2009 ANNUAL REPORT ON NATIONAL SUSTAINABLE DEVELOPMENT

行政院國家永續發展委員會 編印
Published by National Council for Sustainable Development , Taiwan, R. O. C

九十八年國家永續發展年報 2009 Annual Report on National Sustainable Development

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98年國家永續發展年報

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前言

行政院為加強保護環境生態、強化社會正義、促進經濟發展、維護國土資源、建設健康永續家園，追求國家永續發展，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）。民國91年12月總統頒布「環境基本法」，其第29條賦予永續會法定位階，委員由政府部門、學者專家及社會團體各三分之一組成，主任委員由行政院院長兼任，秘書幕僚業務由環保署兼辦。永續會除審議國家永續發展相關議案外，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。

本年報彙整98年永續會及民間推動永續發展的重要成果，包括永續會會務（第一章）、永續會各工作分組績效（第二章）、永續發展指標（第三章）、國家永續發展獎（第四章）、2009永續發展國際論壇（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。

第一章

永續會重要會務

（一）召開工作會議

1. 民國98年4月21日，召開第26次工作會議。
2. 民國98年5月8日，召開第27次工作會議。
3. 民國98年6月23日，召開第28次工作會議。
4. 民國98年12月31日，召開第29次工作會議。

（二）永續會運作模式

運作模式

政策綱領 → 擬定跨部會、及各部會之行動計畫或方案 → 評量推動成效 → 推廣工作

修正政策綱領　修正行動計畫

執行情形

研訂「永續發展政策綱領」

形成要件：
1. 總統政見／院長指示
2. 指標年度發布結果與檢討
3. 國際趨勢及重大議題
4. 永續會工作會議與分區座談會
5. 全國科技、能源、環境會議等
6. 各機關共識會議
7. 永續會活動與網頁之民眾意見

相關部會或永續會分組擬定「行動計畫」或「推動方案」

形成過程：
1. 永續會9個工作分組討論
2. 永續會3個工作群組討論
3. 永續會工作會議討論
4. 委員會議決議

指標計算、發布及檢視

指標修訂：
1. 參考聯合國永續發展指標系統第三版
2. 以現行指標為種子指標
3. 呼應政策綱領及行動計畫

指標檢視：
1. 發布年度成果
2. 檢視政見／政策落實情形
3. 因應調整未來行動計畫、政策綱領及部會政策

推動事項：
1. 永續發展獎
2. 國際論壇
3. 出版年報
4. 建置及更新網頁

處理原則：
1. 鼓勵全民參與永續發展行動
2. 掌握國際趨勢並與世界同步接軌
3. 資訊公開

委員會議召開情形。

（三）重要成果

98年永續會完成之重要工作成果如下：

一、完成「永續發展政策綱領」編撰

「永續發展政策綱領」係以「21世紀議程－中華民國永續發展策略綱領」為基礎進行編撰，相關部會首先撰寫完成初稿，秘書處後續辦理北、中、南、東4場次「分區座談會」，以廣納各界意見，並完成綱領草案。「永續發展政策綱領」草案復經永續會第27次工作會議及第28次工作會議討論，最後再由永續會民間委員組成之「編審小組」，進行最後編審及修潤，「永續發展政策綱領」於98年8月下旬完成定稿。

「永續發展政策綱領」包括願景、基本原則、理念方向及重點政策，重點政策又包括以下四大領域，其下共置22面向，每個面向下有議題、目標及策略等：

- **「永續的環境」**：大氣、水、土地、海洋、生物多樣性及環境管理。
- **「永續的社會」**：人口與健康、居住環境、社會福利、文化多樣性與災害防救。
- **「永續的經濟」**：經濟發展、產業發展、交通發展、永續能源及資源再利用。
- **「執行的機制」**：教育、科技研發、資訊化社會、公眾參與、政府再造及國際合作。

二、篩選總統競選政見中與永續發展相關者，納入永續會「永續發展行動計畫」中落實

永續會第25次工作會議決議，檢視及篩

選行政院研考會彙整之「馬總統競選政見執行追蹤一覽表」中，與永續會工作職掌相關者41項工作，納入永續會「永續發展行動計畫」中推動，以有效落實總統永續發展相關政見。永續會行動計畫加入總統相關政見後，共計167項具體工作。

三、計算及發布我國97年永續發展推動成效

於98年7月17日舉辦「97年永續發展指標發布說明會」，對外公布以永續發展指標系統檢視之97年永續發展推動成效，超過10個媒體派員出席該次說明會。97年結果與前一年（96年）相較，41項指標中，進步者27項（66%）、退後者11項（27%）、持平者3項（7%）。其中較受各界注目的指標為：二氧化總排放量減少4.4%、換算人均排放量減少4.7%。97年永續指標計算結果，詳見第三章。

四、完成新版「國家永續發展指標」

根據永續會97年12月之第25次工作會議決議：以聯合國2007年10月公布之第三版永續發展指標系統為架構，參考國際永續發展相關指標及先進國家指標，研擬我國「新版國家永續發展指標」。「新版國家永續發展指標」將取代現行之以聯合國第一版（1996年）為架構的指標系統，俾與國際最新趨勢接軌。

「新版國家永續發展指標（草案）」經過4次「部會協商會議」、北中南東4場次「分區座談會」廣泛討論後，於98年12月31日永續會第29次工作會議討論通過。新版指標計12個面向、41個議題、99個指標。永續會將自本（99）年起，以新版指標檢視我國年度永續發展推動成效，詳細新版指標介紹，詳見第三章。

五、辦理「98年國家永續發展獎」評選及表揚

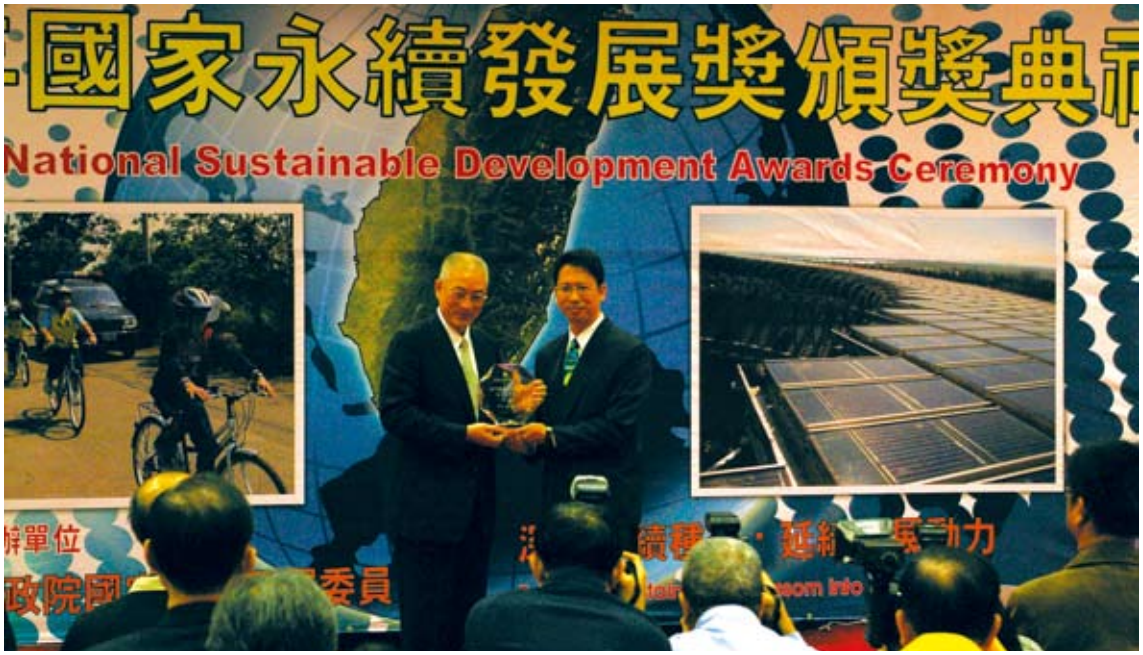
「國家永續發展獎」自民國93年起開始辦理，「98年國家永續發展獎」之評選包括書面初審、委員實地複審、及決選等三階段，選拔出：教育永續發展類、企業永續發展類、社團永續發展類、永續發展行動計畫類等4類獎項，計11個單位獲獎（見下表），並於98年12月7日在行政院大禮堂舉行頒獎典禮，由吳敦義院長親自頒獎。有關國家永續發展獎得獎單位之實蹟介紹，詳見第四章。

表：98年國家永續發展獎得獎單位

獎項	得獎單位
教育永續發展獎	高雄縣私立中山高級工商職業學校 台南縣內角國民小學 桃園縣內定國民小學
企業永續發展獎	中華電信股份有限公司 台灣康寧顯示玻璃股份有限公司 皇將科技股份有限公司
社團永續發展獎	財團法人台灣兒童暨家庭扶助基金會 中華救助總會 社團法人台灣護理學會
永續發展行動計畫執行績優獎	內政部營建署城鄉發展分署一濕地保育計畫 行政院環境保護署溫室氣體減量管理辦公室一建置國家溫室氣體盤查登錄系統計畫

六、辦理「2009 國際永續發展論壇」

永續會於98年6月9日在國家圖書館辦理「2009國際永續發展論壇」，邀請美國、日本、德國、英國、馬來西亞等永續發展委員會之成員或專家來台，介紹其永續發展推動情形，並與永續會委員及與會人士交換推動經驗。該次論壇並邀請聯合國和平大使、世界著名保育專家珍古德博



吳敦義院長親自頒發獎座予國家永續發展獎得主。

士做專題演講，並跟與會者進行廣泛意見交換，更深入的論壇相關報導，詳見第五章。

七、完成「國土保安及復育計畫」草案之審議

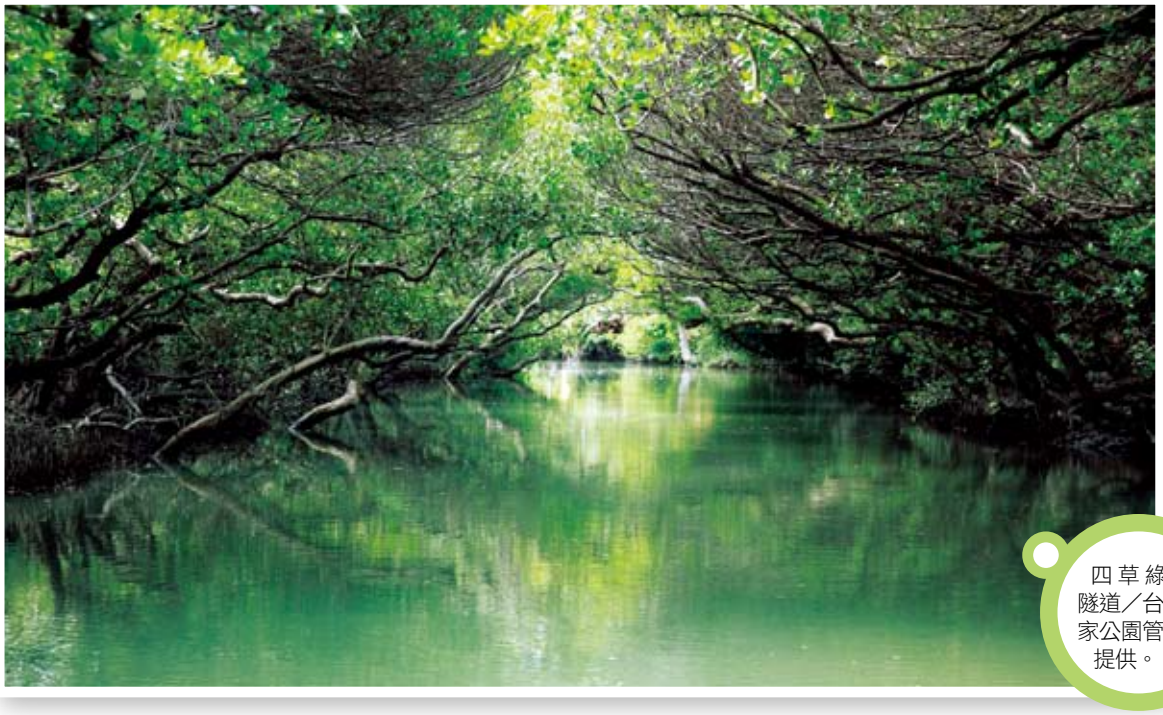
由行政院經建會研擬之「國土保安及復育計畫」草案，經永續會「國土資源分組」及「城鄉發展分組」2次「分組會議」、北中南東4場次「分區座談會」及永續會3次「工作會議」討論後，於98年12月31日第29次工作會議中完成審議。

八、完成「海岸保育及復育方案」草案之審議

「海岸保育及復育方案」草案係依據行政院98年2月第7次政務會報決議辦理，由永續會秘書處進行彙總及草擬。經3次「部會協商會議」、國土資源分組2次「分組會議」、北中南東4場次「分區座談會」及永續會2次「工作會議」討論後，於98年12月31日第29次工作會議中完成審議。

永續會第26次工作會議。

永續會各工作分組績效



四草綠色隧道／台江國家公園管理處提供。

2.1 節能減碳與氣候變遷組

一、推動溫室氣體減量立法及研擬方案

行政院積極推動「溫室氣體減量法」立法工作。該法除為開發中國家立法首例，亦以國際公約因應、減碳機制設計、協助產業建置競爭能力及全民參與節能減碳等為重點。

在推動政策方面，環保署並召集公私部門舉辦多場「國家溫室氣體減緩推動方案（草案）」會議，討論各部門減量目標、推動策略、工作項目、分工及預期成效等議題。

二、參與環保公約及促進國際合作

（一）就我國推動境外碳權策略完成研擬，並召集相關部會、專家及業者研商，經討論規劃成立「清潔發展及碳權經營策略聯盟」，朝以碳權交易資訊平台功能作具體規劃。並於哥本哈根會議期間，廣徵國際人士之意見及爭取支持。

（二）配合哥本哈根會議之舉辦，除有10個友邦於COP15/CMP5為我執言外，也與美國、歐盟等重要國家及友邦進行雙邊會談，另與氣候變化政府間專家委員會（IPCC）、世界氣象組織（WMO）、地方政府永續發展國際委員會（ICLEI）、全球環境基金（GEF）、德國波茨坦氣候影響研究所等國際重要組織高階主管進行會晤。

（三）促進國際交流，邀請國際專家學者來台，98年5月召開「太平洋溫室效應氣體觀測國際研討會」；6月召開「國際溫室氣體認驗證發展趨勢」座談會；7月辦理「電子業自願性溫室氣體減量研討會」；8月召開「溫室氣體減量管理專家論壇」及「美國排放交易機制設計研討會」。

（四）於98年7月間，完成西太平洋海洋邊界層全球首航溫室氣體觀測任務，規劃

於2010年下半年啟動航空溫室氣體觀測。

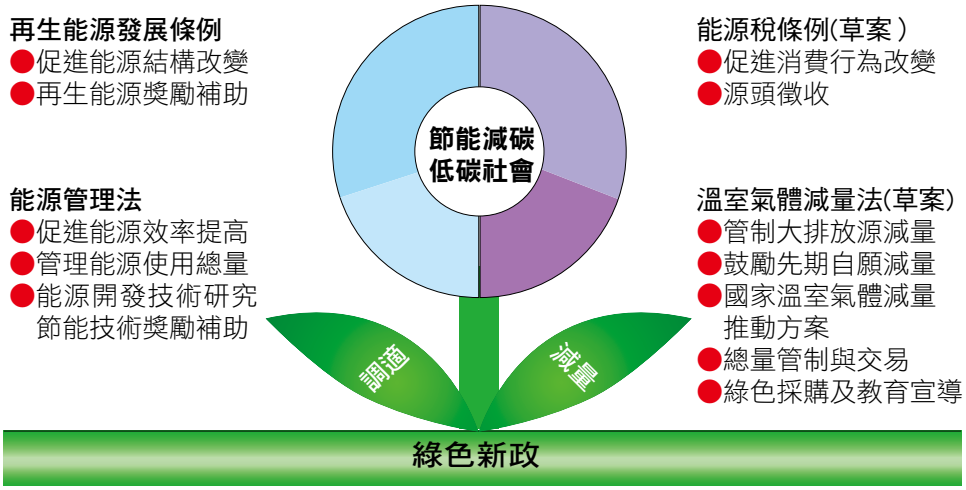
三、推動溫室氣體減量能力建構工作

目前國家溫室氣體登錄平台已有224家廠商自願提報盤查資料，除達年度目標外，並已正式啟動盤查登錄平台線上登錄作業。環保署於98年11月6日發布「管理溫室氣體查驗機構作業原則」，規範查驗機構申請資格、審查程序及人員資格等事宜，建立與國際接軌之認查驗體系。並完成審定「溫室氣體盤查與登錄指引」及「溫室氣體查證指引」，以提升登錄資料的準確度。

四、節能減碳宣導事宜

除加強媒體宣導並舉辦多樣活動，推廣企業、商家及民間一同落實節能減碳，同時也完成「節能減碳全民行動網」建置，提供全民簽署節能減碳宣言、進行用電量查詢，並計算減碳績效之功能，至98年底上網簽署人超過95萬人，顯示網站確已發揮其宣導功能。

減碳四法互補示意圖



2.2 國土資源組

一、掌握災害情勢，深耕災害防救能量

為因應氣候變化之衝擊，除交通部中央氣象局推動4年期（97-100年）「海象資訊e化服務系統之整合與應用研究」以預防海洋與海岸災害外，經濟部水利署並建置防災資訊服務網，以發揮災害預警應變之效果。為使災害防救工作向下紮根，深耕災害防救能量，行政院災害防救委員會持續推動「災害防救深耕5年中程計畫」。

於都市防災方面，內政部建築研究所並辦理「都市土地使用因應氣候變遷衝擊之減災與調適策略研究」，完成國內都市面臨氣候變遷可能衍生災害之因應現況與課題檢討，作為地方政策研訂都市政策與相關法令修訂之參考。

二、促進林地復育 培育優質森林

為培育優質森林，促進林地復育，農委會林務局於98年度完成國有林撫育14,259公頃、劣化地復育211公頃、海岸林復育

73公頃、離島造林43公頃，並以「生態工程」為原則，完成約373公頃崩塌地處理，抑制土砂下移量約920萬立方公尺，以抑制二次崩塌，促進林地復育。

三、推動無痕山林 整合全國步道導覽網站

持續推動無痕山林師資培訓，完成11梯次170位種子教師及3梯次39位無痕山林高階教師之培訓，並且擬訂24個無痕山林運動教案及教具，所建置之「台灣山林悠遊網」網站則發揮整合全國步道導覽網站之功能，目前閱覽使用人數達150萬人次。

彰雲嘉樂活單車逍遙遊-騎尋無陷桃花源。

四、結合地方、與國際接軌 共推濕地生態復育

內政部營建署為保育我國濕地生態環境，豐富城鄉地景風貌並建構區域生態網絡，於98年度推動「國家重要濕地生態環境調查及復育計畫」，跳脫傳統工程建設制式作法的舊有思維，編列預算補助地方政府，鼓勵鄉鎮公所、法人組織、社區團體及大專院校共同進行濕地復育、地景改造、生態調查監測以及巡守等環境永續經營管理工作，獲得良好的成效。

同時為強化臺灣濕地於國際之重要地位，並與國際濕地組織持續交流，特邀請國際濕地科學家學會（SWS）會長Andrew H. Baldwin來臺，並於98年11月30日上午由營建署葉世文署長代表，與SWS共同簽署「2010-2015濕地區域行動計畫合作備忘錄」，可進一步加強與國際濕地組織之間的合作交流，藉此吸收國外濕地新知，提升我國濕地復育相關的知識與技術。

簽署「2010-2015濕地區域行動計畫合作備忘錄」。

2.3 生物多樣性組

一、加強我國保護區系統及經營管理

農委會於98年4月公告「嘉義縣鰲鼓野生動物重要棲息環境」，共佔地664公頃，使我國目前自然保護區域數目提升至84個，總計占台灣陸域面積達19%。

嘉義縣鰲鼓野生動物重要棲息環境範圍圖/農委會林務局提供。

台江國家公園管理處亦於98年12月正式揭牌成立，總面積39,310公頃，包括臺南縣市之七股潟湖、黑面琵鷺保護區、四草野生動物保護區、海岸防風林等範圍。該公園為我國第8座國家公園，兼具歷史、生態、產業等資源特色。其成立後，我國國家公園陸域面積已達台灣全島之8.64%。

二、沿海地區及濕地保育

（一）辦理「臺灣沿海地區自然環境保護計畫（第一次通盤檢討）」，共劃設21處海岸保護區，包含海岸自然保護區63處及海岸一般保護區21處，實施範圍面積增加至132萬公頃。

（二）研擬「國家重要濕地保育計畫（100-105年）」，整合各部會資源，並擬定短、中、長期各項計畫，並據以推動。

三、完成台灣現生天然植群圖

農委會「國家植群多樣性調查及製圖計畫」經6年調查，完成台灣第一個整合性的植群調查及製圖計畫，將台灣陸域約162萬餘公頃面積區域建構出完整之圖集。此一植群圖的完成除可清楚知道各植群類型受保護比例，亦可透過環境因子的套疊，了解特定植群類型的棲地分布及特性，對生態及物種保育、國土規劃、學術研究與環境教育將具有莫大貢獻。

農委會林務局並於98年12月17日舉辦《台灣現生天然植群圖集》發表會，將台灣植群生態的突破性研究成果公諸於世，讓全國大眾更深入瞭解台灣植群的生態多樣性。

台灣現生天然植群圖集（封面）。

四、出版第一本官方物種名錄，台灣本土物種突破五萬種

農委會林務局及國科會補助中央研究院生物多樣性研究中心執行「建置台灣物種名錄計畫」，於98年完成台灣第一本官方物種名錄「2008台灣物種多樣性－I.研究現況及II.物種名錄」，共登錄了51,212種本土種。不僅在單位面積之多種生物密度我國均名列前茅，且台灣的「特有種」比例亦極高。這對台灣生物多樣性的研究、教

育、保育，以及農林漁牧等之應用均發揮極大的功用。

五、參與「全球種子庫備份保存計畫」

斯費巴全球種子庫被視為「世界末日種子庫」，98年2月26日由農委會代表與其執行長簽署協定，正式加入「斯費巴種子庫備份保存種原計畫」，將我國特有的水稻及雜糧、蔬菜等15種作物種子材料送到全球種子庫備份保存，為我國農業國際合作與發展再創新頁。

六、加強防檢疫管理及外來入侵種防治

（一）農委會公告實施「輸入貨品使用木質包裝材檢疫條件」規定，並修正「中華民國輸入植物或植物產品檢疫規定」。

（二）為響應生物多樣性公約組織所定「2009外來入侵種」主題，永續會生物多樣性組特於98年5月22日起在農委會林務局淡水紅樹林生態展示館舉辦「522國際生物多樣性日－2009外來入侵種防治行動」宣導活動，喚醒全民打擊外來入侵種行動的實踐力。

送往SGSV的種子「貯存箱」上貼有TARI（農試所）字樣與RFID標籤。

防治外來入侵種簽署行動。

2.4 能源與生產組

一、再生能源發展條例完成立法

近年來國際油價持續攀高，台灣進口能源高達98%；此外，國際管制溫室氣體的壓力逐漸增大，因此，發展兼具提升自有能源比例及減少溫室氣體排放的再生能源，刻不容緩。經多年研擬，「再生能源發展條例」終於在98年7月8日正式公布，做為國內推動再生能源的法制基礎。

此法通過可以鼓勵目前從事排放二氧化碳的發電業者投資再生能源，條例規定再生能源躉購費率不得低於國內電業化石燃料發電平均成本，讓業者有足夠獲利空間投入再生能源研發，降低成本，提高發電功率。

二、全國能源會議達成「低碳經濟」共識

為推動節能減碳並凝聚全民共識，98年4月14、15日，行政院特別辦理「全國能源會議」，達成「低碳經濟」及「低碳社會」等共249項共識。其中較重要者包括研訂「永續能源基本法」；規範政府政策應符合「碳中和」原則，建構碳足跡、碳揭露等制度；建構自行車專用道，於交通法規明定自行車優先路權；提升能源安全議

「98年全國能源會議全體大會」總結報告，馬總統發表致詞。

題及能源主管機關位階；強化核能安全、資訊揭露與監督機制等。

此外，政府將推動綠色電力市場發展及收購綠色電力合理價格機制，以綠色電價制度，合理反映綠色（再生）能源價格；推動汽燃費隨油徵收；開放用戶購電選擇權；成立電力調度中心；推動「天然氣事業法」立法。

為進一步推動再生能源，行政院並於98年11月15日核定經濟部所提「綠色能源產業旭升方案」，5年內至少投入技術研發經費約200億元，引領台灣產業朝向低碳及高值化發展，預估2015年綠能產業產值可由2008年1,603億元提高至1兆1,580億元。

三、綠色稅制研擬推動

98年10月19日，行政院賦改會決議，肯定且支持推動綠色稅制，將優先推動能源稅及二氧化碳環境稅。並通盤考量綠色稅制對經濟、產業及環境之影響及社會各界之意見，審慎研擬稅制，於完成立法程序後，再視適當時機實施。

四、推動節能減碳輔導

98年2月25日，經濟部正式成立「商業節能減碳輔導服務團」，經推動共完成4處既設商圈耗能現況調查、4處新設商圈節能減碳規劃、5處傳統市場耗能現況調查、10家連鎖餐飲業及10家連鎖休閒飲品業節能輔導。

針對漁業的節能減碳，農委會漁業署於98年5月18日成立節能減碳專案小組，執行振興經濟方案海岸新生計畫，以減碳20%為綠色內涵設計目標。

台南縣政府-24.9 kWp 能源局補助設置系統。

2.5 交通與生活組

一、提昇鐵公路客運品質及效能

（一）交通部公路總局針對各地方政府就目前地方公共交通網車班資訊不足、車輛老舊、候車設施缺乏、路線整合不力，以及接駁轉乘不便等問題，推動改善策略與補助計畫。此外，也補助新竹市、台中市、台南市辦理轄區公車評鑑作業及公路總局自行辦理國道客運評鑑作業。

（二）交通部鐵路改建工程局為強化都會區軌道運輸，打造節能車站符合永續發展趨勢，推動鐵路立體化及捷運化及台鐵支線改善計畫，本年度對北、中、南都市鐵路立體化及捷運化，共推動7項計畫。另執行3項東部鐵路服務效能之提升，4項台鐵改善計畫。

二、推廣生態旅遊及東部自行車路網示範計畫

（一）交通部觀光局完成「配合節能減碳東部自行車路網示範計畫」，優先將東部發展為自行車路網示範地區，東北角國家風景區管理處為配合推動政策，已規劃將舊草嶺自行車隧道、龍門鹽寮自行車道及宜蘭濱海自行車道納入自行車路網。硬體方面，除加強相關指標牌示、自行車道設施及周邊環境改善外，在軟體方面則舉辦活動並加強媒體宣導。

（二）交通部觀光局各風景管理處及各港務局為推廣生態旅遊，除辦理淨灘、植栽綠化等活動，以及建置自行車道提倡健康、樂活的綠色生活運動外，亦積極辦理推廣生態旅遊相關活動。

三、辦理交通服務 e 網通計畫並建構高快速公路整體路網交通系統

擴充及維運「全國路況資訊中心」網站：蒐集及提供跨公私部門之不同交通事件資訊查詢服務，並開放資訊供加值業者提供路況服務。另擴充及維運「陸海空客運資訊中心」網站：整合跨軌道、公路、海運及空運業者之客運班表、路線與票價外，為擴大應用及服務，納入各縣市市區公車資訊，擴大無縫公共運輸資訊範圍。

為提升高、快速公路之行車安全與順暢，透過智慧型運輸系統（ITS）技術之應用，發揮高、快速公路網之整體運輸效益，服務網站點閱率較去年同期增加54.25% 。

舊草嶺隧道自行車道。

四、提昇氣象預報及地震測報能力

完成「氣候變異與劇烈天氣監測預報系統發展計畫」，建立氣象局短期氣候預報及極短時劇烈天氣預報系統的能力，以發揮氣候預測的經濟效益與短時劇烈天氣預報的防災效益。另將19個現有地震觀測站汰換成世界上最先進的24位元地震儀，同時也建置3座井下地震儀觀測站，可有效降低背景雜訊，提供高品質的地震紀錄。

結合環保、生態、景觀之國道6號南投段工程。

五、辦理綠色行銷推廣計畫

經濟部針對傳統市集與商圈，甄選示範標竿綠色商圈及市集進行綠色經營深化輔導，除建立節約能源、減少廢棄物及資源回收再使用之「綠色消費商業環境示範擴展標竿」外，並利用「落實觀念宣導推廣機制」，讓綠色消費成為生活的一部分，且推廣民眾使用綠色商品之消費習慣，也對延緩地球暖化盡一份心力。

2.6 科技與評估組

一、推動氣候變遷相關科學與評估研究

（一）國科會自96年起推動「氣候變遷對台灣地區災害防治及生態系的衝擊調適、脆弱度評估與因應策略」整合型研究，以評估台灣地區水災、風災、水資源供給、林業、農業、漁業、生態系、公共衛生等項目在氣候變遷影響下的脆弱度。其中氣候變遷對台灣生態系衝擊及脆弱度之評析部分，已於98年10月辦理研究成果發表會，出席人數近百人。

（二）推動「臺灣氣候變遷情境推估與資訊平台建置」跨機構計畫

有鑑於氣候變遷之可能衝擊與2009年初之第八次全國科技會議決議。國科會積極整合國內重要科研單位促成「臺灣氣候變遷情境推估與資訊平台建置」計畫成型。

氣候變遷對台灣生態系衝擊及脆弱度之評析研究成果發表會。

該計畫為三年期計畫（98/11~101/10），由國家災害防救科技中心負責規劃執行，結合國內大多數氣候變遷研究的學者，以及中研院環境變遷研究中心、中央氣象局與國家災害防救科技中心等正式研究單位（平台架構如下圖），兼具前瞻科技研究的科學與技術發展、作業單位的能量與資源，以及應用端的需求與技術開發，做為未來國內在氣候變遷研究領域上的研究平台，初期將以水部門為應用方向。

由國家災害防救科技中心負責資料庫與資料服務平台的建置，由不同的科研單位組成三個工作群組針對21世紀台灣氣候變遷情境進行推估，並應用氣候變遷情境推估資料進行衝擊研究、建構氣候變遷跨領域研究與應用整合平台，進行氣候變遷研究與下游應用的整合。

該計畫為跨領域整合與應用導向計畫，由體制面、技術面與應用面完成如下之總體目標：

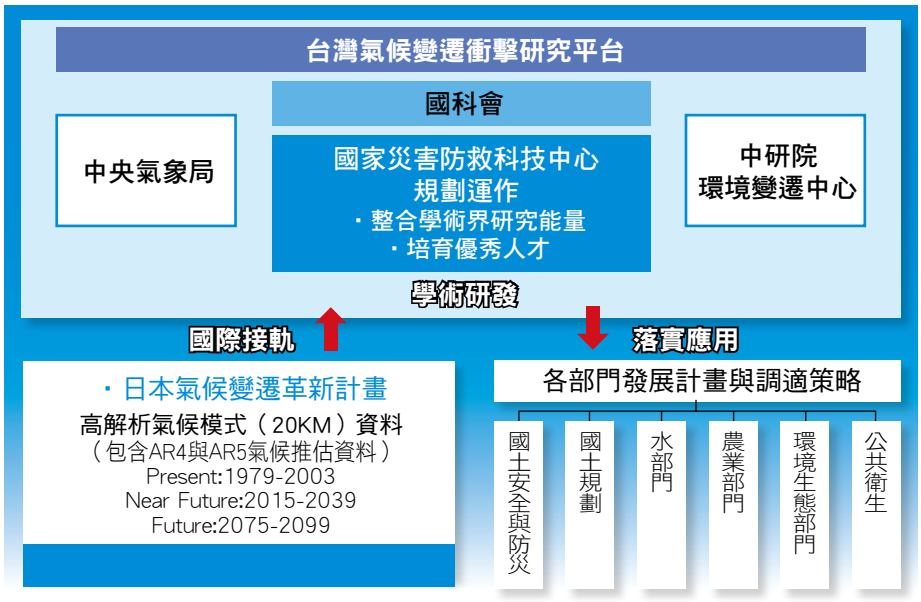
- 建構氣候變遷跨領域研究與應用整合平台。
- 建立台灣氣候變遷之未來推估。
- 促成研發成果應用於部會之調適政策。
- 強化台灣區域氣候研究之重點特色，並與國際接軌。
- 出版國家氣候變遷研究報告。

二、推動國家型能源科技計畫

國科會已於98年6月10日通過「能源國家型科技計畫總體規劃報告」，共訂定四原則，分別為整合資源、規劃能源科技發展策略、篩選國家未來能源科技重點研發領域、提供能源科技預算分配及調整原則。

該計畫已整合國科會、經濟部能源局、原能會、內政部、交通部、農委會及環保署等既有之能源相關研究計畫資源，研發重點方向以（1）節約能源技術、（2）能源新利用與能源環保、（3）再生能源開發與利用、（4）能源科技發展策略評估與整合等四大方向為主。針對策略性研發重點項目，推動「浮煤」、「海洋黑潮」、「核能」、「離岸風能」、「智慧電網」、「甲烷水合物」、「能源政策」等七項主軸計畫。

計畫平台架構



2.7 城鄉發展組

一、推動綠建築

內政部建築研究所長期致力於推動綠建築研究，98年度執行「生態城市綠建築推動方案」之成果，共計通過415案綠建築標章及獲選證書，預估每年約可省電1.21億度、省水592萬噸及減碳8.2萬噸；為提升節能效益，本年度辦理之「建築能源效率提升計畫」，共計完成28案節能改善工程，於降低都市熱島效應方面，共計完成28件「綠建築更新診斷與改造計畫」改善工程。除上述努力之外，並於98年10月11至14日主辦「2009綠建築邁向生態城市國際會議」，由國際建築研究聯盟（CIB）及世界綠建築協會（WGBC）共同協辦，計有456人次參加，涵蓋23個國家代表參加。

二、修訂再生建材標準規範

於綠建材及再生建材方面，內政部建築研究所本年度辦理之綠建材標章評定審查，共計通過綠建材標章101件，產品種類涵蓋達1,300餘種。經濟部工業局並致力於推動增修訂我國再生建材標準與規範草案，本年度公告有「預鑄混凝土緣石」及「景觀用擋土牆及護坡混凝土塊」2項國家標準，並於98年完成「混凝土空心磚」、「結構混凝土用輕質粒料」、「混凝土圬工用輕質粒料」、「輕質混凝土粒料含鐵污染材料試驗法」及「結構輕質混凝土密度試驗法」5項國家標準草案制（修）訂。

2009綠建築邁向生態城市國際會議與會代表合影。

2.8 健康與福祉組

一、對於有機農業之推動，有機農產品管理新制自98年1月31日起實施，落實有機農產品及有機農產加工品品質抽驗並加強有機農產品及有機農產加工品標示宣導。全年認證有機農畜產品驗證機構11家，輔導驗證通過有機農糧作物1,277戶、2,961公頃。

二、在環境風險的監測方面，環保署98年第一季國內環境空氣戴奧辛監測結果平均濃度為0.056 pg I-TEQ/m^3，相較於91、92年監測平均濃度0.089 pg I-TEQ/m^3 明顯降低，且所有監測值皆遠低於日本環境戴奧

辛空氣品質基準值0.6 pg I-TEQ/m^3。對民眾之健康危害風險大幅降低，有效保障民眾健康。

另環保署為加強河川水質監測數據流通及應用，每年彙整前一年之監測結果，編製水質監測年報，上載於全國環境水質監測資訊網，除用於污染整治成效評估及瞭解長期環境水質資訊，並供各界免費查詢或下載使用。（「全國環境水質監測資訊網」http://www.epa.gov.tw/wqm）

三、在提昇國人對於健康風險的認知方面，環保署於98年9月15日舉行「毒性化學物質環境流布10年成果回顧與未來展望論壇」，會中同時分送「毒性化學物質環境流布調查成果手冊」，環保署自88年度起即開始進行毒性化學物質環境流布調查，至今已進行10年，不僅成功建置多項環境樣本中化學分析技術，建立毒性化學物質本土環境流布資料，同時對毒性化學物質管制及減量策略與技術提供具體施政建議，促使多項毒性化學物質如有機錫、多溴二苯醚、鄰苯二甲酸酯、汞、有機殺蟲劑等之具體管制及減量方案之推動。

另環保署於98年10月5日舉辦「環境荷爾蒙管制論壇」，邀請立法委員、民間環保團體、專家學者與會，就民眾於日常生活中可能接觸之含有環境荷爾蒙之用品、暴露途徑、人體健康影響、民眾如何防制等議題進行熱烈討論。

四、原住民族委員會於98年3月發行全國原住民人口及健康狀況統計年報，除提供一般社會人口、死因、癌症等靜態死亡資料外，亦納入全民健康保險門診及住院等動態資料。設立原住民長期照護需求統計專章，讓原住民族人口及健康圖像更具完整性。

2.9 教育與宣導組

一、為推廣節能減碳，教育部環保小組於98年1月間辦理「98年度跨部會節能減碳教育執行方針研討會」，透過參與行動規劃的程序，協助中央與地方政府建構環境教育發展願景。

