWBF has worked closely together with its local partners to promote organic production and ecology preservation and putting sustainable living into practice.

The 2012 Formosan Blue Magpie Tea experiment marked CWBF's evolution from recreation, public welfare, and knowledge-based initiatives and elevated its status beyond the Third Estate. Backed by the support of IBA, structurally CWBF made major strides into the realms of social enterprise. The next step is to integrate production, ecological conservation, and bird habitat protection through the "Bend and Pick Tea Environmental Protection" experiment. Nearly 25 years of bird life has been recorded, and the CWBF anticipates that apart from lifting our heads to appreciate the splendor of birds, we must also carefully listen to the hearts and sounds of the "people" on the land, allowing humans and birds to work in unison to recover the natural environment.



⬆ The Chinese Wild Bird Federation is among the five nations sponsoring the Asian Bird Fair, and in 2011 Taiwan hosted the Fair in Tainan with 14 Asian countries participating.

Tainan County Black-faced Spoonbill Conservation Society

Tainan County Black-faced Spoonbill Conservation Society was established nearly 14 years ago, in 1998, and since its inception has always protected Taiwan's coastal environment and devoted to the preservation of the black-faced spoonbill and other natural ecological resources. Volunteers and members come from all circles of society, including local residents, teachers, students, retirees, scholars, farmers, artisans, and merchants. Most of these volunteers began participating in the Society's affairs after taking the Society's entry-level tour guide training program, while others began participating after being introduced by volunteers. Presently, the Society mainly engages in research on black-faced spoonbills and their ecological environment, with the results of these studies providing black-faced spoonbill habitat management protection, while ecological tours encourage people to focus attention on ecological conservation concerns, thus advancing the goals of a sustainable global village.

There are only six species of black-faced spoonbill in the world, and the most common trait they all share is their flat, spatulate beaks. The

black-faced spoonbill (*Platylea minor*) is the last of the six to be classified (Temminck & Schlegel, 1849, Japan), the most sparsely populated of its species, and appears in the IUCN Red List of Threatened Species indicating that is on the verge of becoming endangered. It is confined to the Asia-Pacific coastal areas and winters in Taiwan, Hong Kong, Macau, China, Vietnam, Japan, and South Korea. Large numbers of black-faced spoonbills winter in Tainan, Taiwan with more than half of the world's population coming to spend the winter in Tainan. According to the Hong Kong Bird Watching Society 2012 global census results, a total of 2,693 birds were recorded and Taiwan accounted for 1,562, constituting 58% of the total.

Guided tours and education: sustainable promotion of the ecological environment

The Society is currently involved in the following black-faced spoonbill ecological research studies:

1. The Three Treasures Survey (Black-faced Spoonbill, Black-winged Stilt, and Pied Avocet) is conducted annually from December to March. These three bird species found



⬆ Conducting a fish source survey with a fishing net.



⬆ Black-faced spoonbill adorned in breeding plumage awaiting a northern migration journey



↑ Participating in the 2010 International Symposium on Black-faced Spoonbill Conservation and Jianghua Mudflats Utilization.



↑ Tainan County Black-faced Spoonbill Conservation Society.

along the southwest coastal area serve as a significant indicator, utilizing these distribution and abundance surveys to understand environmental changes.

2. The Qigu Long-Term Bird Survey is conducted on various sampling plots throughout Qigu, such as floating land, fish ponds, salt marshes, wind break forests and general agricultural land. Various bird species composition within different environments are recorded to understand seasonal changes in bird species, and ongoing efforts are made to cultivate and enhance the specialized skills of surveyors.
3. The Global Black-faced Spoonbill Survey was launched in 2003 by the Hong Kong Bird Watching Society, an affiliate of BirdLife International. In January each year, a three-day synchronized survey is conducted at black-faced spoonbill wintering areas to understand current black-faced spoonbill global population and distribution.
4. The Black-faced Spoonbill Leg Band Survey Census takes place annually starting in October until the end of the black-faced spoonbill season in May with these superscripted leg bands getting academia and researchers and bird enthusiasts alike on the right track. These superscriptions provide a better understanding of the black-faced spoonbill migratory path, distribution, and habitat selection.
5. The Black-faced Spoonbill Refuge Fish Source Survey uses various fish-collection methods

to conduct surveys on the types of fish species, abundance, and size and weight. Besides learning about black-faced spoonbill food sources, the results also provide an understanding of the habitat productivity and biological carrying capacity.

The results of these surveys and research over the years have been compiled into guidebooks and education publication series. Environmental education efforts are conducted providing classroom special topic lectures and ecological workshops to outdoor activities and eco-tourism, inspiring people from all walks of life with a curiosity and interest for learning about natural ecology to step outdoors and care for the land.

This year the Society participated in an academic symposium to share its results. A black-faced spoonbill leg band reporting system was set up and has been operating on the Society's website since 2007. It was designed to cooperate in research on South Korea's black-faced spoonbills breeding grounds conducted by their local Bird Banding Team under the supervision of Dr. Ki-Sup Lee. Representatives from the Society visited the South Korea breeding grounds to conduct black-faced spoonbill surveys and share results. In addition to serving as Taiwan's representative portal for international black-faced spoonbill research, the power of public participation in society was fully realized through extensive volunteer service assistance.

Volunteers are the most important assets of

civic groups. The Society is a non-governmental organization and non-profit organization civic group. Volunteer participation in ecological surveys exceeded 7,767 hours/532 people and participation in environmental education, interpreters, and guides reached 110,100 hours/203 people. Over the years the black-faced spoonbills have been through shootings, refuge establishment, airport development, botulinum toxin, etc. on its way to becoming Taiwan's showcased superstar species. Initially its single species protection was expanded into habitat conservation, and besides the black-faced spoonbill, this habitat also is home to innumerable other organisms to create rich diversity of biological resources. The onsite

volunteers and conservation groups have also made a sustainable mark on this land.

Sustainability as "knowledge" and "ability"

The Society serves as a bridge linking science and on-site fieldwork, people and nature, and people with other people. To observe is to explore, this is "learning"; and transforming the unknown into development is "ability". In the future, the Society will continue its dedication to environmental ecology, while continuing to fulfill its purpose in ecological surveying and environmental education. Through volunteer participation sustainability becomes both "knowledge" and "ability".

Cancer-no no Foundation, Taichung City

Cancer-no no Foundation (CNN), Taichung City was founded in 2005 by the president of Giant Group, Liu, Jin-Biao. President Liu's own experience being diagnosed and treated for stomach cancer over ten years ago and the prevailing awareness that an increasing number of his friends and relatives were becoming afflicted by cancer made him reflect on the importance of "early detection, early treatment." Thus, President Liu established this Foundation and asked his doctor to serve as the Foundation's first director (Dr. Chen, Gran-Hum, a former director of the Division of Gastroenterology and Hepatology at Taichung Veterans General Hospital) working to advocate the prevention of cancer.

In recent years, CNN has organized many health lectures and screenings in central Taiwan, but CNN's abundant medical resources and medical professional expertise alone cannot overcome limited donations, which have stifled efforts to fully implement promotional objectives.

Advocating sustainable health on campus

Since 2008 when the current director of the Internal Medicine Division at Taichung Veterans General Hospital Dr. Chi-Sen, Chang succeeded as the CNN Director for the second and third terms, the main focus has been on advocating cancer prevention and the health-starts-young-and-in-schools message on school campuses. To implement cancer prevention advocacy, correct eating habits and medical information were introduced and professional theater troupes were specially invited to fuse "nutrition education" and "health knowledge" into creative and lively performances, replacing the previous structured teaching approach. Nutrition education was divided into three segments based on the different needs with the first segment a Five Fruits & Vegetables a Day campus tour.

From the results of students' pre-show questionnaires, only half ate all of the vegetables in their nutritious lunch. But after watching the children's theater performance, learning about



⬆ Advocating “Five Fruits & Vegetables A Day” on campus.



⬆ CNN forms a Cancer Prevention Squad.

the One Vegetable Serving, One Fruit Serving, and Eating All Your Vegetables provided in school lunches, and the Try-a-bite-of-a-fruit-or-vegetable-you've-never-eaten-before message the post-show questionnaire answers showed dramatic improvement. In the second segment, Balanced Diet campus tour, and results of the Balanced Diet follow-up questionnaire showed that nearly 70% of the students eat all the vegetables in their nutritious lunch. These marks reveal a two-fold improvement compared to 2008 results, while also reducing the amount of food waste.

Regarding the intake of bean, fish, meat, and eggs, and aimed specifically at soybeans and soybean products, after watching the performance, the children showed dramatic improvements, indicating that the children began to understand that soybean products not only lower cholesterol absorption but are



⬆ Newspaper report on the donation of books to Heping Township by CNN.

⬆ “Foundations Helping Foundations” —United Way publication feature report.

also an excellent source of proteins and can be a substitute for meat. In the third segment, the Disease-enters-from-the-mouth campus tour, the students gained a better understanding of how beverages and snack foods impact health through this theater advocacy.