二、為活化校園空間，教育部於98年7月甄選「98年度校園空間活化之十大經典特色國民中小學」，辦理論壇發表與觀摩，以作為國內辦理活化校園空間與發展特色學校之示範。98年10月教育部辦理「97年度活化校園閒置空間總體計畫－能（資）源教育中心」期末成果發表會，展示獲得補助之32校成果海報、教具教案或其他輔助說明計畫成果之內容，以呈現各校計畫執行內涵與特色。

三、教育部於98年5月舉辦縣市交流觀摩，以提升環境教育工作之執行與推動。

活化校園閒置空間總體計畫期末成果發表會。

沈署長（左三）與設計者陳文順（右三）一起揭示碳標籤。

透過實施環境教育中程計畫（94～97年）工作成果報告與專家學者之對話，經驗分享與檢討改進執行成效，做為探索下一期程計畫之參考。

四、為推廣有機生態校園，教育部於98年暑期辦理「2009年有機生態校園兒童夏令營」，培養學生愛護生態環境，懂得利用生態環境資源。

五、環保署於98年10～12月分四區舉辦「2009全國鄉鎮市區村里長環保研討峰會」，邀請全國鄉鎮市區村里長聯誼會會長、鄉鎮市區長、各地方環保局長等約800人參加，共同研討提昇潔淨而美質的生活環境，營造健康、永續的台灣新樂園。

六、為落實生活環保，環保署於98年12月舉辦「一『筷』做環保 時尚又有型—推動百貨量販業美食街免洗筷減量活動記者會」，內用改採可重複清洗筷子，外帶則不主動提供免洗筷，估計約減少4,400萬雙免洗筷使用量、350公噸廢棄物及320公噸的二氧化碳排放量。

七、為分析產品生命週期碳足跡及以碳標籤呈現，鼓勵民眾低碳消費，環保署舉行台灣碳標籤徵選，並於98年12月15日發布評審結果，由陳文順先生作品獲選特優及選定為「台灣碳標籤」。未來該署將持續推動台灣碳標籤制度，俾供民眾選購低碳產品，引導台灣邁向低碳社會。

一『筷』做環保時尚又有型。

永續發展指標

永續會執行長蔡勳雄（左二）與環保署沈世宏署長（右二）共同主持97年永續發展指標發布說明會。

現行永續發展指標系統係參照聯合國1996年（第一版）永續發展指標架構，由行政院經濟建設委員會（永續會前永續願景分組召集機關）進行研擬，並於民國92年6月經永續會委員會議確認。嗣後，每年以此指標系統檢視前一年度之國家永續發展推動成效。

3.1 公布97年永續發展指標計算結果

現行永續發展指標系統的建置，係參考聯合國1996年（第一版）之永續發展指標「壓力－現況－回應 （Pressure-State-Response）」架構，並將我國發展現況列入考量。指標系統分為「生態現況」、「環境現況」、「經濟壓力」、「社會壓力」、「制度回應」、「都市發展」6大領域，包含41項指標。指標架構及各項指標趨勢，另詳行政院國家永續發展委員會全球資訊網站http://sta.epa.gov.tw/NSDN/。

97年國家永續發展指標計算結果與96年相較，41項永續指標中有27項「趨向永續」、3項持平、11項「背離永續」。另就領域而論，生態現況、環境現況、經濟壓力、社會壓力、制度回應及都市發展六大領域均趨向永續。

（一）生態資源領域

生態資源綜合指數在民國77年至95年呈現下降的趨勢，除了「未受損失森林面積比」維持穩定外，其他生態資源指標值在近十餘年來多呈下降趨勢。就民國96年的資料趨勢而言，除了「未受損失森林面積比」一項指標值增加外，其餘指標值仍較民國96年為低，由於「未受損失森林面積比」指標值增加，使整體生態組綜合指數

民國97年綜合指數（95.61）略高於96年（95.31）（見圖1），呈現邁向永續的趨勢。

（二）環境污染領域

環境污染綜合指數94年至97年連續四年呈現上升趨勢，民國96年指標值為100.71，為民國77年基準年後最佳表現的一年（見圖2），顯示整體環境品質近年來已漸趨向正面變化。

以個別指標趨勢來看，廢棄物資源回收率指標值自基準年民國87年以來持續改善，至97年已上升達9%。CO_2排放量部分，97年每人平均CO_2排放量之年成長率首度呈現負成長（-4.77%），排放總量成長率為-4.42%，可見CO_2排放量已有效控制。

至於PSI平均值，除93年有明顯下降之外，其後迄今已呈現緩步上升，97年與96年相較並無太大變化。

（三）社會壓力領域

社會壓力綜合指數自民國77年至86年雖呈現下降趨勢，但從民國87年至97年指數值則呈現小幅變化趨勢。在個別指標方面，「每人每日垃圾產生量」自民國77年至87年呈現上升趨勢，87年至92年則逐漸減少，民國92年之後呈現緩慢增加；「全國檳榔種植面積總和」自88年後逐漸減少；反映國民健康的「癌症標準化死亡率」及「傳染病感染率」皆呈增加趨勢；「公害陳情案件受理統計」則逐年增加。

（四）經濟壓力領域

經濟壓力綜合指數自民國77年的

圖1　生態現況綜合指數趨勢圖

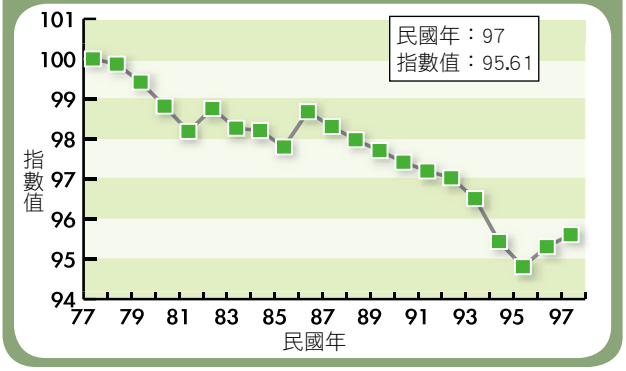


圖2　環境現況綜合指數趨勢圖

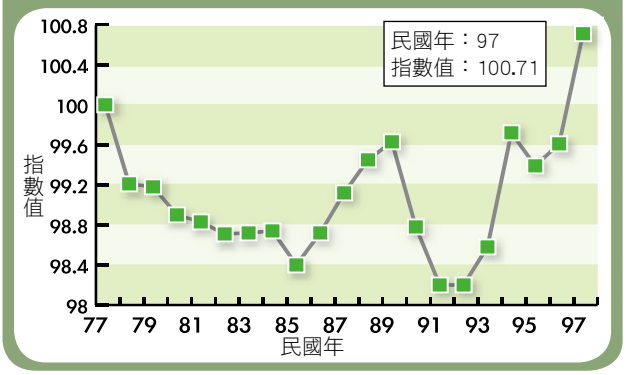


圖3　生態及環境現況綜合指數趨勢圖

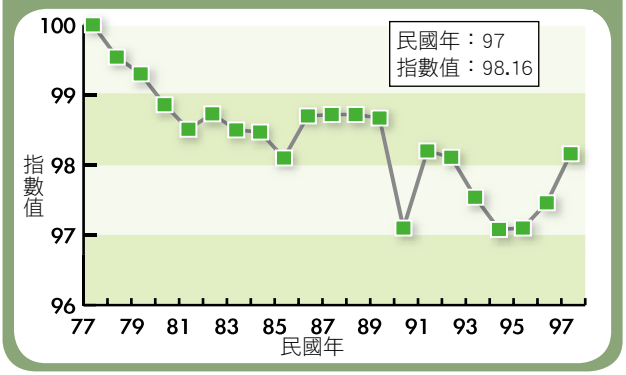


圖4　社會壓力綜合指數趨勢圖

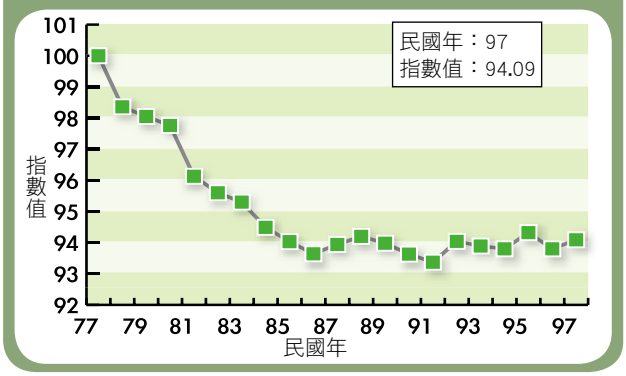


圖5　經濟壓力綜合指數趨勢圖

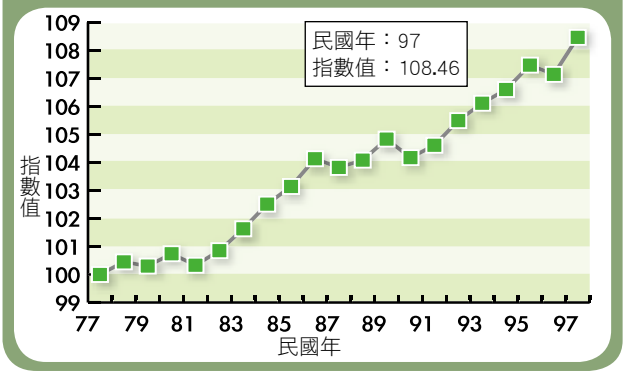


圖6　社會及經濟壓力綜合指數趨勢圖

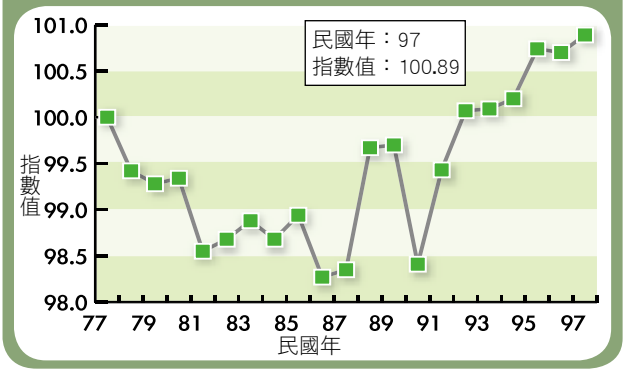


圖7　制度回應綜合指數趨勢圖

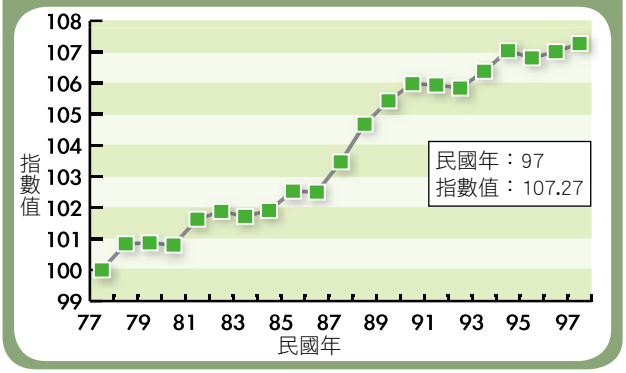
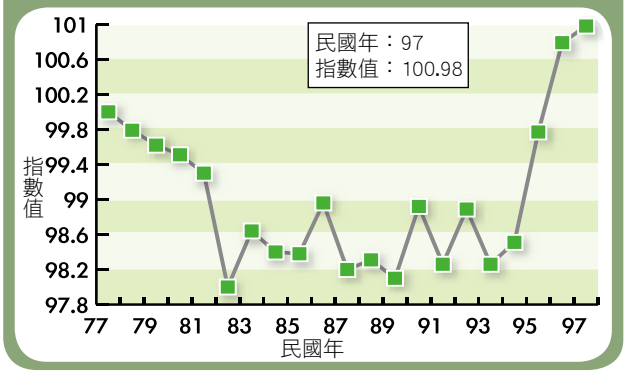


圖8　都市發展綜合指數趨勢圖



100上升至民國97年的108.46，代表臺灣整體的經濟壓力持續下降，呈現邁向永續的趨勢。整體而言，雖然「農藥消費量占農產品產值比率」持續增加，造成環境負面的影響。不過，由於工業用水的使用效率持續提高、製造業勞動生產力逐年提升，再加上科技發展使得電腦及網際網路使用越來越普及，因此總括來說，經濟面向持續朝永續的趨勢邁進（見圖5）。

將民國97年指標值與96年的相比，代表經濟壓力的7項指標中有4項呈現有利於永續的趨勢。社會與經濟壓力綜合指標因而自96年的100.7微幅上升至97年的100.89（見圖6）。

（五）制度回應領域

制度回應領域指數自民國80年起呈現上升趨勢。長期來看，過去十幾年中，制度回應的指標值均在100之上，總體趨勢也呈持續攀升，顯示歷年來政府對於永續議題的重視程度增加，從法規制度面引導政府、企業、與民間關注永續問題，政策的設計與執行對於永續發展均有正面幫助（見圖7）。

就民國97年的制度回應指標來看，由政府主動提供資源（例如環保生態預算）小幅下降，協助推動我國邁向永續發展的工作（例如財稅措施）亦小幅下降。政策落實方面（如污水下水道處理率）近3年皆以約2～3%持續上升，顯現施政單位的持續作為。而民間落實永續發展理念方面的指標則呈現增加趨勢，如環保標章的適用量持續增加、民間參與生活環境改造計畫的數量小幅上升。

（六）都市永續發展領域

就整體而言，都市永續發展綜合指數延續過去幾年上升的趨勢，持續朝向永續（見圖8）。在個別指標方面，7項都市指標的個別趨勢變化來看，各指標當中以「都市每人平均所得」上升的趨勢最為顯著；此外，都市小客車持有率、大眾運輸乘客人次、每人享有都市公園綠地面積、都市主要河川中度以上汙染長度比、每人每日耗電量、每人每日用水量皆逐步邁向永續發展。

總結

針對民國97年與96年相互比較，以上各領域的指標整體呈現改善、邁向永續者，包括：二氧化碳排放量等28項（註一）。另外，呈現背離永續的指標包括：非自然資源生產面積等10項（註二）。

由現況、壓力及回應三大領域的綜合分析，在生態與環境現況部分，由於環境污染現況近年表現偏向正向發展，因此雖然生態資源領域表現偏向負向，但仍使得生態與環境整體現況朝向永續的趨勢發展。至於壓力部分，社會及經濟面向則呈現分歧的發展現象，反映出過去十幾年經濟結構逐漸轉型，但社會層面的壓力未見減緩。針對臺灣面臨的現況及壓力，由回應指標也可以看出政府在政策層面落實永續發展的努力及決心。

政府每年公布永續發展指標及其現況數值，希望將這套指標系統以及背後的政策意義，轉化成政府具體的施政作為，但國家永續發展落實仍有賴全民的參與。藉由永續指標的發布，除了使政策主管機關定期檢討，也同時期待國民能共同來關心督促。

註一：朝向永續指標為：二氧化碳排放量、PSI平均值、受輕度以下汙染河川比率、水庫品質、廢棄物資源回收率、低放射性固化廢棄物成長率、未受損失森林面積比、每人每日垃圾產生量、全國檳榔種植面積總和、癌症標準化死亡率、傳染病感染率、家戶所得五等分位差、每人國產砂石生產量、上網人口比率、農藥消費量占農產產值比率、能源密集度、環境影響評估監督合格比率、污水處理率、制定禁用或嚴格限用的化學品數量、環保標章適用量、民間參與度、都市每人平均所得、都市小客車持有率、大眾運輸乘客人次、每人享有公園綠地面積、都市主要河川中度以上污染長度比、每人每日耗電量、每人每日用水量。

註二：背離永續指標為：非自然資源生產地面積、天然海岸比、耕地總面積比、有效水資源、公害陳情案件受理統計、製造業用水量占製造業生產價值比率、資源耗用型產業生產價值佔製造業生產價值比率、製造業勞動生產力指數、中央政府環保生態預算比率、政府鼓勵污染防治及資源回收財稅措施。

3.2 新版國家永續發展指標

「新版國家永續發展指標」作業依據

新版指標之研訂係依據永續會第25次工作會議（97年12月25日）決議事項辦理，如下：

1、參照聯合國第三版永續發展指標系統（2007年10月發布）之面向、議題及指標「架構」、以現行永續發展指標為「種子」、參考國際永續發展相關評比指標（ESI 、EPI）及先進國家永續指標進行研擬，俾與國際接軌。

2、於98年6月底前完成新版指標草案、12月完成定稿；99年起以新版之指標系統公布98年度計算結果。

3、新版永續發展指標業於98年12月31日召開的第29次工作會議中討論通過。

新版指標研訂過程

「新版國家永續發展指標」草案之研訂，由永續會秘書處進行規劃、草擬、協商及彙總，過程如下：

1、98年2月底，依據聯合國第三版指標系統做為新版指標「架構」、以現行永續發展指標為「種子」、參考國際永續發展評比指標（ESI、EPI）及先進國家永續指標進行草擬，完成新版草案初稿。

2、98年3月4日，召開「第一次部會協商會議」，由上述草案初稿指標之主政機關確認（或修改）指標名稱、計算公式，指標原則須可改善性，數據須可取得及可信賴。

3、98年4月期間，分別於台北、台中、高雄及花蓮辦理北、中、南、東4場新版指標分區座談會，集思廣益後進行初稿修正。

4、98年5月25日，召開「第二次部會協商會議」，針對初稿修正，由指標主政機關再確認，並提供「適切」之指標名稱、定義及計算公式等。

5、98年6月，完成新版指標草案。

6、98年7月，「永續發展政策綱領」（草案）編審小組委員「建議」，新版之永續指標宜與研擬中之「永續發展政策綱領」議題有所對應。秘書處於8月請「永續發展政策綱領」（草案）面向及議題主政機關，思考追加對應指標。

7、98年10月21日，召開「第三次部會協商會議」，討論部會所追加與政策綱領對應之指標。

8、98年12月1日，召開「第四次部會協商會議」，討論並確認（1）與政策綱領對應事宜、（2）與聯合國第三版（2007年）永續發展指標之對應。

9、98年12月31日，永續會第29次工作會議討論並確認新版永續發展指標，並決議自99年起，以新版指標計算及公布前一年前度永續發展推動成效。

新版國家永續發展指標內涵

「新版國家永續發展指標」包括12面向、41議題及99項指標，與聯合國第三版永續發展指標系統之14面向、44議題、96項指標類似；惟較現行永續發展指標增加57項指標。新版永續發展指標涵括範疇甚廣，足以反映國家永續發展各面向之推動成效。

永續指標修正區域座談會（台北）。

表：新版國家永續發展指標

面向	議題	指標名稱	主辦機關
環境	空氣	PSI平均值（現行指標）	環保署（空保處）
		空氣污染物年均濃度（參考聯合國第三版指標並修正）	環保署（空保處）
	水質	水庫品質（現行指標）	環保署（水保處）
		海域環境水質合格率（參考聯合國第三版指標並修正）	環保署（水保處）
	水質	受輕度以下污染河川比率（現行指標）	環保署（水保處）
		河川中生化需氧量濃度（聯合國第三版指標）	環保署（水保處）
	廢棄物	垃圾回收率（現行指標並修正）	環保署（廢管處）
		每人每日垃圾量（現行指標SP-1）	環保署（廢管處）
		環境影響評估監督合格比率（現行指標）	環保署
	環境管理	公告列管毒性化學物質數量（現行指標）	環保署（毒管處）
		中央政府環保生態預算比率（現行指標）	主計處
		政府鼓勵防治污染及資源回收財務措施（現行指標）	環保署
節能減碳	溫室氣體	燃料燃燒二氧化碳人均排放量（現行指標修正）	環保署（溫減管理室）
		燃料燃燒二氧化碳排放量年增率（新創指標）	環保署（溫減管理室）
		溫室氣體排放量（聯合國第三版指標）	環保署（溫減管理室）
	能源使用	每人每日耗電量（現行指標）	經濟部（能源局）、台電公司
		能源密集度（現行指標）	經濟部（能源局）
		資源耗用型產業產值占製造業生產價值比率（現行指標）	經濟部（工業局）
	節約能源	再生能源裝置容量百分比（參考2006 EPI並修正）	經濟部（能源局）
		每年新增綠建築之節能量（新創指標）	內政部（營建署、建築所）
		平均每萬人所擁有之自行車道長度（新創指標）	體委會
國土資源	土地	山坡地變異比例（新創指標）	農委會（水保局）
		地層持續下陷面積比例（新創指標）	經濟部（水利署）
		開發用地面積比（參考現行指標並修正）	內政部（營建署、地政司）
	森林	森林覆蓋之土地面積比（參考現行指標與聯合國第三版指標並修正）	農委會（林務局）
	海岸	天然海岸比 （現行指標）	內政部
		天然海岸線損失比（新創指標）	內政部（營建署）
	水資源	有效水資源 （現行指標）	經濟部（水利署）
		製造業用水量占製造業生產價值比率（現行指標）	經濟部（工業局）
		地下水補注量（噸）（新創指標）	水利署
		地下水抽用量（噸）（新創指標）	水利署、農委會
	天然災害	全國檳榔種植面積總和（現行指標）	農委會（農糧署）
		因天然災害導致人類傷亡人數（參考聯合國第三版指標並修正）	內政部消防署
		因天然災害導致經濟損失（參考聯合國第三版指標並修正）	內政部（消防署）

生物多樣性	遺傳	生物多樣性遺傳資源及種原保存（新創指標）	特有生物研究保育中心
	物種	特定指標野生物族群量變化（參考聯合國第三版指標並修正）	農委會（林務局）
		特定外來植物覆蓋面積（參考聯合國第三版指標並修正）	農委會（林務局）
		特定外來入侵種種數（參考聯合國第三版指標並修正）	農委會（林務局）
	陸域生態	生態敏感地比（現行指標）	內政部（營建署）、農委會
		保護區占總陸域面積百分比（參考聯合國第三版指標並修正）	農委會（林務局）
	海域生態	海洋保護區（參考聯合國第三版指標與2008 EPI並修正）	農委會（漁業署） 內政部
		珊瑚礁生態系統的面積與其覆蓋之比例（聯合國第三版指標）	內政部或漁業署
生產	物料使用	經濟發展使用的物料強度（聯合國第三版指標）	經濟部
		經濟發展使用的非營造類的物料強度（參考聯合國第三版指標並修正）	經濟部
		國內耗材（聯合國第三版指標）	經濟部
		非營造類的國內耗材（參考聯合國第三版指標並修正）	經濟部
		每人國產砂石生產量（現行指標）	經濟部（礦務局）
	清潔生產	事業廢棄物妥善再利用率（參考聯合國第三版指標並修正）	環保署（廢管處）
		有害事業廢棄物再利用率（參考聯合國第三版指標並修正）	環保署（廢管處）
		低放射性固化廢棄物成長之減量率（現行指標）	原子能委員會
	農業	耕地總面積比（現行指標）	農委會
		有機耕種的面積（聯合國第三版指標）	農委會（農糧署）
		每公頃農地肥料使用量（參考現行指標、聯合國第三版指標與2005 ESI並修正）	農委會（農糧署）
		每公頃農地農藥使用量（參考聯合國第三版指標與2005 ESI並修正）	農委會（防檢局）
	漁業	過漁（現行指標）	農委會（漁業署）
	勞動	勞動生產力與單位產出勞動成本（參考現行指標與聯合國第三版指標並修正）	主計處
		非農業部門支薪女性之比例（聯合國第三版指標）	主計處
	總體經濟績效	每人國內生產毛額（聯合國第三版指標）	主計處
		國內資本形成毛額占GDP比率（參考聯合國第三版指標並修正）	主計處
		消費者物價指數年增率（參考聯合國第三版指標並修正）	主計處
	公共財政	各級政府舉借之1年以上非自償債務未償餘額占GNP比率（參考聯合國第三版指標並修正）	財政部（國庫署）
生活	用水	適當飲用水供應人口百分比（EPI 2008）	環保署（毒管處）
		污水處理率（現行指標）	內政部（營建署）
		每人每日用水量（現行指標）	經濟部（水利署）

生活	交通	公共運輸乘客人次（現行指標）	交通部（運研所）
		運輸部門國內能源消耗量（參考聯合國第三版指標-並修正）	經濟部（能源局）
		每年來台旅客人次（新創指標）	交通部（觀光局）
		公路：每萬輛機動車輛死亡人數（新創指標）	交通部（統計處）
		公路養護管理效率（新創指標）	交通部（運輸研究所）
	綠色消費	公私部門綠色採購金額（新創指標）	環保署（管考處）
		獲頒環保標章適用量（新創指標）	環保署（管考處）
科技	研發	國內研究與發展之花費占GDP的百分比（聯合國第三版指標）	國科會
	資通訊	經常上網人口比率（現行指標）	主計處
		每百人中使用行動型電話線路的人數（聯合國第三版指標）	國家通訊傳播委員會
城鄉文化	文化傳承	古蹟遺址指定數（新創指標）	文建會（文化資產總管理處籌備處）
	社區	符合環境衛生永續指標村里數（新創指標）	環保署（毒管處）
	城市	都市化面積擴張率（現行指標）	內政部（營建署）
		都市內每人享有公園綠地面積（現行指標）	內政部（營建署）
健康	醫療照顧	可獲得基本保健設施之人口百分比率（聯合國第三版指標）	衛生署
		兒童疾病的感染免疫措施 （聯合國第三版指標）	衛生署
		65歲以上民眾接受成人預防保健服務利用率（新創指標）	衛生署
	營養	兒童營養情況（聯合國第三版指標）	衛生署
	健康風險	癌症標準化死亡率（現行指標）	衛生署
		傳染病感染率（現行指標）	衛生署
		18歲以上吸菸率（參考聯合國第三版指標並修正）	衛生署
		18歲以上男性嚼檳榔率（參考聯合國第三版指標並修正）	衛生署
福址	貧困	低收入戶的人口比例（參考聯合國第三版指標並修正）	內政部（社會司）
		住宅供給率（參考聯合國第三版指標並修正）	內政部（營建署）
	收入均衡性	戶數五等位所得差距倍數（參考現行指標與聯合國第三版指標並修正）	主計處
	社會福利	弱勢族群保費補助（新創指標）	內政部（社會司）
		老人照護及參與（新創指標）	內政部（社會司）
		自殺比率（聯合國第三版指標）	衛生署
治理	犯罪	犯罪人口率（參考聯合國第三版指標並修正）	法務部
	教育	尚輟人數（參考聯合國第三版指標並修正）	教育部
		成人教育參與比例（新創指標）	教育部
參與	國際參與	我國參與聯合國相關國際環境組織及多邊環境協定（MEAs）情形（新創指標）	外交部
		每年國際環境合作及我對外援助情形（新創指標）	外交部
	公民參與	民間參與度（現行指標）	環保署
		社會福利社區化參與率（新創指標）	內政部（社會司）

國家永續發展獎

行政院國家永續發展委員會（簡稱永續會）辦理國家永續發展獎的目的是藉由表揚永續發展推動績效卓越單位，鼓勵全民參與永續發展工作，並透過經驗分享，落實永續發展於國人日常生活中，以加速達成國家永續發展的願景及目標。

98年國家永續發展獎的評選經「書面初審」、「實地複審」，最後再由全體參加複審之委員進行「決選」，最終自教育類、企業類、社團類及永續發展行動計畫等4大類別中，選出11個單位，接受行政院吳敦義院長頒獎表揚。

教育永續發展獎

高雄縣私立中山高級工商職業學校

實績介紹：

踏進中山工商，質樸的校門看似不起眼，但走入校園，美麗的景致即映入眼簾，花園造景、假山飛瀑、群山環繞、鳥語花香，滿園綠樹花草，讓人身心舒暢。

中山工商重視環境綠美化，全面推動「無塵、無煙、無傷害」三無運動，締造了零垃圾、無菸害校園。從只有47位學生的迷你小學校，至今成長為萬人的大學府，一路走來，堅持用心辦學，努力營造優美整潔之學習環境，且在所有師生共同努力下，創造出無數的傳奇事蹟：

（一）學校落實「有教無類，因材施教」之精神，採多元學制，培育多元能力人才，從數理、語文資優班至綜合職能班，咸能達到造就一流人才之目標--品德、體能、技術及態度一流。

（二）訂定永續教育推動計畫，廣植樹木，保留自然風貌，提供師生自然生態之環境與教材。

（三）充分推動環境教育，將環境教育列為本位課程，使學生了解全球環境現況，從自省到自愛，進而維護環境整潔及落實生活環保。

（四）訂定垃圾減量、分類及資源回收

社區服務～旗津淨灘。

環保校外參觀體驗資源回收。

辦法，將正確環保觀念推廣至家庭及社會中；宣導並推動節水、節電、節源措施，運用網路公告、電子公文e化、雙面影印等措施，以減少用紙量。

（五）關懷及協助社區弱勢族群與團體，每年舉辦「三代同歡」活動，培養學生「敬老慈幼，悲天憫人」胸襟，及知福、惜福與感恩之心。

願景藍圖：

三十多年來，中山工商恆為創造人文自然生態、環保、健康、節能、省資源的目標而努力，因而成就現今「山中傳奇」；未來以「建構偉大的學校」及「滿足0～100歲學習心願」為願景，進而建構師生、學校與社區良性互動的、永續的學習環境。

教育永續發展獎

臺南縣內角國民小學

實績介紹：

位於臺南縣關子嶺山腳下白河蓮鄉的內角國民小學，是台南縣最北端的學校，民國92年起投入永續校園環境運動，自93年起連續三年積極申請教育部永續校園環境改造計畫，打造節能、節源、綠色親和、健康舒適的示範教育環境，96年起執行活化校園空間總體方案計畫，結合永續校園歷年來發展經驗，將閒置教室空間打造成為健康、節能、自然、舒適的閱讀空間，作為節能節源教育推展基地。

諸多與永續校園相關的硬體環境改造設計，對該校而言是一種有系統的永續環境教具充實措施，配合「小小蓮鄉深度導覽員」課程的發展、設計與實踐，帶領兒童

進入環境教育的學習場域。採「故事化」的教學設計，以兒童文學的手法，將校內豐富的永續校園素材編寫成童話故事，校園內各個不同的環境設施或景點，被擬人化成故事中一個個富有不同特質與能力的精靈，而續以校園精靈故事為本，發展出樹的造型藝術創作、兒童繪本創作以及小小導覽員等三大主題課程內涵，兒童的學習場域內涵與故事情節相互交疊，兒童的校園生活即是故事生活。

這種結合永續環境設施發展出的課程創新，也是教師專業發展上的新嘗試。惟有此環境教育課程的實施，冀望藉由兒童所熟悉的校園環境素材出發，擴展其學習機會與成功經驗，以期培養其高等思維能力，而最終目的則在於建立起人與環境間的一種協調關係。

長期投入永續校園經營工作，全校師生不斷嘗試、反思與成長，將寶貴經驗對各學校與鄰近社區推廣與分享，協助鄰近社區推動社造運動，以實際行動將永續理念的種子對外散播。對內角國小而言，永續與節能是一種生活態度，更甚於作法。惟有當這種態度深植心靈，環境與教育永續方得以具體落實。這是該校未來不變的方向。

願景藍圖：

- **快樂**：孩子能快樂的投入學習
- **關懷**：孩子能關心自己與他人
- **成長**：孩子能創造並努力不懈

教育永續發展獎

桃園縣中壢市內定國小

實績介紹：

內定國小為全國各級學校中，距離焚化廠最近的一所國小，雖無好山好水的自然環境，又處在中壢工業區內，但是該校轉化危機為轉機，積極推動環境教育，近年更以「全校式經營」的理念，建立永續教育文化轉型新願景。

例如「健康自由行」教學計畫，以喚起社區擁有感及地方感為設計目的，並呼應全球節能減碳的浪潮，安排學生騎乘自行車前往學區內「埤塘生態」、「地方文化」、「地方產業」等場域進行體驗活動。

在節能減碳及校園永續性方面，則以倡導延長生命週期、減少生態足跡為規劃理念，透過「還給地球二分之一的機會」、「袋袋相傳」、「皂符環境」等延續性活動，並廣邀家長參與，讓每一個環保措施擴展至家庭生活中。還規劃了學生中英文校園導覽培訓、中英文網站建置，並完成「紅火蟻入侵」、「廚餘落葉堆肥」等行動研究。

為倡導永續教育的文化轉型，內定國小使行政、教學、社區等資源充分連結，強調每一個教學活動都以學生學習為主體，因此每個學習體驗課程都希望能夠展現激勵學生動機或喚起環境覺知的效果，並提供多元的環境行動經驗機會；最後則希望在環境教學、校園空間、師生生活、社區意識等面向，透過各種永續性策略之落實，實踐對綠色學校的承諾。

願景藍圖：

- 以全校式經營理念，建立校園永續性文化。
- 以學生為學習主體。
- 落實環境生態、地方文化與產業、弱勢關懷、節能減碳四面向。
- 社區是學習的延伸校區。

企業永續發展獎

中華電信股份有限公司

實績介紹：

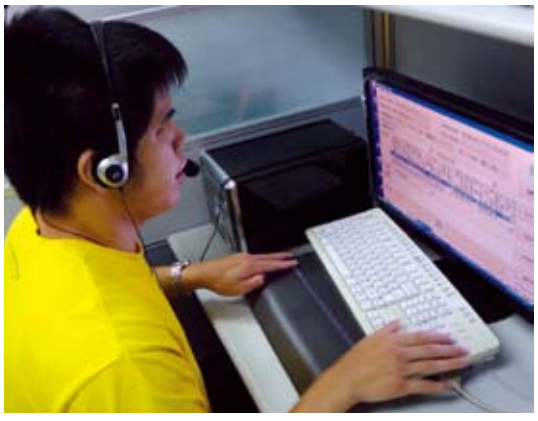
中華電信身為高度在地化的電信業者，是社區發展的好鄰居，也是國際間電信業者最重要的合作夥伴。隨著科技的進展，該公司已突破傳統電信的框架藩籬，逐步將CSR的理念融入產品服務的研發與應用，邁向資通訊領域的整合，以期對人類社會的永續發展做出最好的貢獻。主要的特色有：

一、正派經營發展

奉行正派、永續的價值理念、維護股東最大的權益、帶動相關產業的蓬勃。

二、負責任的營運

堅持一貫的嚴謹，進行全面性的風險控管、資訊透明，在全體員工共同努力與



結合淡江大學盲生資源中心，推動「以ICT協助視障者遠距工作專案」，期能透過典範的建立，延伸至APEC經濟體成員。

客戶忠誠的支持下，達成合併營業收入2,016.7億元的目標，占2008年全國實質GDP的1.54%，納稅總金額138.9億元，名列全國企業翹楚。

三、回應利害關係人

1. 實現「員工安心」的企業承諾

確實執行同仁「自願性」優惠離退方案、提供多樣化僱用、促進就業機會、重視員工權益、健康、安全、訓練、發展與內部創業等。

2. 博得「消費者信賴」

推出符合國內法令的郵件過濾機制、堅守消費者隱私保護、持續提升服務品質、降低產品服務負面影響、投入資源進行基地台電磁波議題研究、主動積極回應通訊安全問題等。

四、提升生活品質

秉持電信核心專業及企業志工的參與，縮短通信落差、落實電信服務普及、推廣數位學習、創造數位機會、提升在地文化、經濟產業發展、參與國際ADOC 2.0（APEC Digital Opportunity Center）計畫等。

五、因應氣候變遷

領先國內電信產業，第一家完成溫室氣體盤查，並獲得第三方認證；推動員工自主環保、研發「智慧節能服務」、持續創新ICT綠色科技，提供未來低碳產業發展的重要支援。

遠景藍圖：

在永續的世界裡，沒有無條件的成長；持續堅持「專注本業，注重專業，提高效率，感動服務」，兼顧創造數位機會與環境永續發展兩大重點；以「成為最有價值與最值得信賴的資通訊公司」為最終遠景。

企業永續發展獎

台灣康寧顯示玻璃股份有限公司

實績介紹：

隨著液晶顯示器（LCD）產業的成長，康寧亦逐步開發台灣地區的顯示器事業，提供主動矩陣式液晶顯示器（即薄膜電晶體液晶顯示器）所使用的玻璃基板。康寧生產的超高品質玻璃基板，主要用於筆記型電腦、平面顯示器、液晶電視、可攜式電子產品及通訊裝置。

為滿足客戶不斷成長的需求、因應政府工業發展政策、並提升企業整體競爭力，台灣康寧顯示玻璃公司於2000年正式註冊，並於同年開始興建其第一座玻璃基板生產廠房。2001年5月，康寧宣布台灣地區第一座TFT-LCD玻璃基板加工廠完工，該廠房座落於台南科學工業園區內。隨著產業的快速成長，台南廠亦不斷擴充產能，並於2004年3月加入熔爐製程；自此，台南廠成為規模完整的LCD玻璃基板生產廠。

2004年4月康寧宣布在台中中部科學工業園區建立第二座LCD玻璃基板廠，主要係生產並提供客戶大尺寸玻璃基板，歷時僅一年多，台中廠於2006年1月落成。台中

台灣康寧台中廠。


台灣康寧台南廠。

台中廠社會關懷活動。

廠是康寧有史以來最大的工廠，俟目前進行中的擴廠工程完成後，更將成為業界中全球最大的 LCD 玻璃製造工廠。此外，台中廠的完工，在工廠規模及建廠速度上，均可謂經營史中一項重要的里程碑。據估計，興建台中廠使用十萬公噸以上的鋼材，約相當於超過十座艾菲爾鐵塔或兩座帝國大廈的用量。

在台灣員工的打拼下，目前台灣康寧台南與台中兩廠已成為康寧營運績效最佳的工廠，並仍持續致力於績效改善與社區回饋。

願景藍圖：

台灣康寧致力成為領先全世界之TFT-LCD玻璃基板生產供應商，專注於提供最好且最可靠之綜合價值予客戶，並藉此為全體同仁、股東以及鄰近社區，創造快樂及福祉。

未來康寧將於：提昇營運績效，維護員工安全，確保產品品質，加強環境保護，致力節能減廢，發展培育人才，投入創新研發與增進社區關係等不同面向，持續努力，將台中與台南廠打造為世界級的製造廠。

在康寧，企業社會責任是其得到利害關係人信任的積極承諾。這項承諾透過各項業務促成了他們在經濟與環保的永續發展-包括了營運、產品、對社會的回饋，以及對員工的支持。

對於企業公民的承諾，是台灣康寧營運超過150年的重要成功因素之一，並且將延續其今日的成功，直到長遠的未來。

康寧推出業界第一款不添加重金屬之玻璃基板。

企業永續發展獎

皇將科技股份有限公司

實績介紹：

皇將科技股份有限公司，以自有品牌CVC製藥設備起家，進而朝科學檢驗儀器產業發展；創立卅年來，不斷以創新的突破技術，以及讓客戶認識CVC，相信CVC，愛上CVC的品牌哲學，建立客戶口碑，贏得全球如輝瑞、亞培、惠氏、博士倫、永信等知名大藥廠的信賴，將CVC打造成為國際知名品牌。

在不斷成長茁壯中，皇將深感企業對社會的責任與永續發展的重要；觀察全球永續發展的兩大議題，一是綠色環保意識的抬頭及人類對生存與安全健康的重視，因此在新產品、新技術的發展上，特別重視能開發出具備綠色環保與安全健康的新世代產品。

以皇將發展中的環保型液相層析檢驗儀器（HPLC）為例，即是著眼目前市面上的HPLC皆需使用大量的有機溶劑，對環境與人體的影響甚鉅；有機溶劑不僅回收、安置都須經過特殊處理，以免外洩造成污染；對須在密閉實驗室裡操作的人員而言，長期吸入大量的有毒揮發氣體，更對身體健康造成鉅大傷害。

而皇將研發的奈升級超高壓微量技術，將可大量降低HPLC的溶劑用量；此種新型奈升級HPLC預計只需傳統型溶劑用量的1／8000，即同樣一加侖的溶劑，目前市面上的HPLC只能用2.6天，而皇將超新環保科技的HPLC則能用到60年；不但可節省大量的溶劑成本，又能達到環保安全的目的，是帶動綠色風潮的革命性創新科技。

願景藍圖：

讓CVC成為國際知名品牌，打造皇將成為小資本高獲利的工匠型企業。

不走台灣大多數企業的OEM、ODM發展捷徑，皇將的願景是讓CVC成為國際知名品牌，並且透過持續在產品、技術上的精雕細琢，精進工藝水準，發展出最適合的管理模式，為皇將帶來真正的生命力，成為小資本高獲利的工匠型企業。

社團永續發展獎

財團法人台灣兒童暨家庭扶助基金會

實績介紹：

一個即將邁入60週年的兒童福利機構——台灣兒童暨家庭扶助基金會，已扶助了國內外18萬5千名貧困孩童自立，仍不斷提出創新服務方案，讓弱勢家庭努力向前、保持希望，己立立人、用愛循環。

家扶基金會的福利服務工作範圍很廣，從基本的弱勢兒童家庭急難救助、經濟補助、獎助學金、團體輔導、育樂活動，到關懷受虐兒童、保護安置服務、家庭寄養服務、遲緩兒早期療育，幼兒啟蒙教育、青年自立釣竿計畫、家長生活發展帳戶之

「有兒童需要的地方，就有家扶」理念，已幫助18萬5千名弱勢兒童。

脫貧計畫；甚至到推動民法繼承編修法，免除揹債兒惡夢，以及發展社會企業為弱勢家庭創造就業機會，運用志工力量舉辦溫馨活動……，這些都是家扶積極主動、認真扛起關懷弱勢兒童與家庭的工作與服務使命。

最難能可貴的是這些曾經接受過幫助的兒童和家庭，在成長或生活改善之後，都能珍惜資源、惜福感恩、回饋社會，除了捐款或認養貧童，也自組家扶之友會志工團隊，經常參與服務工作，將社會上的善心、愛心、與信心連線，讓美善永續循環。

家扶書香列車前進校園及偏遠鄉鎮，將兒童保護觀念向下紮根。

願景藍圖：

愛，就是在別人的需要上，看見自己的責任。秉持「及時的幫助、溫暖的關懷、基督的愛心、社工的專業」之精神，不分種族、性別、宗教、國籍，服務從台灣生根，關懷向國際延伸。

一、堅持核心價值及使命的傳遞：家扶以案主為中心的服務理念須繼續發揚，使核心價值在社會發光。

二、活化組織功能：依機構使命為導向，以團隊方式進行，秉持專業的行動能量，有效運用各項資源，提供更好、更快、更聚焦的關懷。

三、發展國外據點：於華人地區設立據點，整合志工力量，

幫助自立之大專青年飲水思源，前進88災區清理家園。

成立家扶愛心小舖，培訓自強媽媽一技之長。

以服務為導向，提供當地華人兒童與家庭相關之服務工作。

四、接軌國際，拓展國外認養服務：延續國外認養方案，結合家扶國際聯盟，參與國際服務。

五、成立智庫，研發及出版：運用智庫有計畫研究、倡議及出版相關叢書。

六、人力資源的管訓及運用：有計畫的培訓人才，建立人力資源資料庫，並持續發展整合志工團隊，在各地提供及時的幫助，就近服務兒童。

七、持續「深耕、品質、創新、延伸」：因應環境及社會變遷，結合人文關懷與生態環保，繼續開創多元之服務方案，將關懷延伸至社會每個需要的角落，讓家扶的愛與時俱進、永續發展。

社團永續發展獎

中華救助總會

實績介紹：

中華救助總會歷經60年的蛻變，不斷的努力向前、創新發展，以實現「關懷、救助、服務」使命，傳送社會福利專業服務。

藉由與政府部門、學術界以及非營利組織等夥伴關係的建立，以推動兩岸婚姻的健全發展、以及兩岸社會福利服務的專業永續等工作。

一、在台大陸配偶服務－健全兩岸婚姻，幸福家庭永續

根據內政部入出國及移民署統計，截至98年8月底止，大陸配偶來台依親定居已達28

兩岸社會福利學術研討會。

多元包容，協助新移民適應台灣社會。

萬1,845人。為協助這群新移民早日適應台灣社會，建立幸福家庭，該會自民國88年起，持續辦理法令說明會、生活成長營、親職講座、急難救助與電話諮詢服務等，並成立大陸配偶志願服務團，提高她/他們社會參與機會。由於其用心關懷和積極協助，大陸配偶已把中華救助總會當成她／他們在台灣的「娘家」。

二、兩岸社會福利交流－促進兩岸社會福利服務，健全永續

為促進兩岸社會福利及慈善事業之健全發展，自民國91年結合台灣、大陸、香港及澳門等地學者專家，持續辦理「兩岸社會福利學術研討會」，及相關機構參訪交流，已達多項預期目標：

（一）搭建兩岸社會福利交流平台，帶動相關機構建立更多連結及合作。

（二）推廣非營利組織專業治理與永續關懷弱勢族群理念。

（三）行銷台灣之美：透過交流參訪，讓大陸來台人士體驗台灣的自由氛圍、民主機制，行銷台灣之美。

願景藍圖：

一、尊重差異，多元包容：尊重客群的文化差異與多元特質，協助服務對象自我認同與發展。

二、推廣交流，促進合作：建立夥伴關係，促進合作，共同提升。

三、專業活力，追求卓越：提升專業，強化核心能力。

四、創新服務，永續發展：時時檢視，改革創新，提供與時俱進之服務，再創組織的社會價值，為永續培力。

建立合作機制，健全兩岸婚姻。

兩岸學者著作聯展。

社團永續發展獎

社團法人台灣護理學會

實績介紹：

台灣護理學會為一全國性護理學術專業團體，以發展護理專業、促進護理學術研究、提高護理教育水準、增進全民健康及提昇國際地位為宗旨。歷年來會員人數穩定成長，至今已有近七萬名會員。隨著會員人數增長及醫療科技日新月異，本會每年辦理百場研習活動，民國99年起更開放會員免費參加，力求嘉惠國內護理人員。

落實環保永續發展

秉持永續發展理念，自96年9月起正式啟用會務資訊化系統，護理人員可登入該會網站查詢及更新個人基本資料、辦理入會、報名研習活動、閱覽發行之三本專業期刊，以及研習活動訊息全面採E-mail方式寄發，節省傳真及印製期刊所需紙張及碳粉，澈底落實節能減碳及無紙化之環保政策。

開啟數位學習時代

97年11月建置專屬於護理人員的繼續教育數位學習平台，提供三班輪值及離島或偏遠地區護理人員參與繼續教育的機會，節省護理人員參加研習活動往返交通時間，迄今已超過6萬人次完成課程。此外，藉由該會提供一套標準化的共通性（包括基礎及進階）課程，減少重複訓練資源的投入，有效整合醫療護理教育的資源，創造雙贏模式。

台灣護理學會資訊系統。

提昇全民健康照護品質

參與國際護理協會（ICN）國際性研究計畫：96年「動員台灣護理人員促進都市少女健康計畫」，經由研發策略促進都市女孩健康；99年「質優職場．優質照護行動專案計畫」，預期經由正向執業環境的顯著改善，達到提昇照護品質、維護病人安全及促進民眾健康之最高目標。

願景藍圖：

一、 國際／社會關懷：持續關注國際社會及弱勢族群之需求，進行國際醫療人道救援，培訓友邦及弱勢國家護理人員，以提昇國際整體照護品質；發展災難護理領域，建立災害資料知識庫、儲備志工招募人才、培養及教育災難救護之護理專業知識，並與政府部門相互連結提供救援機制，提昇護理人員因應災變之知能。

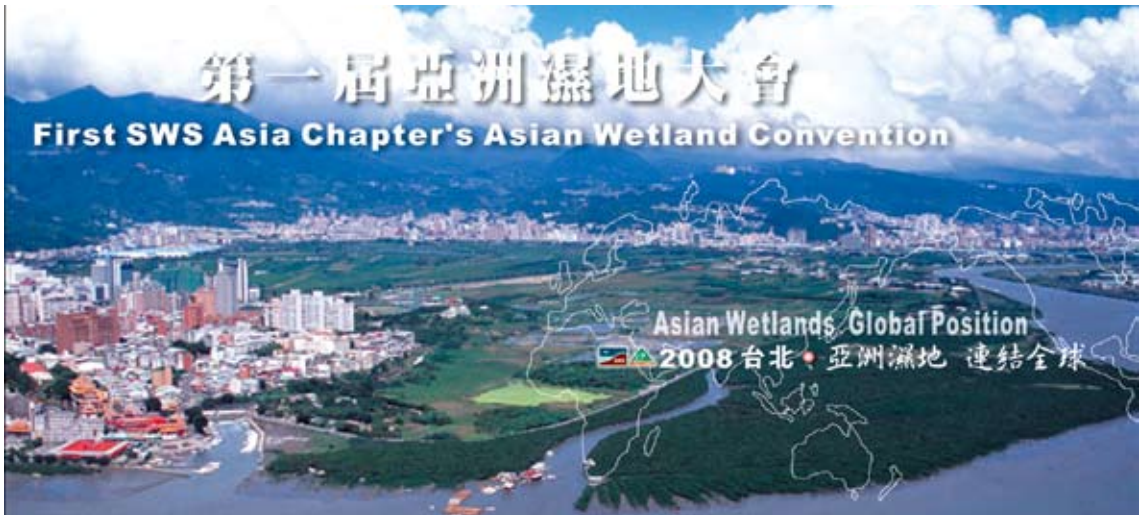
二、 專業提昇及認證：持續辦理急診加護、精神衛生、手術全期、手術專責、兒科急重症、腫瘤、腫瘤個案管理、社區衛生等護理師認證，及社區基層精神衛生護理能力鑑定考試；擴大護理研習活動辦理場次及參與人數，並適時向政府機關申請研究計畫，促進護理學術研究與發展。

三、 護理參政：強化護理人員對醫療照護相關政策之影響力，提昇照護品質及全國人民健康。

四、 夥伴關係：與各健康照護相關專業團體結盟合作，並與相關政府單位積極互動，提昇工作環境品質及全民醫療照護。

永續發展行動計畫執行績優獎

內政部營建署城鄉發展分署



第一屆亞洲濕地大會大型看板。

實績介紹：

為落實推動本土生物多樣性工作，內政部營建署城鄉發展分署依照國家永續發展委員會生物多樣性分組指定，辦理劃定「國家重要濕地」作業，首創以整體「國土規劃」及「區域計畫」的立場，在「濕地」尚無法令位階下，首次透過由下而上的公開推薦，及濕地DNA指標系統評選的方式，完成「國家重要濕地分布圖」。

民國96年12月19～20日「全國公園綠地會議」中舉辦75處國家重要濕地授證儀式及宣讀「台灣濕地保育宣言」；次年啟動「2008臺灣濕地年」系列活動，包括辦理臺灣濕地保育系列論壇、舉辦「第一屆亞洲濕地大會」、建置「國家重要濕地」網站、舉辦濕地生態導覽、影像徵選活動、編撰相關出版品、配合相關活動整合行銷等7項活動。其中最重要莫屬與國際濕地科學家學會合作，共同舉辦「第一屆亞洲濕地大會」，並於98年6月獲國際濕地科學家學會頒贈榮譽獎項，表彰我國舉辦亞洲濕地大會的卓越貢獻。

98年內政部營建署城鄉發展分署首次補助縣市政府、社區、學術團體辦理國家重要濕地生態調查巡守、濕地監測及相關生態復育工作，並針對濕地進行長期性研究規劃與資訊整合，以「明智利用」為策略，建立國家重要濕地保育、復育與經營管理機制，促進臺灣地區濕地之永續發展。

從辦理濕地推薦評選、爭議濕地會勘、全國公園綠地會議、第一屆亞洲濕地大會，至98年補助18縣（市）23處濕地後的社區巡守及僱工購料等，累計已達5,000人次參與。

在完成「重要濕地分布圖」行動計畫後，將以目前75處國家重要濕地為基礎，經套疊鳥類、哺乳類、兩棲類、爬蟲類等生態分布熱點後，再藉由串連海岸河川湖泊，與連接中央山脈保育軸，以建構我國濕地生態網絡。並將結合社區、學術機構和NGO，共同推動濕地復育、維護管理、監測評估、生態導覽及教育解說等活動，建立我國志工人力系統。

將持續與國際濕地科學家學會進行交流、簽署合作備忘MOU，以強化濕地保育國際交流，吸收國外寶貴經驗，展現台灣經驗與價值。積極爭取台灣參與國際組織與會議之機會，善盡國際社會責任。

「國家重要濕地保育計畫」後續推動之重要方向如下：

（一）推動濕地保育與明智利用

（二）建構整體濕地生態網絡

（三）建構濕地永續管理法令體系

（四）整合提升濕地科學

（五）強化濕地保育國際交流

濕地網路系統示意圖。

國際濕地科學家學會頒贈榮譽獎項。

頒贈國家重要溼地保育榮譽顧問證書。

永續發展行動計畫執行績優獎

行政院環境保護署溫室氣體減量管理辦公室

實績介紹：

為因應全球暖化及氣候變遷等國際議題，環保署自民國93年起即積極推動各項溫室氣體盤查及自願減量等相關事宜，並已分別建立盤查、查證及登錄相關能力，簡述如下：

一、盤查制度：自93年起推動，於三年內推動30家試行盤查作業，並完成盤查標準作業程序、表單、技術手冊等配套措施，97年更擴大推動盤查試行作業至住商及運輸部門，累計至今已協助95家廠商完成盤查作業。

二、查證制度：於96年起推動，已完成7家業者及兩協會之查證試行作業，並於98

國家登錄平台啟用說明會。

年完成管理查驗機構作業原則，培訓150名以上之查驗人員。

三、登錄平台：96年7月建立國家溫室氣體登錄平台，正式推動工業及能源產業試行登錄溫室氣體盤查資料作業，目前已完成經濟部工業局、能源局等部會登錄系統整合作業，除了將3萬多家空污固定污染源列管資訊納入，亦已累計151家廠商提報溫室氣體清冊資訊，約掌握工業及能源部門燃料燃燒排放量達68.50%。

前揭國家溫室氣體登錄平台主要區分產業、管理部門及查驗三大專區，功能包括資訊公告、盤查登錄、盤查成果揭露、減量技術資訊查詢與下載、產業互動與交流等，除可提供業者上傳排放量資料外，亦能提供國內外溫室氣體最新資訊、減量技術及展示我國業者努力成果，有助於各界了解政府溫室管理最新進展。

針對我國溫室氣體減量工作，環保署除推動溫室氣體減量法立法外，亦將持續推動各項能力建制與宣導工作，針對國家溫室氣體登錄平台部分，將優先建立查驗作業管理、先期專案及抵換專案管理子系統，並推動與該署空水廢毒許可管理系統及空氣固定污染源資料庫之資訊整合作業，朝簡化業者申報作業程序，及提升政府機關行政效率之電子化政府方向邁進，未來將再積極強化碳足跡及抵換交易平台設計，俾成為我國功能完整的產業登錄溫室氣體盤查與減量資訊系統。

執行產業盤查試行作業。

2009永續發展國際論壇

永續會蔡勳雄執行長於國際論壇主持及致詞。

由行政院國家永續發展委員會（以下簡稱永續會）主辦的「2009永續發展國際論壇」於98年6月9日至10日於台北舉行，本次論壇特邀請聯合國和平大使、世界知名保育專家珍古德博士及永續會陳曼麗委員擔任專題演講，並邀請德國、日本永續會代表、永續會委員等，發表國家別永續發展策略；另亦邀請美國波特蘭市、馬來西亞及台北市永續會代表，介紹其永續城市推動成效與經驗。

珍古德：期許全球的人都能在當地永續發展

珍古德博士於演講中闡述了她個人對於永續發展的期許：「…要全球能夠朝向永續發展的要件，第一是要能夠改善窮人的生活環境，第二是讓富人接受新的價值觀，第三是讓全世界的人都能在他們自己生存的環境裡和諧共存，使人類的生長活動，都能在當地永續發展…」

她呼籲民眾正視目前全球許多國家仍陷於貧窮與饑餓的問題，有幸地，人有智慧和科技來克服一切困難，而受創的大自然也有能力自行復原，希望人類多想想，自己只是廣大世界裡，人群裡的一份子而已，假若每個人都能多思考，並從自身改變生活及消費習慣，所凝聚的效果將會很可觀，並足以改變我們生存的環境，使地球變得更好。

陳曼麗：任何政策都應有婦女的參與

永續會陳曼麗委員亦以「永續，提升人類的高度」為題發表演講，她從全球化的危機中，強調「全球化思考，草根性行動」是台灣努力擴展永續的基因，到各個角落紮根。

陳委員指出，婦女占人口的一半，任何政策都應有婦女的參與；女性是很好的生活者，也是很好的溝通者和決策者。只

德國環境與發展NGO論壇主席 Jurgen Maier與永續會蔣本基委員（右）。

要給女性機會，女性會努力表現自己的長處，貢獻社會。在永續發展議題，女性積極發表自己的見解，並希望納入決策；如2009年8月於新加坡舉行的APAC會議中即有女性和永續發展的論壇，可見女性意見受到極大重視。

Jurgen Maier：我們真正需要的是質化的成長

德國環境與發展NGO論壇主席 Jurgen Maier於演講中提到德國政府及民間近年在朝向永續發展上的努力與成果，他與珍古德博士同樣強調人類抑制消費的重要性。他指出，我們應該超越舊有的成長定義，量化的成長是沒有意義的，我們真正需要的是質化的成長。

Jurgen Maier指出，一般用來衡量經濟成長的指標是國民生產總值（GNP），而長久以來，GNP的成長與能源和原料資源的消費量成長大致相等。以同樣邏輯思考，可再生能源對GNP是不利的，因為風力和陽光是免費的。此例顯示，以GNP當作衡量生活的指標存在著謬誤。

他最後強調，「遲早我們都必須使經濟更具永續性，且我們現在必須更快的去處理這項議題，那些仍然執迷於過去的國家，將會成為這個世紀的輸家，他們將必須向國外購買永續發展的技術，並為解決挑戰而付出比其他國家更高的轉變成本。」

分享各國推動永續經驗 注入多元聲音

再次造訪我國的日本永續發展評議會秘書長黑坂三和子，以「日本永續發展策略與現況」為題發表演講。為使國際人士更了解我國在永續發展工作上的推動成果，永續會蔣本基委員與台北市永續發展委員會魏國彥副執行長，則分別以「中華民國永續發展策略與現況」、「永續城市—台北」為題發表演講。

美國波特蘭市永續委員會主席Dr. Robert Wise與馬來西亞國立大學環境與發展學院首席研究員Dr. Halimaton Saadiah Hashim，也於會中介紹美國波特蘭市及馬來西亞的永續城市發展現況，以促進交流。

該論壇共有來自政府機關、各縣市政府永續會代表及民間團體等300人與會，會中針對各國推動永續發展進行經驗交流，提供各級政府及國人的參考。另本次並邀請國內小學至大學的學生，發表其永續發展感言，以表達世代傳承之精神。由原住民青少年組成的樟樹國中鼓隊，於開幕式中，展現台灣多樣性文化與活力，為整個永續發展論壇，注入更多年輕人的聲音。

本論壇之舉辦獲得各界熱烈迴響，主辦單位已於會後將相關會議資料及論壇之現場實錄置於永續會網站（http://sta.epa.gov.tw/NSDN/），歡迎各界上網參閱。

永續會民間委員專訪

從一條河說起—推動永續 需要決心與執行

余範英委員（余紀忠文教基金會董事長）

20年前，中時報系大樓鄰近淡水河，同仁在舟車往返中，對於河水的髒、臭感同身受；當時即體認到永續發展與環境的重要性，常藉著媒體與政府對話、交流，使環保成為全民關心的切身議題。從調查採訪的角度切入，記錄河川的污染樣貌，邀集相關學者於1990年成立「河川保護小組」，舉辦河川保護的學術研討會，開始關心河川保育。

因應1992年聯合國21世紀議程（AGENDA 21），行政院成立國家永續發展委員會，除了官員層級不斷拉高至院長身兼主委，其間亦完成許多重要的規劃及推動各工作分組行動計畫，延伸國際益見熾熱的永續理念在台灣深植。

多年的經驗告訴我，環境影響評估，在推動永續發展裡格外重要。一個開發案是否以環境為優先考量，考量其未來對環境的衝擊，擺脫複雜利益糾葛，平衡環境與經濟，在在都攸關全民世代生計。在永續會提出討論的重大議案，涉及層面甚廣，包括產業政策、農業發展、交通規劃、生態旅遊等，實應以政策環評來檢視政策是否符合永續國土規劃指標。

這幾年的風災水害，讓國人體悟國土保育的重要及復育的迫在眉睫，國土規劃法需儘快通過，山、林、水、土等資源的規劃與整合，從政府到民間都要落實。在新政府的組織轉型過程中，面對破壞的山河，最亟需的是：「決心」和「執行」。

擔任多屆的永續會委員，深感台灣的發展偏重經濟，經建會擔負經濟發展並有執行權，但永續會既無實權，遑論推動。

關於永續會的持續與整合，建議應再加強，結合委員在不同領域的專業，提昇跨部會溝通協調機制。期許未來的環境資源部，能妥善整合「環境」與「資源」，為台灣人民，為下一代子孫構織美好前景。

正視氣候異變 及早應變與自救

林俊興委員（祐生研究基金會董事長）

09年莫拉克颱風導致台灣重大災情，我們應從氣候變遷觀點來審視災害。迄今全球尚未有適用的模型來解釋氣候變遷，IPCC的專家學者侷限於氣象領域、解釋版本分歧，得到的結論薄弱，僅歸咎CO_2是各界共識；且台灣在IPCC未受到應有的關注，學術界與民間團體不應太依賴IPCC說法，我們應自行解讀在國內所發

生的異變現象，以預測未來可能的動向，提早預防，以圖自救。

自災後在永續會工作會議裡，永續會委員即不斷提醒及建議政府應從八八水災的災難型態來整體反饋檢討，尤應嚴正審視台灣夏季的災變類型。民國98年夏季異常高溫，颱風從赤道產生，但氣旋動能減弱，加上中央山脈阻隔，氣流原地盤旋，挾帶龐大雨量，使莫拉克重創南台灣。

此外，極端氣候也反映在熱帶疫病的地理分布上，像近年台灣夏季登革熱的疫區呈北移趨勢，這類熱帶疫病的擴大現象，亦值得注意及提早因應。

從98年下半年起修訂的國家永續發展策略綱領（草案），已包含「災害防救」的面向，並討論「生態系異常之減災策略」、「疫病災害之防救措施」、「提升颱洪乾旱預警能力」、「健全土石流災害之減災策略」及「地層下陷災害因應對策」等因應措施，期望可以發揮防患功能。

在委員任期內，個人特別對於「生物多樣性」與「健康與福祉」兩組的議題格外關注，若能有效緩解生態異常，則未來令人擔憂的熱帶疫病溫帶化、糧荒等問題，或可及時改善保全人口。

擔任委員八年，對於永續會近年的嬗變及努力予以肯定，民間委員擔任監督政策的角色，而各工作分組接受建議予以落實。即便政務首長因政權丕變而異動，但在行動計畫的要求，與嚴密的管考機制把關下，其運作尚能暢行無礙，效能立竿見影。

在民主社會，執行政策的事務官才是穩固政府機制的基石。透過多年來與相關部會對話和互動的過程，發現國內文官素養相當高，多數抱持積極配合的學習心態，在向學界、民間請益時，更是從善如流。坦言之，期許各界對官員的努力予以鼓勵，永續委員也會不負所託，持續為全民福祉發聲、建言。

永續為百年大計 政策定位應更長遠

李玲玲委員（台灣大學生態學暨演化生物學研究所教授）

永續會設置是依據環境基本法29條，其任務是「負責國家永續發展相關業務之決策，並交由部會執行」；惟經多方考量，目前永續會仍被定位為協調及諮詢，而非決策。然永續委員的組成包括部會、專家學者與民間團體代表，因此永續會仍提供了一個官方與民間對話交流的平台，彼此針對永續的議題從不同角度提出各種看法討論，協助各部會在推動工作上彼此整合，並進而與國際接軌。

然而永續發展政策應有深思熟慮的長期規劃，且應超越黨派、針對國家整體的長遠發展訂定，不應受選舉或政黨輪替而影響其延續性。永續發展政策的形成需要從

環境、社會與經濟等多方面思考，也需要參考各種權益關係者的意見。許多先進國家在規劃永續發展政策時，往往會分析未來五十年、甚至一百年全球發展的趨勢，以及在此趨勢下自己的優劣勢與各種的限制和機會，以訂定發展的願景、目標與策略。並且在政策形成的過程中，經常會提供非常多的機會讓各類權益關係者代表充分參與表達意見，以便形成共識。這樣的過程或許費時耗力，然而一旦共識形成、政策確立，政策的推動就比較不會受到政黨輪替與人事異動的影響，也較能夠為民眾所支持。

我國的永續發展政策若有類似的長遠規劃，訂定明確的長期目標、政策主軸及相關工作的期程，則政府各部門推動工作的方向就能有更清楚的依循。目前永續會正協助修訂的永續發展政策綱領，就是期許未來能在行政院體系下，依據綱領研訂及確認永續會各工作分組的策略與行動計畫，繼而確立各部會需負責執行的工作項目，使重要的工作能延續及落實。

以生物多樣性分組為例，民國90年行政院通過「生物多樣性推動方案」，要求各部會依規劃分工及落實方案的內容。由於方案的內容相當多，永續會又挑選其中較為優先的工作項目納入行動計畫，並依照各項工作的目標與期程，持續追蹤其執行成效，定期作滾動式地檢討。97年起，生物多樣性分組更與國際接軌，針對生物多樣性公約推動2010目標下的七大關鍵領域，檢討更新行動計畫內的工作項目，以使我國生物多樣性的工作成果能符合國際公約的目標。經過這些年的努力，我們欣然發現，許多部會已體認如何將本身業務與生物多樣性密切結合，以落實行動計畫，並有顯著成果。

例如：過去未受到重視，也無專門法規可循的濕地保育，在生物多樣性行動計畫要求內政部主辦「完成重要濕地與珊瑚礁區域分佈圖」的工作項目後，內政部市鄉規劃局（後改制為城鄉發展分署）從國土規劃的角度辦理國家重要溼地評選，廣納政府與民間意見，達成第一階段75處國家重要溼地的指定，並逐步規劃重要溼地後續的調查與維護管理，其積極態度也獲得國家永續發展獎的肯定。

此外，在國科會、林務局及中研院等單位的積極推動下，中研院生物多樣性中心建構「台灣生物多樣性資訊網」，做為匯集我國生物物種最新資料的官方網站，供各界查詢；同時也在該資訊網的架構下，整合了農林漁牧等試驗研究單位的種原資料庫，掌握我國各類種原保存的現況。其他如植群圖的製作、原住民族生物學誌的出版、外來入侵種防治架構的建立與防除工作的執行、政府與民間夥伴關係的建立等，都是生物多樣性分組的重要成果。民國99年正值國際生物多樣性年，各部會已經陸續展開生物多樣性的相關活動，生物多樣性分組將從5月22日國際生物多樣性日起在台北植物園舉辦「生物多樣性工作成果展」，以讓各部會、縣市政府、民間團體與民眾分享生物多樣性的工作成果。

惟目前永續會許多分組的行動計畫並未更新，以往的追蹤研考機制已回歸到部會自行研考，而缺乏跨部會的協調與整合，再加上民間委員的任期僅一年，太頻繁的更動，可能讓一些委員無法充分發揮其功能，這些狀況都有改進的空間。最重要的

是，期許永續會能在協助政府訂定永續發展願景、目標、策略、計畫，與追蹤評量永續發展的成效上發揮更大的功能，使政府施政方向及成效更符合永續發展的目標，使國家社會與全民都能受惠。

面對氣候變遷 不只節能減碳 更需因應與調適

蔣本基委員（台灣大學環境工程學研究所教授）

永續會的前身，最早始於民國81年成立跨部會的「行政院對外工作會報全球環境變遷工作小組」，接著83年擴編為「行政院全球環境變遷政策指導小組」，其宗旨是呼應國際的環保相關公約及推動國內的永續工作。這些年，因執政當局的重視及因應國際潮流所趨，不斷地提昇永續會主委的位階，從最早由政務委員擔任，到目前由行政院長擔任主委。

永續的議題廣泛且影響深遠，民國89年修正永續會設置要點，除擴大委員代表性，並首度納入企業及民間團體代表，以廣諮社會各界意見，作為該會各工作分組推動政策的重要參考。新政府並於民國98年完成「永續發展政策綱領」之編撰，訂定推動永續發展的願景為：期許當代及未來世代都能享有「寧適多樣的環境生態」、「活力開放的繁榮經濟」及「安全和諧的福祉社會」。

「永續發展政策綱領」在執行策略措施，即以兼顧環境與經濟發展均衡概念之生態工業區（EIP），做為推動「節能減碳」及「綠色產業」之示範計畫，強調將工業園區生態化，建立綠色產業供應鏈，使園區內的產業成一自給自足的共生體系，以降低環境成本與污染。

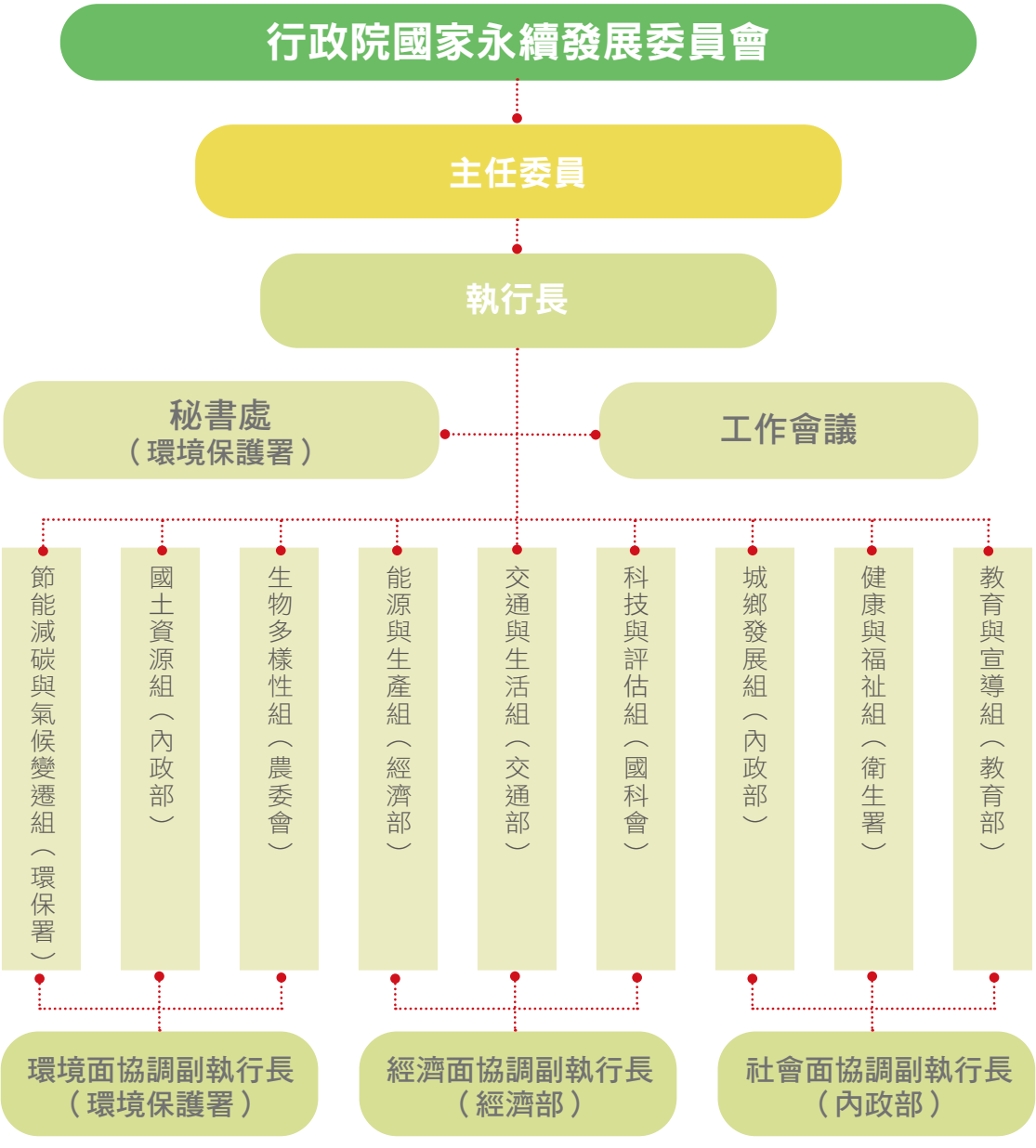
面對氣候驟變造成的天災，當前的永續發展工作，考量近年極端氣候對人類生活的重大衝擊，以莫拉克颱風為例，多位相關學者提出的檢討報告裡，即建議88水災後的重點工作應包括六大構面：環境監測與控制、災情控制與評估、災區復育與規劃、災民關懷與輔導、資訊建置與評估。此外，政策上，不僅要推動節能減碳，同時要因應及調適，如：結合產官學、環保團體、社區大學等各界力量共同推動低碳社區，結合社區營造、清淨家園的觀念，期共同建置一完整的低碳生活圈，才是更進一步的落實。

未來環境資源部成立後，將朝向整合式流域管理，以流域為單元，整體規劃水資源利用、水質保護、治山防洪、海岸防護與國土復育等工作；建構一縣市一生態親水河川，我們建議五大項河川評鑑指標，包括：水質清淨程度，流域生態環境，水岸環境活化、資源化，政府行政管理及民間投入參與；具體目標是讓九大河川不發臭，其包括：淡水河、南崁溪、老街溪、濁水溪、新虎尾溪、鹽水溪、急水溪、二仁溪及愛河。

附錄

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委員名單

政府官員

姓名	職稱	姓名	職稱
吳主任委員 敦義	行政院　院長	毛委員 治國	交通部　部長
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Preface

On 23 August 1997, the National Council for Sustainable Development (NCSD) was established by the Executive Yuan (EY) to strengthen Taiwan's environmental protection, enhance social justice, promote economic development, maintain national resources, construct a healthy and sustainable homeland and pursue national sustainable development. The president promulgated the "Basic Environment Act" in December 2002, through which Article 29 of the Act granted legal status to the NCSD. The Council consisted of members from the government, academia and NGOs. At that time, the Premier of the EY jointly-held the NCSD's position as chairman, while secretarial work were executed by the Environmental Protection Administration (EPA). Besides evaluating issues related to sustainable development, the NCSD completed important documents such as "Sustainable Development Policy Guidelines", "Sustainable Development Action Plan", "Sustainable Development Declaration of Taiwan", "Taiwan Agenda 21" and "Sustainable Development Indicators".