Through CNN's past four years of efforts providing nutrition education advocacy, it discovered that the children of Heping Township were in need of children's books and within a month's time of energetic efforts, over 6,000 children's books had been collected from donations in central Taiwan, utilizing urban resources and bringing them to remote areas. While CNN only has two full-time employees, they are totally dedicated and devoted to educating the next generation on leading healthy lives.

In 2011, the CNN (Cancer NoNo) Cancer Prevention Special Forces Squad was established to provide a full range of services. CNN continued to engage in campus advocacy



⬆ Open Theater Group performs at schools to promote “Disease enters from the Mouth” public awareness.

work, but also began cooperating with medical centers going out into the community to conduct cancer screening. It also specially organized the Speedy Recovery—Nutrition Care Plan targeting economically disadvantaged patients during treatment and recovery periods, administering appropriate amounts of nutritional supplements to effectively shorten recuperation time for a speedy recovery back to a normal life.

Foundations helping foundations for resource sustainability and sharing

Looking out for the health of disadvantaged groups has been the initiative of CNN's service plan in recent years, and just as with other social welfare groups, it has been affected by a lack of resources, making it difficult to improve service

quality. Since applying for funding assistance from the United Way in 2010, the health and nutrition perspectives of social welfare counseling institutions have improved and kitchen hygiene now satisfies safety standards. Additionally, CNN has opened up health seed instructor training courses to aide social welfare groups achieve self-management by teaching how to use instruments and devices to improve the institute's quality of care and provide children with a healthy environment to grow up in. In its present phase, CNN is applying a foundations-helping-foundations model to accomplish the concept of resource sharing and hopes that in the future more institutions will echo in response, joining hands and striving for the objective of sustainable social resources.

Execution of Sustainable Development Action Plan Award

Forestry Bureau, Council of Agriculture: Promotion of Afforestation Programs

The Forestry Bureau is coordinating with the General National Plan for Energy Saving and Carbon Reduction objectives and the vision of "creating a safe, ecological, and quality

homeland". It strives to strengthen green resource conservation efforts, increase afforestation area and quality, maintain biological diversity of the ecological environment, and provide the public



↑ 21 May 2011 Hualien Forest Park opens to the public.



📍 Hualien County plains afforestation
—*Elaeocarpus japonicus*.



📍 Pingtung County Jiuming Community
Beautification.



📍 Hsinchu County slopeland afforestation—*Calocedrus formosana*.

with outdoor recreation space. Through the fusion of ecology, daily life, and production into one operational mode and developing green recreation industry on the plains, the Bureau hopes to revitalize and invigorate the green resources industry.

Details of this plan's execution strategy entail augmenting afforestation, promoting popularization and technical training, providing guidance and assistance to community's tree planting and beautification efforts, and encourage enterprise organizations to embrace afforestation in hopes of deeply rooting forest resources and creating an enriched homeland. The results of plan implementation from yearend 2008 to 2011 are presented below:

1. Promoting Afforestation: Augmenting state-owned forests, outlying islands, and slope land afforestation, coordinate the turnover of Taiwan Sugar Corporation's fallow cane fields for afforestation, assist farmers to participate in afforestation, and coordinate the participation of various agencies, schools, and organizations in afforestation and beautification efforts to expand overall afforested area. Statistical data indicates a total of 18,695 hectares of newly afforested area, which exceeds anticipated targets by over 1,405 hectares. The following are four specific results of afforestation and beautification:

(1) Equivalent to 748 Daan Forest Parks

effectively increasing each citizen's green area by 8.13 hectares

- (2) Can absorb 280,000 metric tons of carbon dioxide annually, equivalent to the annual carbon emissions of 346,600 air conditioning units.
- (3) Prevents sediment loss and water conservation efficiency worth NT\$6.704 billion.
- (4) Assists in the practical participation of the afforestation incentive plan with the total afforested area of reaching 6,662 hectares, including private land owners and land renters; and if each person has roughly 0.5 hectares of land then this will benefit over 13,000 farmers who have taken part in afforestation.

2. Fulfilling Global Commitment: The 2007 Asia-Pacific Economic Cooperation (APEC) resolution mandates that by 2020 the reforestation area of APEC members must reach 20 million hectares, and based on national land area, Taiwan has already accounted for 11,550 hectares, exceeding its required area by 7,145 hectares.

3. Cultivating Quality Saplings: Success or failure of afforestation and beautification is contingent upon the quality of saplings. The Bureau cultivates 76.3 million high-quality saplings, and these saplings are provided to government agencies, organizations, and

schools at all levels to execute afforestation and beautification efforts.

4. Afforestation Advocacy Promotion and Technical Training: To help people understand afforestation incentive policies and heighten environmental protection awareness, townships and villages nationwide are holding afforestation advocacy explanatory meetings, incentive afforestation monitoring technology study groups, and have organized a National Tree-Planting and Sapling Donation Activity. Statistics show that there were a total of 504 afforestation advocacy and monitoring technical training gatherings with 81,923 people participating. The National Tree-planting and Sapling Donation Activity held 363 workshops with the number of participants exceeding 440,000 people.

5. Community Tree-Planting Beautification Assistance: Starting out from a “point” encouraging communities across the nation to actively join in on the tree-planting green beautification procession aspiring to elevate environmental quality. Assistance has already been provided to 1,479 communities accounting for a total of 338 hectares planted.

6. Encouraging Enterprises and Organizations to Adopt Afforestation: In view of “limited government resources and unlimited public capacity, to increase public participation in afforestation effort, and considering the ever-increasing commitment to social responsibility of private enterprises and organizations, since 2008 the Bureau has encouraged private enterprises and organizations to embrace afforestation, and now there are over 50 enterprises and organizations participating in the adoption of 482 hectares of land afforestation.

7. Planning Design of Plain Forest Parks: Three large-scale plain forest parks over 1,000 hectares each are planned for Hualien, Chiayi, and Pingtung:

(1) Hualien Danongdafu Plain Forest Park—a LOHAS Forest Park: Creating a diversified recreational experience in this rift valley park featuring LOHAS leisure, organic production, historical land and environmental healing, local culture and sustainable development, and also linking up with the Hualien-Taitung Railway slow tour circuit.

(2) Chiayi Dongshi Fishing Port and Aogu Wetland Forest Park—a World Class Wetland Park: Located on the Tropic of Cancer showcasing both coastline and forest resources, developing environmental education and consolidating wetland protection.

(3) Pingtung Linhousilin Forest—Dawushan Low Altitude Natural Forest: A mountainous and plains environmental remediation ecological park, developing local environment innovative industries and cultural experiences.

Of these, Hualien Park opened for visitors 21 May 2011 and Chiayi Park won the 2011 Analysis and Planning Category Award of Excellence (First Prize) awarded by the American Society of Landscape Architects (ASLA) for its master plan.

8. Draft Afforestation Related Regulations: The Bureau drafted eight afforestation policy related laws and regulations to facilitate promotion of the afforestation plan, and produced various handbooks and pamphlets for execution agencies, civic organizations, and the public to improve administrative efficiency and make execution easier for everyone.

9. Test Monitoring and Research: Aimed at issues involving forest growth of afforested land, hydrology, blight, management and utilization, and community consciousness, policies were amended based on the results of scientific data from monitoring and research.

Taipei Feitsui Reservoir Administration: Feitsui Reservoir Sustainable Environment Green Reservoir Action Plan

Feitsui Reservoir is a regulation center for the Hsindian River and serves as the main public and municipal water source for the Greater Taipei Metropolitan Area currently supplying water to five million people. This Action Plan provides the cornerstone of building and implementing Feitsui Reservoir sustainable operations and perpetuating its “regulating flood, supporting droughts, and citizen’s welfare” philosophy aggressively working to provide a safe sustainable water environment with an ample water capacity and high quality water. On the basis of its three visions, the Administration will continue developing sustainable management methods and promoting the Sustainable Environment Green Reservoir Action Plan. Significant results of this Plan are summarized below:

1. High Quality Feitsui—supplying a high quality and ample capacity water source and laying the foundations for economic prosperity

- (1) Engaging in innovative R&D on risk reduction and precipitation forecasting methods to predict future water conditions and strengthen water capacity regulation risk management to avert water crisis in the Greater Taipei area. Over the past four years, the water shortage ratio has been held at 0% and the raw water supply has reached 100%; and during the periods of draught of 2009 and 2011 in northern Taiwan, the Administration worked at full bore to provide expanded water supply.
- (2) During periods of flooding, storage capacity over the past four years has averaged 200 million cubic meters, working to sharply reduce peak flow of downstream waterways and lower the flood level.
- (3) Cutting-edge technological analysis conducts essential dam safety monitoring

tasks, employing an independently researched and developed automated diagnostic system, which is the first fully automated domestic dam safety diagnostic system of its kind.