This year's annual report compiles the significant achievements made by public, private and civil sectors toward sustainable development in 2009. Topics covered in this edition include Important Affairs of the NCSD (Chapter 1); NCSD Working Group Achievements (Chapter 2); Sustainable Development Indicators (Chapter 3); National Sustainable Development Award Recipients (Chapter 4); 2009 International Forum on Sustainable Development (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.

Important Affairs of the NCSD

1.1 Working Meetings

1. 21 April 2009 – 26th Working Meeting
2. 8 May 2009 – 27th Working Meeting
3. 23 June 2009 – 28th Working Meeting
4. 31 December 2009 – 29th Working Meeting

1.2 NCSD Mode of Operations

Operating model

Policy guidelines → **Develop cross-ministerial and ministerial action plans and programs** → **Evaluate performance** → **Promotion work**

Revise policy guidelines | Revise action plans

State of execution

Formulate Sustainable Development Policy Guidelines

Key components
1. President's views, and Premier's directive
2. Announce annual indicator results and review
3. International trends and major issues
4. NCSD Working Meetings and regional forums
5. National symposiums on technology, energy, and the environment
6. Consensus meetings between agencies
7. Public opinion of NCSD's activities and Web sites

Related ministries or NCSD working groups develop Action Plans or Promotion Programs

Processes
1. Review by 9 NCSD working groups
2. Discussion by 3 NCSD working groups
3. Discussion in NCSD Working Meetings
4. Decision-making in NCSD Assembly

Calculate, announce and review sustainability indicators

Revise indicators
1. Refer to UN's third sustainable development indicator system
2. Use existing indicators as models to build on
3. Reflect policy guidelines and action plans

Review indicators
1. Announce annual achievements
2. Review political views, policy implementation
3. Adjust future action plans, policy guidelines and policies of ministries

Promote the following affairs :
1. Sustainable Development Awards
2. International forums
3. Publish annual report
4. Set up Web site and update

Operating principles
1. Encourage citizen action in sustainable development
2. Stay abreast of international trends
3. Information transparency

The Assembly Committee Meeting was held in the Executive Yuan

1.3 Important Achievements

Here are some of the important achievements of the NCSD in 2009 :

(1) Compilation of the Sustainable Development Policy Guidelines

The Sustainable Development Policy Guidelines were drawn up by the NCSD based on Agenda 21: Taiwan Sustainable Development Strategic Guidelines. Relevant agencies were convened at four regional forums in northern, central, southern and eastern Taiwan to draw up preliminary drafts including a broad range of views. The draft Guidelines were further discussed at the 27th and 28th NCSD working meetings. An editing committee was then assembled from non-government members of the NCSD to review and revise the draft, which was completed in late August 2009.

The Sustainable Development Policy Guidelines includes an overall vision, basic principles, concepts and focal policies. The focal policies cover four dimensions, which are elaborated in 22 themes (listed below). Each theme is further detailed with issues, objectives and strategies.

- **sustainable environment:** atmosphere, water, land, oceans, biodiversity, and environmental management
- **sustainable society:** population and health, residential environments, social welfare, cultural diversity, and disaster prevention
- **sustainable economy:** economic development, industry development, transportation development, sustainable energy, and resource reuse
- **implementation mechanisms:** education, technology research and development, information-based society, civic participation, government restructuring, and international cooperation

(2) Selection of sustainable development issues relating to presidential campaign views for inclusion in the Sustainable Development Action Plan

During the December 25th NCSD Working Meeting, the Council reviewed and selected 41 topics from the "Follow-up List for Implementing Ma Ying-jeou's Presidential Campaign Views" compiled by the Research, Development and Evaluation Commission, Executive Yuan. These topics were included in the NCSD's Sustainable Development Action Plan to put into effect the president's political views on sustainable development. A total of 167 concrete tasks are now

listed since the inclusion of the president's views in the NCSD Action Plans.

(3) Evaluation of performance in promoting sustainable development in 2008

The NCSD held a briefing on the 2008 Sustainable Development Indicators on 17 July 2009 to publicly announce the government's performance in promoting sustainable development in 2008 according to the indicator system. Over a dozen media groups sent reporters to the briefing. Comparing the results of the 41 indicators against the previous year (2007), progress was made in 27 indicators (66%), while headway was lost in 11 indicators (27%) and scores remained the same in 3 indicators (7%). Much attention from all circles has recently focused on the carbon dioxide emissions indicator showing a 4.4% overall reduction, equivalent to a 4.7% per capita decrease in emissions (for details on the 2008 Sustainability Indicator calculation results, please see Chapter 3).

(4) Completion of Taiwan's new Sustainable Development Indicator System

During the 25th NCSD Working Meeting in December 2008 it was resolved to develop a new sustainable development indicator system based on the UN's October 2007 announcement of its third sustainable development indicator system framework. This new system draws on related indicators in international sustainable development circles as well as indicators used by advanced nations. The new system was created to replace the existing system, which was based on the UN's first indicator system framework announced in 1996. This will put Taiwan in step with the latest international trends.

Following widespread discussion of the draft second Sustainable Development Indicator System in four agency coordination meetings and four regional forums in northern, central, southern and eastern Taiwan, the draft was approved in the 29th NCSD Working Meeting on 31 December 2009. The new version specifies 99 indicators categorized under 41 themes in 12 dimensions. The NCSD will use this new indicator system to evaluate Taiwan's yearly performance in sustainable development starting in the year 2010. Details on the new sustainable indicator system are highlighted in Chapter 3.

(5) The 2009 National Sustainable Development Awards Selection and Awarding Ceremony

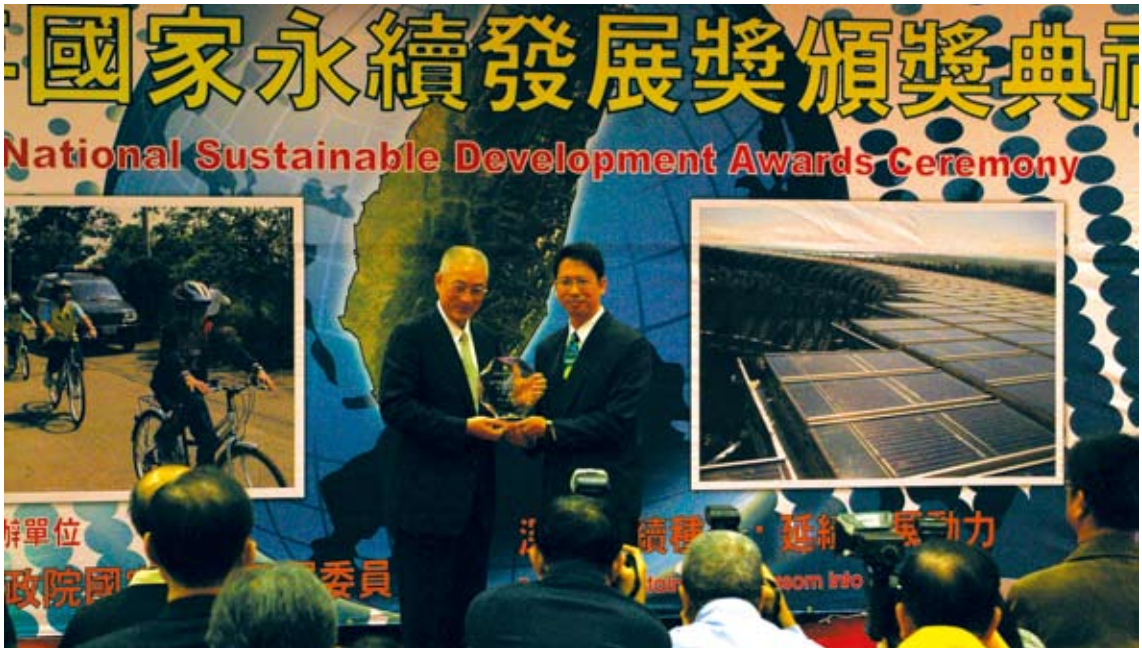
The National Sustainable Development Awards have been held since 2004. The 2009 National Sustainable Development Awards were chosen in a three-staged process including a paper review, an on-site inspection by council members, and a selection process with a total of 11 award recipients in the categories of education, business, civil organizations, and government action plan implementation. The awarding ceremony was held on 7 December 2009 at the Executive Yuan with Premier Wu Den-yih present to confer awards in person. For more information on the National Sustainable Development Awards recipients, please see Chapter 4.

2009 National Sustainable Development Award Recipients

Award	Recipient
Sustainable School Award	Chungshan High School, Kaohsiung County Neijiao Elementary School, Tainan County Neiding Elementary School, Chungli City, Taoyuan County
Sustainable Enterprise Award	Chunghwa Telecom Taiwan Corning Inc. CVC Technologies, Inc
Sustainable NGO Award	Taiwan Fund for Children and Families Chinese Association for Relief and Ensuing Services Taiwan Nurses Association
Execution of Sustainable Development Action Plan Award	Urban and Rural Development Branch, Construction and Planning Agency, Ministry of the Interior - Wetland Conservation Plan Greenhouse Gas Reduction Management Office, EPA, Executive Yuan - The Establishment of National Greenhouse Gas Registry System

(6) The 2009 International Forum on Sustainable Development

The NCSD held the 2009 International Forum on Sustainable Development on 9 June 2009 at the National Library, inviting experts and members of sustainable development agencies in other countries including the US, Japan, Germany, Britain and Malaysia to introduce the status of sustainable development in their own



Premier Wu presents the Sustainable Enterprise Award

countries and share experience with NCSD members and other attendees. UN Peace Ambassador and world-renowned conservationist Dr. Jane Goodall was invited to give a keynote speech and engage in a diverse exchange of views with those present at the forum. For more details on this forum, please see Chapter 5.

(7) Review of the National Land Security and Restoration Plan

The Council for Economic Planning and Development, Executive Yuan, compiled the draft National Land Security and Restoration Plan. The NCSD National Land Resources Working Group and the Urban and Rural Development Working Group held separate working group meetings in coordination with four regional forums in northern, central, southern and eastern Taiwan, and three NCSD working meetings. Discussion from these meetings was drawn upon in the review of the National Land Security and Restoration Plan during the 29th NCSD Working Meeting on 31 December 2009.

(8) Review of the draft Coastal Conservation and Restoration Program

The draft Coastal Conservation and Restoration Program was compiled by the NCSD Secretariat based on resolutions made during the Executive Yuan's 7th administrative meeting in February 2009. The final review of this draft was made at the 29th NCSD Working Meeting on 31 December 2009 after being discussed in three coordination meetings, two National Land Resources Working Group meetings, four regional forums and two NCSD Working Meetings.

NCSD's 26th Working Group Meeting

NCSD Working Group Achievements

The Sicao Green Tunnel (supplied by Taijang National Park Management Office)

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

Promoting the Greenhouse Gas Reduction Act and Drafting Programs

The Executive Yuan is currently heavily engaged in the work of getting the Greenhouse Gas Reduction Act passed, which will be the first of its kind for a developing nation. The provisions of the Act will be in line with international accords, and will lead to the design and establishment of carbon emission reduction mechanisms. Assisting industry in maintaining competitiveness and encouraging popular participation in carbon reduction schemes are two other major themes of the Act.

The EPA has already convened a number of meetings with representatives of the private and public sectors to discuss the draft of the National Greenhouse Gas Reduction Program. Topics that have been discussed include setting reduction targets for government agencies, promoting policies, itemizing projects, distributing the workload, and setting deadlines for appraisals of effectiveness.

International Cooperation and Participation in Environmental Protection Accords

Taiwan has been active in promoting offshore carbon rights and has recently completed a full evaluation of this mechanism. Meetings were also held among officials from various government agencies, experts, and industries, which resulted in the establishment of the Strategic Alliance for Clean Development and Management and Carbon Rights. A carbon rights trading information platform is being planned, which garnered the support and input of delegates at the Copenhagen climate summit.

Ten of Taiwan's diplomatic allies spoke on behalf of Taiwan at the COP15/CMP5 meetings. Taiwan's team also held bilateral meetings with teams from the U.S., the E.U., and diplomatic allies. Meetings were also held with high-level representatives of the IPCC (Intergovernmental Panel on Climate Change), the World Meteorological Organization (WMO), the International Council for Local Environmental Initiatives (ICLEI), the Global Environment Facility (GEF), and Germany's Potsdam Institute for Climate Impact Research.

In keeping with the spirit of international cooperation, international experts have also been invited to Taiwan to attend a number of upcoming conferences. These include the International Workshop on Pacific Greenhouse Gases Measurement and the International

Conference on Developing Trends in Greenhouse Gas Testing and Certification in June 2009; the Symposium on Self-imposed Greenhouse Gas Reductions for the Electronics Industry in July 2009; and the Experts Discussion on Greenhouse Gas Reduction Management and the Symposium on the Design of the U.S. Emissions Trading Mechanism in August 2009. In July 2009, Taiwan was the first nation in the world to conduct a ship-based greenhouse gas monitoring voyage of the Pacific Rim area. In addition, a project to monitor greenhouse gases produced from aviation will begin in the latter half of 2010.

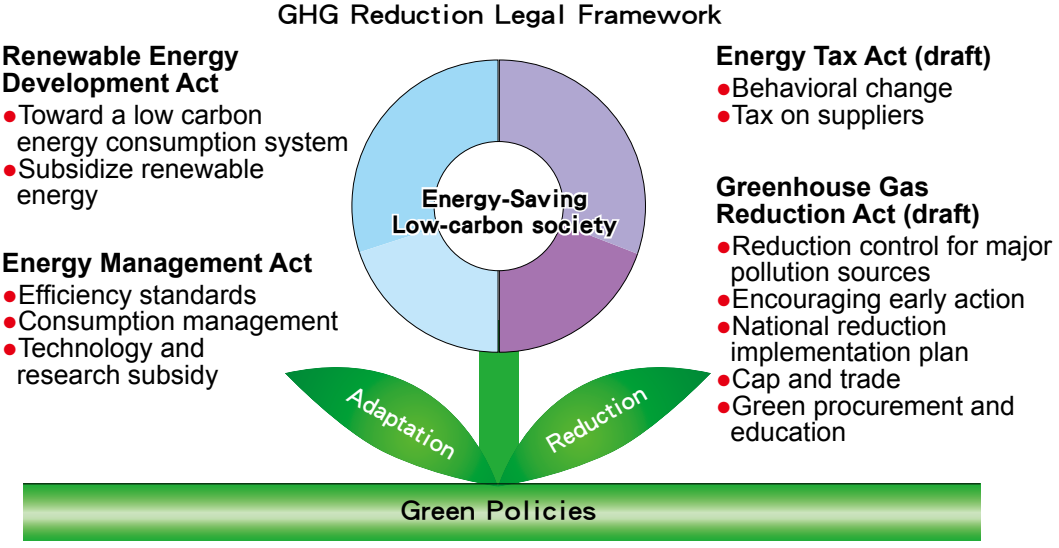
Building Capacity for Greenhouse Gas Reductions

To date, 224 enterprises around the island have submitted data on greenhouse gas emissions to the National Greenhouse Gas Record Platform for inspection, exceeding the target for 2009. The system of online data inspection is now fully operational. On 6 November 2009, the EPA announced the Working Principles for Managing Greenhouse Gases Verification Bodies, which give details of verification procedures and the minimum requirements that organizations and personnel must meet to submit an application for data evaluation. The principles are in accord with similar international verification systems. Also in 2009, the Greenhouse Gas Inventorying and Registration Guidelines and the Greenhouse Gas Certification Guidelines were assessed and approved, which should lead to increased accuracy of submitted data.

Leading the Way to Energy Conservation and Carbon Reduction

The EPA has been unstinting in its efforts to promote the concepts of saving energy and reducing carbon emissions among enterprises, retailers, and the public at large. To achieve this, the EPA has held a number of events island-wide, has been actively working to raise media profiles, and has set up the "Cooler" website, a part of the EcoLife site. Members of the public can now go online and sign a pledge to save energy and reduce carbon emissions. The website also allows them to evaluate personal electricity use and the savings on carbon emissions that can be made from reduced consumption. As of the end of 2009, over 950,000 people had used the site, proving its value as a public education tool.

GHG Reduction Legal Framework



2.2 National Land Resources Working Group

Disaster Management and Prevention

As in other countries, the government of Taiwan is working hard to mitigate the impact of climate change. The Central Weather Bureau, part of the Ministry of Transport and Communications, is instigating a 4-year (2008~2011) research project into the integration and usability of an online service giving information on oceanic weather conditions. The Water Resources Agency, part of the Ministry of Economic Affairs, has set up a disaster prevention information website in order to make disaster early warning and response more effective. In order to give the work of disaster prevention an even firmer foundation, the Executive Yuan's National Disaster Prevention and Protection Commission is

continuing to promote the 5-Year Plan to Upgrade Disaster Prevention

As for urban disaster prevention, the Ministry of the Interior's Architecture and Building Research Institute has finished conducting its Strategic Research into Modifying Urban Land Use to Mitigate Climate Change Disasters. The institute's researchers looked into possible disaster scenarios and current response capabilities, and their conclusions will be useful reference material for local government urban planners and lawmakers in charge of revising related regulations.

Accelerating the Reclamation of Forest Land for Planting High-Quality Forests

More forest land needs to be reclaimed so that more high-quality forests can be planted. To this end, during 2009 the Forestry Bureau tended to 14,259 hectares of state-owned forest land, and reclaimed 211 hectares of degraded land, 73 hectares of coastal forest, and planted trees on 43 hectares of land on outlying islands. A further 373 hectares of landslides have also undergone ecological engineering in order to prevent repeated sliding of an estimated 9.2 million cubic meters of land and encourage the growth of new forests.

Maintaining Pristine Mountain Forests and the Establishment of a National Hiking Trails Website

The concept of leave-no-trace (LNT) hiking has been gaining momentum worldwide and Taiwan's Forestry Bureau is playing its part. The 11th stage of training for 170 seed instructors and the 3rd stage of training for 39 senior LNT instructors were recently completed. 24 LNT mountain activity programs have also been formulated, with funds set aside for teaching materials. The Taiwan Mountain Recreation website is now also up and running, providing detailed maps of hiking trails around the island. To date, the site has received over 1.5 million hits.

Bringing Local Reclamation of Wetlands up to Speed with International Practice

In 2009 the Ministry of the Interior's Construction and Planning Agency started promoting the National Major Wetlands Ecological and Environmental Survey and Reclamation Plan. The aim of the plan is to protect existing wetlands, enrich both urban and rural landscapes, and create local eco-networks. The plan ambitiously attempts to supersede traditional building methods and old ways of looking at problems, for example by allocating part of the plan's budget to local governments. Grassroots organizations such as township offices, civil organizations, residential community groups, and vocational colleges, have also been encouraged to join in efforts to reclaim and beautify wetlands. They are also involved in patrolling these areas, conducting surveys, and monitoring the ecology, and their participation in the work of sustainable environmental protection has led to excellent results.

More international recognition for Taiwan's wetlands is also being sought through exchanges with international wetlands organizations. The head of the Society of Wetland Scientists (SWS), Andrew H. Baldwin, was invited to Taiwan, and on 30 November 2009, signed a Regional Strategic Program of Action Cooperative Memorandum for 2010~2015 on behalf of the SWS. His cosignatory was Mr. Ye Shiwen, head of the Construction and Planning Agency. Strengthening ties with international wetlands organizations in this manner will allow Taiwan to draw upon a well of knowledge and technological know-how in the field of wetlands reclamation.

Signing a Regional Strategic Program of Action Cooperative Memorandum for 2010~2015

2.3 Biodiversity Working Group

Enhancing Taiwan's Conservation Area Systems and Their Management

In April 2009 the Council of Agriculture declared the establishment of the 664-hectare Biegu Wildlife Protected Habitat in Chiayi County. This brings the total number of natural protected areas in Taiwan to 84, occupying 19% of the total land area of the island.

Diagram showing the area covered by the Biegu Wildlife Protected Habitat, Chiayi County (supplied by the Forestry Bureau)

The Taijiang National Park Management Office officially opened its doors on 12 December 2009. The park encompasses a total area of 39,310, mostly marine territory; the terrestrial part of the park includes the Qigu salt fields, the Black-faced Spoonbill Protected Area, the Sicao Wildlife Protected Area, and coastal windbreak forests. This marks the establishment of Taiwan's 8th national park, offering a fine combination of historical, ecological, and industrial resources. The establishment of the park has raised the total area of land occupied by national parks up to 8.64%.

Protecting Coastal Areas and Wetlands The following are some of the efforts being made to improve protection of coastal areas:

1. The Taiwan Coastal Areas Natural Environment Protection Plan (first comprehensive review) calls for the establishment of 21 coastal conservation areas, including 63 natural environment conservation areas, and 21 ordinary conservation areas. These protected zones will cover a total area of 1.32 million hectares.

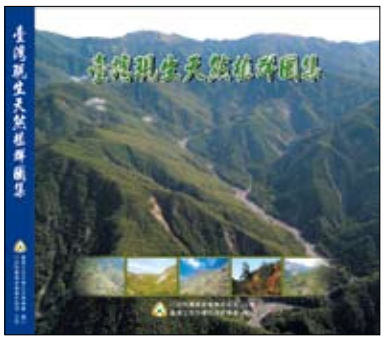
2. Interdepartmental resources are currently being integrated in order to formulate and promote short, medium, and long-term plans as required by the National Essential Wetlands Conservation Plan (2011~2016)

3. On 30 November 2009, a Regional Strategic Action Program Cooperative Memorandum was signed with the SWS in order to strengthen bilateral cooperation and facilitate the use of better knowledge and technology in reclaiming Taiwan's wetlands.

Completion of the Mapping of Taiwan's Existing Flora

The Council of Agriculture recently completed its 6-year National Survey and Mapping of Floral Diversity. This was the first integrated plan to survey floral diversity in 1.62 million hectares of land on the island and produce the results in the form of comprehensive maps. The set of maps allows comparison of ratios of protected plant species. Using overlay mapping of environmental factors, the habitat distribution and special characteristics of certain plant species can also be ascertained. The maps are thus a major contribution to conservation efforts, national land planning, academic research, and environmental protection education.

The Forestry Bureau also held a book launch for Maps of Taiwan's Existing Flora on 17 December 2009, to let the public know the results of the breakthrough research and deepen understanding of the wonderful diversity of flora in Taiwan.



Cover of Maps of Taiwan's Existing Flora

First Official Species Checklist Lists Over 50,000 Indigenous Species

With the help of grants from the Council of Agriculture's Forestry Bureau and the National Science Council, the Academia Sinica's Biodiversity Research Center was able to carry out the Taiwan Species Checklist Plan. This resulted in Taiwan's first official species checklist, the 2008 Taiwan Species Diversity I. Current Research II. Species Checklist, which was published in 2009. Containing 51,212 species, the checklist shows Taiwan has not only

one of the highest concentrations of species per unit area of anywhere in the world but also a high proportion of endemic species. The checklist will certainly prove to be of immense value to researchers, educators, conservationists and people involved in agriculture, forestry, fishing, and livestock rearing.

Participating in the Global Seed Vault Plan

On 26 February 2009, a representative from the Council of Agriculture and the administrative head of the Svalbard Global Seed Vault (SGSV) signed an agreement signifying Taiwan's official participation in the Svalbard Seed Vault Seed Conservation Plan. Seeds from 15 species of rice, grain, and vegetables unique to Taiwan will be stored in the vault – sometimes called the Doomsday Seed Vault – which represents a new leaf in the book of international cooperation and development for Taiwan's agricultural industry.

Improving Quarantine Management and Screening for Invader Seeds

The Council of Agriculture recently announced the Quarantine Requirements for Wood used for Packing Imported Commodities and revisions to the Quarantine Requirements for the Importation of Plants or Plant Products. In addition, in keeping with the Convention on Biological Diversity's main theme for 2009 – invader seeds – from 22 May 2009, the council's biodiversity team ran the May 22 International Biodiversity Day – Invader Seeds Screening Activity at the Hongshulin Ecology Exhibition Hall. The purpose of the exhibition was to make the public aware of the need to prevent the spread of foreign invader seeds.

A box containing the seeds sent to SGSV, showing the letters TARI (Taiwan Agricultural Research Institute) and the RFID logo

Invader seed screening activity

2.4 Energy and Production Working Group

Legislation of the Renewable Energy Development Act

Taiwan imports up to 98% of its energy resources, so the local economy has been heavily impacted by the spiraling price of oil in recent years. Add to this growing international pressure to control greenhouse gas emissions and it becomes apparent that immediate action needs to be taken to develop domestic sources of renewable energy that help reduce emissions. After a number of years of research and evaluation, the Renewable Energy Development Act was finally promulgated on 8 July 2009. This will provide the legal framework around which renewable energy will be developed.

One of the biggest producers of carbon dioxide are power plants that burn fossil fuels. In order to encourage power plant operators to invest in renewable energy the regulations stipulate that the wholesale purchase price of renewable energy cannot be lower than the average power plant operating costs. Guaranteeing plant operators room to make a profit should encourage them to invest in research and development of low-cost renewables that have a higher rate of electricity generation.

National Energy Conference Reaches Consensus on Low-carbon Economy

On 14 and 15 April 2009 the Executive Yuan held the National Energy Conference as a part of the national Energy Conservation and Carbon Reduction campaign. Consensus-building was another major theme of the conference, and consensus was reached on 249 items that aim to promote a low-carbon economy and low-carbon society. One of the main items covered was the

President Ma addressed in 2009 National Energy Conference

formulation of the Sustainable Energy Act, which prescribes the government's responsibility to implement carbon footprint, carbon disclosure and similar systems based on the principle of attaining a carbon neutral society. The act also calls for the following measures:

- Building more dedicated bicycle paths and revising traffic regulations to give bicycles superior road rights.
- Raising awareness about energy security.
- Raising the status of energy resource managing authorities.
- Improving safety, monitoring mechanisms, and information disclosure in the nuclear power industry.

The government is also promoting other measures to facilitate the development of the market for green electricity. These include:

- Designing a purchasing mechanism for green electricity that realistically reflects the costs of renewable energy sources.
- Adjusting fuel tax rates so that they follow variations in the market price of oil.
- Giving consumers the right to choose where they source their electricity from.
- Establishing a power distribution center.
- Working to get the Natural Gas Industry Act passed.

Another big step in the direction of greener energy occurred on 15 November 2009, when the Executive Yuan sanctioned the Ministry of Economic Affairs' Scheme to Upgrade the Green Energy Industry. As a result, government research and development investment in green energy technology will reach at least NT$20 billion over the next 5 years in order to lead Taiwan's manufacturers toward developing low-carbon, high-value products and services. It is forecast that the output value of the green energy industry will rise from NT$160.3 billion in 2008 to NT$1.158 trillion by 2015.

Promoting Research and Evaluation of a Green Tax

At a meeting on 19 October 2009, the Executive Yuan's Tax Reform Commission resolved to support the introduction of a green tax system. Priority will be given to promoting a green energy tax and a carbon dioxide tax after careful evaluation of their economic, industrial, and environmental effects. Consideration will also be given to opinions from all relevant stakeholders. A suitable time for enforcement will be chosen after the new tax system has been legally codified.

Advising on Energy Conservation and Carbon Reduction

On 25 February 2009, the Ministry of Economic Affairs officially established the Energy Conservation and Carbon Reduction Guidance Team for Commercial Operations. To date, the team has conducted 4 surveys of energy consumption at established businesses, four energy saving/emission reduction plans for new businesses, five surveys of energy consumption in traditional wet markets, and has advised ten restaurant chains and ten takeaway beverage chains on how to reduce energy consumption.

As for energy conservation and carbon reduction in the fisheries industry, on 18 May 2009, the Council of Agriculture's Fisheries Agency set up an energy conservation and carbon reduction team. The team will ensure that a target of 20% carbon emissions reduction is achieved during the implementation of the Coastal Regeneration Plan, part of an economic stimulus scheme for coastal areas.

2.5 Transportation and Livelihood Working Group

1. Raising Public Transport Efficiency and Passenger Service Standards

The Ministry of Transport and Communications' (MOTC) Directorate General of Highways (DGH) is currently implementing an improvement plan to address problems with public transport. Problems with bus services include insufficient information regarding schedules; vehicles that are aging or in disrepair; waiting areas with inadequate facilities; ineffective route planning; and poor schedule coordination with other forms of public transport. The DGH is also conducting an assessment of bus transport on national highways and is subsidizing Xinzhu, Taizhong, and Tainan city government assessments of bus transport within their own administrative boundaries.

The MOTC's Railway Reconstruction Bureau is currently busy working toward improving rapid transit in metropolitan areas and creating energy efficient trains and stations that are in line with the trend toward sustainable development. Major projects being undertaken include increasing grade separation of railroads, adapting more lines on which to run rapid transit trains, and improving branch lines of the rail system. Seven grade separation and line adaptation projects were undertaken in 2009 in the cities around the island. Four branch line improvement projects were also carried out, as were three projects to improve the train service on the east coast line.

Promoting Ecotourism and the East Coast Bicycle Route Network Demonstration Plan

The MOTC's Energy Conservation and Carbon Reduction East Coast Bicycle Route Network Demonstration Plan was completed in February 2009. The plan aims to turn the east coast of Taiwan into a model area for cycling, and to this end the Tourism Bureau's Northeast and Yilan Coast National Scenic Area's office has been working hard to implement policy. The office has already planned how to integrate the bicycle tunnel on the Old Caoling Trail, the Longmen~Yanliao Bicycle Path, and the Yilan Coastal Bicycle Path into the east coast network. Infrastructure improvements include better facilities on the paths, better signage, and improvements to the verges of the paths. Promotional activities have also been held that have helped to raise its media profile.

Bicycle paths that encourage people to get more healthy exercise are not the only aspect of ecotourism that the various national scenic area offices have been working on. Activities such as beach cleaning and tree planting have also been held in conjunction with local port authorities.

Online Transport Information and the New Integrated Road Network Traffic System

The MOTC has designed and is now operating the National Traffic Information Center website. The site offers up-to-date information on road and traffic conditions gleaned from a number of governmental and private sector sources. The information is also available for use by businesses that wish to add value to an existing service. The MOTC has also designed and is now operating the Land, Sea, and Air Public Transport Information Center which gives details of routes, schedules, and fares for trains, buses, airplanes, and ships. There is even information on municipal bus routes for all cities around the island, making the site a valuable one-stop source of information for passengers and travelers alike.

Hits on the site have increased by 54.25% since last year. Part of the reason for this is introduction of Intelligent Transport System technology that is improving safety and traffic flow on the island's freeways and highways.

The Old Caoling Trail Bicycle Tunnel

National Highway No. 6 in Nantou's construction focus on environment, ecology and landscape

Improving Weather and Earthquake Forecasting

The MOTC has also completed the Climate Change and Extreme Weather Monitoring and Forecasting System Development Plan. The plan will enhance the Central Weather Bureau's ability to predict short-term weather patterns and sudden extreme weather conditions, which will be of economic benefit and will help to prevent disasters such as flooding. In addition, 19 seismic monitoring stations have been superseded by state-of-the-art 24-bit seismographs. Three borehole seismographs have also been installed, which are able to give higher quality readings due to the much-reduced background interference at deeper depths.

The Green Marketing Promotion Plan

The Ministry of Economic Affairs (MOEA) has been providing guidance on green business practices to businesses in traditional markets and shopping malls deemed suitable for displaying the Model Green Commercial Environment Logo. Based on the principle of getting the message across as effectively as possible, advice has been given on saving energy, reducing the creation of garbage, and recycling. It is hoped that by promoting the practice of purchasing green products among the general public, green consumerism will eventually become a part of daily life and everyone can do their bit to slow down global warming.

2.6 Technology and Evaluation Working Group

Promoting Scientific Research and Evaluation of Climate Change

1. Since 2007 the National Science Council has been overseeing the Strategy for Evaluating and Responding to the Adaptability and Weaknesses of Taiwan's Ecologies and Disaster Prevention Measures Regarding Climate Change. This wide-ranging research project has been looking into Taiwan's susceptibility to water- and wind-related disasters. It has also searched for weaknesses in local ecologies, water supply systems, public health systems, and the forestry, agricultural, and fisheries industries in the face of climate change. Results from the part of the project that analyzed the susceptibility of Taiwan's ecological systems to climate change were announced at a meeting held in October 2009 that was attended by over 100 people.

2. As a result of the possible impacts of climate change, and following a resolution of the 8th National Technology Conference at the beginning of 2009, the interdepartmental Taiwan Climate Change Impact Evaluation and Information Platform Establishment Plan is currently being promoted. The plan was brought to fruition following an all-out effort by the National Science Council to get the major relevant research units around the island involved. The plan will run for 3 years, from November 2009 to October 2012, and details of its implementation will be worked out by the National Science and Technology Center for Disaster Reduction.

A meeting announcing the results from a project that analyzed the susceptibility of Taiwan's ecological systems to climate change

Working on the platform will be the Academia Sinica's Research Center for Environmental Changes, the Central Weather Bureau, and the National Science and Technology Center for Disaster Reduction, as well as other local academic experts (see Diagram 1 for the structure of the platform). Bringing together cutting edge scientific research and technological developments, along with the resources and capabilities of the units involved, will put the platform at the center of Taiwan's climate change impact research in years to come. Addressing the needs and technological requirements of end users will also be a priority, and it is expected that water agencies will be the first beneficiaries of the research.

Although the National Science and Technology Center for Disaster Reduction is responsible for the building of a platform that can support databases and an information service, the task of predicting changes in Taiwan's climate in the 21st Century has been given to three teams made up of scientists from different institutions. The conclusions that the teams arrive at will be used for research into the local impacts of climate change and how it can be integrated with downstream applications. The predictions that the three teams make will also be used to build an integrated platform for interdisciplinary research into climate change and possible applications of the findings.

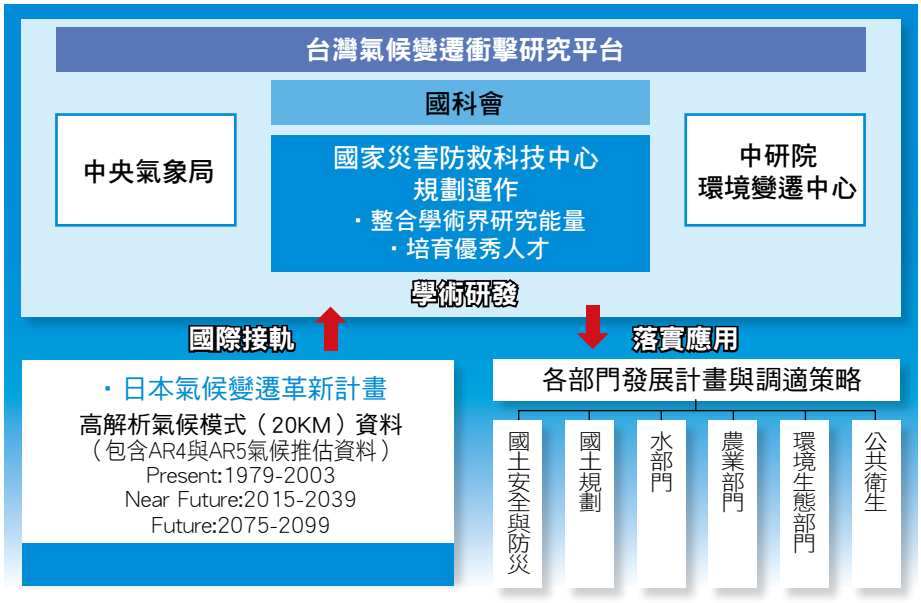
The 3-year plan leans heavily toward interdisciplinary integration in order to fulfill the needs for systemization, technological innovation, and useful application in meeting the following overall goals:

- Establishing a platform for the integration of interdisciplinary research (and resulting applications) into climate change
- Establishing systems for accurately predicting future climate changes for Taiwan
- Formulating suitable policy for government agencies to stimulate the departmental application of R&D findings
- Giving special attention to the aspects of climate change research in which Taiwan is strong while staying in step with international trends and practices
- Getting reports of climate research findings published in international publications

Promoting the National Science and Technology Plan - Energy

On 10 June 2009, the National Science Council passed the Overall Planning Report for the National Science and Technology Plan - Energy. The four guiding

Diagram 1: The Taiwan Climate Change Impact Evaluation and Information Platform



principles of the plan are:

- Integration of resources
- Policy planning for energy resource technology development
- Selection of the most important fields for future national research into energy resource technology
- Allocating and adjusting budgeted funds

The plan will integrate existing resources, such as plans and research, belonging to the National Science Council, the MOEA's Bureau of Energy, the Atomic Energy Council, the MOIA, the MOTC, the Council of Agriculture, and the EPA. The thrust of the R&D will be in the following fields:

- Energy resource conservation technology
- New uses for energy resources and energy resource environmental protection
- Development and exploitation of renewable energy sources
- Assessment and integration of government policy toward the development of energy resource technology

The seven main energy resources and technologies to be researched and developed include clean coal, ocean tides, nuclear energy, methane hydrate, coastal winds, intelligent electronic networks, and government energy resource policy.

2.7 Urban and Rural Development Working Group

Promoting Eco-friendly Architecture and the Revision of the Reusable Building Materials Standards and Specifications

The MOI's Architecture and Building Research Institute has been promoting research into green architecture for many years now, and in 2009 began implementing the Eco-city Green Architecture Scheme. A total of 415 certification and green labeling cases have been passed so far. It is estimated that implementation of the scheme will result in annual savings of 121 million kWh of electricity, 5.92 million tons of water, and 8.2 million tons of carbon. The Plan to Raise Energy Efficiency in Buildings was also put into action in 2009, and 28 energy efficiency projects were carried out. Another 28 projects that fell under the Green Architecture Renewal and Improvement Plan were also completed, with the aim of reducing the heat-trap effect that plagues Taiwan's cities. The institute, in conjunction with the CIB and the WGBC, two international building research organizations, also held the 2009 Green Building to Eco-city Conference, which was attended by 456 people representing 23 different nations.

In 2009, the institute also inspected 101 types of building materials – covering 1,300 different products - and approved the use of "approved green building material" labels on them. The MOEA's Industrial Development Bureau also played an active part in the promotion of the draft of the Revision of the Reusable Building Materials Standards and Specifications. The bureau also announced two sets of national standards covering stone used in pre-cast concrete and concrete that is used in earth-retaining walls and for covering landslide slopes. Draft revisions for 5 other sets of national standards were also drawn up in 2009. These will cover:

2009 Conference Green Building-Towards Eco-City (CBTEC)

- Hollow concrete bricks
- Lightweight aggregate used in structural concrete
- Lightweight aggregate used in concrete without steel re-enforcement
- Methods for testing if lightweight aggregate used in concrete contains metallic pollutants
- Methods for testing the density of structural concrete

2.8 Health and Welfare Working Group

On 31 January 2009, a new system for regulating organic farm products was introduced as a part of the effort to promote organic agriculture. The system relies upon random testing of raw and processed organic farm products, and also aims to strengthen existing labeling practices for such products. There are currently 11 organizations around the island that issue certification for organic farm products, and to date they have tested 2,961 tonnes of produce from 1,277 different farms.

Monitoring environmental hazards has always been a priority for the EPA. In the first quarter of 2009, testing for atmospheric dioxin revealed that the average density of this toxin has fallen significantly, from 0.089 pg I-TEQ/m^3 in 2002/2003 to 0.056 pg I-TEQ/m^3. All of these values are far below Japan's basic maximum permitted density of atmospheric dioxin, which is 0.6 pg I-TEQ/m^3. Great reductions in levels of environmental toxins, such as in this case, can only be beneficial to public health.

The EPA is also working to promote the dispersion and application of data collected from monitoring the quality of river water by collating the data collected from the previous year in the form of an annual report. This data is useful both for assessing the effectiveness of remediation projects and for gaining a clearer view of long-term trends in water quality. The data can be viewed or downloaded for free from the following website http://www.epa.gov.tw/wqm.

On 15 September 2009, the EPA held the Forum on 10-year Monitoring of Toxic Substance Distribution and Future Expectations as a part of its ongoing effort to educate the public about health hazards. During the forum a booklet was handed out detailing the results of surveys into toxic substance distribution that the EPA has been conducting since 1999. Ten years of surveys have not only amassed a wealth of data on toxic substance distribution, but also spurred the development of chemical analysis techniques and allowed the EPA to give specific suggestions on policy and technology for controlling and reducing the amount of toxins present in the environment. Use of the following substances is now being actively controlled or reduced: organic tin compounds, PBDEs, phthalate esters, mercury, and organic pesticides.

On 5 October 2009, the EPA held the Forum on Restricting the Use of Endocrine Disruptors, to which legislators, scholars, experts, and representatives of environmental groups were invited. The forum involved some heartfelt discussions on the subjects of endocrine disruptors in everyday consumer products; ways by which people are exposed to endocrine disruptors and their negative impact on health; and how the public can guard against such exposure.

On a similar note, in March 2009 the Council of Aboriginal Affairs published their annual statistical report of a health survey of the island's aboriginal population. The statistics not only give the standard static data on death and causes (such as from cancer) but also give dynamic data collated from records from clinics and hospitals around Taiwan. Establishing such a dedicated statistical long-term record of aboriginal health care will give a clearer picture of the health profile of Taiwan's aboriginal peoples.

2.9 Education and Promotion Working Group

The MOE has also been playing its part in the national effort to save energy and reduce carbon emissions. This was demonstrated by the holding of the 2009 Interdepartmental Symposium on Implementing Energy Conservation and Carbon Reduction Education by the MOE's environmental protection team in January 2009. A procedural action plan was drawn up to assist central and local government agencies in developing environmental protection education and holding interdepartmental knowledge exchange meetings at which staff can enhance their knowledge and expertise through discussing policy and sharing relevant experiences.

In July 2009 the MOE selected ten elementary and junior high schools with particularly special features to be considered for campus greening and other

enhancements as part of the long-term goal of sustainable management of special schools. Details of the scheme were presented at a forum, which was open to all interested parties. In October, the MOE held a closing presentation for the 2008 Campus Greening Plan – Energy Resource Education Center in the National Science and Technology Museum, Kaohsiung. On display were achievement posters, instructional materials, lesson plans, and other proof of achievement from 32 schools that have received grants from the MOE. It was fully evident from the exhibits that each school had implemented the plan in its own special way.

In May 2009, the MOE also held a series of environmental education guidance workshops for local government officials as a part of continuing efforts to promote and implement environmental education. A report of the results of the last mid-term environmental education plan (2005~2008) was made available to participants, who were also able to listen to discussions between experts and hear them share their experiences. The improvements made were also reviewed, and the knowledge gained from implementing the last plan will be referentially useful when the next plan is to be drawn up. It is hoped that the workshops will lead to a wider dispersion of the concept of environmental education and make policy implementation more effective.

The MOE is also on a drive to promote organic ecology on campuses and to this end held the 2009 Organic Ecology Campus Children's Summer Camp over the summer. During the camp the students were taken into natural environments and shown how to cherish and protect them as well as make use of the resources in them. The camp also taught students that not only agricultural products can be organic but also that the concept of organic can be applied to their everyday environment, such as their school campuses.

The closing presentation of the 2008 Campus Greening Plan

From October to December the EPA held the 2009 National Environmental Protection Summit for Township and Borough Chiefs. Over 800 people from every corner of the island attended the symposium, including the head of the National Township and Borough Chief Liaison Association, town mayors, and officials from local environmental protection departments. Fruitful discussions were held on sustainable methods to make the local environment cleaner, quieter, healthier, and more livable.

In order to encourage people to make environmental protection a part of their daily lives the EPA held a "One chopstick at a time" press conference in December to promote the use of stylish, washable chopsticks in place of disposable wooden ones for customers of food concessions in department stores. The concession operators are also being encouraged not to actively give disposable chopsticks with takeaway meals. It is estimated that this will result in a reduction of 40.4 million sets of disposable chopsticks being made and used, which would have created 350 tonnes of waste and 320 tonnes of carbon dioxide emissions.

Green Chopstick Program - Stylish and In!

Sustainable Development Indicators (SDI)

NCSD CEO Tsai Tsun-Hsiung (second from the left) and Minister of EPA Stephen Shu-hung Shen (second from the right) host the 2008 SDI Announcement Release

Taiwan's sustainable development indicator (SDI) system was based on the 1996 United Nation's sustainable development indicator framework, and convened by the Council for Economic Planning and Development, Executive Yuan (CEPD). The first computational results of the SDI system were announced on Environment Day, 5 June 2003. The scores are used to evaluate and reflect Taiwan's overall effort in promoting sustainable development.

3.1 2008 SDI Results Announced

The current framework of Taiwan's Sustainable Development Indicators is based on the 1996 United Nation's sustainable development indicator PSR (Pressure-State-Response) framework and our nation's current conditions. Forty-one indicators are grouped into 6 major categories: ecological resources, environmental pollution, economic pressure, social pressure, institutional response, and urban development. The indicator framework and the trends of each indicator are explained in detail on the NCSD website at http://sta.epa.gov.tw/NSDN/.

The SDI for 2008 as compared to those of 2007 shows 27 marked improvements, 3 status quo and 11 deviations from sustainability. In terms of categories, all 6 major categories showed progress toward sustainable development.

(1) Ecological Resources

Composite index scores for ecological resources exhibited a continual downward trend from 1988 to 2006, besides the status quo of "undamaged forest area ratio". Generally speaking, the status of ecological resources in Taiwan has deviated away from sustainability in recent years. Looking at data in 2007, aside from positive indicator scores in the "undamaged forest area ratio" indicator, all other indicator values are lower compared to previous years. Nonetheless, due to a higher score in the "undamaged forest area ratio"

indicator, the composite index score is slightly higher in 2008 (95.61) than 2007 (95.31) (Figure 1), showing progress in sustainable development.

(2) Environmental Pollution

From 2005 to 2008, there had been progressive improvement in the environmental quality index, and as of 2007, its index of 100.71 had been the highest since 1988 (figure 2), showing a marked improvement in environmental protection efforts.

Looking at trends in each indicator, resource recycling is showing a steadily improving trend since 1998. The carbon dioxide emissions has steadily improved over the years, in 2008, the CO_2 emission level of displayed negative growth (-4.42%), it indicates Taiwan's effective control of carbon dioxide emissions.

As for PSI (pollution standards index), average values have slowly increased (besides 2004 value) but generally speaking the difference is subtle.

(3) Social Pressure

From 1988 to 1997, social pressure index scores had shown a departure from sustainability, however from 1998 to 2008 index scores had fluctuated around 94. In terms of individual indicators, daily per capita garbage volumes have slowly increased from 1988 to 1998, and showed decrease from 1998 to 2003, but increase slowly again since 2003 onward. Betel nut plantation area has gradually decreased since 1999, indicators of public health including death rate due to cancer and contagious disease infection rate have increased, and public nuisance complaints have gone up.

(4) Economic Pressure

The economic pressure composite index had increased from 100 to 108.46 from 1988 to 2008, indicating steady decrease of Taiwan's economic pressure and moving toward sustainable development. Even though the use of pesticide with respect to agricultural production shows a steady

Figure 1. Ecology composite index trend

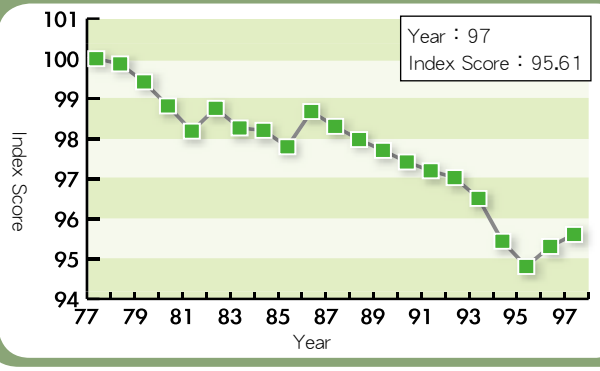


Figure 2. Environmental quality composite index trend

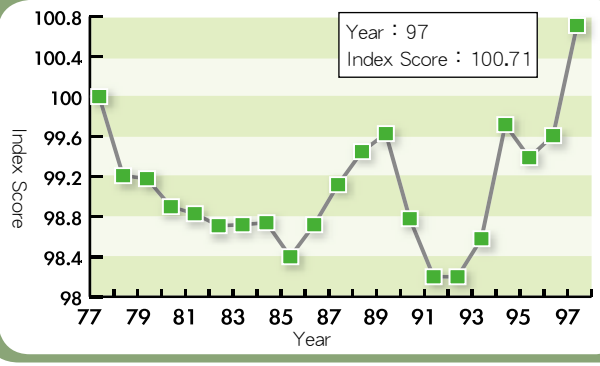


Figure 3. Ecology and environment composite index trend

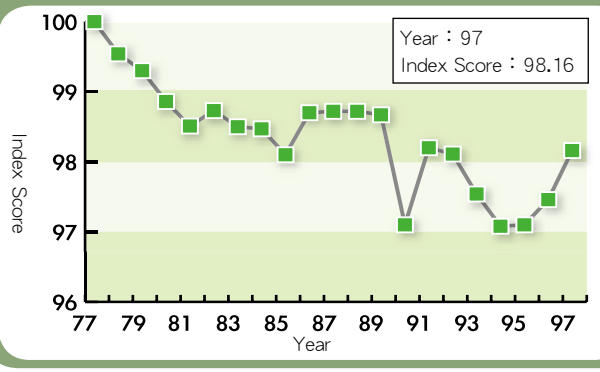


Figure 4. Social pressure composite index trend

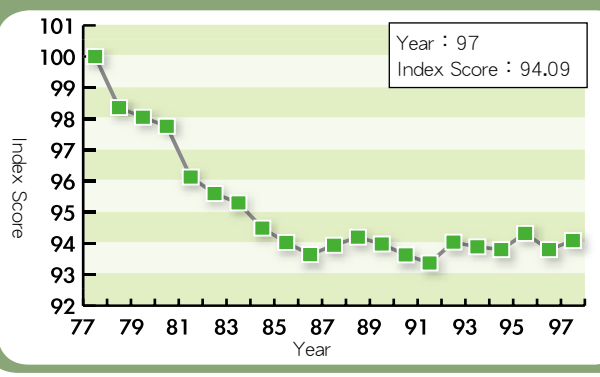


Figure 5. Economic pressure composite index trend

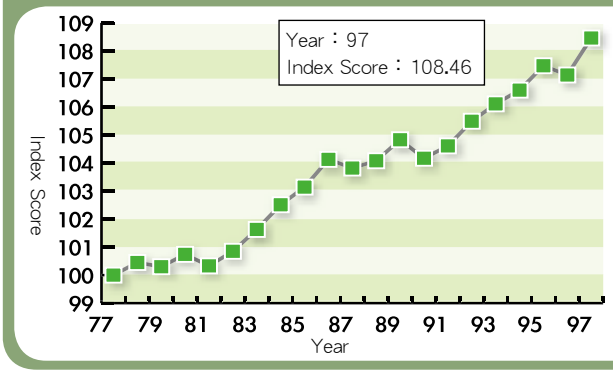


Figure 6. Social and economic composite index trend

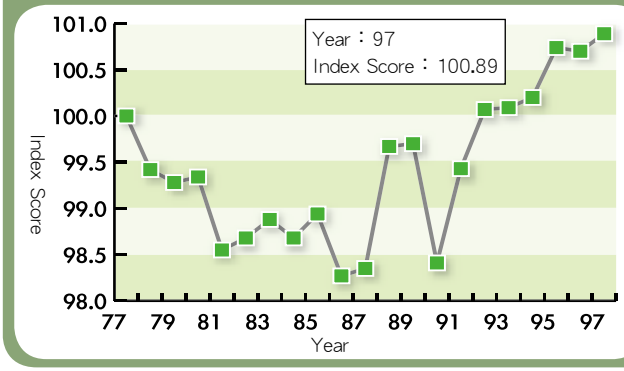


Figure 7. Institutional response composite index trend

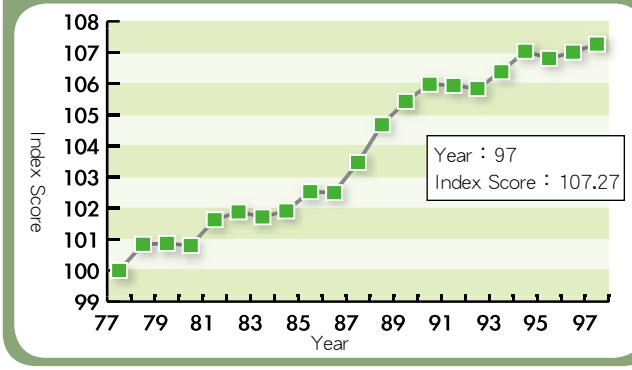
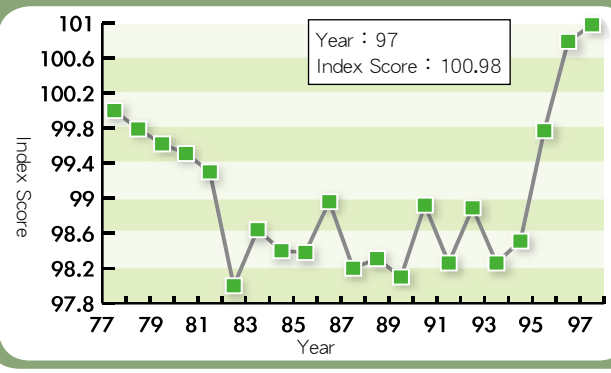


Figure 8. Urban development composite index trend



increase and burdens the environment, industrial water usage and labor productivity improved simultaneously. Furthermore, the proliferation of computer usage and internet moves the economy toward sustainable development (Figure 5).

Comparing the 2007 index with the 2008 index, 4 out of 7 indexes show sustainable development, hence the economic pressure composite index increased from 100.7 in 2007 to 100.89 in 2008 (Figure 6).

(5) Institutional Response

Since 1991, overall institutional response has shown a gradual improvement, showing steps toward sustainability. Over the last several decades, institutional response indicators have been above the baseline score of 100, and overall trends show a continual improvement. The government is clearly increasing its emphasis on sustainable issues by implementing regulations and systems that encourage government, corporate and civil sector concerns for sustainable issues. Planning and execution of related policies is having a positive effect on sustainable development (Figure 7).

Institutional response indicators for 2008 show a decrease in government-initiated provision of resources (for instance ecological conservation budget) and assistance toward promoting sustainability have increased slightly as well. Policy implementation (for instance underground water pollution treatment) has increased 2~3% over the last three years and indicators of citizens putting sustainable development concepts into practice have increased simultaneously (Increased use of Green Mark and slight increase in public participation of living environment renovation plan).

(6) Urban Sustainable Development

Overall trends show urban sustainability composite index scores on a rising trend toward sustainability (Figure 8). In terms of the 7 individual indicators, "urban average per capita income" has the most noticeable increase. In addition, ownership of small

vehicles, the number of passengers using mass transportation, area of urban park per capita, pollution ratio of major rivers, daily electricity and water consumption per capita are moving toward sustainable development.

Conclusion

Comparing 2007 data with 2008 data, the indicators showing progress toward sustainable development include: 28 indicators such as CO_2 emission volume. In addition, 10 other indicators showed deviation from sustainable development.

A composite analysis of the state, pressure and response domains shows that the state of the ecology and environment has experienced an overall departure from sustainability, due to the greater loading on ecological resources in recent years despite amelioration of environmental pollution. In terms of pressure, there is a growing gap between social and economic development, reflecting a gradual transformation in Taiwan's economic structure over the past decades with little letup in the dimension of social pressure. Addressing Taiwan's current challenges and pressures, the response indicators show the government's efforts and determination to implement policies that will promote sustainable development.

The government publishes the SDI annually with the hope that this system and its supporting policies will lead to real changes in government administration. However, the sustainable development of a nation relies on the participation of all citizens. The purpose of the SDI is to encourage ongoing reflection by policymakers and competent authorities, as well as to encourage participation of citizens in extending their concerns and supervision of related policies.

3.2 New National Sustainable Development Indicators

Basis for New National SDI

The new indicators are based on consensus reached by the 25th Working Group's Meeting (held on 25 December 2008), which is listed as follows:

1. Develop indicators based on "Framework" of the 3rd Sustainable Development Indicator System by the United Nations (October 2007) and Taiwan's current indicators used as "seeds", with additional references of international SDIs (such as ESI and EPI) as examples.
2. Drafts of new indicators were completed before June 2009, with final version done by December 2009; 2009 results will be computed based on the new SDI.
3. The proposed new SDIs were discussed according to the last working group's meeting agenda.

Process of Amendment

The whole process of SDI draft was planned, promoted and integrated by the Secretariat of the NCSD, documented as follows:

1. "Framework" is based on the 3rd Sustainable Development Indicator System by the United Nations, with current indicators as "seeds", comparison of international SDI (such as ESI and EPI) and modeling of advanced countries' indicators. Initial draft completed by February 2009.
2. Convened "1st Cross-ministerial Coordination Meeting" on 4 March 2009, with competent authority ensuring that all indicators and computation models are reliable.
3. Convened regional meetings in northern, central, southern and eastern Taiwan concerning indicator amendments in April 2009.
4. Convened "2nd Cross-ministerial Coordination Meeting" on 25 May 2009, with competent authorities ensuring "appropriate" indicator terms, definitions and computation models.
5. Complete New SDI (Draft) based on the 25th Working Group's Meeting consensus.
6. In July 2009, editorial team of the "Sustainable Development Policies Guidelines" (Draft) "suggested" that there should be corresponding indicators for each policy, therefore the Secretariat formally appealed to the competent authority in August 2009, to request that corresponding indicators be included.
7. Convened "3rd Cross-ministerial Coordination Meeting" on 21 October 2009 to discuss the additional indicators.
8. Convened "4th Cross-ministerial Coordination Meeting" on 1 December 2009 to discuss: 1. Correspondence of indicators to policies, 2. Correspondence to UN 3rd SDI system.

On 31 December 2009, the new SDI system was finalized in the 29th Working Group's Meeting. It was confirmed that new SDI system will be used to calculate and reflect Taiwan's overall efforts of the previous year from 2010 onward.

The Subject of New National SDI

The new 2009 SDI version includes 12 aspects, 41 themes and 99 indicators (57 indicators more than current version), it is similar to the UN's sustainable development indicator framework which has 14 aspects, 44 themes and 96 indicators. Its range and scope are wide, suitable and sufficient to demonstrate the effectiveness of our country's sustainable development.

Table : New National Sustainable Development Indicators

Aspect	Theme	Indicator Title	Competent Authority
Environment	Air Quality	PSI Average (current indicator)	EPA (Department of Air Quality & Noise Control)
		Air pollutant concentration (amended according to the 3rd version of United Nations' environmental indicators)	EPA (Department of Air Quality & Noise Control)
	Water Quality	Water reservoir quality (current indicator)	EPA (Department of Water Quality Protection)
		Marine Environment Quality (amended according to the 3rd version of United Nations' environmental indicators) Marine Environmental Water Quality	EPA (Department of Water Quality Protection)
		Ratio of rivers suffering minor-pollution (current indicator)	EPA (Department of Water Quality Protection)
		BOD concentration (3rd version of United Nations' environmental indicators)	EPA (Department of Water Quality Protection)
	Waste	Garbage recycling rate (amended indicator PS-5)	EPA (Department of Waste Management)
		Daily per capita garbage volume (current indicator SP-1)	EPA (Department of Waste Management)
		EIA approval rate (current indicator)	EPA
	Environmental Management	Number of publicly announced toxic substances placed under monitoring (current indicator)	EPA (Department of Environmental Sanitation & Toxic Substance Management)
		Ratio of environmental and ecological budget by the central government (current indicator)	GDBAS
		Financial measures in promoting pollution prevention and recycling (current indicator)	EPA
Energy Conservation and Carbon Reduction	Greenhouse gas	Per capita CO_2 emissions due to fuel combustion (amended indicator)	EPA (Office of Greenhouse Gas Reduction Management)
		Annual increase of CO_2 emissions due to fuel combustion (new indicator)	EPA (Office of Greenhouse Gas Reduction Management)
		Greenhouse gas emissions (3rd version of United Nations' environmental indicators -35)	EPA (Office of Greenhouse Gas Reduction Management)
	Energy Usage	Daily per capita power consumption (current indicator)	MOEA (Bureau of Energy), Taipower
		Energy concentration (current indicator)	MOEA (Bureau of Energy)
		Ratio of resource-consumption based industries to manufacturing industry (current indicator)	MOEA (Industrial Development Bureau)

Energy Conservation and Carbon Reduction	Energy Conservation, Carbon Reduction	Percentage volume of renewable energy (amend according to 2006 EPI)	MOEA (Bureau of Energy)
		Energy conserved due to green buildings (new indicator)	MOI (CPAMI, ABRI)
		Bicycle path length per 10,000 people (new indicator)	SAC
National Land Resource	Land	Slope variation ratio (new indicator)	COA (SWCB)
		Subsidence land ratio (new indicator)	MOEA (Water Resource Agency)
		Developed land ratio (amend current indicator)	MOEA (CPAMI, DLA)
	Forest	Forest coverage area (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
	Coasts	Natural coast ratio (current indicator)	MOI
		Natural coastline loss ratio (new indicator)	CPAMI
	Water Resource	Effective water resource (current indicator)	MOEA (Water Resource Agency)
		Ratio of water usage to production value of the manufacturing industry (current indicator)	MOEA (Industrial Development Bureau)
		Underground water recharge volume (tonnes) (new indicator)	Water Resource Agency
		Underground water usage volume (tonnes) (new indicator)	Water Resource Agency, COA
	Natural disasters	Total national land area planting betel nuts (current indicator)	AFA
		Casualties due to natural disasters (amended according to the 3rd version of United Nations' environmental indicators)	MOI (National Fire Agency)
		Economic loss due to natural disasters (amended according to the 3rd version of United Nations' environmental indicators)	MOI (National Fire Agency)
Biodiversity	Heredity	Genetic resources and species preservation of biodiversity (new indicator)	Endemic Species Research Institute
	Species	Change in specific wildlife population (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
		Land area covered by specific exotic plants (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
		Populations of specific exotic invasive species (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
	Terrestrial ecosystem	Eco-sensitive area (current indicator)	MOI (CPAMI), COA
		Ratio of protected area to total land area (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
	Marine ecosystem	Marine protection area (amended according to the 3rd version of United Nations' environmental indicators and 2008 EPI)	COA (FA), MOI
		Ratio of coral ecosystem area to coverage area (3rd version of United Nations' environmental indicators)	MOI, Fisheries Agency

Production	Material usage	Material strengths used in economic development (3rd version of United Nations' environmental indicators)	MOEA
		Material strength used in non-manufacturing type of economic development (amended according to the 3rd version of United Nations' environmental indicators)	MOEA
		Domestic supplies (3rd version of United Nations' environmental indicators)	MOEA
		Non-manufacturing domestic supplies (amended according to the 3rd version of United Nations' environmental indicators)	MOEA
		Per capita national gravel production (current indicator)	MOEA (Bureau of Mine)
	Hygiene production	Reuse rate of industrial waste (amended according to the 3rd version of United Nations' environmental indicators)	EPA (Department of Waste Management)
		Reuse rate of toxic industrial waste (amended according to the 3rd version of United Nations' environmental indicators)	EPA (Department of Waste Management)
		Reduction rate of low-radioactive solid waste (current indicator)	AEC
	Agriculture	Ratio of cultivated land (current indicator)	COA
		Area of organic cultivation (3rd version of United Nations' environmental indicators)	COA (AFA)
		Fertilizer usage rate per hectare of farmland (amended according to current indicator EP-3, 3rd version of United Nations' environmental indicators-41 and 2005 ESI-32)	COA (AFA)
		Pesticide usage rate per hectare of farmland (amended according to 3rd version of United Nations' environmental indicators-42 and 2005 ESI-32)	COA (Bureau of Animal and Plant Health Inspection and Quarantine)
	Fishery	Overfishing (current indicator)	COA (FA)
	Labor	Labor production and unit production cost (amended according to current indicator EP-6 and 3rd version of United Nations' environmental indicators)	DGBAS
		Ratio of females receiving salary in non-agricultural sectors (3rd version of United Nations' environmental indicators)	DGBAS
	Overall economic effectiveness	Per capita GDP (3rd version of United Nations' environmental indicators)	DGBAS
		Ratio of gross domestic capital formation to GDP (amended according to the 3rd version of United Nations' environmental indicators)	DGBAS
		Annual increase in consumer price index(CPI) (amended according to the 3rd version of United Nations' environmental indicators)	DGBAS

Production	Public finance	Ratio of all levels of government borrowing above 1 year with outstanding non self-liquidating debt to GNP (amended according to the 3rd version of United Nations' environmental indicators)	NTA
Livelihood	Water usage	Percentage of population with access to suitable drinking water (EPI 2008)	EPA (Department of Environmental Sanitation & Toxic Substance Management)
		Sewage treatment rate (current indicator)	MOI (CPAMI)
		Daily per capita water consumption (current indicator)	MOEA (WRA)
	Transportation	Number of times public transport is utilized (current indicator)	MOTC (IOT)
		Domestic energy consumption by transport sector (amended according to 3rd version of United Nations' environmental indicators)	MOEA (Bureau of Energy)
		Times of tourist visits in Taiwan (new indicator)	MOTC (Tourism Bureau)
		Road : casualties every 10,000 vehicles (new indicator)	MOTC (Department of Statistics)
		Road maintenance efficiency (new indicator)	MOTC (Research Department)
	Green consumption	Green procurement amount of public and private sectors (new indicator)	EPA (Dept. of Supervision Evaluation & Dispute Resolution)
		Number of green marks awarded (new indicator)	EPA (Dept. of Supervision Evaluation & Dispute Resolution)
Health	Medical care	Percentage of population with access to basic infrastructure (3rd version of United Nations' environmental indicators)	EPA
		Infection immunity measures for children's diseases (3rd version of United Nations' environmental indicators)	EPA
		Usage rate of preventive health insurance by those 65 and above (new indicator)	EPA
	Nutrition	Children nutrition condition (3rd version of United Nations' environmental indicators)	EPA
	Health risks	Death rate of standardized cancer (current indicator)	EPA
		Infection rate of contagious disease (current indicator)	EPA
		Smoking rate of those above 18 (amended according to the 3rd version of United Nations' environmental indicators)	EPA
		Eating betel nut rate of those above 18 (amended according to the 3rd version of United Nations' environmental indicators)	EPA

Technology	R&D	Percentage of GDP spent on domestic R&D (3rd version of United Nations' environmental indicators)	National Science Council
	Telecom-munications	Ratio of internet users (current indicator)	DGBAS
		Number of people using handphones every 100 people (3rd version of United Nations' environmental indicators)	National Communications Commission
Urban and Rural Culture	Cultural Heritage	The number of ancient monuments and sites appointed (new indicator)	CCA (HACH)
	Community	Number of villages in compliance with SDI (new indicator)	EPA (Department of Environmental Sanitation & Toxic Substance Management)
	Urban	Expansion rate of urban areas (current indicator)	MOI (CPAMI)
		Green area per capita (current indicator)	MOI (CPAMI)
Welfare	Poverty	Ratio of low-income families (amended according to the 3rd version of United Nations' environmental indicators)	MOI (DSA)
		Accommodation rate (amended according to the 3rd version of United Nations' environmental indicators)	MOI (CPAMI)
	Average income	Difference in disposable income per household of each division (amended according to current indicator and 3rd version of United Nations' environmental indicators)	DGBAS
	Social benefits	Subsidy for the disadvantaged (new indicator)	MOI (DSA)
		Elderly passport and their participation (new indicator)	MOI (DSA)
		Suicide rate (3rd version of United Nations' environmental indicators)	DOH
Administration	Crime	Crime rate (amended according to the 3rd version of United Nations' environmental indicators)	MOJ
	Education	Dropout students (amended according to the 3rd version of United Nations' environmental indicators)	MOE
		Adult education participation ratio (new indicator)	MOE
Participation	International participation	Condition of Taiwan's participation in UN's international environmental organizations and other MEAs (new indicator)	MOFA
		International environmental cooperation and assistance to other nations (new indicator)	MOFA
	Public participation	Civil participation (current indicator)	EPA
		Community-based participation of social welfare (new indicator)	MOI (DSA)

National Sustainable Development Award Recipients

The 2009 National Sustainable Development Awards were chosen in a three-staged process including a paper review, an on-site inspection by council members, and a selection process with a total of 11 award recipients in the categories of education, business, civil organizations, and government action plan implementation. The awarding ceremony was held on 7 December 2009 at the Executive Yuan with Premier Wu Den-yih present to confer awards.

Sustainable School Award

Chung Shan High School, Kaohsiung County

Achievements

When stepping into the campus of Chung Shan High School, a garden with small artificial hills, a waterfall, and a creek with some rare rocks and fish comes in sight. Plants such as peach blossoms, camellias, azaleas, and lotus embellish the campus and make the school looked colorful and attractive in different seasons.

Chung Shan high school is dedicated to landscape gardening, wastes reduction, and smoke-free regu lation enforcement in order to create a "clean, smoke-free, and safe" campus. Starting with only 47 students, Chung Shan has been developed into a school accommodating over 10,000 students from southern Taiwan. The school has brought together committed students and teachers to achieve great things including the following :

- Chung Shan high school sets store in the talents of each student and develops them by providing specific and targeted classes.The school thus offers five educational programs including general, comprehensive, vocational and continued education programs. We strive to help each student reach her or his fullest potential.
- Set up a plan of sustainability education and conserve natural environment as part of the teaching materials for our teachers and students .
- The school promotes the environmental education and brings it into the syllabus for students to better understand current issues of global environmental protection and hence to take their responsibility on helping waste recycling and keeping the campus

Cijin Beach Cleaning Service Project

Recycling Facilities Field Trip

neat and tidy.

- Students are encouraged to promote environmental protection in their home and community. Students are taught how to save water and energy through using online bulletins, e-documents, and double-sided copying.
- Every year, Chung Shan high school invites local elders and disadvantaged people for social activities on campus. Students consistently say that this is an amazing growth activity.

Future Vision

For more than thirty years, the school has worked consistently to create a cultural, ecological, environmentally friendly, healthy, and energy saving enviroment which won the name of "Legend in the mountain". It aims to build a great school and satisfy the needs of all learners aged from 1 to 100 so as to establish a mutual and everlasting learning enviroment for the community.

Sustainable School Award

Neijiao Elementary School, Tainan County

Achievements

Located at the foot of Guanziling mountain in Baihe Township that is famous for its lotus production, Neijiao Elementary School is the northernmost school in Tainan county that has initiated a movement toward a sustainable campus in 2003. The school has actively participated in a sustainable campus development program promoted by the Ministry of Education for three successive years since 2004 in an effort to build an educational environment for demonstration of energy and resource conservation as well as eco-friendliness, all within a healthy and comfortable atmosphere. In 2007, the school enforced the campus environment activation program, by integrating the experiences of sustainable campus development and turning spare classrooms into healthy, energy-saving, natural, and comfortable reading spaces as the base for promoting energy and resource conservation education.

Many sustainable designs have indeed enriche materials for teaching environmental education systematically. The design and practice of "Little Guidebook on the Hometown of Lotus", in accordance with the school curriculum, lead our students into a field of environmental education. We have adopted "story-based" education approaches and turned diversified sustainable materials on campus into fairy tales; each

facility and location is personified with elves with different features and abilities. In addition, three major course outlines including the artistic creation of trees, the children's picture books, and the little guidebook are developed based on the stories of campus elves and incorporate story plots into the learning venues, transforming life at school into a life of stories.

Such innovative course design that combines the sustainable environmental facilities is also professional development of creativity for teachers. The purpose of these environmental education courses is to expand children's learning opportunities, successful experiences, cultivate high-level thinking ability, and construct a coordinating relationship between humans and the environment through a sustainable campus environment.

Our long-term dedication to the development of a sustainable environment offers us opportunities for innovative attempts at designing, growing, promoting, and sharing valuable experiences with other schools in neighboring communities as well as assisting in various projects of community development, spreading the idea of sustainability through practical actions. To us, sustainability and energy conservation is not merely actions but also an attitude for life. We believe that only when this attitude is rooted in spirit can environmental and educational sustainability be put into actual practice and will continue with this belief in mind toward the future.

Future Vision:

- **Happiness:** children can happily emerge in learning
- **Care:** children can show care for themselves and other people
- **Growth:** children can create and make efforts unremittingly

Sustainable School Award

Nei-Ding Elementary School, Chungli City, Taoyuan County

Achievements

Among all the schools in Taiwan, Nei-Ding Elementary School is the one closest to an incineration plant. Furthermore, there is no scenic environment with beautiful mountains or rivers because the school is located inside the Jungli Industrial Park. In spite of the disadvantages, teachers and staff have still assertively developed the school into a great educational environment. Based on the whole school approach, we have established a clear pursuit of sustainable education goals.

For example, we have "Healthy Community Bike Exploring Tours" every year. The purpose of this activity is to help the students to get familiar with our community and to create the sense of belonging to this place. Also, in order to respond to global trends of energy saving and carbon reduction, we take students to explore local ponds and agricultural fields, so they acquire special experiences outside the school.

As for energy saving, carbon reduction and campus sustainability, Nei-Ding Elementary School promotes the idea of life cycle extension and ecological footprint reduction. Therefore, activities, such as "Give the Earth Half a Chance", "Plastic Bag Recycling and Delivering", "Soap from Used Oil Recycling to Protect Our Environment," took place with the participation of students and parents to extend the school's actions on environmental protection into the family. In addition, a campus tour guide training program was established and an environmental education website has been established in both Chinese and in English. Furthermore, teachers and students at the school completed several field study activities on topics, such as "Stop the Invasion from Fire Ants" and "Compost from Kitchen Waste and Fallen Leaves."

Nei-Ding Elementary School has been collaborating with local communities with administrative support and teaching activities in order to change mindsets and promote the ideas of sustainability. As the most important target of teaching, students have been taken into account in designing various teaching activities , and teachers have been provided opportunities to become better informed and motivated by raising their awareness of environmental issues.