2. Ecological Feitsui—establishing a low carbon green ecological reservoir

- (1) Reinforcing soil and water conservation and water source reserves and cooperating with relevant agencies to manage landslide-prone areas surrounding the reservoir. An automated reservoir water quality stratification monitoring system provides real-time data to store the clear and release the turbid water using hydraulic de-silting to purify the water. From 2008-2011, approximately 90,000 cubic meters of turbid sediment was released. The reservoir sedimentation rate is 5.85%, and the average sedimentation rate over the past four years has declined by 0.83%.
- (2) Routine weekly and monthly sampling and inspection are conducted onsite and automatic water quality monitoring stations have been installed at seven different sites to fully utilize the water reservoir upstream pollution early-warning system and access



↑ EPA Minister presents charter for greenhouse gas (GHG) monitoring/inspection.



↑ Feitsui Reservoir water quality sampling work.

the dam station stratification water quality real-time data to initiate store-the-clear-and-release-the-turbid-water storage adjustment processes. Various pollution prevention and mitigation measures are employed via installation of 19 water quality sampling stations that provide regular physiochemical and algae sampling and inspection, conducting a total of 34 water quality tests. The reservoir's Carlson's Trophic State Index (CTSI) over the past four years (2008-2011) has averaged 40.92, indicating a stable, high quality water supply.

- (3) During flooding periods release of low turbidity reservoir water to assist attenuation and reduce sedimentation rates in the Nanshi River to prevent the downstream Hsindian River water from excessively high turbidity leading to a water shortage crisis.
- (4) In 2011, the Administration became the first domestic reservoir to complete greenhouse gas (GHG) emission investigations and

received approval certification from the Environmental Protection Administration (EPA), and its GHG net carbon reduction benefit is approximately 121,000 metric tons. The Administration is accelerating the replacement of old power consuming equipment, implementing daylight controls and power-saving fuel-efficient methods, and promoting energy conservation. To reduce harmful street light glare and create an eco-friendly environment, in 2012 it employed green power vehicles (electric motor boats, electric vehicles, and electric motorcycles) using its power plant's own electricity to recharge.

- (5) Augmenting the water environment ecological conservation and restoration, the Administration organized and assisted baseline survey work on ecological resources, conducting a study on the life history of the emerald green tree frog (*Rhacophorus prasinatus*). In recent years, it has also propagated over 10 thousand saplings of the local endemic species Wulai rhododendron (*Rhododendron kanehirai* Wilson). A Taiwan reservoir fern classroom was established, with its fern garden home to more than 130 native fern species and receiving over 30,000 visitors since its inception in 2008.

3. Education Feitsui—encouraging everyone to participate in water resource conservation

- (1) A 2011 survey revealed that up to 97% of respondents were satisfied with the "water supply stability" of their tap water and 88.7% of respondents were satisfied with their "tap water quality."
- (2) Feitsui Reservoir Hsindian River Chingtan water quality and water level protection area has an average annual attached levying of roughly NT\$288 million water resource conservation and compensation fees, manifesting the spirit of water



↑ A sustainable water source for Greater Taipei.

compensation policies.

- (3) The Feitsui Reservoir Environmental Study Center and website was established. On 17 November 2011, it became the nation's first government agency to obtain environmental education facilities venue certification, holding general activities such as city government visits, water resource native land pilgrimages, student guided tours and ecological camps, and volunteer tour guides. Annual visitor cap restrictions of 16,000 people are enforced.
- (4) Calling on residents in catchment areas to join hands and work together to provide water resources. Besides providing indigenous inhabitants with boat transportation to visit ancestral burial grounds, relevant agencies have launched the Pinglin District Organic Liquid Fertilizer Model Plan to prevent fertilizers from being washed down into the reservoir from the roughly 1,275 hectares of tea plantations in its catchment area. The Administration holds workshops educating tea farmers about liquid fertilizer application methods and precautions, and also subsidizes tea

farmers' purchase of organic fertilizers as an incentive to reduce chemical fertilizer use.

Looking to the future, the Administration will remain vigilant employing its sophisticated dam safety management and water and soil conservation and de-silting measures, upgrading reservoir operational mechanisms and water supply control efficiency, engaging in energy conservation and carbon reduction and supplying green power, and building a biological habitat and eco-friendly environment. It will continue promoting green energy vehicle prototypes, working together with residents to reduce pollution and strengthen measures to live



↑ Joint investigation of catchment area for pollution source.

in harmony with the environment, and engraining water environment education advocacy and elevating general public participation. Lastly, it will continue cooperating with responsible authorities in water resource areas to expand water quality and capacity, enhance sewage

water pollution processing capacity, promote proper fertilization at tea plantations to reduce non-point source pollution, conducting joint investigation of pollution sources, and promoting a reservoir protection strip to prevent fertilizers from entering the reservoir.

Forestry Bureau, Council of Agriculture: Forest Environmental Education Resource Integration Promotional Platform Implementation Plan

The Forestry Bureau is the central competent authority of Taiwan's forest management agencies and conservation affairs, and is also Taiwan's largest natural resource management unit. Thus, it has the responsibility to initiate the integration and promotion of environmental education resources and providing first-hand learning environments that raise peoples' environmental sustainability knowledge, attitudes, and skills as well as allowing them to realize the value of resolving problems and taking action in the pursuit of sustainable development.

When the Forestry Bureau amended the Forest Recreation Area Facility Management Act in July of 2005, it formally brought environmental education into forest recreation, making it an important initiative. In 2006, it drafted the Forestry Bureau Nature Education Center Development System and Promotion Strategy with implementation occurring in three phases from 2007-2009. Commanding jurisdiction over the forest recreational areas, forestry culture parks, and tree banks, eight Nature Education Centers have been established, bringing in specialized personnel, systematic and structured development, and integrating formal and informal education to provide the five service categories of outdoor education, themed events, specialized learning, special planning, and environmental guided tours. On 5 June 2011, the Environmental Education Act was implemented, becoming Taiwan's most comprehensive forestry education learning network.

The guiding principle of the Forestry Bureau's Nature Education Center is "Nature Teacher and LOHAS Learning". Its ten-year vision (2012-2021) is to "inform more people about forestry", "ensure high quality services", and "become identified as a leader in outdoor environmental education" thus actualizing the Forestry Bureau's core values of "protecting the forest ecology and conserving natural resources". Presently, service capacity is gradually increasing and as of 2011 yearend, it had launched more than 250 programs, providing an average of over 100,000 people with learning opportunities annually, and online services to tap into social media and network applications. Additionally, Forestry Bureau publications spread environmental messages throughout the land, and it actively engages in domestic and overseas cooperative exchanges, personnel training, learning effectiveness assessments, assessment mechanisms, and ongoing quality control strategies to continue improving service quality and ensuring sustainable development.



Timber storage pool became an eco pond providing habitat for wild flora and fauna.



↑ Green building concepts revitalize old buildings to create a Nature Education Center educational and office space, while achieving environmental friendliness.

The Forestry Bureau's Environmental Education Resources Integrated Promotional Platform encompasses relevant natural resources management, statutes and policies, site facilities, operational management, human resources, and financial planning as it strives for sustainable development operational strategies. It is anticipated that the Forestry Bureau's development experience can become a model for domestic environmental education center development.

International cooperation from friendly diplomacy

The Forestry Bureau signed a memorandum of cooperation with the Field Studies Council in England promising concerted efforts to promote environmental education. At the 1st APEC Forestry Ministerial Meeting, it shared Nature Education Center experiences with other nations, it held the 3rd Asian Zoo Educators Seminar, and together with Japan organized the 311 Fukushima Earthquake Orphan Forest Healing Activity, actively pursuing and taking advantage of opportunities to get involved in international exchanges.

Receives acclamations and environmental education site certification

In 2010, the Forestry Bureau's Nature Education Center Facility Development and Service Quality Improvement Project was awarded the Executive Yuan 2nd Session Government Services Quality Award. In line with Environmental Education



↑ Students peer through homemade peep canisters to get acquainted with a water world they normally can't see.

Act implementation, as of July 2012, all eight Nature Education Centers had been certified as Environmental Education Sites, and 15 staff members had received environmental education personnel certification.

Developing strategies in step with the times

The Forestry Bureau faces external issues of socioeconomic structural change, the implementation of the 12 Year National Education Plan, and the launching of the Environmental Education Act; as well as the internal issues of natural resources management, legislation and policies, site facilities, curriculum programs, human resources, operational management, and finances. In response to these conditions, the Forestry Bureau has adopted an Action Study Model and created a "learning model organization", encouraging all members to continue improving skills, innovative thinking, gathering enthusiasm, and building consensus for better resolving problems. The Forestry Bureau's promotion of the Forest Environmental Education Resources Integration and Platform development process can be used as a benchmark for other environmental study centers, and its team development and operational management methods can also serve as prototypes for other public sector organizations.

Forest management requires everyone's participation

Forestry is an ancient tradition and trade, and today's forestry professionals face many land challenges (finding a balance in harmony with nature, determining the most just and beneficial public values, etc.), water challenges (typhoons and torrential rains, landslides, water shortages and drought, driftwood, etc.) and authority challenges (knowledge and technology transmission, communication, persuasion, negotiation, decision-making, etc.). Thus, the



Binoculars let us see farther, while also opening up children's vision for the future.