To sum up, Nei-Ding Elementary School is dedicated to environmental education, campus landscaping,

quality of life for teachers and students, and community consciousness through setting up and implementation of environmental sustainability strategies and ultimately achieving the goal as a "green school".

Future Vision

- To create a culture of sustainable campus based on the "whole-school approach".
- To maintain active: environmental ecology, local culture and industry, concern for minorities, and Energy Saving and Carbon Reduction
- To give students' learning top priority.
- The whole community is an extension of our school's learning goals.

Sustainable Enterprise Award

Chunghwa Telecom

Achievements

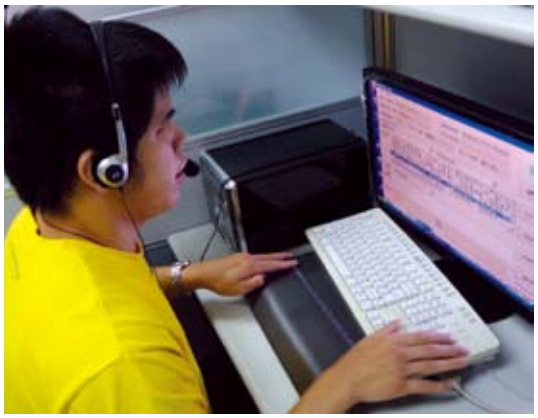
Chunghwa Telecom (CHT), as a domestic telecommunication service provider, is not only a friend to local communities, but also a major partner of the international telecommunication industry. With the development of science and technology, CHT has been able to overcome the barriers of telecommunication and move forward towards integration of Information and Communication Technologies (ICT). CHT will do the utmost to contribute to humankind's sustainability through incorporating the concept of Corporate Social Responsibility (CSR) in customer services and product development. CHT's corporate culture includes:

I. Ethical Operation and Development

By complying with the ethical codes and the values of sustainability, CHT serves the best interests of shareholders and contributes to the prosperity of related business.

II. Responsible Operation

By strictly following the rules of good corporate governance, comprehensive risk control, and information transparency, CHT managed to accomplish its annual operating target with the efforts of all employees and support from customers. In 2008, CHT's operating income reached NT$ 201.67 billion, which was approximately 1.54% of the GDP, and has thus become a leading corporation in the nation by contributing NT$13.89 billion in business tax.



Promoting the project of "Teleworking for the Visually Impaired with ICT."

III. Feedback to Stakeholders

1. Our Commitment to Employees: Rights and interests reassurance

Chunghwa Telecom offers a wide range of vacancies in order to increase employment opportunities. As to the rights and benefits, CHT introduced measures of occupational safety and health, and provides training programs for skills and capabilities as well as internal venture programs for employee development. For the purpose of human resource regeneration, CHT also brought in advance voluntary resignation and retirement programs.

2. Win Customer's Trust

Chunghwa Telecom presents e-mail filtering service to protect consumer privacy in compliance with domestic regulations. CHT also keeps improving service quality, reducing the negative impact of products and services, allocating resources for electromagnetic radiation studies, and giving proactive response to communication security issues, to win customer trust.

IV. Improve the Quality of Life

CHT aims to uphold the values of core business and telecommunications volunteer participation, bridge the digital divide, implement universal telecommunications services, promote e-learning, and create digital opportunities, enhance the local cultural, economic and industrial development, participate in international ADOC 2.0 (APEC Digital Opportunity Center) plans.

V. Responding to Climate Change

CHT was the first to complete greenhouse gas inventory, and has obtained a third-party certification in the domestic telecommunications industry; to promote staff being self-motivated on environmental protection, launched " Intelligent Energy Saving Services", continued innovation and ICT green technologies to provide vital support for low-carbon industrial development in the future.

We were the first to complete greenhouse gas inventory, and obtain third-party certification in the domestic telecommunications industry. We promote staff being self-motivated on environmental protection, launched "Intelligent Energy Saving Services" and continue innovation and ICT green technologies to provide vital support for low-carbon industrial development in the future.

Future Vision

In the world of sustainability, there is no unconditional growth. With respect to CSR fulfillment, in future, we will be more focused on paving the foundation for our core competitiveness, which is to create digital opportunities and environmental sustainability. We shall maintain focused on our core business, emphasize our professional competency, improve the operational efficiency and offer inspiring services to customers. Our ultimate mission is to become the most reliable and valuable ICT corporation.

Sustainable Enterprise Award

Corning Taiwan

Achievements

As the LCD industry grew, Corning started its Display business in Taiwan to provide glass substrates for active matrix liquid crystal displays (LCDs), also known as thin film transistor liquid crystal displays (TFT-LCDs). Our premium-quality glass substrates are used in notebook computers, flat-panel desktop monitors, LCD TVs, portable electronic and communications devices.

To meet growing customer needs, address government policies for industrial development and increase our overall competitiveness, Corning Display Technologies Taiwan was registered in 2000 and began construction on its first glass substrate facility that same year. By May 2001, Corning announced the completion of its first TFT-LCD glass substrate finishing facility in Taiwan, located in the Tainan Science-based Industrial Park. To keep pace with the rapid growth of the industry, Corning expanded the capability of its Tainan facility to include melting operations in March 2004. With this expansion, the Tainan plant became a fully integrated LCD glass substrate manufacturing facility.

In April 2004, Corning announced plans for a second LCD glass substrate manufacturing facility, located at the Central Taiwan Science Park in Taichung. The Taichung facility would focus on larger size glass substrates to meet the growing demand for LCD displays

Corning Taiwan, Taichung Plant


Corning Taiwan, Tainan Plant

Social Care Event in the Taichung Plant of Corning Taiwan

and televisions.

The grand opening ceremony for the LCD glass manufacturing facility in Taichung was held on January 11, 2006. The Taichung facility is among the world's largest LCD glass substrate manufacturing facilities and was designed to accommodate further expansion as needed based on customer demand. The completion of this facility is considered a milestone in Corning history due to the scale of the plant and speed with which it was completed. It is estimated that the Taichung facility is made of over 100,000 metric tons of steel – equivalent to more than 10 Eiffel Towers or two Empire State Buildings. Construction of the Taichung plant mobilized well beyond 20,000,000 hours of labor (about 10,000 man-years).

By the great effort from employees in Taiwan in past years, both Taichung and Tainan plants have become the most efficient manufacturing facilities for worldwide Corning and continue to demonstrate its commitment to Taiwan.

Future Vision

As the world's leading TFT LCD glass substrate supplier, Corning in Taiwan focused on providing the greatest total value to our customers while positively contributing to the lives and interests of our employees, our stakeholders and the communities where we operate.

To be world class manufacturing facilities, Corning Taichung plant and Tainan plant will focus on performance excellence, employees safety, product quality, environmental protection, emission and GHG control, people development, innovation and community relations.

At Corning Incorporated, corporate social responsibility is a proactive commitment to preserving the trust of our stakeholders. This commitment contributes to sustainable economic and environmental development through all our business activities – how we operate, what we sell, how we give, and how we support our people, the communities in which we operate and society at large.

Our commitment to corporate citizenship has been part of the very essence of our company for more than 150 years and will sustain our success today, tomorrow and far into the future.

The 1st glass substrate without heavy metal among domestic peers

4

National Sustainable Development Award Recipients

Sustainable Enterprise Award

CVC Technologies, Inc.

Achievements

Founded in 1979, CVC Technologies, Inc. started from pharmaceutical equipment and then HPLC(High Pressure Liquid Chromatography) instruments, after thirty years of development, CVC has build up a solid foundation not only through innovations in both product design and technological advances but also with a brand which customers perceived, trusted and loved. For years CVC has been supported by many pharmaceutical giants in the world, such as Pfizer, Abbott, Wyeth, Bausch & Lomb, YSP Taiwan, etc., and became one of the most famous and reliable providers of pharmaceutical equipment.

The bigger and stronger CVC is, the more CVC is conscious of requiting and responsibility. Being part of the global village, CVC is able and willing to make more contributions to the sustainable development on earth. There are two main trends in the pursuit of sustainability, the environmental protection and the human health security. CVC has taken these two as the primary principles when developing new technologies and products.

The eco-friendly HPLC CVC has been working on providing the best example; the idea came from the current practice of all HPLC instruments using great volumes of organic solvent. The solvent is dangerously toxic to both human health and environment and thus strictly requires a very complex procedure to collect the used waste to avoid contamination. Even when the solvent is well disposed of researchers staying in air-conditioned lab would still unavoidably inhale the toxic air because the solvent is highly volatile.

In view of drawbacks of current HPLC instruments, CVC intends to find an ultimate solution. Thanks to the nanoscale flow rate technology of high-performance liquid chromatograph, the new type of HPLC is able to reduce solvent down to 1/8000 of original consumption, meaning one gallon of solvent can allow the new HPLC to run 22,000 days while it can only last for 2.6 days when used in current HPLC. This green technology will truly set a trend of eco-revolution by greatly lowering the cost of solvent as well as improving environmental and human health.

Future Vision

Instead of the OEM and ODM used mostly by Taiwan's SME enterprises, CVC intends to pursue a different path by self-branding and innovative technologies. Inspired by the traditional craftsmanship, CVC is keen to do the best, becoming the most as a small-cap but ambitious enterprise.

Sustainable NGO Award

Taiwan Fund for Children and Families

Achievements

Taiwan Fund for Children and Families (TFCF), a child welfare organization that is going to celebrate its 60th anniversary, has supported over 185,000 domestic and foreign children in need to become self-reliant. Still, TFCF has kept introducing innovative programs that help disadvantaged families advance bravely, hold out hope, and reach out to others after attaining self-reliance. In this way, love circulates and nurtures everyone involved.

The scope of welfare services that TFCF provides is quite extensive, covering emergency relief to disadvantaged children and families, financial support, scholarships, group counseling, educational and recreational activities, care for abused children, protection and replacement services, foster care program, early intervention for children with delayed development as well as poverty reduction programs including Head Start Program, Youth Capacity Building Program and Family Development Account Program. Furthermore, TFCF has advocated and initiated the amendment of the Civil Code-Succession to exempt the heavy burden of children inheriting family debts. TFCF has also created job opportunities for disadvantaged families by developing social enterprises and has mobilized voluntary force to organize heart-warming

For almost 60 years, TFCF has always held the belief that wherever there is a need for child care, there is TFCF and has helped more than 185,000 children in need reach self-reliance.

activities. These are the tasks TFCF has actively and earnestly undertaken with its mission in caring for disadvantaged children and families.

It is worthy of praise that those children and families who had received help tend to value resources, be grateful and contribute to the community after they grow into independent adults or become better off. They not only make donations or sponsor children in need, but also organize TFCF volunteer groups and actively participate in community services, so as to link kindness, love and faith of many people to make the virtuous deeds sustain in our society forever.

Future Vision

Love is seeing your responsibility in the needs of others. Through immediate help, tender care and professional experiences in social work with the love of Christ, TFCF has extended assistance and love from Taiwan to international community regardless of race, gender, religion and nationality.

- To pass on our core values and missions: Our service is centered on the beneficiaries we serve. We will continue to work with children and families in need in order to make our core values known in society.
- To empower our organization: With our missions, teams as well as professional execution, we will utilize all resources efficiently to provide better, faster, and more focused services.
- To establish overseas offices: We will establish offices in areas where Chinese people live and work with volunteers to provide local disadvantaged children and families with services they need.
- To expand international services: By collaborating with ChildFund Alliance, we will continue to carry out the foreign sponsorship program and offer services worldwide to children in need.

TFCF also arranges foster families to protect abused children.

4

National Sustainable Development Award Recipients

Circulation of love : College students who once were TFCF-sponsored children and later became volunteers to help with the cleaning work in Typhoon Morakot-affected areas.

- To research and develop: We will utilize think tanks to research, advocate, and publish books related to our work.
- To manage and apply human resource: We will train our staff, set up a database of human resources and work with local volunteer groups to provide immediate local help to disadvantaged children.
- To continue localization, quality, innovation and extension: We will continue to initiate diverse services and programs according to environmental and social changes, integrate humanitarian care and environmental protection into our services and programs, and reach out to every corner of the society where care is needed. We hope TFCF will develop sustainably with love continuing to grow over time.

TFCF Love Stores are set up to provide job opportunities and trainings for the parents of TFCF-sponsored children to help their families escape poverty.

Sustainable NGO Award

Chinese Association for Relief and Ensuing Services (CARES)

Achievements

Over the past 60 years, the Chinese Association for Relief and Ensuing Services (CARES) has steadily evolved with a commitment to progress and innovation to fulfill its mission of "care, relief and service" and deliver professional social welfare services.

In partnership with government agencies, academic institutes, and non-profit organizations, CARES has made the following significant achievements:

1. Services for mainland spouses in Taiwan:

Fostering solid cross-strait marriages for sustainable family well-being

According to statistics compiled by the National Immigration Agency under the Ministry of the Interior, there were 281,845 mainland spouses permanently residing in Taiwan as of late August of 2009. Since 1999, CARES has provided various services to help this new group of immigrants to quickly adapt to Taiwanese society and establish happy families. These services include seminars on the legal and regulatory system in Taiwan, life and personal growth camps, parenting classes, emergency assistance, and telephone consultation services. Through its attentive care and active assistance, CARES has become like a second home to mainland spouses in Taiwan.

2. Cross-strait social welfare exchanges:

Promoting the sound and sustainable development of cross-strait social welfare services

In order to promote the sound development of cross-strait social welfare services and charitable work, CARES began in 2002 to arrange cross-strait social welfare seminars and exchange visits by related institutions. These activities have have already achieved the following several objectives:

(1) Building a platform for cross-strait social welfare exchanges

(2) Promoting the concepts of professional NPO management and sustainable care for disadvantaged groups

(3) Promoting the beauty of Taiwan: Through

CARES helps new immigrants to adapt to Taiwanese society.

exchange visits, mainlanders have experienced the beauty of the freedom and democratic systems of Taiwan

Future Vision

- Embracing Diversity: Respecting the cultural differences and unique qualities of guest groups, and helping others towards personal development
- Promoting Exchanges and Cooperation: Establishing partnerships, promoting cooperation, and moving forward together
- Aspiring to Excellence: Enhancing professional abilities and strengthening core competencies
- Innovative Services and Sustainable Development: Continuously reviewing, reforming and innovating to provide modern services and reorganizing social values to achieve sustainable empowerment

Cross-strait seminar, the platform to promote social welfare exchanges.

Holding joint exhibitions of cross-strait scholarly works

Sustainable NGO Award

Taiwan Nurses Association

Achievements

Taiwan Nurses Association (TWNA) is one of Taiwan's largest professional organizations in the nursing field. It exists to improve nursing professionality, enhance research, upgrade education, further public health and raise the international status of Taiwan's nursing profession. TWNA membership has been growing steadily and reached nearly 70,000 in 2009. To meet the needs of increasing members and rapidly advancing medical technology, TWNA regularly organizes around one hundred workshops for members each year. Registration fees for all TWNA activities have been wavied for members since 2009 in order to encourage participation and promote a general improvement in professional nursing quality.

4

National Sustainable Development Award Recipients

Implementing Sustainable Environmental Protection Measures:

In line with national policies on environmental sustainability and energy conservation, TWNA has since September 2007 launched an electronic system that allows members to check and update personal data online, register or renew membership, sign up for workshops, and download TWNA's three official e-journals. The system is now the main conduit for TWNA communication with all announcements posted by e-mail and on the web. These actions reduce waste generated by faxing and printing, significantly lower the use of toxic printer toners, and help move us closer to the ideal paper-free office environment and energy conservation.

Opening an E-Learning Era:

TWNA has established its e-learning Web in November 2008. The system was designed to provide nurses working irregular shifts or in remote areas with easier access to continual education opportunities and to save significant time and energy otherwise spent on commuting. So far, the e-learning Web has helped more than 60,000 members finish CE course requirements. Moreover, by offering standardized e-courses covering both basic and advanced levels, TWNA is able to reduce redundancies in terms of training costs and resources and effectively integrate medical and nursing education resources, achieving a true "win-win" model.

Promoting Quality Care within a "Health for All" Policy

TWNA has also worked with International Council of Nurses (ICN) on two international programs. The "Urban Girl Policy and Research Project", designed to mobilize nurses for ICN urban girl health initiative in 2007, helped develop strategies to improve the health of girls living in urban environments. And for the Quality Workplaces for Quality Care Campaign 2009, TWNA and ICN have worked together to enhance nursing care quality, maintain patient safety and promote a policy of health for all.

Future Vision:

1. International Relief and Social Concerns:

TWNA will continue to pay close attention to the demands of the international community and vulnerable people/groups, organize international medical humanity relief and rescue, provide training to help upgrade nursing care quality in developing nations, develop nursing specifically for disastrous situations, set up knowledge/expert systems for disaster prevention, recruit international volunteers, train members in disaster rescue skills, coordinate with government agencies on emergency rescue services, and equip nurses with necessary knowledge and skills to cope with disasters.

2. Professional Enhancement and Accreditation:

Besides accreditations of Certify Critical Care RN, Psychiatric Mental Health Nurse, Oncology Certified Nurse, Pediatric Critical Care Nurse, Certified Nurse, Operating Room, and Oncology Case Manager, TWNA will also accredit RN First Assistant and begin certifying Community Health Nurses in 2009. TWNA will work on expanding the scale and numver of workshops and encouraging participation as well as soliciting government funds for more research projects to promote a positive research environment.

3. Policy Involvement:

TWNA will strengthen nursing profession's influence on major health policies and work on enhancing nursing care quality and maintaining public health.

4. Partnership:

TWNA will also established liaisons with health-related organizations and actively work with government agencies to promote a safe working environment and quality national healthcare.

1. The Office of Taiwan Nurses Association
2. Information-based and e-Learning Web
3. The 29th Board of Directors Meeting
4. Over 600 members participated in a symposium on perioperative patient safety and fire prevention
5. ICN President Rosemary Bryant and TWNA staff
6. Nearly 200 TWNA members participated the 24th ICN Quadrennial Congress in Durban, South Africa

Information-based and e-Learning Web

Execution of Sustainable Development Action Plan Award

Urban and Rural Development Branch, Construction and Planning Agency, Ministry of Interior

First SWS Asia Chapter's Asian Wetland Convention

Achievements

Often called the "nurseries of life", wetlands are some of the most biologically productive natural ecosystems in the world. Not only are they a rich and dynamic habitat, they have many functions as well, from water filtration and quality improvement to flood control and shoreline stability in the event a typhoon or tsunami. In order to better promote native biological diversity, the National Council for Sustainable Development's Biological Diversity Group assigned the Urban and Rural Development Branch, Construction and Planning Agency, Ministry of the Interior to carry out the National Essential Wetlands operation. Wetland areas were evaluated, categorized and selected systematically from a local and regional approach. Despite a lack of wetland related laws and regulations, a National Essential Wetlands Distribution Map was drawn up for the first time after consulting with local governments, citizen organizations and the private sector.

During the 2007 National Parks and Green Network Conference (December 19-20), the Declaration of Wetland Conservation in Taiwan was announced in a ceremony and seventy-five National Essential Wetland permits were granted. The following year of 2008 was designated as Taiwan Wetlands Year, which saw the commencement of the Taiwan Wetlands Conservation Forum Series, the First SWS Asia Chapter's Asian Wetland Convention, and the National Essential Wetlands website, along with guided tours of wetland ecosystems, photo image collection and selection, compilation of relevant publications, and integration of marketing-related activities. Foremost in the list was co-hosting the First Asian Wetland Convention with the Society of Wetland Scientists International. That opportunity afforded Taiwan an excellent foundation with which to build an international exchange platform for wetland conservation, learning and research. In June of 2009, the Society of Wetland Scientists International recognized the outstanding contribution to the Asian Wetland Conference held by the government with a prestigious award.

For the first time, in 2009, the Urban and Rural Development Branch, Construction and Planning Agency, Ministry of the Interior granted financial aids to city and county governments, communities, and academic institutions that handle National Essential Wetlands ecological surveys and patrols. These contribute to wetland monitoring, protection and repair, and promote long-term study, planning and smart usage strategies in order to establish National Essential Wetlands' conservation, restoration and management methods, all the while serving to advance sustainable development of wetland areas in Taiwan.

Wetlands are located in various places: their scope, size and characteristics all different. Successful wetland conservation only happens with the contributions of

municipal governments, ordinary citizens and local communities. About 5,000 people have participated ever since the initial wetlands recommendation and selection process, through the disputed wetlands surveys, up until the National Parks and Green Spaces Conference and the First Asian Wetland Convention. As of now (2009), grants have been given to twenty-three wetlands in eighteen counties and cities for community patrols, supplies and services.

(A) National Essential Wetlands selection process: about 400 participants.

(B) Six surveys of thirteen disputed wetlands: about 500 participants.

(C) National Parks and Green Spaces Conference (Wetland System): about 1,200 participants.

(D) First Asian Wetland Convention: about 1,850 participants.

Map of Wetlands network

Future Vision

The completion of the National Essential Wetlands Distribution Map assigned by the National Council for Sustainable Development's Biological Diversity Group, allows the current seventy-five National Essential Wetlands to be used as the basis for incorporating vibrant ecological habitats of birds, mammals, amphibians, reptiles and more. Those areas will then be incorporated with coasts, rivers, and lakes, to form a networked wetland ecosystem together with Conservation Corridor for Central Mountain Core. Communities, academic institutions and non-governmental organizations can jointly promote wetland restoration, maintenance management, monitoring and evaluation, guided tours of wetland ecology, educational commentary and other activities to establish a volunteer manpower system.

Execution of Sustainable Development Action Plan Award

Greenhouse Gas Reduction Management Office of the Environmental Protection Administration, Executive Yuan

Achievements

Due to the ever pressing issues of global warming and climate change, the Environmental Protection Administration (EPA) has been actively working on domestic greenhouse gas inventory and voluntary reductions since 2004. The most recent achievement includes capacity-building on inventory, verification and reporting as the following details:

1. Inventory System: a pilot program on emission inventory began in 2004, which had promoted 30 factories between year 2004 and 2006 and lead to the completion of a standardized emission inventory procedure, associated application forms and technical manuals. The pilot program has further expanded to residential, commercial and transportation sectors in 2008. Up to now, the Taiwan EPA had assisted 95 factories in accomplishing their Inventories.

2. Verification System: began in 2007, which had completed piloting verification for 7 factories and 2 industrial associations. In 2009, the EPA has finished the Directions for Greenhouse Gas Validation and Verification Bodies Management and trained for over

Workshop on inventory procedures

150 verifiers.

3. National Greenhouse Gas Registry: established in July 2007, which had conducted the pilot inventory registration in industrial and energy sectors. Currently, the registry systems of IDB (Industrial Development Bureau) and BoE (Bureau of Energy) had been successfully integrated with EPA's Registry. Besides, the registry has introduced the information of over 30,000 stationary air pollution sources, and covered greenhouse gas inventories of 151 major factories which occupied 68.5% of combustion emissions from industrial and energy sectors.

The national greenhouse gas registry can be divided into 3 areas: the Industry Area, Verification Area and Administration Area. The services provided by these areas include information announcement, inventory registration and disclosure, reduction technology inquiry and information download, interaction and communication etc. The registry not only provides the service of emissions information upload for the industries, but also offers the information of latest international and domestic greenhouse gas information, reduction technologies and the achievement of industrial efforts on GHG management, which could help people acknowledge the progress of government's GHG management.

Future Vision

Taiwan's domestic actions on greenhouse gas reductions include the legislative approach of Greenhouse Gas Reduction Act and other continuous capacity building and promotion efforts. Aiming for a simplified application process, Taiwan EPA will integrate the National Greenhouse Gas Registry with Environmental Management System (EMS) and the stationary air pollution sources database. For enhancing administrative efficiency of electronic governance, the registry will establish the subsystems of verification management and reduction projects management (early action projects and offset projects). In addition, EPA will promote carbon footprint and design offset/trading platform in the coming future. All of these approaches are in order to help the national registry become a well function and complete information system for domestic greenhouse gas inventory and reduction management in Taiwan.

Conducting the industry trial inventory

2009 International Forum on Sustainable Development

CEO Tsai Tsun-hsiung made an opening speech in the Forum

The National Council for Sustainable Development (NCSD) held the 2009 International Forum on Sustainable Development on 9-10 June 2009 in Taipei. Dr. Jane Goodall, a UN Peace Ambassador and world renowned conservationist, and NCSD member Ms. Man-li Chen hosted the keynote address, while representatives from German NGO and Japan Council for Sustainable Development delivered nation-wise sustainable development strategies. In addition, members from sustainable committees of US Portland, Malaysia and Taipei City were invited to share their relevant sustainable city development results and experiences.

Jane Goodall : Hopes that all mankind could experience sustainable development

Dr. Jane Goodall in her opening speech conveyed clearly her expectations of sustainable development: "The criteria for global sustainable development are: first, improve the living environment of the poor and needy; second, the rich could adopt new values and third, people across the globe could live in harmony with their environment, so that all activities of mankind could experience sustainable development…"

She appealed to the public to face squarely the poverty and hunger crisis that strike many nations across the globe. Fortunately, mankind has wisdom and technology to solve all problems, while the earth has ability to self-heal. She just wanted people to think more globally, as part of one big family. If people could think more and start to change individual behaviors, the combined results could be phenomenal – better environment and a healthier earth.

Man-Li Chen : Every Policy Formulation Should Have the Participation of Women

NCSD member Man-Li Chen emphasized "Sustainable Development to Raise Mankind's Altitude" in her opening speech, and she demonstrated the importance of "Global Thinking, Grass-root Action" as the success DNA of Taiwan's sustainable development. Ms. Chen also pointed out that since women composed of nearly 50% of the population, it is critical that they have the rights to participate in any policy formulation. Women know how to live life and are excellent communicators and decision-makers. If women are

German NGO Forum on Environment and Development Director Jurgen Maier and NCSD Member Dr. Pen-Chi Chiang (right)

given the appropriate opportunity, they will demonstrate their abilities and contribute to society. In the sustainable development theme, women have constantly expressed their constructive opinions, for instance: the inclusion of Women and Sustainable Development Forum at the 5th International Conference on Asian and Pacific Coasts (APAC 2009) held in Singapore in October 2009 demonstrated the growing emphasis on inclusion of women's opinions.

Jurgen Maier : What We Really Need is Qualitative Growth

German NGO Forum on Environment and Development Director Jurgen Maier mentioned in his speech the efforts and results by the German Government and its people concerning sustainable development of recent years. He and Dr. Goodall unanimously declared the importance of curbing consumerism. He further pointed out that we should surpass the traditional definition of growth, because quantitative growth is meaningless with real qualitative growth.

Jurgen Maier pointed out that the traditional yardstick of economic growth is the Gross National Product (GNP). In the long term, GNP's growth is synonymous with the consumption of raw materials and precious resources. Following the same logic, renewable energy is unfavorable for GNP simply because wind and sunlight are free. From this example, it is obvious that using GNP as a measurement of living standards is absurd.

He emphasized: "Sooner or later, we all must move toward sustainable development." It is more important than ever that we treat this issue seriously, because those countries that rely on the past are doomed to become failures in the 21st century. They will be compelled to purchase sustainable development technologies from other countries, which in turn means higher cost.

Sharing of Sustainable Development Experiences - Infusion of Multi-faceted Voices

Secretary General of the Japan Council for Sustainable Development (JCSD) Ms. Miwako Kurosaka titled her speech "Strategies and Conditions of Japan's Sustainable Development." NCSD Member Dr. Pen-Chi Chiang and Deputy Executive Officer of Taipei Sustainable Development Committee Dr. Kuo-Yen Wei shared their experiences of Taiwan's sustainable development with speeches titled "Vision and Strategies for National Sustainable Development – the ROC Experience" and "Sustainable Development of Taiwan" respectively.

Director of Portland City Sustainable Development Dr. Robert Wise and the Institute for Environment and Development at the National University of Malaysia will also be exchanging views regarding Portland City and Malaysia's sustainable city development.

Around 300 people attended the forum including representatives from government agencies, county and municipal sustainable development councils, and civil organizations. National representatives exchanged experience in promoting sustainable development and this information was made available to all levels of government and citizens in Taiwan. Students ranging from elementary schools to universities were also invited to attend and express their views on sustainable development, demonstrating the spirit of legacy that will be passed down for generations to come. Indigenous youth from the Zhangshu Secondary School were presented at the opening ceremony and demonstrated Taiwan's multi-culture and vibrancy, infusing youth elements into the entire sustainable development forum.

The forum was warmly welcomed by all circles, and all related forum information and recordings were made available online at http://sta.epa.gov.tw/NSDN/ for reference.

Words from Our Members

Promoting Sustainability Requires Decisiveness and Implementation

by council member Yu Fanying, Chairman of the Yu Chi-Chung Culture & Education Foundation

Twenty years ago the China Times building was still next to the Danshui River. My colleagues and I used to arrive to work by boat or in land vehicles, and we all had to put up with the unsightly pollution in the river and the awful smells emanating from it. As a result, we became aware of the importance of sustainable development and environmental protection. Working in the media meant that we had a lot of contact with the government, which enabled us to work with policymakers in turning environmental protection into an issue of great public concern. We conducted surveys and interviews, and started to build up a picture of how badly polluted Taiwan's rivers really were. In 1990, the River Protection Team was established, comprising of a number of academic experts in the field, and the first symposium on river protection was held.

In response to the U.N.'s 1992 Agenda 21, the Executive Yuan established the National Council of Sustainable Development (NCSD). The council has been responsible for planning many major projects since then and overseeing the promotion of the action plans of each working group. This work has allowed the concept of sustainability, which is a hot topic internationally, to take root in Taiwan. The importance of the council is reflected in the fact that its members have risen through the government's ranks and that the head of the Executive Yuan is also the council's chief executive officer.

Experience garnered over the years has taught me that environmental impact assessments are particularly crucial in successfully promoting sustainable development. The prosperity of present and future generations depends on effectively balancing economic development with environmental protection. Thus any development project must first be thoroughly assessed for its future impact on the environment. It is also important that disputes arising from competing claims over resources are minimized. The overarching responsibility of the council is to ensure that government policy is in keeping with stated sustainability targets, hence it is not surprising that whenever a new project is discussed by the NCSD many interrelated aspects of government have to be taken into account. These include industrial policy, agricultural development, transport planning, and ecotourism.

The weather-related calamities of recent years have made many Taiwanese more aware of the pressing need for environmental protection and remediation. The National Land Planning Act needs to be passed so that proper, integrated management systems for the island's natural resources - the mountains, forests, water, and earth – can be implemented by both the government and the people. The government is in the process of being restructured, and decisiveness and implementation are required if the destruction of the island's mountains and rivers is to be halted. Many long-standing NCSD members are well aware that "development" has often been synonymous with "economy." This is shown by the fact that responsibility for economic development lies with the Council for Economic Planning and Development, which also has the power to implement policies. The NCSD, however, has relatively little authority, a state of affairs that will make promotion of the new law difficult.

We recommend that the efforts should be made to bolster the integration and continuity of the NCSD. This will facilitate the envisioned Ministry of Environment and Resources in its task of integrating environmental protection with the development of natural resources for the benefit of the island's residents and future generations.

Looking Squarely at Climate Change and Immediate Responses to Safeguard Our Environment

by council member Lin Chun-Shin, Chairman of Archilife Research Foundation

In August 2009, Typhoon Morakot swept across Taiwan causing heavy and widespread destruction, and so it is appropriate that we should look at weather-related disasters from the perspective of climate change. The world does not yet have a comprehensive model to explain climate change: IPCC experts are limited to the field of weather and there are a number of different inconclusive explanations for what is causing the major upheavals in our planet's climate, with CO_2 being the only commonly- recognized villain in the piece. Unfortunately, Taiwan has not been given the concern it deserves from the IPCC, and so it is probably better if the nation's academics and citizen groups did not rely too heavily on data and reports published by that organization. We should be developing our own explanations for local climate change in order to enhance our ability to forecast future trends and implement preventative measures. We must be able to save ourselves.

Since the disaster of August 2009, during its meetings NCSD members have reminded the government of the urgency for an overall review of disaster response, with special attention to be paid to summertime disasters. The summer of 2009 was particularly hot, and Typhoon Morakot formed closer to the equator and moved slowly. By the time it reached Taiwan it was carrying an enormous amount of rain. Consequently, when Morakot met the Central Mountain Range its swirling gusts became stuck in local topographical basins in southern Taiwan and the extraordinary amounts of rainfall that fell in those places was what caused the destruction.

In fact, Typhoon Kalmaegi the previous year was almost identical in form to Morakot, but as it didn't cause a disaster, the government didn't take it as a warning to upgrade flood prevention measures. Extreme weather also reflects in the distribution patterns of diseases in tropical countries: for example, cases of dengue fever in Taiwan are occurring both in the south and, in recent years, further north. The spread of such diseases is a cause for concern and preventative measures need to be put in place as soon as possible.

The draft of the National Sustainable Development Strategic Guidelines that was revised during the latter half of last year is a step in the direction of disaster prevention. Also under discussion are policies and measures to reduce disasters caused by ecological abnormalities, the spread of diseases, and landslides. A policy for responding to destructive land subsistence and efforts to improve the prediction of droughts and typhoon flooding are also being discussed. It is hoped that such measures will greatly enhance the firepower of the nation's disaster-prevention arsenal.

During my term on the council I have been particularly involved in the working groups on biodiversity, and health and welfare. It is clear that we need to effectively reduce ecological aberrations in order to alleviate worries over the spread of tropical diseases to temperate areas and the possibility of famines occurring.

I have spent eight years on the council and have been impressed by the positive changes and hard work of its members in recent years. The citizens' representatives have been effective in overseeing government policy; the work teams have been open to suggestions and have got things done. Even though political leaders and ministers have changed as a result of the KMT regaining power, the action plan is still being implemented smoothly and good results are already apparent. One of the reasons for this is the selection of the most qualified personnel as a result of strict civil service examinations.

In a democratic society, it is the civil servants implementing policy who are the cornerstones of a stable government structure. Many years on the council interacting with personnel on various agencies has left me with the impression that Taiwan officials are generally well-educated, responsible, accommodating and keen to learn. They are particularly helpful and friendly when seeking advice from academics or citizen groups. Frankly speaking, government officials deserve more plaudits than they generally receive and the NCSD - with its unswerving devotion to the public interest – is no exception.

Sustainable Development Policy to Look Beyond the Century

by council member Ling-Ling, Lee, Professor of Institute of Ecology and Evolutionary Biology, National Taiwan University

The NCSD was established according to Article 29 of the Basic Environment Act to develop "relevant strategies and policies on national sustainable development matters… [which] shall be conferred to relevant cabinet-level agencies for execution." However, the NCSD serves as more of an auxiliary or advisory body rather than a policy making body. Council members consist of government officials, scholars and experts, and civic groups. Thus it still provides a forum for dialogue between the government and the people, with both sides discussing a diversity of views on sustainability issues from different perspectives. Such discussion allows different government agencies to integrate their work and keep on track with international trends.

Sustainable development policy should be borne from contemplative long-term planning, and should be more farsighted than the national comprehensive development plans of political parties. When planning sustainable development policy many progressive nations often look ahead at global development trends over the next fifty or even hundred years and formulate a vision, targets and strategies for development based on their own advantages, limitations and opportunities. The process of formulating policy often provides numerous opportunities for different stakeholder representatives to express their views and develop a consensus. While this process may take a lot of time, once a consensus is reached and policy is confirmed, the implementation of policies is rarely affected by political party changeovers or shuffling of personnel. Such policies are also more likely to receive the support of the general public.

If Taiwan's sustainable development policy could focus more on long-term planning and set lasting objectives, policy themes and a work schedule, government agencies would be able to follow a clear path in implementing related work. The NCSD is currently drafting Sustainable Development Policy Guidelines for use within the Executive Yuan framework to formulate and confirm NCSD working group strategies and action plans. These guidelines will help confirm which tasks are to be carried out by each government agency to ensure important work is implemented on a continuous basis.

Taking the Working Group on Biodiversity for example, in 2001 the Executive Yuan approved the "Biodiversity Promotion Plan" in 2001, calling on each agency to partake in some aspect of implementation. In order to implement this immense plan, the NCSD prioritized certain work to include in action plans, followed up on implementation performance according to working objectives and schedules, and conducted rolling evaluations on a regular basis. From 2008, the Working Group on Biodiversity was able to get on track with international trends and evaluate and update action plans in line with the seven focal areas of the 2010 Biodiversity Target set forth by the Convention on Biological Diversity to ensure Taiwan's biodiversity work results accord with international objectives. Over the last few years of hard work we are pleased to find that many agencies are already recognizing the connection between biodiversity and their affairs, and are putting action plans into effect with noticeable results.

For example, some important achievements have been made in the area of wetland conservation – an area that had been neglected in the past and had no special regulations. These achievements were commended with the National Sustainable Development Award. Academia Sinica's Biodiversity Research Center established the Taiwan Biodiversity Information Network, which has come to serve as the official website for the latest information on species in Taiwan. The network is available for all to search and represents another successful step for the Working Group on Biodiversity.