The forest is everyone's essential asset and we all need to join hands and take care of it together.

Forestry Bureau must rely on public participation to consolidate policy discussions and utilize environmental education and environmental mass media channels to forge a common public consensus on forest management.

In the future, the Forestry Bureau's Nature Education Center will continue accumulating operational development experience, building interactive exchange mechanisms to connect a diverse array of interested individuals and organizations for the promotion of environmental education. It will collectively encourage everyone's participation and provide lifelong environmental education to create "Nature Teacher and LOHAS Learning" quality nature education sites. Through these efforts, the Forestry Bureau anticipates that it can elevate the environmental literacy of the entire population and take further steps towards the nation's sustainable development.

The Participation of United Nations Conference on Sustainable Development 2012 (Rio+20)

5.1 | Overview and Preparation

The United Nations has made the conclusion in the 64th Congregation, in December 2012 that the United Nations Conference on Sustainable Development, UNCSD would be held in Rio, Brazil in June 2012, also known as Rio+20. "Green Economy within the context of Sustainability Development and Poverty Eradication" and "Institutional Framework for Sustainable Development" will be regarded as two major constructs. After "Earth Summit" in 1992, "World Summit on Sustainable Development" in 2002, this is the third time all the leaders worldwide would be invited to participate in the global summit and discuss the problems all human beings are facing at hand while seeking sustainable development.

Since UNCSD declared the commission of Rio+20 in 2012 on the Internet, UNCSD has included the issue of Rio+20 in the 30th regular meeting since October 2012. Afterwards, three discussion meetings were summoned to invite the related departments and committee members of UNCSD to contribute ideas and opinions.

Wu Den-yih, Former Premier of Executive Yuan indicated in the 24th Committee Meeting of NCSD that 1. R.O.C shall not be absent in the

"Rio+20" held once a decade in June, 2013, as we are a member of the global village. NCSD is in charge of the preparation of the meeting and collaboration. 2. Related-departments shall allocate budget for the participation of "Sustainable Development 2012" and related NGOs shall be invited to participate in the meeting.

Premier of the Executive Yuan, Sean Chen appointed the Deputy Minister of Environmental Protection Administration (EPA) Shin-Cheng Yeh as the leader of the delegation of Executive Yuan to participate in Rio+20 in Rio de Janeiro.

The Purposes of the Delegation of Executive Yuan for participating in Rio+20 are as follows:

1. R.O.C's participation in the United Nations Summit held only once a decade is a strong demonstration and evidence to the international society, "R.O.C has a strong pledge to seek sustainable development along with other nations, also we are willing to shoulder the responsibility as a member of the global village."
2. To follow the latest trend of global sustainable development and plan out the responsive



↑ The Assembly published "The Future We Want" as the result of Rio+20.

measures for sustainable development in the R.O.C.

3. Through the participation of Rio+20 and bilateral talk, the vision and effective results of the promotion of sustainable development and green economy in the R.O.C shall be widely recognized by all nations.
4. Based on the conclusion and documents of Rio+20, the strategy of sustainable development can be adjusted for the acceleration of R.O.C. becoming a nation of sustainable development.

The preparation and process of participation of the Delegation includes:

1. four group meetings were called before the trip

2. Subsidy was given to help NGOs in the private sector for the booths stand in Rio+20

3. Assembly registration and the preparation for the participation of the surrounding meetings
4. The connection among the private sector groups, youths and student groups and local government representatives
5. Prepare the related documents for "bilateral talks"



☞ The outside of the building at Rio+20's site.

5.2 | Major events participated in Rio+20

The R.O.C. delegation departed respectively on June 4 and 16 and arrived Rio de Janeiro, Brazil on the 15th and 17th. The side meetings, including on-site side events and off-site events, were held between June 13 and 22.

The Environmental Quality Protection Foundation(EQPF) of R.O.C. organized the on-site side events held on June 16. The Ministry of Foreign Affairs invited vice environmental ministers of Honduras and Nicaragua to be the keynote speakers which shows our diversity on

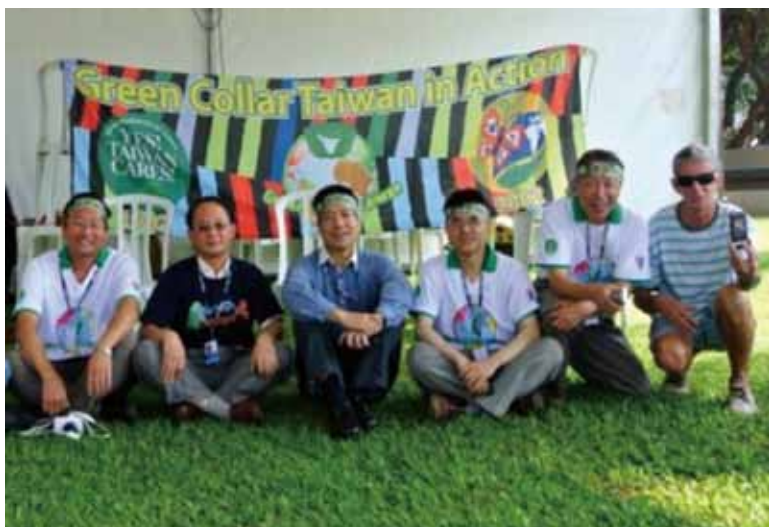
the international stage. This was the first time the R.O.C. held a side event in UNCSD which has significant meaning. No seats were empty and it was a successful event.

The delegation started the dialogue on sustainable development, side meetings and sustainable learning on the morning of June 18th. On the same day, they participated in the side-meetings off the assembly held by EQPF from 2-3 pm.

5.3 | United Nations Conference on Sustainable Development and Related Activity

The Rio+20 had two major topics for discussion: the green economy within the context of sustainable development and

poverty eradication; Institutional framework for sustainable development. The main purpose of the discussion was the evaluation of the progress



↑ "Green Collar Taiwan in Action" is the main theme of Taiwan's NGOs to participate in Rio+20.

of policy implementation and the gaps needed to be shortened. Further political commitments to sustainable development and dealing with new challenges were also discussed. The Secretariat of the Conference listed seven critical issues: employment, energy, urban, food, water, oceans and disasters. These critical issues provided decision makers and other stakeholders focus for urgent and top-prioritized issues during the meetings.

Related Activities

1. SD Dialogue

The Brazil government has won the support of the UNDP on the major topic of constructing a green economy and institutional framework for sustainable development and the major seven critical issues. It held a four day public forum on "sustainable development" from June 16th to 19th. The participants ranged from all aspects of the high-level delegates from society, including the private sector, NGOs, the science community and major groups. The whole process had open and action-oriented debates. The dialogues were followed by voting by all citizens through the Internet: <https://www.riodialouges.org/login>, and the dialogues would be held at the venue of Rio+20. Finally, along with the vote of the

participants of the conference and the votes by the experts involved in the talk, conclusions were reached to serve as the discussion base for the delegates from all nations. According to the calculation by Rio+20, 1,787 in total have joined the on-site discussion.

2. Partnership Forum

In order to strengthen the importance of the partnership, the UN held the Partnership Forum from June 20th to 22nd, with five sessions in total. The Partnership Forum aims to develop

partnerships on the safety of food and nutrition, health, gender equality, sustainability and visions for the future. Also discussed were how sustainable development can be implemented with businesses, and learning, opportunities and challenges at the grass-roots level.

3. SD Learning

To provide participants the skills to develop sustainability, Rio+20 planned a series of sustainable development issues courses. They invited experts or international organizations to plan 3-hour courses. The participants can register on-line or on the spot.

4. Exhibition Hall for All Nations

Parque dos Atletas (Athletes' Park) across from the main hall Riocentro, served as the main court for UN member countries and the Brazil

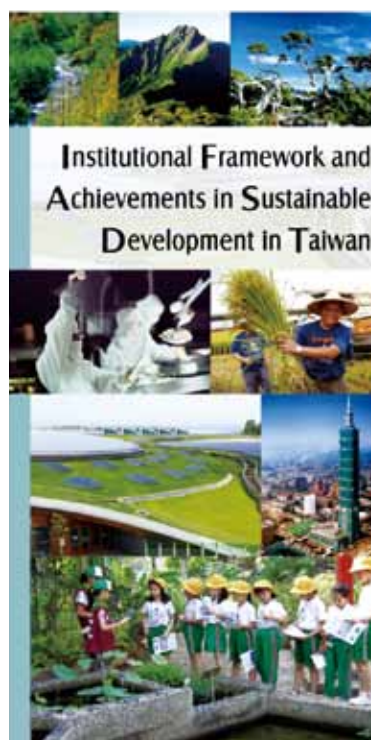


↑ Deputy Minister Yeh (the third from right) visited the exhibition stand of Taiwan's NGOs.

government to display the fruits of sustainable development. There was an exhibition area of 7,000 square meters displaying sustainable development in 57 countries, and another area of 1,305 square meters with the displays of 33 international organizations and specialized agencies.