Many of the NCSD working groups' action plans have not been updated and follow-up evaluation mechanisms are usually relegated for each government agency to perform on its own. In this respect we still lack coordination and integration across agencies. Moreover as civil members of the Council only serve one-year terms, the turnover rate is too high, possibly preventing some members from showing their full potential. In this respect, too, there is surely room for improvement. Our greatest hope is that the NCSD can assist the government formulate a vision, objectives, strategies, and plans for sustainable development, and put more effort into evaluating the performance of sustainable development initiatives. The government will then be able to follow a clear path to achieve sustainable development objectives for the benefit of the entire nation and its people.

Dealing with Climate Change - Suitable Responses and Adjustments Are As Important As Saving Energy and Reducing Carbon Emissions

By council member Chiang Pen-Chi, professor at NTU Graduate Institute of Environmental Engineering

The National Council for Sustainable Development (NCSD), in its initial stages, first established the cross-ministerial Executive Yuan Global Environmental Climate Change Working Group for Non-Domestic Work Reports in 1992. In 1994, the team was expanded and renamed the Executive Yuan Global Environmental Climate Change Policy Guidance Working Group. The team was responsible for promoting sustainable development in Taiwan, in keeping with the agreements set out in international accords on environmental protection. In recent years, successive governments have been responding to international trends by diverting more resources to sustainable development. As a result, the council's status has risen, and rather than the former method of appointing a council member to serve as chairman and deal with political affairs, now the nation's premier and vice-premier are appointed CEO and vice-CEO of the council.

Sustainable development is a wide-ranging issue that reverberates through all levels of society. The council's make-up was revised in 2000 to make it more representative and also to bring in more diverse opinions by allowing representatives from corporations and citizen groups to serve on the council. These opinions are now a valuable source of reference for the working teams that promote the committee's policies. In 2009, the new government drew up the Sustainable Development Policy Guidelines that bases the promotion of sustainable development on the expectation that present and future generations will enjoy a quiet environment rich in biodiversity, an open and vibrant economy, and a safe and harmonious society to live in.

One of the measures being implemented as a result of the Sustainable Development Policy Framework is the Eco-Industrial Park demonstration plan, which aims to balance environmental protection and economic development. This is a part of the overall effort to promote the national objectives of energy conservation, carbon reduction, and green production. The plan emphasizes the ecological aspects of industrial parks through the establishment of eco-friendly supply chains so that the parks can be transformed into self-sufficient systems that will produce little pollution and have minimum impact on the environment.

The current work of planning for sustainable development has to take into account the sizable impact of the extreme weather patterns of recent years on our lives, particularly the susceptibility of Taiwan to the sort of disasters that rapid climate change is exacerbating. Typhoon Morakot was a good example, and reports produced by a number of experts have recommended that the reconstruction work should cover five major aspects. These are:

- **Environmental monitoring and control**
- **Disaster assessment and control**
- **Reclamation and zone planning of disaster areas**
- **Support and guidance for disaster victims**
- **Establishment and assessment of information channels**

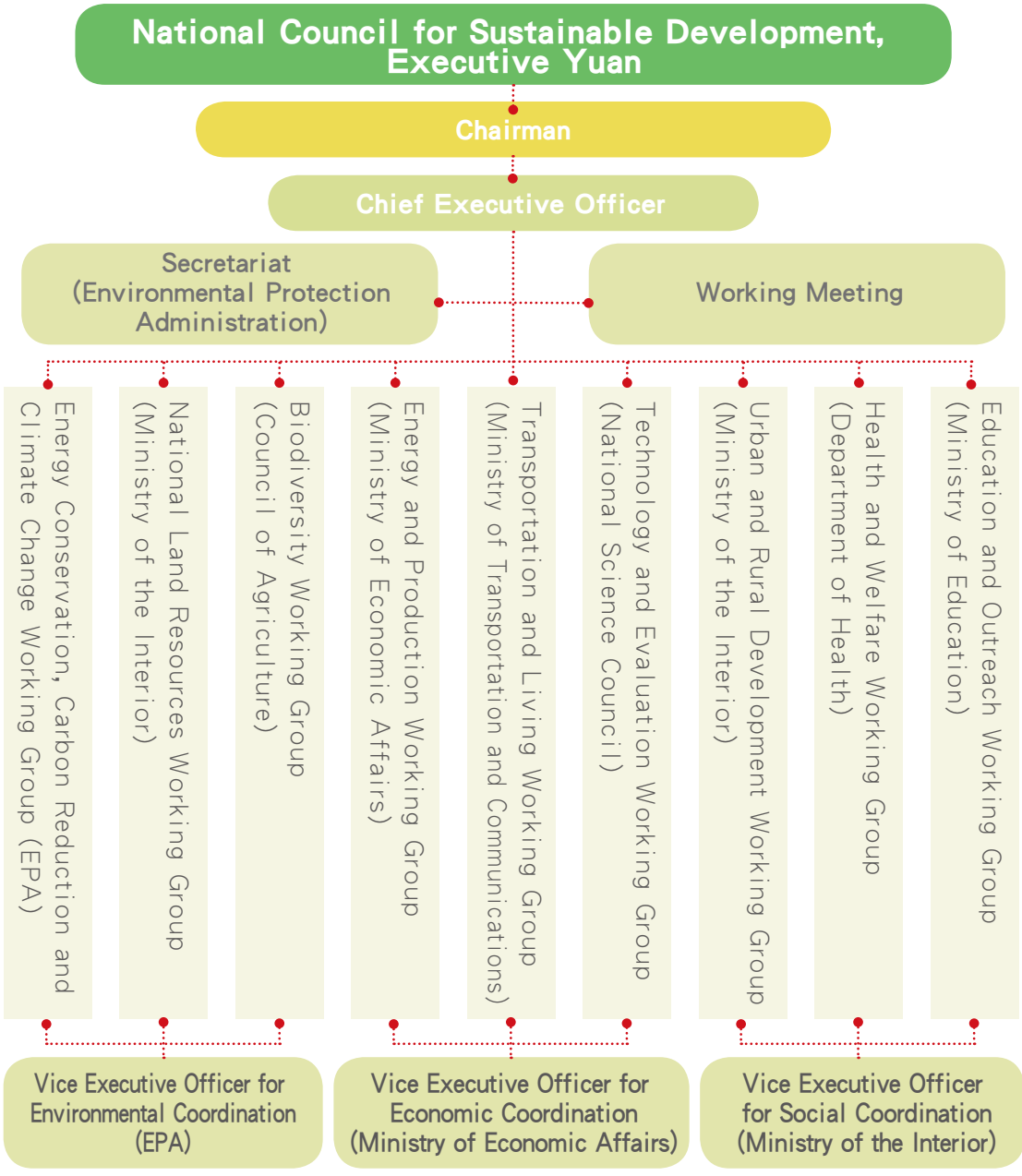
In terms of policy planning, promotion of the national Energy Conservation and Carbon Reduction campaign must go hand-in-hand with suitable responses and adjustments to real situations. The best way to bring about a low–carbon lifestyle for all is to coordinate the efforts of all of the involved stakeholders – manufacturers, academic experts, government officials, environmental protection groups, community organizations, etc – while promoting the concepts of community building and tidy home environments.

Looking to the future, the expected establishment of the Ministry of Environment and Resources will facilitate the integration of drainage area management, taking the drainage area as the administrative unit. This should lead to better overall planning as regards the use of water resources; water quality maintenance; erosion prevention and flood control in the mountains; protection of coastal areas; and land reclamation. Another objective will be the designating of a major river in each county as a "clean river." The nine major rivers in Taiwan are the Danshui, Nankan, Laojie, Zhuoshui, Sinhuwei, Lanshui, Jishui, Erren, and Ai, and one of the specific targets will be to clean up these rivers to the point that they no longer emit odors. To bring this about we suggest that assessments should be carried out for five general criteria: Water purity, ecological sanctity of drainage areas, vitality of riverbank environments and use of riverbank resources, administrative competency, and degree of public participation.

Appendix

Appendix I

Organizational Structure of NCSD



Appendix II

The Members of NCSD

Government official members

Name	Position Organization
Wu Den-yih	Premier, Executive Yuan
Tsai Tsun-hsiung	Minister without Portfolio and Chairman of Council for Economic Planning and Development, Executive Yuan
Chiang Yi-hua	Minister, Ministry of the Interior
Wu Ching-ji	Minister, Ministry of Education
Shih Yen-Shiang	Minister, Ministry of Economic Affairs
Mao Chi-Kuo	Minister, Ministry of Transportation and Communications
Chen Wu-hsiung	Minister, Council of Agriculture
Lee Lou-chuang	Minister, National Science Council
Yang Chih-Liang	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
Lu Shiau-Yun	Assistant Professor, Department of Marine Environment and Engineering, National Sun Yat-sen University

Name	Position Organization
Chang E. E.	Professor, Department of Biochemical Science, Taipei Medical University
Chang Ssu-Li	Professor, Institute of Planning, National Taipei University
Chen Horng-Yue	Professor, Department of Geosciences, National Taiwan University
Huang Chung-Huang	Professor and Dean, School of Transportation and Tourism, Kainan University
Liao Huei-chu	Professor, Department of Economics, Tamkang University
Jian Pen-Chi	Professor, Graduate Institute of Environmental Engineering, National Taiwan University
Shaw Daigee	President, Chung-Hua Institution for Economic Research

NGO representative members

Name	Position Organization
Yu Fan-ying	President, Yu Chi-Chung Cultural and Educational Foundation
Lin Chun-Shin	Chairman, Archilife Research Foundation
Lin Yao-guo	President, Society of Wilderness
Zhou Sheng-hsin	Director, Thousand-mile Trail Planning Center
Zhou Chun-di	Founder and President, Conservation Mothers Foundation
Chen Lih-horng	Director, Taiwan Institute of Urban Planning
Chen Shih-chang	Chairman, Formosan Society for Indigenous Sustainability
Liu Li-chu	Director, Cycling Life-Style Foundation
Lo Shang-Lien	Director, Taiwan Environmental Management Association
Hsieh Chang-fu	Director, Biodiversity Association of Taiwan

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前言

行政院為加強保護環境生態、強化社會正義、促進經濟發展、維護國土資源、建設健康永續家園，追求國家永續發展，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）。民國91年12月總統頒布「環境基本法」，其第29條賦予永續會法定位階，委員由政府部門、學者專家及社會團體各三分之一組成，主任委員由行政院院長兼任，秘書幕僚業務由環保署兼辦。永續會除審議國家永續發展相關議案外，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。

本年報彙整98年永續會及民間推動永續發展的重要成果，包括永續會會務（第一章）、永續會各工作分組績效（第二章）、永續發展指標（第三章）、國家永續發展獎（第四章）、2009永續發展國際論壇（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。

第一章

永續會重要會務

（一）召開工作會議

1. 民國98年4月21日，召開第26次工作會議。
2. 民國98年5月8日，召開第27次工作會議。
3. 民國98年6月23日，召開第28次工作會議。
4. 民國98年12月31日，召開第29次工作會議。

（二）永續會運作模式

運作模式

政策綱領 → 擬定跨部會、及各部會之行動計畫或方案 → 評量推動成效 → 推廣工作

修正政策綱領　修正行動計畫

執行情形

研訂「永續發展政策綱領」

形成要件：
1. 總統政見／院長指示
2. 指標年度發布結果與檢討
3. 國際趨勢及重大議題
4. 永續會工作會議與分區座談會
5. 全國科技、能源、環境會議等
6. 各機關共識會議
7. 永續會活動與網頁之民眾意見

相關部會或永續會分組擬定「行動計畫」或「推動方案」

形成過程：
1. 永續會9個工作分組討論
2. 永續會3個工作群組討論
3. 永續會工作會議討論
4. 委員會議決議

指標計算、發布及檢視

指標修訂：
1. 參考聯合國永續發展指標系統第三版
2. 以現行指標為種子指標
3. 呼應政策綱領及行動計畫

指標檢視：
1. 發布年度成果
2. 檢視政見／政策落實情形
3. 因應調整未來行動計畫、政策綱領及部會政策

推動事項：
1. 永續發展獎
2. 國際論壇
3. 出版年報
4. 建置及更新網頁

處理原則：
1. 鼓勵全民參與永續發展行動
2. 掌握國際趨勢並與世界同步接軌
3. 資訊公開

委員會議召開情形。

（三）重要成果

98年永續會完成之重要工作成果如下：

一、完成「永續發展政策綱領」編撰

「永續發展政策綱領」係以「21世紀議程－中華民國永續發展策略綱領」為基礎進行編撰，相關部會首先撰寫完成初稿，秘書處後續辦理北、中、南、東4場次「分區座談會」，以廣納各界意見，並完成綱領草案。「永續發展政策綱領」草案復經永續會第27次工作會議及第28次工作會議討論，最後再由永續會民間委員組成之「編審小組」，進行最後編審及修潤，「永續發展政策綱領」於98年8月下旬完成定稿。

「永續發展政策綱領」包括願景、基本原則、理念方向及重點政策，重點政策又包括以下四大領域，其下共置22面向，每個面向下有議題、目標及策略等：

- **「永續的環境」**：大氣、水、土地、海洋、生物多樣性及環境管理。
- **「永續的社會」**：人口與健康、居住環境、社會福利、文化多樣性與災害防救。
- **「永續的經濟」**：經濟發展、產業發展、交通發展、永續能源及資源再利用。
- **「執行的機制」**：教育、科技研發、資訊化社會、公眾參與、政府再造及國際合作。

二、篩選總統競選政見中與永續發展相關者，納入永續會「永續發展行動計畫」中落實

永續會第25次工作會議決議，檢視及篩

選行政院研考會彙整之「馬總統競選政見執行追蹤一覽表」中，與永續會工作職掌相關者41項工作，納入永續會「永續發展行動計畫」中推動，以有效落實總統永續發展相關政見。永續會行動計畫加入總統相關政見後，共計167項具體工作。

三、計算及發布我國97年永續發展推動成效

於98年7月17日舉辦「97年永續發展指標發布說明會」，對外公布以永續發展指標系統檢視之97年永續發展推動成效，超過10個媒體派員出席該次說明會。97年結果與前一年（96年）相較，41項指標中，進步者27項（66%）、退後者11項（27%）、持平者3項（7%）。其中較受各界注目的指標為：二氧化總排放量減少4.4%、換算人均排放量減少4.7%。97年永續指標計算結果，詳見第三章。

四、完成新版「國家永續發展指標」

根據永續會97年12月之第25次工作會議決議：以聯合國2007年10月公布之第三版永續發展指標系統為架構，參考國際永續發展相關指標及先進國家指標，研擬我國「新版國家永續發展指標」。「新版國家永續發展指標」將取代現行之以聯合國第一版（1996年）為架構的指標系統，俾與國際最新趨勢接軌。

「新版國家永續發展指標（草案）」經過4次「部會協商會議」、北中南東4場次「分區座談會」廣泛討論後，於98年12月31日永續會第29次工作會議討論通過。新版指標計12個面向、41個議題、99個指標。永續會將自本（99）年起，以新版指標檢視我國年度永續發展推動成效，詳細新版指標介紹，詳見第三章。

五、辦理「98年國家永續發展獎」評選及表揚

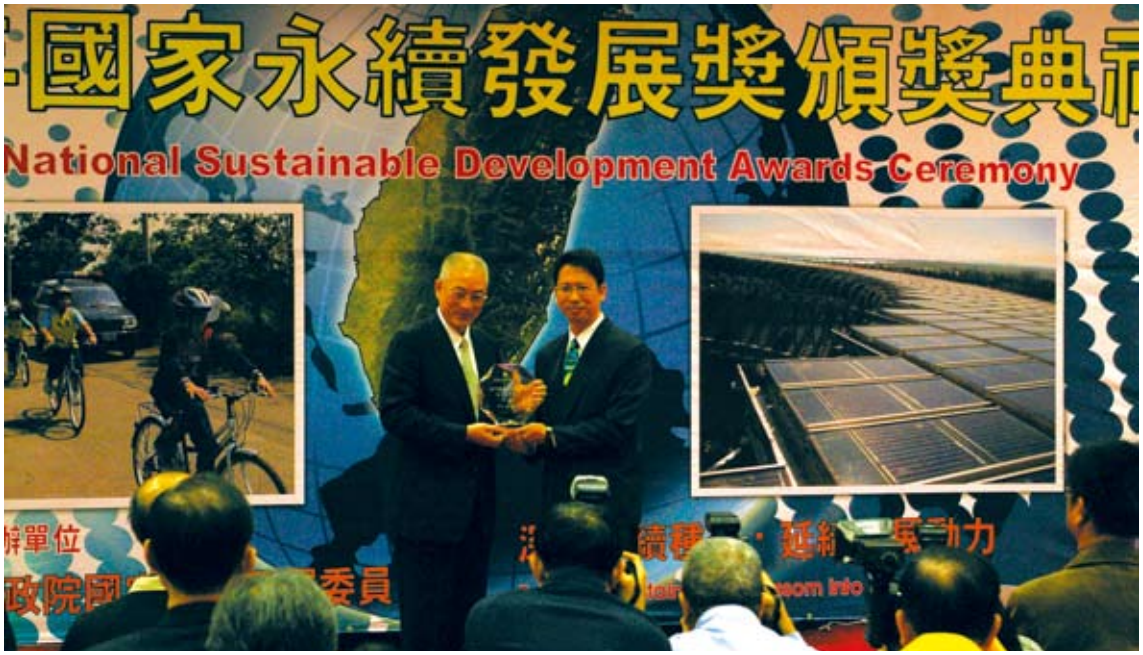
「國家永續發展獎」自民國93年起開始辦理，「98年國家永續發展獎」之評選包括書面初審、委員實地複審、及決選等三階段，選拔出：教育永續發展類、企業永續發展類、社團永續發展類、永續發展行動計畫類等4類獎項，計11個單位獲獎（見下表），並於98年12月7日在行政院大禮堂舉行頒獎典禮，由吳敦義院長親自頒獎。有關國家永續發展獎得獎單位之實蹟介紹，詳見第四章。

表：98年國家永續發展獎得獎單位

獎項	得獎單位
教育永續發展獎	高雄縣私立中山高級工商職業學校 台南縣內角國民小學 桃園縣內定國民小學
企業永續發展獎	中華電信股份有限公司 台灣康寧顯示玻璃股份有限公司 皇將科技股份有限公司
社團永續發展獎	財團法人台灣兒童暨家庭扶助基金會 中華救助總會 社團法人台灣護理學會
永續發展行動計畫執行績優獎	內政部營建署城鄉發展分署一濕地保育計畫 行政院環境保護署溫室氣體減量管理辦公室一建置國家溫室氣體盤查登錄系統計畫

六、辦理「2009 國際永續發展論壇」

永續會於98年6月9日在國家圖書館辦理「2009國際永續發展論壇」，邀請美國、日本、德國、英國、馬來西亞等永續發展委員會之成員或專家來台，介紹其永續發展推動情形，並與永續會委員及與會人士交換推動經驗。該次論壇並邀請聯合國和平大使、世界著名保育專家珍古德博



吳敦義院長親自頒發獎座予國家永續發展獎得主。

士做專題演講，並跟與會者進行廣泛意見交換，更深入的論壇相關報導，詳見第五章。

七、完成「國土保安及復育計畫」草案之審議

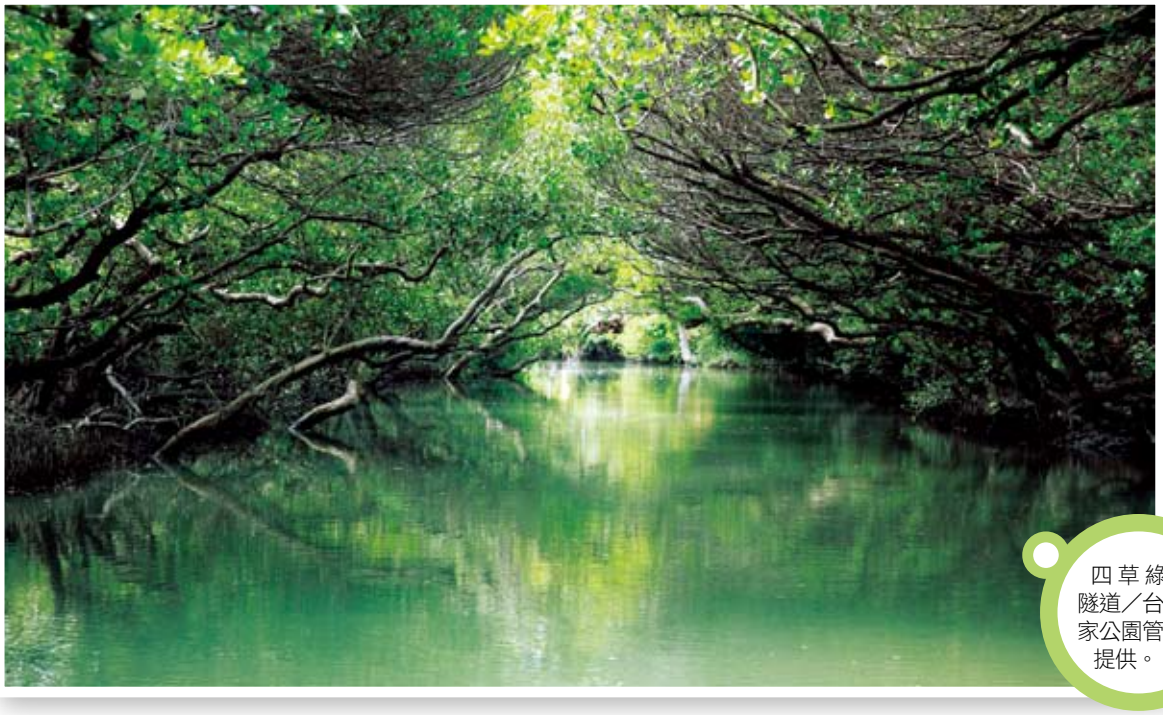
由行政院經建會研擬之「國土保安及復育計畫」草案，經永續會「國土資源分組」及「城鄉發展分組」2次「分組會議」、北中南東4場次「分區座談會」及永續會3次「工作會議」討論後，於98年12月31日第29次工作會議中完成審議。

八、完成「海岸保育及復育方案」草案之審議

「海岸保育及復育方案」草案係依據行政院98年2月第7次政務會報決議辦理，由永續會秘書處進行彙總及草擬。經3次「部會協商會議」、國土資源分組2次「分組會議」、北中南東4場次「分區座談會」及永續會2次「工作會議」討論後，於98年12月31日第29次工作會議中完成審議。

永續會第26次工作會議。

永續會各工作分組績效



四草綠色隧道／台江國家公園管理處提供。

2.1 節能減碳與氣候變遷組

一、推動溫室氣體減量立法及研擬方案

行政院積極推動「溫室氣體減量法」立法工作。該法除為開發中國家立法首例，亦以國際公約因應、減碳機制設計、協助產業建置競爭能力及全民參與節能減碳等為重點。

在推動政策方面，環保署並召集公私部門舉辦多場「國家溫室氣體減緩推動方案（草案）」會議，討論各部門減量目標、推動策略、工作項目、分工及預期成效等議題。

二、參與環保公約及促進國際合作

（一）就我國推動境外碳權策略完成研擬，並召集相關部會、專家及業者研商，經討論規劃成立「清潔發展及碳權經營策略聯盟」，朝以碳權交易資訊平台功能作具體規劃。並於哥本哈根會議期間，廣徵國際人士之意見及爭取支持。

（二）配合哥本哈根會議之舉辦，除有10個友邦於COP15/CMP5為我執言外，也與美國、歐盟等重要國家及友邦進行雙邊會談，另與氣候變化政府間專家委員會（IPCC）、世界氣象組織（WMO）、地方政府永續發展國際委員會（ICLEI）、全球環境基金（GEF）、德國波茨坦氣候影響研究所等國際重要組織高階主管進行會晤。

（三）促進國際交流，邀請國際專家學者來台，98年5月召開「太平洋溫室效應氣體觀測國際研討會」；6月召開「國際溫室氣體認驗證發展趨勢」座談會；7月辦理「電子業自願性溫室氣體減量研討會」；8月召開「溫室氣體減量管理專家論壇」及「美國排放交易機制設計研討會」。

（四）於98年7月間，完成西太平洋海洋邊界層全球首航溫室氣體觀測任務，規劃

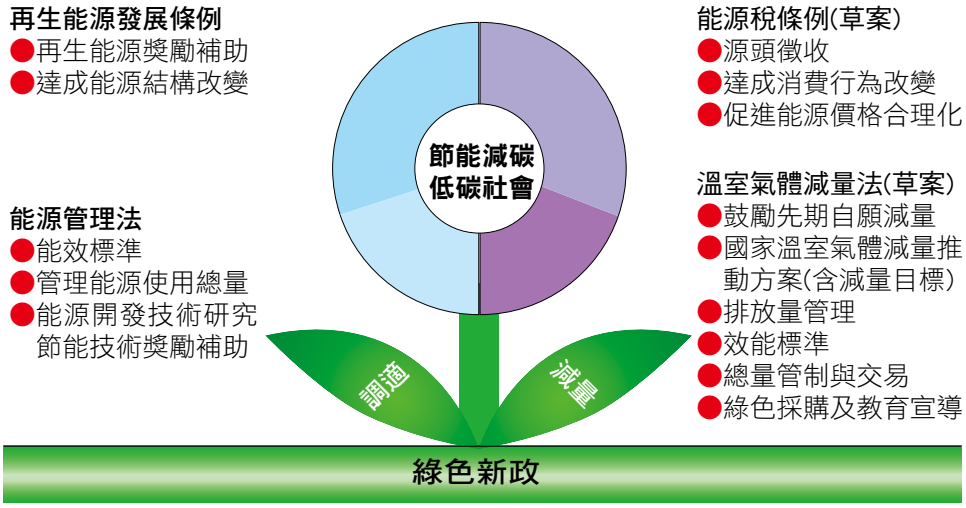
於2010年下半年啟動航空溫室氣體觀測。

三、推動溫室氣體減量能力建構工作

目前國家溫室氣體登錄平台已有224家廠商自願提報盤查資料，除達年度目標外，並已正式啟動盤查登錄平台線上登錄作業。環保署於98年11月6日發布「管理溫室氣體查驗機構作業原則」，規範查驗機構申請資格、審查程序及人員資格等事宜，建立與國際接軌之認查驗體系。並完成審定「溫室氣體盤查與登錄指引」及「溫室氣體查證指引」，以提升登錄資料的準確度。

四、節能減碳宣導事宜

除加強媒體宣導並舉辦多樣活動，推廣企業、商家及民間一同落實節能減碳，同時也完成「節能減碳全民行動網」建置，提供全民簽署節能減碳宣言、進行用電量查詢，並計算減碳績效之功能，至98年底上網簽署人超過95萬人，顯示網站確已發揮其宣導功能。



2.2 國土資源組

一、掌握災害情勢，深耕災害防救能量

為因應氣候變化之衝擊，除交通部中央氣象局推動4年期（97-100年）「海象資訊e化服務系統之整合與應用研究」以預防海洋與海岸災害外，經濟部水利署並建置防災資訊服務網，以發揮災害預警應變之效果。為使災害防救工作向下紮根，深耕災害防救能量，行政院災害防救委員會持續推動「災害防救深耕5年中程計畫」。

於都市防災方面，內政部建築研究所並辦理「都市土地使用因應氣候變遷衝擊之減災與調適策略研究」，完成國內都市面臨氣候變遷可能衍生災害之因應現況與課題檢討，作為地方政策研訂都市政策與相關法令修訂之參考。

二、促進林地復育 培育優質森林

為培育優質森林，促進林地復育，農委會林務局於98年度完成國有林撫育14,259公頃、劣化地復育211公頃、海岸林復育

73公頃、離島造林43公頃，並以「生態工程」為原則，完成約373公頃崩塌地處理，抑制土砂下移量約920萬立方公尺，以抑制二次崩塌，促進林地復育。

三、推動無痕山林 整合全國步道導覽網站

持續推動無痕山林師資培訓，完成11梯次170位種子教師及3梯次39位無痕山林高階教師之培訓，並且擬訂24個無痕山林運動教案及教具，所建置之「台灣山林悠遊網」網站則發揮整合全國步道導覽網站之功能，目前閱覽使用人數達150萬人次。

彰雲嘉樂活單車逍遙遊-騎尋無陷桃花源。

四、結合地方、與國際接軌 共推濕地生態復育

內政部營建署為保育我國濕地生態環境，豐富城鄉地景風貌並建構區域生態網絡，於98年度推動「國家重要濕地生態環境調查及復育計畫」，跳脫傳統工程建設制式作法的舊有思維，編列預算補助地方政府，鼓勵鄉鎮公所、法人組織、社區團體及大專院校共同進行濕地復育、地景改造、生態調查監測以及巡守等環境永續經營管理工作，獲得良好的成效。

同時為強化臺灣濕地於國際之重要地位，並與國際濕地組織持續交流，特邀請國際濕地科學家學會（SWS）會長Andrew H. Baldwin來臺，並於98年11月30日上午由營建署葉世文署長代表，與SWS共同簽署「2010-2015濕地區域行動計畫合作備忘錄」，可進一步加強與國際濕地組織之間的合作交流，藉此吸收國外濕地新知，提升我國濕地復育相關的知識與技術。

簽署「2010-2015濕地區域行動計畫合作備忘錄」。

2.3 生物多樣性組

一、加強我國保護區系統及經營管理

農委會於98年4月公告「嘉義縣鰲鼓野生動物重要棲息環境」，共佔地664公頃，使我國目前自然保護區域數目提升至84個，總計占台灣陸域面積達19%。

嘉義縣鰲鼓野生動物重要棲息環境範圍圖/農委會林務局提供。

台江國家公園管理處亦於98年12月正式揭牌成立，總面積39,310公頃，包括臺南縣市之七股潟湖、黑面琵鷺保護區、四草野生動物保護區、海岸防風林等範圍。該公園為我國第8座國家公園，兼具歷史、生態、產業等資源特色。其成立後，我國國家公園陸域面積已達台灣全島之8.64%。

二、沿海地區及濕地保育

（一）辦理「臺灣沿海地區自然環境保護計畫（第一次通盤檢討）」，共劃設21處海岸保護區，包含海岸自然保護區63處及海岸一般保護區21處，實施範圍面積增加至132萬公頃。

（二）研擬「國家重要濕地保育計畫（100-105年）」，整合各部會資源，並擬定短、中、長期各項計畫，並據以推動。

三、完成台灣現生天然植群圖

農委會「國家植群多樣性調查及製圖計畫」經6年調查，完成台灣第一個整合性的植群調查及製圖計畫，將台灣陸域約162萬餘公頃面積區域建構出完整之圖集。此一植群圖的完成除可清楚知道各植群類型受保護比例，亦可透過環境因子的套疊，了解特定植群類型的棲地分布及特性，對生態及物種保育、國土規劃、學術研究與環境教育將具有莫大貢獻。

農委會林務局並於98年12月17日舉辦《台灣現生天然植群圖集》發表會，將台灣植群生態的突破性研究成果公諸於世，讓全國大眾更深入瞭解台灣植群的生態多樣性。

台灣現生天然植群圖集（封面）。

四、出版第一本官方物種名錄，台灣本土物種突破五萬種

農委會林務局及國科會補助中央研究院生物多樣性研究中心執行「建置台灣物種名錄計畫」，於98年完成台灣第一本官方物種名錄「2008台灣物種多樣性－I.研究現況及II.物種名錄」，共登錄了51,212種本土種。不僅在單位面積之多種生物密度我國均名列前茅，且台灣的「特有種」比例亦極高。這對台灣生物多樣性的研究、教

育、保育，以及農林漁牧等之應用均發揮極大的功用。

五、參與「全球種子庫備份保存計畫」

斯費巴全球種子庫被視為「世界末日種子庫」，98年2月26日由農委會代表與其執行長簽署協定，正式加入「斯費巴種子庫備份保存種原計畫」，將我國特有的水稻及雜糧、蔬菜等15種作物種子材料送到全球種子庫備份保存，為我國農業國際合作與發展再創新頁。

六、加強防檢疫管理及外來入侵種防治

（一）農委會公告實施「輸入貨品使用木質包裝材檢疫條件」規定，並修正「中華民國輸入植物或植物產品檢疫規定」。

（二）為響應生物多樣性公約組織所定「2009外來入侵種」主題，永續會生物多樣性組特於98年5月22日起在農委會林務局淡水紅樹林生態展示館舉辦「522國際生物多樣性日－2009外來入侵種防治行動」宣導活動，喚醒全民打擊外來入侵種行動的實踐力。

送往SGSV的種子「貯存箱」上貼有TARI（農試所）字樣與RFID標籤。

防治外來入侵種簽署行動。

2.4 能源與生產組

一、再生能源發展條例完成立法

近年來國際油價持續攀高，台灣進口能源高達98%；此外，國際管制溫室氣體的壓力逐漸增大，因此，發展兼具提升自有能源比例及減少溫室氣體排放的再生能源，刻不容緩。經多年研擬，「再生能源發展條例」終於在98年7月8日正式公布，做為國內推動再生能源的法制基礎。

此法通過可以鼓勵目前從事排放二氧化碳的發電業者投資再生能源，條例規定再生能源躉購費率不得低於國內電業化石燃料發電平均成本，讓業者有足夠獲利空間投入再生能源研發，降低成本，提高發電功率。

二、全國能源會議達成「低碳經濟」共識

為推動節能減碳並凝聚全民共識，98年4月14、15日，行政院特別辦理「全國能源會議」，達成「低碳經濟」及「低碳社會」等共249項共識。其中較重要者包括研訂「永續能源基本法」；規範政府政策應符合「碳中和」原則，建構碳足跡、碳揭露等制度；建構自行車專用道，於交通法規明定自行車優先路權；提升能源安全議

「98年全國能源會議全體大會」總結報告，馬總統發表致詞。

題及能源主管機關位階；強化核能安全、資訊揭露與監督機制等。

此外，政府將推動綠色電力市場發展及收購綠色電力合理價格機制，以綠色電價制度，合理反映綠色（再生）能源價格；推動汽燃費隨油徵收；開放用戶購電選擇權；成立電力調度中心；推動「天然氣事業法」立法。

為進一步推動再生能源，行政院並於98年11月15日核定經濟部所提「綠色能源產業旭升方案」，5年內至少投入技術研發經費約200億元，引領台灣產業朝向低碳及高值化發展，預估2015年綠能產業產值可由2008年1,603億元提高至1兆1,580億元。

三、綠色稅制研擬推動

98年10月19日，行政院賦改會決議，肯定且支持推動綠色稅制，將優先推動能源稅及二氧化碳環境稅。並通盤考量綠色稅制對經濟、產業及環境之影響及社會各界之意見，審慎研擬稅制，於完成立法程序後，再視適當時機實施。

四、推動節能減碳輔導

98年2月25日，經濟部正式成立「商業節能減碳輔導服務團」，經推動共完成4處既設商圈耗能現況調查、4處新設商圈節能減碳規劃、5處傳統市場耗能現況調查、10家連鎖餐飲業及10家連鎖休閒飲品業節能輔導。

針對漁業的節能減碳，農委會漁業署於98年5月18日成立節能減碳專案小組，執行振興經濟方案海岸新生計畫，以減碳20%為綠色內涵設計目標。

台南縣政府-24.9 kWp 能源局補助設置系統。

2.5 交通與生活組

一、提昇鐵公路客運品質及效能

（一）交通部公路總局針對各地方政府就目前地方公共交通網車班資訊不足、車輛老舊、候車設施缺乏、路線整合不力，以及接駁轉乘不便等問題，推動改善策略與補助計畫。此外，也補助新竹市、台中市、台南市辦理轄區公車評鑑作業及公路總局自行辦理國道客運評鑑作業。

（二）交通部鐵路改建工程局為強化都會區軌道運輸，打造節能車站符合永續發展趨勢，推動鐵路立體化及捷運化及台鐵支線改善計畫，本年度對北、中、南都市鐵路立體化及捷運化，共推動7項計畫。另執行3項東部鐵路服務效能之提升，4項台鐵改善計畫。

二、推廣生態旅遊及東部自行車路網示範計畫

（一）交通部觀光局完成「配合節能減碳東部自行車路網示範計畫」，優先將東部發展為自行車路網示範地區，東北角國家風景區管理處為配合推動政策，已規劃將舊草嶺自行車隧道、龍門鹽寮自行車道及宜蘭濱海自行車道納入自行車路網。硬體方面，除加強相關指標牌示、自行車道設施及周邊環境改善外，在軟體方面則舉辦活動並加強媒體宣導。

（二）交通部觀光局各風景管理處及各港務局為推廣生態旅遊，除辦理淨灘、植栽綠化等活動，以及建置自行車道提倡健康、樂活的綠色生活運動外，亦積極辦理推廣生態旅遊相關活動。

三、辦理交通服務 e 網通計畫並建構高快速公路整體路網交通系統

擴充及維運「全國路況資訊中心」網站：蒐集及提供跨公私部門之不同交通事件資訊查詢服務，並開放資訊供加值業者提供路況服務。另擴充及維運「陸海空客運資訊中心」網站：整合跨軌道、公路、海運及空運業者之客運班表、路線與票價外，為擴大應用及服務，納入各縣市市區公車資訊，擴大無縫公共運輸資訊範圍。