5. Other activity from private sectors

Citizens from around the world and NGOs held activities at the People's Summit at Flamengo Park (Parque do Flamengo). As the documents produced by the delegates from all nations in Rio+20, the civic society would hold a series of discussions in Flamingo Park and make a declaration at the summit on June 28.



The related brochures to introduce our achievements in Sustainable Development.

5.4 Conclusion and the Results of the Participation of Rio+20

Rio+20 in 2012 reached its perfect ending on June 22. All nations made declarations of their work and commitment and carried on the discussion. After the discussion, the assembly published "The Future We Want" as the result of the conference.

UN Secretary General Ban Ki-moon made the closing ceremony remarks that "The Future We Want" is an important basic principle for the human society, environment and economic development. It mainly consists of 1. How can we attain sustainable development with the means of green economy, 2. the drafts of SDGs, 3. strengthening the function of UNEP, 4. taking necessary measures to increase the benefits and welfare of all nations, 5. proposing a financial strategy for sustainable development, 6. constructing a sustainable production and consumption structure. "The Future We Want"

is divided into six chapters, 283 articles. The six chapters are as follows: Chapter 1. Our Common Vision, Chapter 2. Political Commitment Renewal, Chapter 3. Green Economy under the Context of Sustainable Development and Poverty Eradication, Chapter 4. Institutional Framework for Sustainable Development, Chapter 5. Action and Sequential Development Structure, and Chapter 6. Implementation Approach.

"The Future We Want" proposes the following 13 points in Our Common Vision:

1. We, the Heads of State and Government and high-level representatives, having met at Rio de Janeiro, Brazil, from 20 to 22 June 2012, with the full participation of civil society, renew our commitment to sustainable development and to ensuring the promotion of an economically, socially and environmentally sustainable future for our planet and for present and future

generations.

2. Poverty eradication is the greatest global challenge facing the world today and an indispensable requirement for sustainable development. In this regard, we are committed to freeing humanity from poverty and hunger as a matter of urgency.
3. We therefore acknowledge the need to further mainstream sustainable development at all levels, integrating economic, social and environmental aspects and recognizing their interlinkages, so as to achieve sustainable development in all its dimensions.
4. We recognize that poverty eradication, changing unsustainable and promoting sustainable patterns of consumption and production and protecting and managing the natural resource base of economic and social development are the overarching objectives of and essential requirements for sustainable development. We also reaffirm the need to achieve sustainable development by promoting sustained, inclusive and equitable economic growth, creating greater opportunities for all, reducing inequalities, raising basic standards of living, fostering equitable social development and inclusion, and promoting the integrated and sustainable management of natural resources and ecosystems that supports, inter alia, economic, social and human development while facilitating ecosystem conservation, regeneration and restoration and resilience in the face of new and emerging challenges.
5. We reaffirm our commitment to make every effort to accelerate the achievement of the internationally agreed development goals, including the Millennium Development Goals by 2015.
6. We recognize that people are at the centre of sustainable development and, in this regard, we strive for a world that is just, equitable



↑ UN Secretary General Ban Ki-moon made the closing ceremony remarks.

and inclusive, and we commit to work together to promote sustained and inclusive economic growth, social development and environmental protection and thereby to benefit all.

7. We reaffirm that we continue to be guided by the purposes and principles of the Charter of the United Nations, with full respect for international law and its principles.
8. We also reaffirm the importance of freedom, peace and security, respect for all human rights, including the right to development and the right to an adequate standard of living, including the right to food, the rule of law, gender equality, women's empowerment and the overall commitment to just and democratic societies for development.
9. We reaffirm the importance of the Universal Declaration of Human Rights, as well as other international instruments relating to human rights and international law. We emphasize the responsibilities of all States, in conformity with the Charter, to respect, protect and promote human rights and fundamental freedoms for all, without distinction of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, disability or other status.
10. We acknowledge that democracy, good governance and the rule of law, at the national and international levels, as well as an enabling environment, are essential for sustainable development, including sustained and inclusive economic growth, social development, environmental protection and the eradication of poverty and hunger. We reaffirm that, to achieve our sustainable development goals, we need institutions at all levels that are effective, transparent, accountable and democratic.
11. We reaffirm our commitment to strengthen international cooperation to address the persistent challenges related to sustainable

development for all, in particular in developing countries. In this regard, we reaffirm the need to achieve economic stability, sustained economic growth, the promotion of social equity and the protection of the environment, while enhancing gender equality, women's empowerment and equal opportunities for all, and the protection, survival and development of children to their full potential, including through education.

12. We resolve to take urgent action to achieve sustainable development. We therefore renew our commitment to sustainable development, assessing the progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing new and emerging challenges. We express our determination to address the themes of the United Nations Conference on Sustainable Development, namely, a green economy in the context of sustainable development and poverty eradication, and the institutional framework for sustainable development.
13. We recognize that opportunities for people to influence their lives and future, participate in decision-making and voice their concerns are fundamental for sustainable development. We underscore that sustainable development requires concrete and urgent action. It can only be achieved with a broad alliance of people, governments, civil society and the private sector, all working together to secure the future we want for present and future generations.

The Executive Yuan delegation not only divided up work according to professional fields before the trip, the two major topic issues and seven critical issues were thoroughly discussed and the "Future We Want-zero draft" related articles proposed by the assembly underwent thorough discussion. During the meetings and

activities, including the ones at Riocentro and side events, the Rio+20 Assembly, side meetings, sustainable Development dialogue, Partnership Forum and SD-Learning and Exhibitions for nations were all carefully discussed and analyzed by the group in the pre-tour meetings. The data related to the topic and issues were gathered and concluded. Besides participating in the UNCSD side meetings and activities, the delegation also started bilateral talks with many countries

and international organizations, successfully highlighting R.O.C's presence in the area of sustainable development in the international society. The conclusions of the bilateral talks and the conclusions of the main assembly happened to reach the same result, which could benefit mutual understanding to realize the commitment in the Rio+20 and future cooperation opportunities.

5.5 | Participation in the Side Events and Bilateral Talks

The Accomplishments of side events

1. The accomplishments of participating in on-site side events

The on-site side meetings organized by the EQPF of R.O.C. and Forestry Bureau at 13:30 on June 16 was the first on-site side meeting held by the R.O.C. in UNCSD. The theme of the meeting was "Forest, Livelihood and Green Economy." After the disaster caused by Typhoon Morakot in 2009, Taiwan has developed a sustainable management plan for its forests, and actively

carried out the restoration of forests in the affected areas while taking care of the livelihood of the people and soil and water conservation. The execution of the humanitarian relief work in disasters caused by climate change and the opportunity and hurdles while promoting sustainable development of forests on the local, urban and national levels were all shared in the meeting.

The director of EQPF of R.O.C, Dr. Yin-Shi Hsieh made the opening remarks as the opening of the



➡ The delegation leader & EPA Deputy Minister, Shih-chen Yeh, made a speech on "the Environment Governance of Taiwan"

on-site side meeting and the EPA Deputy Minister, Shin-Chen Yeh made a keynote speech on "the Environment Governance of Taiwan," which proposed that sustainable development shall be cooperated on by institutions. Take Taiwan for example, future environment and natural resources management will be integrated to coordinate pollution control, fight against climate change, manage rivers, prevent disease and protect nature.

The vice director of the Forestry Bureau, Hung-chih Yang elaborated on the topic of "Forestry Management and Restoration in Taiwan," in which he shared the successful factors for Taiwan forest management and protection, mainly counting on the close cooperation with those who live on the forest. The vice secretariat-Shu Fang Lin of the Red Cross society made a speech on "Climate Change and Humanitarian Relief" that described the rescue relief, restoration and rehabilitation after the Typhoon Marokot disaster in 2009 and pointed out that community involvement, sensitivity of the area and sustainable development principles were the key factors to consider to mitigate natural disasters.

Taiwan has invited many officials and leaders of international environmental protection groups from our ally countries. Marco Jonathan Laínez Ordoñez, the vice minister of Environmental Protection of Honduras made introduction on the "ECOSISTEMAS" Program and how the multiple benefits of resource efficiency and sustainable consumption investment can protect biodiversity and aid the development of agricultural villages. Also, Paul Kelly, the presidential policy advisor of Nicaragua, spoke about his national development program; Professor Héctor Velasco-Perroni, Centre for International Sustainable Development Law; CISDL touched on the subject of the hottest topic of REDD+ development law, to lessen destruction and receding of forest, and the carbon emissions of other forestry activities. Also through the involved preparation of the

law-making of REDD+ of Mexico, Vietnam and Zambia, we can monitor the effectiveness of the local governments' willingness to establish the foundation of federal law making through national legislation, local carbon markets and social development programs.

Ms. Maria Fernanda Gebara Abifadel, representative from Fundação Getúlio Vargas(FGV), an NGO that promotes higher education, shared the improvements and challenges of REDD+ in Brazil. She pointed out that NGOs, State governments in Brazil and the private sector have launched preparations for REDD+ in Brazil, including mutual profit sharing and forestry monitoring. However, land use rights, processes and the vertical and horizontal coordination within government institutions need some improvement.

The delegation consisting of representatives from the Executive Yuan, private sector, NGOs and student groups held an on-site meeting, attended by foreign friends, which filled a room of 80 seats. The on-site events were covered by Taiwan media such as TVBS and Liberty Times so that the people in Taiwan could understand the meeting. The event was honored by the International Institute for Sustainable Development's (IISD) recommendation of the information sharing platform, UNCSD-L.

2. The results of the off-site event

The Environmental Quality Protection Foundation of the R.O.C. organized another off-site event at 15:00 on June 18th, with the same topic as the on-site event but a greater emphasis on the environmental education aspects. Vice-Director Yeh made a speech on "Environmental Education and Sustainable Development History and Challenges." Meanwhile vice director of the Forestry Bureau, Mr. Yang spoke on "Forestry Management and Restoration in Taiwan." Professor Osamu Abe from Rikkyo University lectured on Education for Sustainable Development in Japan.

3. Subsidy for NGOs to participate in Rio+20

The EPA subsidized NGOs (Taiwan Environmental Protection Union) to set up the stand for the venue of Rio+20. The UNCSD participated in the Taiwan's NGO activities at Flamingo Park and visited the exhibition stand at Pier Maua on June 17th.

The outcomes of Bilateral Meetings

Before the trip to Brazil for Rio+20, the delegation researched other nations and the issues to be discussed in bilateral talks and made connections through the Ministry of Foreign Affairs. During the conference, the bilateral talks involved were: 1. meeting with four officials of the Environment Ministry from Burkina Faso on June 16 and bilateral talks with Jean Couliadiati, the Minister of Environment of Burkina Faso. 2. a bilateral talk with Leal, Brazilian Congressman on June 19. 3. bilateral talk with Hon. Faton Ndeye Gaye, the Minister of Environment and Forestry of Gambia and Timo Makela, the Director of International Affairs of European Commission on June 20. 4. a bilateral talk with the Brazilian Senator Samey and Congressman Rollenberg on June 21.

Ally Countries Talk about the R.O.C. in Rio+20

1. Burkina Faso

The leader of the delegation of Burkina Faso, the Minister of the environment urged the assembly of Rio+20 to accept R.O.C. as a member country. While international society is devoting to a low-carbon economy and sustainable development, the R.O.C. (Taiwan)

with its economic strength and investment in sustainable investment should be part of the global effort. Burkina Faso proposed at Rio+20 to accept Taiwan as Permanent observer.

2. Tuvalu

Prime Minister Willy Telavi led the Tuvalu delegation and made a declaration to support the R.O.C's participation in international organization. Besides the 002 telegraph, Mr. Telavi spoke on June 20, saying: "It is undoubted that Taiwan shall participate in the UN affiliated organizations to achieve the shared vision of sustainable development desired by the international society."

3. Saint Christopher (St. Kitts) and Nevis

Denzil L. Douglas, Prime Minister of Saint Christopher and Nevis stated the point to assist Taiwan, saying "The government of Saint Christopher and Nevis lays high hope for the president of the assembly to notice Taiwan is excluded from global environment governance, and we strongly urge the assembly to provide an opportunity for Taiwan to participate in the global sustainable development mechanism and negotiation."



⬆ The Rio+20 conference venue during the meeting.

5.6 | Post-Meeting work for the Executive Yuan Delegation

The result and advice reported in the Executive Yuan regular meetings

After the delegation returned to Taiwan, the

Executive Yuan invited the delegation to report the results and feedback of Rio+20 in the regular meeting 3305. The Deputy Minister of the EPA

Mr. Yeh gave the report "The Executive Yuan delegation participation of Rio+20," and the Executive Yuan made the following decisions:

1. The UNCSD in Rio Janeiro, Brazil outlined two main topics, which are to develop an institutional framework for sustainable development and green economy, which by definition has a wider range than green industry. Through multi and bilateral exchanges that the delegation made at Rio+20, we shall recognize the importance of the future trends. Also through the interactions, participating nations gained a better understanding of the efforts and results of Taiwan's sustainable development and green economy.
2. Deputy Minister Yeh proposed resolutions based on the issues discussed and the related documents would be submitted at a NCSD meeting as special cases to be fully studied so that relevant departments can understand how to promote a green economy. For example, the Council of Labor Affairs will be connected to the promotion of green economy, instead of being limited to involvement in understanding green industry.
3. The UNCSD did not establish the WEO as hoped, however, the function of UNEP would be strengthened and vie more widely for universal membership. The Environmental Protection Administration and Ministry of Foreign Affairs and related departments shall watch closely the development to vie for international participation space so that R.O.C. international cooperation can have a more solid foundation for sustainable development policy.

Organizing the post Rio+20 2012 seminar

Four weeks after the delegation came back, the Environmental Protection Administration and

Sustainable Development Committee organized a "UNCSD 2012 after Rio+20 Seminar" at GIS conference center in Taipei. NGOs, youth groups, experts and scholars, representatives from local government and the Executive Yuan delegation were invited to report their feedback and advice on the event. The document produced after the conference— "The Future We Want" was properly introduced as well. A total of more than 200 people participated in the seminar. The speakers were as follows:

1. NGOs:

Dr. Yinshih Hsieh, Environmental Quality Protection Foundation; Chi-rong Li, Taiwan Youth Climate Coalition; Chun-hsiu Wang, President of Taiwan Environmental Protection Union; Men-li Chen, CEO of Homemakers Union and Foundation; Ping-huan Chen, member of New Environment Society of Taichung; Yung-chen Li, member leader of Taiwan Community Alliance.

2. Expert and Scholar:

Professor Ho-ching Li, Center of General Education National Central University; Professor Tsz-luen Lin Department of Political Studies, National Taiwan University .

3. Delegation from the Executive Yuan:

Tsui-yu Kuo, Director of Urban Development, Council for Economic Development; Shu-chen Hsu, Executive Officer of Urban Development, Council for Economic Development, Hung-chih Yang, Vice Director of Forestry Bureau, Council of Agriculture; Chia-hung Hung, Director of Urban Development Branch, Construction and Planning Agency, MOI; Ming-feng Wu, Section leader Fishery Agency, Council of Agriculture; Liang-dong Chen, Specialist of Industrial Development Bureau, MOEA; Kung-yin Huang, Supervisor of Taijiang National Park Administration; Si-chin Tsao, Chief Researcher of EPA.

Words from Our Members



► Completing Its Current Task to Become the Cornerstone of Taiwan

By council member: Chun-Hsin Lin, Chairman of the Archlife Research Foundation

I am truly honored to be a member of the National Council for Sustainable Development (NCSD). In recent years, I've focused on the overall system to observe the development of the council. In terms of the general framework of the council, the greatest achievement and breakthrough of the council and related ministries is the completion of the amendments to the "National Sustainable Development Policy Guidelines". In accordance with the new Sustainable Development Indicators of our nation, the council worked hand in glove with the action plans of various ministries and was thus able to self-review the performance of relevant policies. Although the benefits of these amendments can not be seen immediately, the overall structure has been substantially complete. I believe that future policy makers of the council will be able to utilize this overall structure to gain a comprehensive overview, and promote the sustainable development of Taiwan with effective tools of operation. As we all know, the task of sustainable development includes three dimensions: social, economic, and environmental; none of these should be emphasized to the neglect of the other two. The final vision of the NCSD is, in truth, the integration of the three dimensions into one. Therefore, it is vitally important for the overall structure of the council to have some degree of homogeneity and unity. The absence of a system or structure that can foresee the outlooks of the future will make it difficult for those participating

in the decision-making process to obtain a comprehensive overview of the whole picture. They will become unable to determine whether sustainable development is being carried out homogeneously and with great unity, and they are liable to fall into the trap of prejudice. There is no denying that amendments of the "Sustainable Development Policy Guidelines" is a major breakthrough for Taiwan, but this does not mean it is all smooth sailing from now on. Rather, this signifies that participating decision makers must resolve to push forward the sustainable development of our country toward the goals set forth by the policy guidelines by combining the forces of all parties. Only by doing so can we construct a recycling type development system, achieve a recycling society and economics which co-exist with our emphasis on the environment. Then, and only then, will we be assured of a bright sustainable future for Taiwan.

Compared with the mechanisms for sustainable development in other countries, Taiwan's agenda for the promotion of sustainable development has its own merits. Ours is a system arrived at through our own efforts, which evolved around our modernization process. If we were to review Taiwan's current mechanisms for sustainable development, even with the inclusion of the "policy guidelines", we would find that what we have done so far still falls short of what people expected of us. In other words, although we have come up with many goals, policies, and the corresponding action

plans, we do not know whether these action plans are complementary to the other plans which are already in action. Do they complement or contradict each other? There is much room for discussion. Therefore, we need to come up with a set of assessment tools like they do in other countries.

As far as the assessment tools are concerned, the Secretariat Office of the Council is in the process of consigning some outsourcing agency to write up a draft on a project base. Although at present most of the assessment tools have been envisaged, it will take time and due process to have them fully implemented, not to mention the fact that the assessment tools will have to be passed by the Legislature. I do hope that in the future, before the implementation of various policies, all government agencies can utilize this self-assessment tool to self-evaluate whether their policies fall in line with the conditions for sustainable development so that the policies

they implement will be complementary to the directions of the "Policy Guidelines."

In sum, from the implementation of the policy guidelines, the promotion of the action plans to the self-assessment of sustainability, we should seek a high degree of internalization. When sustainable development is internalized within various government agencies, all ministries and departments will have a comprehensive mechanism for sustainable development, which, coupled with the government's reform movement, will render the functions of the NCSD totally unnecessary, as sustainable development will become an autonomous operation within each governmental unit. In other words, when sustainable development becomes an internalized mechanism, the NCSD will have served its purpose. The council can make its exit while Taiwan inherits its spirit, pushing its essence to the full, thereby attaining true and comprehensive sustainable development for our country.



▶ Playing the Role of Overseer and Guardian for the Government

*by council member Alice Yu,
Chairwoman of the Yu Chi-chung Cultural and Educational Foundation*

Sustainable development is perpetually continuous. It is also a long-term goal with no end in sight. I have been a member of the National Council for Sustainable Development (NCSD) for a number of years. From my participation in the affairs of the council, and from my observation of the promotional efforts on the part of various government agencies, I feel that the Taiwan Government has made some achievements in promoting sustainable development. It is also incumbent upon me to

say, however, that the functions of the NCSD have been constrained to some extent due to some institutional and contextual factors.

In my personal opinion, the shortcomings of the NCSD are as follows:

1. Its meeting schedules are not stable. Often the meetings are held irregularly or indefinitely postponed; and the officials in charge often fail to show up.
2. The resolutions of the council are not consigned to the related ministries for proper

implementation as per Article 29 of the Basic Environment Act, resulting in the lack of real performance. More often than not, these resolutions were shelved for good.

3. When ministries or other government agencies make decisions on policies or governance related to sustainable development, they often fail to notify council members or invite them to join the discussion process. As a result, the council members are unable to play the role of an overseer or guardian.

At present, the legal base for the installment of the NCSD is the Basic Environment Act. This gives people the impression that our government only emphasizes environmental protection. This is a far cry from the ideal that our government should pay equal attention to environmental protection, economics, and society. In the meantime, our government's decision making in the economics and society realms lacks the voice of the NCSD. I am of the opinion that we should vie to have the NCSD incorporated into the Organic Laws of the Executive Yuan. For one thing, this will comply with the procedural requirements of an organizational setup. And, for another, this will elevate the council to a higher level, thus highlighting its function.

Secondly, the council should not exist only in the organizational structure and decision-making process of the central government. To reflect that our citizens attach universal importance to environmental sustainability, and that our local governments also stress the importance of sustainable development, the Basic Environment Act, together with its set of guidelines, should explicitly stipulate that sufficient resources be provided to the council, and that the local governments should install their respective councils for sustainable development as well. Only by strengthening the vertical integration between the councils for sustainable development in the central and local governments can we make our citizens

understand, participate, and practice the concept of sustainable homes.

Moreover, in terms of the promotion of sustainable development within our country, there are tremendous gaps that need to be closed in interacting with our citizens. For instance, there are gaps between the demands of ecological conservation and economic development, the concept of sustainable development and system policies to enforce the concept, a civilian society and official governance, local and global policies of sustainable development, so on and so forth. All these chasms have been long existing and need to be bridged so we can arrive at a convergence and consensus.

It is my sincere hope that, with the kick-off of the reform of our governmental structure, the Council for Sustainable Development could be subsumed under the National Development Council, and the set of guidelines for the installment of the Council for Sustainable Development could be revamped as well, so that the above-mentioned shortcomings could be amended, and the functions of the council could be brought back to life. In this way, the progress of our nation can be ensured, and the policy goal of sustainable development for Taiwan can be achieved. As for the selection of council members, the council's rules of operation, the convocation of meetings (such as work meetings and members' meetings), the decision-making process and follow-up checking, these should all be institutionalized and subject to review at any time.

In the future, the set of guidelines for the installment of the NCSD must beware that laws are only minimum requirements. In the provisions of the guidelines, the council should be endowed with substantial room for development and real power which, coupled with the joint efforts of an ideal-minded chairman, should be able to keep abreast of international trends, expand its vista

and perspective, echo the demand of the general public, and allow the council to

appropriately play the role of being an overseer and guardian of our government.



► The Concept and Practice of Sustainable Development

*by council member Shang-Lien Lo,
Honorary Chairman of Taiwan Environmental Management Association*

Ever since the 1992 Earth Summit in Brazil, the world at large has tried to find a coherent interpretation of the ideas and concepts of sustainable development. From the United Nations, international organizations, various governments, academic institutions to the private sector, research and seminars are constantly being held to arrive at a consensus about the definition of the term. Sustainable development, on its own, has evolved from what initially started as an environmental and ecological point of view, to a level that is consonant with the implementation of social and economic systems. In short, the scope of sustainable development has been greatly extended.

To implement the concepts of sustainable development, most nations have installed an assessment system for evaluating whether a nation has made strides in pursuing sustainable development. Theoretically, the establishment of indicators for sustainable development should be closely tied to the concepts and contents of sustainable development. The definitions of sustainable development, however, varies greatly from country to country, and the abstract definitions would only become "word games" if they could not be connected to the real experience of our national development or be materialized in our current political, economic, social or educational conditions. Thus, sustainable development will have little effect in guiding the policies of our nation. Therefore, to go beyond these abstract definitions, we must firstly understand the basic concepts of sustainable development.

Sustainable development includes several concepts. Environments should have a carrying capacity which must be watched over without over exploitation. In the process of resource development and utilization, intergenerational justice should be adhered to, and under no circumstances should the rights of the next generation be deprived or usurped. All externalities should be accounted for, and economic internalization should prevail, so that environmental pollution will not be dealt with from the angle that it is external to the economy, and thus real economic welfare can be pursued. Finally, institutional capacity building should be established, so that a mechanism for supervision and evaluation can be installed with due respect to scientific principles, market mechanisms, the pluralistic values of democracy and the rule of law, to avoid the making of wrong decisions which can not be reversed in the future.

Therefore, sustainable development of any nation should take into account three dimensions: environment/ecology, social/economic policies, and political systems. These three dimensions are interlocking and inseparable from one another. Any investigation and control of the environmental quality or ecological resources should have a solid scientific base. The response and design of social/economic systems should also depend on scientific information as a basis for decisions. When our environment and ecological systems are impacted severely, the impacts can be largely attributed to our society's behavior and activities. Consequently, we need to think about

this problem from the angle of sustainable development for our social systems.

If we examine the indicators for sustainable development over the last 5 years, we will find that environmental pollution has gradually improved, but the ecological resources still tend to be not sustainable. The economic structure has been gradually metamorphosing, but demographic pressure has not slowed. These indicators show that although efforts on the policy level are moving towards sustainable development, we still need to actively promote sustainable environmental education, so as to enhance universal environmental literacy.

Because 99 indicators is a large number to manage, often the results of evaluation fail to achieve the effect of being an "indicator." So the phenomenon of "one indicator, different interpretation" emerges. For instance, in the cases of Su-hua highway, the 5th phase of the 6th naphtha cracker complex, and the EIA for Kuo Kuang petrochemical plants, environmental protection groups focused on the control of carbon dioxide emissions, soil and water resources, ecological conservation and the health of our citizens. In essence, they stressed the importance of "sustainable development."

On the other hand, the developers emphasized that these cases could mitigate traffic jams, ease social and economic pressure, and that the supervising governmental agencies would strengthen their management tools to reduce the negative impacts brought by these development projects. As we can see, the environmentalists focus on "sustainability," while the developers emphasize "development," each holding onto one end of the rope, so they will never intersect.

The good news is that sustainable development is not totally without progress. For instance, under the joint exploration efforts of scientists and business men from different nations, environmentally friendly technologies such as green chemistry was developed, while industrial ecology was being promoted as well. Cleaner production was implemented, and pollution of all kinds was controlled from their very source. Ecological agriculture, ecological cities and towns were also promoted. Efforts were made to research renewable energies and develop a recycling economy. All these achievements have made the long and lonely journey called sustainable development shine with the radiant rays of dawn.



► Sealing the Gap between "Ideals" and "Practices"

by Council member Huei-Chu Liao, Professor of Economics, Tamkang University

The National Council for Sustainable Development (NCSD) of the Executive Yuan was established in 1997. In over a decade, the NCSD has had many achievements. From my experience and observation as a Council member for several years, I personally believe that the NCSD has completed four major tasks that are worthy of commendation:

1. Completion of several important documents related to sustainable development, such as

"Taiwan Sustainable Development Declaration," "Sustainable Development Policy Guidelines," and "Sustainable Development Action Plan."

These documents laid a solid foundation for the promotion of sustainable development in Taiwan.

2. Assisting in the formulation of the Sustainable Development related acts : The "Homeland Security and Restoration Plan"(draft) was discussed many times in the meetings of the

NCSD. During the discussion process, representatives from the various ministries fully exchanged ideas with scholars and experts. Through collective brainstorming, a confluence of ideas was reached, which made the contents of the laws related to sustainable development richer and much more pertinent, and the conflict of opinions was reduced to a minimum, with the spirit of sustainable development fully integrated into the bills.

3. Supervising and urging related ministries to strengthen the policies of sustainable development :

In their regularly scheduled meetings, the NCSD members passed resolutions with regard to "Promotional strategies for energy-saving and biomass energy" and "To maintain the natural beauty of our coastlines, the proportion of natural coastlines shall not be reduced" etc., giving these policies a higher level status, which prompted the various ministries under the Executive Yuan to follow and process. In this manner, the NCSD played a pro-active role in policy enforcement.

4. Enhancing the sustainable development of education, business , and civilian groups :

The NCSD set up the Sustainable Development Awards which had four categories (education, community, corporation civic and action plan implementation) for entries. Capitalizing on their respective areas of specialization, council members offered professional and in-depth suggestions from the preliminaries to the finals, especially during the final re-evaluation process. In the meantime, as some small and medium sized enterprises were not familiar with the nature of the council, members also introduced the positions and functions of the council while broadening the international horizons of the units under review and assisting them to implement far-reaching and diverse sustainable management.

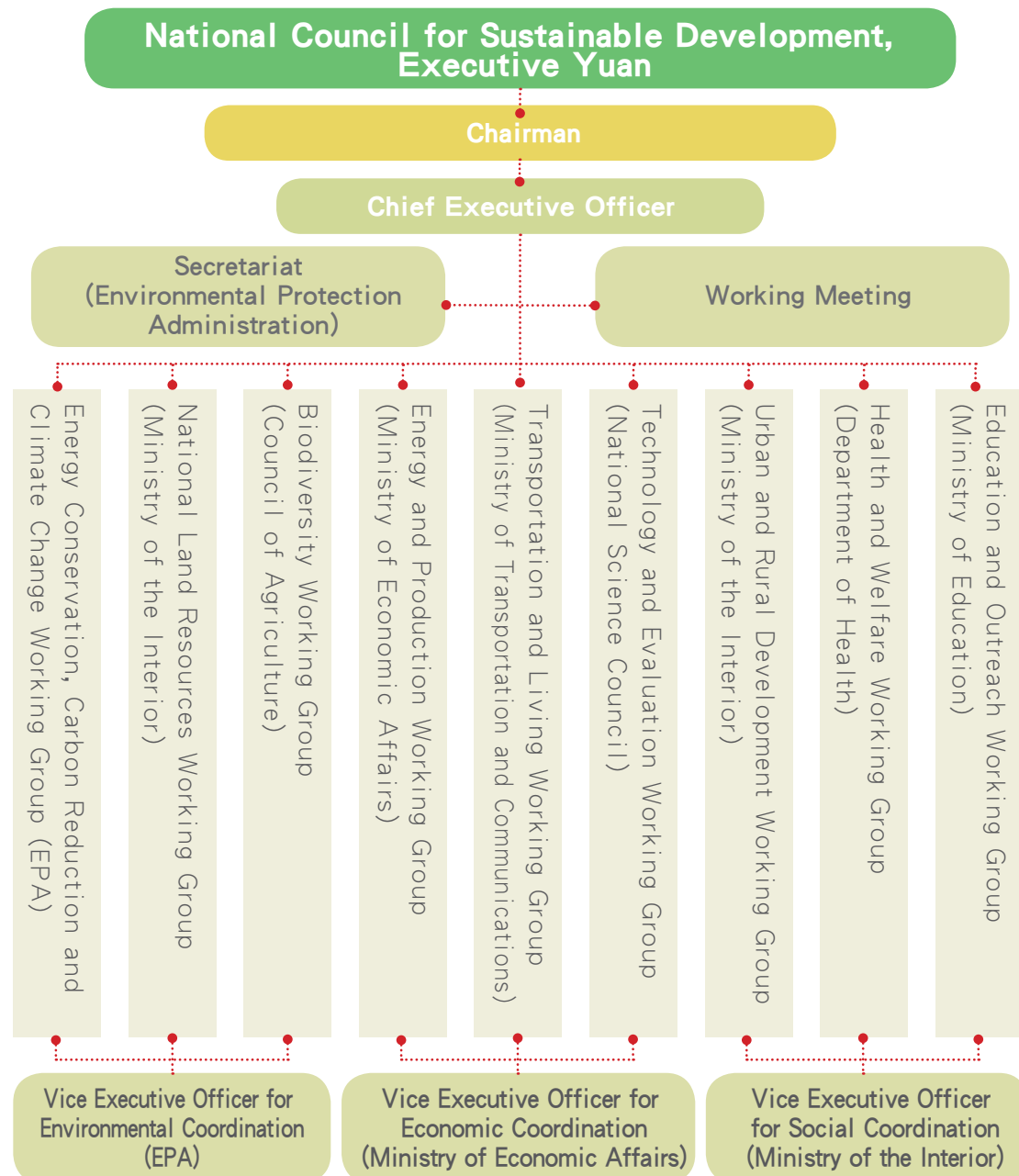
The NCSD still has room for improvement, of

course. I personally suggest that the NCSD enhance its "visibility." I once participated in a national NGO conference on the Environment. To my chagrin and surprise, I found that many representatives from various community groups were not aware of the fact that the council had been established for many years. This gives proof that the reputation of the council left a lot to be desired. After all, the government's resources are much more plentiful, if people from all walks of life were cognitive of the existence of the council, not only would they become more aware of the government's good intentions, they could also play a leading role in building the nation's sustainable future. A case in point is the National Conference on Climate Change which was held recently. The fact that the National Conference was held in the Northern, Middle, Southern, and Eastern part of Taiwan shows that it was not confined only to the Central government. By going deep to the different localities and interacting with the general public face to face, the council shall become much more recognizable to Taiwan's people.

Secondly, I believe that the NCSD should emphasize the integration of ideals and practices. From my personal experience, I often saw members from non-governmental agencies such as scholars and experts with diverse backgrounds put forward their suggestions, but the results they could acquire were quite limited. The problem, I presume, stemmed from the lack of sufficient legal base which resulted in various governmental agencies "being unable to respond" to the suggestions. In a nutshell, the absence of legal authorization is the main reason for the gap between ideals and practices. It is my sincere and humble hope that both the government and the private sector can cross this big yawning chasm, improve their mutual understanding, so that the policies on sustainable development are not only ideals, but a working blueprint which can be gradually implemented!

Appendix I

Organizational Structure of NCSD



Appendix II

The Members of NCSD

Government official members

Name	Position Organization
Jiang Yi-huah	Premier, Executive Yuan
Kuan Chung-ming	Minister of Council for Economic Planning and Development, Executive Yuan
Lee Hong-yuan	Minister, Ministry of the Interior
Chiang Wei-ling	Minister, Ministry of Education
Chang Chia-juch	Minister, Ministry of Economic Affairs
Yeh Kuang-shih	Minister, Ministry of Transportation and Communications
Chen Bao-ji	Minister, Council of Agriculture
Chu Ching-yi	Minister, National Science Council
Chiu Wen-ta	Minister, Department of Health
Stephen Shu-hung Shen	Minister, Environmental Protection Administration

Expert and academic members

Name	Position Organization
Lee Ling-Ling	Professor, Graduate Institute of Ecology and Evolutionary Biology, College of Life Science, National Taiwan University
Shao Kwang-Tsao	Researcher, Research Center for Biodiversity, Academia Sinica
Chang Ssu-Li	Professor, Institute of Planning, National Taipei University

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Name	Position Organization
Chiang Pen-Chi	Professor, Graduate Institute of Environmental Engineering, National Taiwan University
Chen Hongey	Professor, Department of Geosciences, National Taiwan University
Wu Tsai-yi	Chairman of Taiwan Research Institute
Liao Huei-chu	Professor, Department of Economics, Tamkang University
Chen Yu-Hui	Professor, Department of Agricultural and Applied Economics, National Taiwan University
Yeh Sandy Yu-lan	Associate Professor, Central Police University
Feng Cheng-Min	Professor, Institute of Traffic and Transportation, National Chiao Tung University

NGO representative members

Name	Position Organization
Yu Alice	President, Yu Chi-Chung Cultural and Educational Foundation
Lin Chun-Shin	Chairman, Archilife Research Foundation
Lai Jung-hsiao	President, Society of Wilderness
Kung Romy	Director, Taiwan Responsible Care Association
Chou Julia	President, Conservation Mothers Foundation
Chen Shih-chang	Chairman, Formosan Society for Indigenous Sustainability
Lin Yi-Hou	Director, Urban Regeneration R&D Foundation
Liu Vicky	Director, Cycling Life-Style Foundation
Lo Shang-Lien	Director, Taiwan Environmental Management Association
Hsieh Chang-fu	Honorary Director, Biodiversity Association of Taiwan