為提升高、快速公路之行車安全與順暢，透過智慧型運輸系統（ITS）技術之應用，發揮高、快速公路網之整體運輸效益，服務網站點閱率較去年同期增加54.25% 。

舊草嶺隧道自行車道。

四、提昇氣象預報及地震測報能力

完成「氣候變異與劇烈天氣監測預報系統發展計畫」，建立氣象局短期氣候預報及極短時劇烈天氣預報系統的能力，以發揮氣候預測的經濟效益與短時劇烈天氣預報的防災效益。另將19個現有地震觀測站汰換成世界上最先進的24位元地震儀，同時也建置3座井下地震儀觀測站，可有效降低背景雜訊，提供高品質的地震紀錄。

結合環保、生態、景觀之國道6號南投段工程。

五、辦理綠色行銷推廣計畫

經濟部針對傳統市集與商圈，甄選示範標竿綠色商圈及市集進行綠色經營深化輔導，除建立節約能源、減少廢棄物及資源回收再使用之「綠色消費商業環境示範擴展標竿」外，並利用「落實觀念宣導推廣機制」，讓綠色消費成為生活的一部分，且推廣民眾使用綠色商品之消費習慣，也對延緩地球暖化盡一份心力。

2.6 科技與評估組

一、推動氣候變遷相關科學與評估研究

（一）國科會自96年起推動「氣候變遷對台灣地區災害防治及生態系的衝擊調適、脆弱度評估與因應策略」整合型研究，以評估台灣地區水災、風災、水資源供給、林業、農業、漁業、生態系、公共衛生等項目在氣候變遷影響下的脆弱度。其中氣候變遷對台灣生態系衝擊及脆弱度之評析部分，已於98年10月辦理研究成果發表會，出席人數近百人。

（二）推動「臺灣氣候變遷情境推估與資訊平台建置」跨機構計畫

有鑑於氣候變遷之可能衝擊與2009年初之第八次全國科技會議決議。國科會積極整合國內重要科研單位促成「臺灣氣候變遷情境推估與資訊平台建置」計畫成型。

氣候變遷對台灣生態系衝擊及脆弱度之評析研究成果發表會。

該計畫為三年期計畫（98/11~101/10），由國家災害防救科技中心負責規劃執行，結合國內大多數氣候變遷研究的學者，以及中研院環境變遷研究中心、中央氣象局與國家災害防救科技中心等正式研究單位（平台架構如下圖），兼具前瞻科技研究的科學與技術發展、作業單位的能量與資源，以及應用端的需求與技術開發，做為未來國內在氣候變遷研究領域上的研究平台，初期將以水部門為應用方向。

由國家災害防救科技中心負責資料庫與資料服務平台的建置，由不同的科研單位組成三個工作群組針對21世紀台灣氣候變遷情境進行推估，並應用氣候變遷情境推估資料進行衝擊研究、建構氣候變遷跨領域研究與應用整合平台，進行氣候變遷研究與下游應用的整合。

該計畫為跨領域整合與應用導向計畫，由體制面、技術面與應用面完成如下之總體目標：

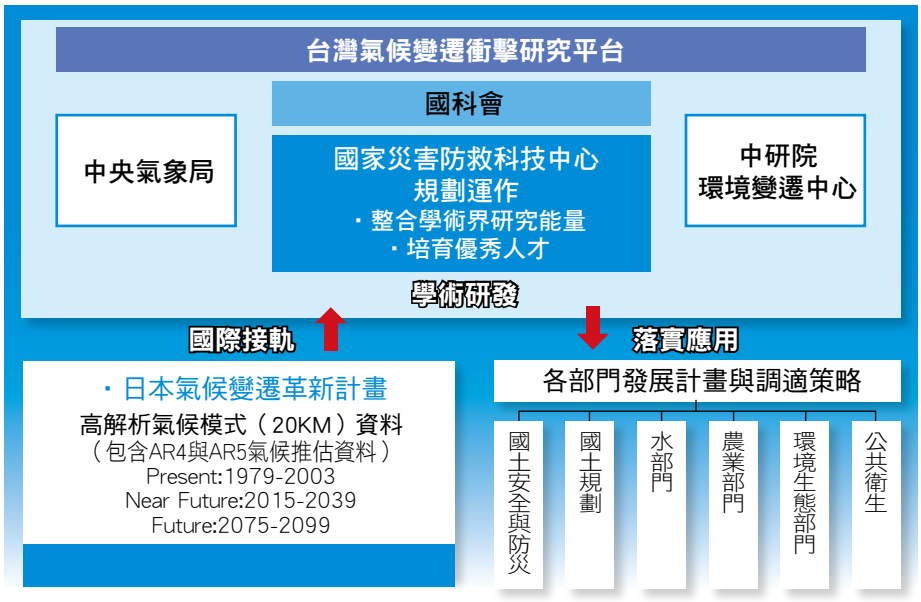
- 建構氣候變遷跨領域研究與應用整合平台。
- 建立台灣氣候變遷之未來推估。
- 促成研發成果應用於部會之調適政策。
- 強化台灣區域氣候研究之重點特色，並與國際接軌。
- 出版國家氣候變遷研究報告。

二、推動國家型能源科技計畫

國科會已於98年6月10日通過「能源國家型科技計畫總體規劃報告」，共訂定四原則，分別為整合資源、規劃能源科技發展策略、篩選國家未來能源科技重點研發領域、提供能源科技預算分配及調整原則。

該計畫已整合國科會、經濟部能源局、原能會、內政部、交通部、農委會及環保署等既有之能源相關研究計畫資源，研發重點方向以（1）節約能源技術、（2）能源新利用與能源環保、（3）再生能源開發與利用、（4）能源科技發展策略評估與整合等四大方向為主。針對策略性研發重點項目，推動「浮煤」、「海洋黑潮」、「核能」、「離岸風能」、「智慧電網」、「甲烷水合物」、「能源政策」等七項主軸計畫。

計畫平台架構



2.7 城鄉發展組

一、推動綠建築

內政部建築研究所長期致力於推動綠建築研究，98年度執行「生態城市綠建築推動方案」之成果，共計通過415案綠建築標章及獲選證書，預估每年約可省電1.21億度、省水592萬噸及減碳8.2萬噸；為提升節能效益，本年度辦理之「建築能源效率提升計畫」，共計完成28案節能改善工程，於降低都市熱島效應方面，共計完成28件「綠建築更新診斷與改造計畫」改善工程。除上述努力之外，並於98年10月11至14日主辦「2009綠建築邁向生態城市國際會議」，由國際建築研究聯盟（CIB）及世界綠建築協會（WGBC）共同協辦，計有456人次參加，涵蓋23個國家代表參加。

二、修訂再生建材標準規範

於綠建材及再生建材方面，內政部建築研究所本年度辦理之綠建材標章評定審查，共計通過綠建材標章101件，產品種類涵蓋達1,300餘種。經濟部工業局並致力於推動增修訂我國再生建材標準與規範草案，本年度公告有「預鑄混凝土緣石」及「景觀用擋土牆及護坡混凝土塊」2項國家標準，並於98年完成「混凝土空心磚」、「結構混凝土用輕質粒料」、「混凝土圬工用輕質粒料」、「輕質混凝土粒料含鐵污染材料試驗法」及「結構輕質混凝土密度試驗法」5項國家標準草案制（修）訂。

2009綠建築邁向生態城市國際會議與會代表合影。

2.8 健康與福祉組

一、對於有機農業之推動，有機農產品管理新制自98年1月31日起實施，落實有機農產品及有機農產加工品品質抽驗並加強有機農產品及有機農產加工品標示宣導。全年認證有機農畜產品驗證機構11家，輔導驗證通過有機農糧作物1,277戶、2,961公頃。

二、在環境風險的監測方面，環保署98年第一季國內環境空氣戴奧辛監測結果平均濃度為0.056 pg I-TEQ/m^3，相較於91、92年監測平均濃度0.089 pg I-TEQ/m^3 明顯降低，且所有監測值皆遠低於日本環境戴奧

辛空氣品質基準值0.6 pg I-TEQ/m^3。對民眾之健康危害風險大幅降低，有效保障民眾健康。

另環保署為加強河川水質監測數據流通及應用，每年彙整前一年之監測結果，編製水質監測年報，上載於全國環境水質監測資訊網，除用於污染整治成效評估及瞭解長期環境水質資訊，並供各界免費查詢或下載使用。（「全國環境水質監測資訊網」http://www.epa.gov.tw/wqm）

三、在提昇國人對於健康風險的認知方面，環保署於98年9月15日舉行「毒性化學物質環境流布10年成果回顧與未來展望論壇」，會中同時分送「毒性化學物質環境流布調查成果手冊」，環保署自88年度起即開始進行毒性化學物質環境流布調查，至今已進行10年，不僅成功建置多項環境樣本中化學分析技術，建立毒性化學物質本土環境流布資料，同時對毒性化學物質管制及減量策略與技術提供具體施政建議，促使多項毒性化學物質如有機錫、多溴二苯醚、鄰苯二甲酸酯、汞、有機殺蟲劑等之具體管制及減量方案之推動。

另環保署於98年10月5日舉辦「環境荷爾蒙管制論壇」，邀請立法委員、民間環保團體、專家學者與會，就民眾於日常生活中可能接觸之含有環境荷爾蒙之用品、暴露途徑、人體健康影響、民眾如何防制等議題進行熱烈討論。

四、原住民族委員會於98年3月發行全國原住民人口及健康狀況統計年報，除提供一般社會人口、死因、癌症等靜態死亡資料外，亦納入全民健康保險門診及住院等動態資料。設立原住民長期照護需求統計專章，讓原住民族人口及健康圖像更具完整性。

2.9 教育與宣導組

一、為推廣節能減碳，教育部環保小組於98年1月間辦理「98年度跨部會節能減碳教育執行方針研討會」，透過參與行動規劃的程序，協助中央與地方政府建構環境教育發展願景。

二、為活化校園空間，教育部於98年7月甄選「98年度校園空間活化之十大經典特色國民中小學」，辦理論壇發表與觀摩，以作為國內辦理活化校園空間與發展特色學校之示範。98年10月教育部辦理「97年度活化校園閒置空間總體計畫－能（資）源教育中心」期末成果發表會，展示獲得補助之32校成果海報、教具教案或其他輔助說明計畫成果之內容，以呈現各校計畫執行內涵與特色。

三、教育部於98年5月舉辦縣市交流觀摩，以提升環境教育工作之執行與推動。

活化校園閒置空間總體計畫期末成果發表會。

沈署長（左三）與設計者陳文順（右三）一起揭示碳標籤。

透過實施環境教育中程計畫（94～97年）工作成果報告與專家學者之對話，經驗分享與檢討改進執行成效，做為探索下一期程計畫之參考。

四、為推廣有機生態校園，教育部於98年暑期辦理「2009年有機生態校園兒童夏令營」，培養學生愛護生態環境，懂得利用生態環境資源。

五、環保署於98年10～12月分四區舉辦「2009全國鄉鎮市區村里長環保研討峰會」，邀請全國鄉鎮市區村里長聯誼會會長、鄉鎮市區長、各地方環保局長等約800人參加，共同研討提昇潔淨而美質的生活環境，營造健康、永續的台灣新樂園。

六、為落實生活環保，環保署於98年12月舉辦「一『筷』做環保 時尚又有型—推動百貨量販業美食街免洗筷減量活動記者會」，內用改採可重複清洗筷子，外帶則不主動提供免洗筷，估計約減少4,400萬雙免洗筷使用量、350公噸廢棄物及320公噸的二氧化碳排放量。

七、為分析產品生命週期碳足跡及以碳標籤呈現，鼓勵民眾低碳消費，環保署舉行台灣碳標籤徵選，並於98年12月15日發布評審結果，由陳文順先生作品獲選特優及選定為「台灣碳標籤」。未來該署將持續推動台灣碳標籤制度，俾供民眾選購低碳產品，引導台灣邁向低碳社會。

一『筷』做環保時尚又有型。

永續發展指標

永續會執行長蔡勳雄（左二）與環保署沈世宏署長（右二）共同主持97年永續發展指標發布說明會。

現行永續發展指標系統係參照聯合國1996年（第一版）永續發展指標架構，由行政院經濟建設委員會（永續會前永續願景分組召集機關）進行研擬，並於民國92年6月經永續會委員會議確認。嗣後，每年以此指標系統檢視前一年度之國家永續發展推動成效。

3.1 公布97年永續發展指標計算結果

現行永續發展指標系統的建置，係參考聯合國1996年（第一版）之永續發展指標「壓力－現況－回應 （Pressure-State-Response）」架構，並將我國發展現況列入考量。指標系統分為「生態現況」、「環境現況」、「經濟壓力」、「社會壓力」、「制度回應」、「都市發展」6大領域，包含41項指標。指標架構及各項指標趨勢，另詳行政院國家永續發展委員會全球資訊網站http://sta.epa.gov.tw/NSDN/。

97年國家永續發展指標計算結果與96年相較，41項永續指標中有27項「趨向永續」、3項持平、11項「背離永續」。另就領域而論，生態現況、環境現況、經濟壓力、社會壓力、制度回應及都市發展六大領域均趨向永續。

（一）生態資源領域

生態資源綜合指數在民國77年至95年呈現下降的趨勢，除了「未受損失森林面積比」維持穩定外，其他生態資源指標值在近十餘年來多呈下降趨勢。就民國96年的資料趨勢而言，除了「未受損失森林面積比」一項指標值增加外，其餘指標值仍較民國96年為低，由於「未受損失森林面積比」指標值增加，使整體生態組綜合指數

民國97年綜合指數（95.61）略高於96年（95.31）（見圖1），呈現邁向永續的趨勢。

（二）環境污染領域

環境污染綜合指數94年至97年連續四年呈現上升趨勢，民國96年指標值為100.71，為民國77年基準年後最佳表現的一年（見圖2），顯示整體環境品質近年來已漸趨向正面變化。

以個別指標趨勢來看，廢棄物資源回收率指標值自基準年民國87年以來持續改善，至97年已上升達9%。CO_2排放量部分，97年每人平均CO_2排放量之年成長率首度呈現負成長（-4.77%），排放總量成長率為-4.42%，可見CO_2排放量已有效控制。

至於PSI平均值，除93年有明顯下降之外，其後迄今已呈現緩步上升，97年與96年相較並無太大變化。

（三）社會壓力領域

社會壓力綜合指數自民國77年至86年雖呈現下降趨勢，但從民國87年至97年指數值則呈現小幅變化趨勢。在個別指標方面，「每人每日垃圾產生量」自民國77年至87年呈現上升趨勢，87年至92年則逐漸減少，民國92年之後呈現緩慢增加；「全國檳榔種植面積總和」自88年後逐漸減少；反映國民健康的「癌症標準化死亡率」及「傳染病感染率」皆呈增加趨勢；「公害陳情案件受理統計」則逐年增加。

（四）經濟壓力領域

經濟壓力綜合指數自民國77年的

圖1　生態現況綜合指數趨勢圖

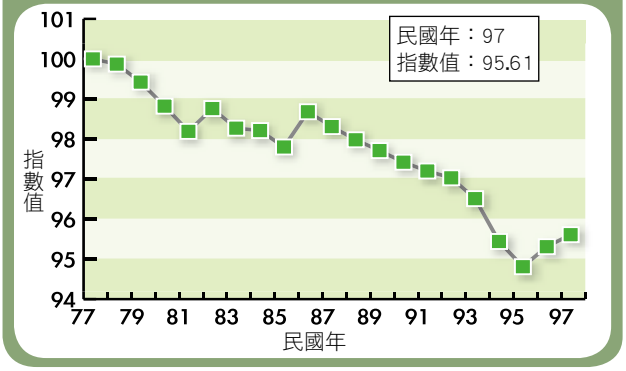


圖2　環境現況綜合指數趨勢圖

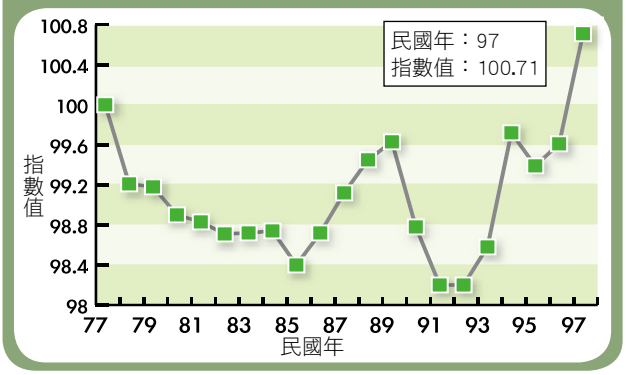


圖3　生態及環境現況綜合指數趨勢圖

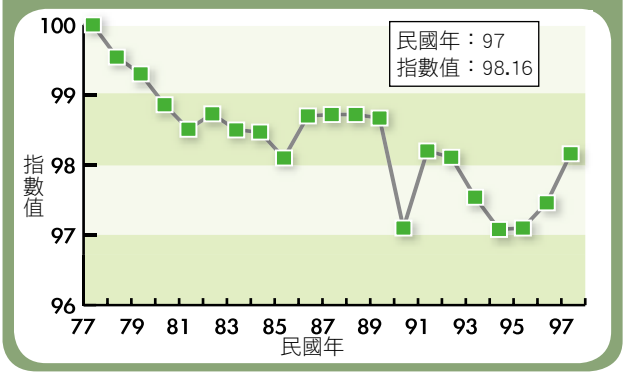


圖4　社會壓力綜合指數趨勢圖

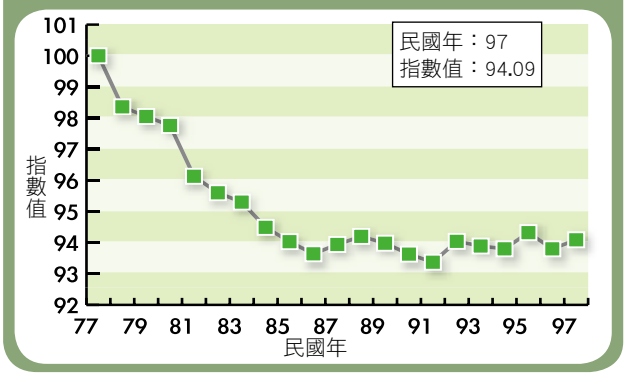


圖5　經濟壓力綜合指數趨勢圖

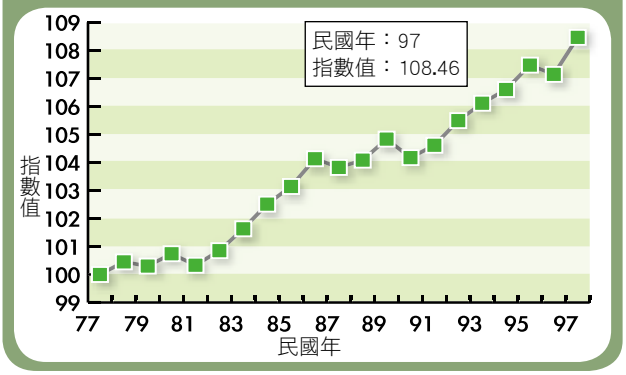


圖6　社會及經濟壓力綜合指數趨勢圖

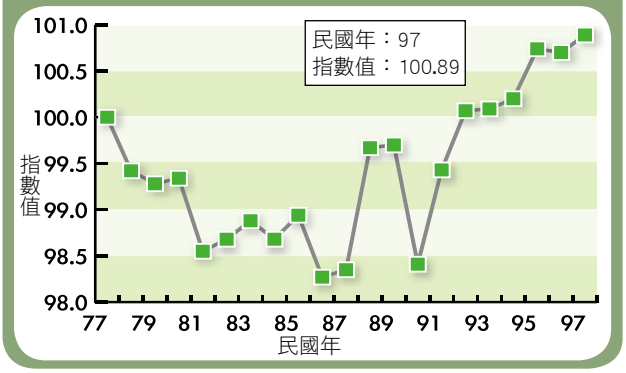


圖7　制度回應綜合指數趨勢圖

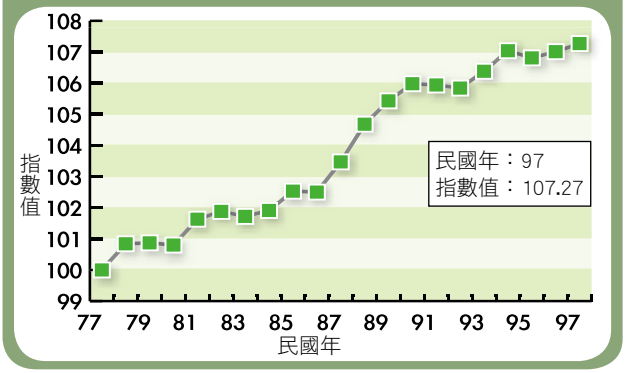
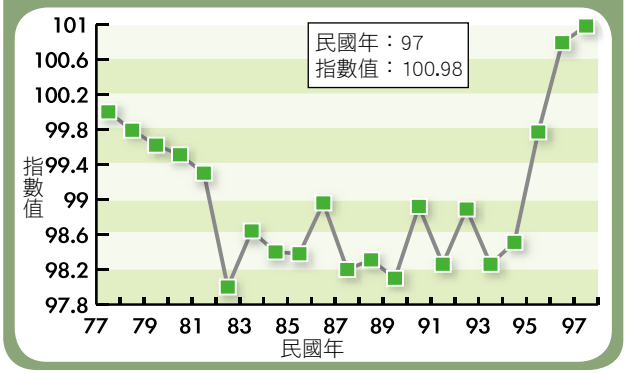


圖8　都市發展綜合指數趨勢圖



100上升至民國97年的108.46，代表臺灣整體的經濟壓力持續下降，呈現邁向永續的趨勢。整體而言，雖然「農藥消費量占農產品產值比率」持續增加，造成環境負面的影響。不過，由於工業用水的使用效率持續提高、製造業勞動生產力逐年提升，再加上科技發展使得電腦及網際網路使用越來越普及，因此總括來說，經濟面向持續朝永續的趨勢邁進（見圖5）。

將民國97年指標值與96年的相比，代表經濟壓力的7項指標中有4項呈現有利於永續的趨勢。社會與經濟壓力綜合指標因而自96年的100.7微幅上升至97年的100.89（見圖6）。

（五）制度回應領域

制度回應領域指數自民國80年起呈現上升趨勢。長期來看，過去十幾年中，制度回應的指標值均在100之上，總體趨勢也呈持續攀升，顯示歷年來政府對於永續議題的重視程度增加，從法規制度面引導政府、企業、與民間關注永續問題，政策的設計與執行對於永續發展均有正面幫助 （見圖7）。

就民國97年度的制度回應指標來看，由政府主動提供資源（例如環保生態預算）小幅下降，協助推動我國邁向永續發展的工作（例如財稅措施）亦小幅下降。政策落實方面（如污水下水道處理率）近3年皆以約2～3%持續上升，顯現施政單位的持續作為。而民間落實永續發展理念方面的指標則呈現增加趨勢，如環保標章的適用量持續增加、民間參與生活環境改造計畫的數量小幅上升。

（六）都市永續發展領域

就整體而言，都市永續發展綜合指數延續過去幾年上升的趨勢，持續朝向永續（見圖8）。在個別指標方面，7項都市指標的個別趨勢變化來看，各指標當中以「都市每人平均所得」上升的趨勢最為顯著；此外，都市小客車持有率、大眾運輸乘客人次、每人享有都市公園綠地面積、都市主要河川中度以上汙染長度比、每人每日耗電量、每人每日用水量皆逐步邁向永續發展。

總結

針對民國97年與96年相互比較，以上各領域的指標整體呈現改善、邁向永續者，包括：二氧化碳排放量等28項（註一）。另外，呈現背離永續的指標包括：非自然資源生產面積等10項（註二）。

由現況、壓力及回應三大領域的綜合分析，在生態與環境現況部分，由於環境污染現況近年表現偏向正向發展，因此雖然生態資源領域表現偏向負向，但仍使得生態與環境整體現況朝向永續的趨勢發展。至於壓力部分，社會及經濟面向則呈現分歧的發展現象，反映出過去十幾年經濟結構逐漸轉型，但社會層面的壓力未見減緩。針對臺灣面臨的現況及壓力，由回應指標也可以看出政府在政策層面落實永續發展的努力及決心。

政府每年公布永續發展指標及其現況數值，希望將這套指標系統以及背後的政策意義，轉化成政府具體的施政作為，但國家永續發展落實仍有賴全民的參與。藉由永續指標的發布，除了使政策主管機關定期檢討，也同時期待國民能共同來關心督促。

註一：朝向永續指標為：二氧化碳排放量、PSI平均值、受輕度以下汙染河川比率、水庫品質、廢棄物資源回收率、低放射性固化廢棄物成長率、未受損失森林面積比、每人每日垃圾產生量、全國檳榔種植面積總和、癌症標準化死亡率、傳染病感染率、家戶所得五等分位差、每人國產砂石生產量、上網人口比率、農藥消費量占農產產值比率、能源密集度、環境影響評估監督合格比率、污水處理率、制定禁用或嚴格限用的化學品數量、環保標章適用量、民間參與度、都市每人平均所得、都市小客車持有率、大眾運輸乘客人次、每人享有公園綠地面積、都市主要河川中度以上污染長度比、每人每日耗電量、每人每日用水量。

註二：背離永續指標為：非自然資源生產地面積、天然海岸比、耕地總面積比、有效水資源、公害陳情案件受理統計、製造業用水量占製造業生產價值比率、資源耗用型產業生產價值佔製造業生產價值比率、製造業勞動生產力指數、中央政府環保生態預算比率、政府鼓勵污染防治及資源回收財稅措施。

3.2 新版國家永續發展指標

「新版國家永續發展指標」作業依據

新版指標之研訂係依據永續會第25次工作會議（97年12月25日）決議事項辦理，如下：

1、參照聯合國第三版永續發展指標系統（2007年10月發布）之面向、議題及指標「架構」、以現行永續發展指標為「種子」、參考國際永續發展相關評比指標（ESI 、EPI）及先進國家永續指標進行研擬，俾與國際接軌。

2、於98年6月底前完成新版指標草案、12月完成定稿；99年起以新版之指標系統公布98年度計算結果。

3、新版永續發展指標業於98年12月31日召開的第29次工作會議中討論通過。

新版指標研訂過程

「新版國家永續發展指標」草案之研訂，由永續會秘書處進行規劃、草擬、協商及彙總，過程如下：

1、98年2月底，依據聯合國第三版指標系統做為新版指標「架構」、以現行永續發展指標為「種子」、參考國際永續發展評比指標（ESI、EPI）及先進國家永續指標進行草擬，完成新版草案初稿。

2、98年3月4日，召開「第一次部會協商會議」，由上述草案初稿指標之主政機關確認（或修改）指標名稱、計算公式，指標原則須可改善性，數據須可取得及可信賴。

3、98年4月期間，分別於台北、台中、高雄及花蓮辦理北、中、南、東4場新版指標分區座談會，集思廣益後進行初稿修正。

4、98年5月25日，召開「第二次部會協商會議」，針對初稿修正，由指標主政機關再確認，並提供「適切」之指標名稱、定義及計算公式等。

5、98年6月，完成新版指標草案。

6、98年7月，「永續發展政策綱領」（草案）編審小組委員「建議」，新版之永續指標宜與研擬中之「永續發展政策綱領」議題有所對應。秘書處於8月請「永續發展政策綱領」（草案）面向及議題主政機關，思考追加對應指標。

7、98年10月21日，召開「第三次部會協商會議」，討論部會所追加與政策綱領對應之指標。

8、98年12月1日，召開「第四次部會協商會議」，討論並確認（1）與政策綱領對應事宜、（2）與聯合國第三版（2007年）永續發展指標之對應。

9、98年12月31日，永續會第29次工作會議討論並確認新版永續發展指標，並決議自99年起，以新版指標計算及公布前一年前度永續發展推動成效。

新版國家永續發展指標內涵

「新版國家永續發展指標」包括12面向、41議題及99項指標，與聯合國第三版永續發展指標系統之14面向、44議題、96項指標類似；惟較現行永續發展指標增加57項指標。新版永續發展指標涵括範疇甚廣，足以反映國家永續發展各面向之推動成效。

永續指標修正區域座談會（台北）。

表：新版國家永續發展指標

面向	議題	指標名稱	主辦機關
環境	空氣	PSI平均值（現行指標）	環保署（空保處）
		空氣污染物年均濃度（參考聯合國第三版指標並修正）	環保署（空保處）
	水質	水庫品質（現行指標）	環保署（水保處）
		海域環境水質合格率（參考聯合國第三版指標並修正）	環保署（水保處）
	水質	受輕度以下污染河川比率（現行指標）	環保署（水保處）
		河川中生化需氧量濃度（聯合國第三版指標）	環保署（水保處）
	廢棄物	垃圾回收率（現行指標並修正）	環保署（廢管處）
		每人每日垃圾量（現行指標SP-1）	環保署（廢管處）
		環境影響評估監督合格比率（現行指標）	環保署
	環境管理	公告列管毒性化學物質數量（現行指標）	環保署（毒管處）
		中央政府環保生態預算比率（現行指標）	主計處
		政府鼓勵防治污染及資源回收財務措施（現行指標）	環保署
節能減碳	溫室氣體	燃料燃燒二氧化碳人均排放量（現行指標修正）	環保署（溫減管理室）
		燃料燃燒二氧化碳排放量年增率（新創指標）	環保署（溫減管理室）
		溫室氣體排放量（聯合國第三版指標）	環保署（溫減管理室）
	能源使用	每人每日耗電量（現行指標）	經濟部（能源局）、台電公司
		能源密集度（現行指標）	經濟部（能源局）
		資源耗用型產業產值占製造業生產價值比率（現行指標）	經濟部（工業局）
	節約能源	再生能源裝置容量百分比（參考2006 EPI並修正）	經濟部（能源局）
		每年新增綠建築之節能量（新創指標）	內政部（營建署、建築所）
		平均每萬人所擁有之自行車道長度（新創指標）	體委會
國土資源	土地	山坡地變異比例（新創指標）	農委會（水保局）
		地層持續下陷面積比例（新創指標）	經濟部（水利署）
		開發用地面積比（參考現行指標並修正）	內政部（營建署、地政司）
	森林	森林覆蓋之土地面積比（參考現行指標與聯合國第三版指標並修正）	農委會（林務局）
	海岸	天然海岸比 （現行指標）	內政部
		天然海岸線損失比（新創指標）	內政部（營建署）
	水資源	有效水資源 （現行指標）	經濟部（水利署）
		製造業用水量占製造業生產價值比率（現行指標）	經濟部（工業局）
		地下水補注量（噸）（新創指標）	水利署
		地下水抽用量（噸）（新創指標）	水利署、農委會
	天然災害	全國檳榔種植面積總和（現行指標）	農委會（農糧署）
		因天然災害導致人類傷亡人數（參考聯合國第三版指標並修正）	內政部消防署
		因天然災害導致經濟損失（參考聯合國第三版指標並修正）	內政部（消防署）

生物多樣性	遺傳	生物多樣性遺傳資源及種原保存（新創指標）	特有生物研究保育中心
	物種	特定指標野生物族群量變化（參考聯合國第三版指標並修正）	農委會（林務局）
		特定外來植物覆蓋面積（參考聯合國第三版指標並修正）	農委會（林務局）
		特定外來入侵種種數（參考聯合國第三版指標並修正）	農委會（林務局）
	陸域生態	生態敏感地比（現行指標）	內政部（營建署）、農委會
		保護區占總陸域面積百分比（參考聯合國第三版指標並修正）	農委會（林務局）
	海域生態	海洋保護區（參考聯合國第三版指標與2008 EPI並修正）	農委會（漁業署） 內政部
		珊瑚礁生態系統的面積與其覆蓋之比例（聯合國第三版指標）	內政部或漁業署
生產	物料使用	經濟發展使用的物料強度（聯合國第三版指標）	經濟部
		經濟發展使用的非營造類的物料強度（參考聯合國第三版指標並修正）	經濟部
		國內耗材（聯合國第三版指標）	經濟部
		非營造類的國內耗材（參考聯合國第三版指標並修正）	經濟部
		每人國產砂石生產量（現行指標）	經濟部（礦務局）
	清潔生產	事業廢棄物妥善再利用率（參考聯合國第三版指標並修正）	環保署（廢管處）
		有害事業廢棄物再利用率（參考聯合國第三版指標並修正）	環保署（廢管處）
		低放射性固化廢棄物成長之減量率（現行指標）	原子能委員會
	農業	耕地總面積比（現行指標）	農委會
		有機耕種的面積（聯合國第三版指標）	農委會（農糧署）
		每公頃農地肥料使用量（參考現行指標、聯合國第三版指標與2005 ESI並修正）	農委會（農糧署）
		每公頃農地農藥使用量（參考聯合國第三版指標與2005 ESI並修正）	農委會（防檢局）
	漁業	過漁（現行指標）	農委會（漁業署）
	勞動	勞動生產力與單位產出勞動成本（參考現行指標與聯合國第三版指標並修正）	主計處
		非農業部門支薪女性之比例（聯合國第三版指標）	主計處
	總體經濟績效	每人國內生產毛額（聯合國第三版指標）	主計處
		國內資本形成毛額占GDP比率（參考聯合國第三版指標並修正）	主計處
		消費者物價指數年增率（參考聯合國第三版指標並修正）	主計處
	公共財政	各級政府舉借之1年以上非自償債務未償餘額占GNP比率（參考聯合國第三版指標並修正）	財政部（國庫署）
生活	用水	適當飲用水供應人口百分比（EPI 2008）	環保署（毒管處）
		污水處理率（現行指標）	內政部（營建署）
		每人每日用水量（現行指標）	經濟部（水利署）

生活	交通	公共運輸乘客人次（現行指標）	交通部（運研所）
		運輸部門國內能源消耗量（參考聯合國第三版指標-並修正）	經濟部（能源局）
		每年來台旅客人次（新創指標）	交通部（觀光局）
		公路：每萬輛機動車輛死亡人數（新創指標）	交通部（統計處）
		公路養護管理效率（新創指標）	交通部（運輸研究所）
	綠色消費	公私部門綠色採購金額（新創指標）	環保署（管考處）
		獲頒環保標章適用量（新創指標）	環保署（管考處）
科技	研發	國內研究與發展之花費占GDP的百分比（聯合國第三版指標）	國科會
	資通訊	經常上網人口比率（現行指標）	主計處
		每百人中使用行動型電話線路的人數（聯合國第三版指標）	國家通訊傳播委員會
城鄉文化	文化傳承	古蹟遺址指定數（新創指標）	文建會（文化資產總管理處籌備處）
	社區	符合環境衛生永續指標村里數（新創指標）	環保署（毒管處）
	城市	都市化面積擴張率（現行指標）	內政部（營建署）
		都市內每人享有公園綠地面積（現行指標）	內政部（營建署）
健康	醫療照顧	可獲得基本保健設施之人口百分比率（聯合國第三版指標）	衛生署
		兒童疾病的感染免疫措施 （聯合國第三版指標）	衛生署
		65歲以上民眾接受成人預防保健服務利用率（新創指標）	衛生署
	營養	兒童營養情況（聯合國第三版指標）	衛生署
	健康風險	癌症標準化死亡率（現行指標）	衛生署
		傳染病感染率（現行指標）	衛生署
		18歲以上吸菸率（參考聯合國第三版指標並修正）	衛生署
		18歲以上男性嚼檳榔率（參考聯合國第三版指標並修正）	衛生署
福址	貧困	低收入戶的人口比例（參考聯合國第三版指標並修正）	內政部（社會司）
		住宅供給率（參考聯合國第三版指標並修正）	內政部（營建署）
	收入均衡性	戶數五等位所得差距倍數（參考現行指標與聯合國第三版指標並修正）	主計處
	社會福利	弱勢族群保費補助（新創指標）	內政部（社會司）
		老人照護及參與（新創指標）	內政部（社會司）
		自殺比率（聯合國第三版指標）	衛生署
治理	犯罪	犯罪人口率（參考聯合國第三版指標並修正）	法務部
	教育	尚輟人數（參考聯合國第三版指標並修正）	教育部
		成人教育參與比例（新創指標）	教育部
參與	國際參與	我國參與聯合國相關國際環境組織及多邊環境協定（MEAs）情形（新創指標）	外交部
		每年國際環境合作及我對外援助情形（新創指標）	外交部
	公民參與	民間參與度（現行指標）	環保署
		社會福利社區化參與率（新創指標）	內政部（社會司）

國家永續發展獎

行政院國家永續發展委員會（簡稱永續會）辦理國家永續發展獎的目的是藉由表揚永續發展推動績效卓越單位，鼓勵全民參與永續發展工作，並透過經驗分享，落實永續發展於國人日常生活中，以加速達成國家永續發展的願景及目標。

98年國家永續發展獎的評選經「書面初審」、「實地複審」，最後再由全體參加複審之委員進行「決選」，最終自教育類、企業類、社團類及永續發展行動計畫等4大類別中，選出11個單位，接受行政院吳敦義院長頒獎表揚。

教育永續發展獎

高雄縣私立中山高級工商職業學校

實績介紹：

踏進中山工商，質樸的校門看似不起眼，但走入校園，美麗的景致即映入眼簾，花園造景、假山飛瀑、群山環繞、鳥語花香，滿園綠樹花草，讓人身心舒暢。

中山工商重視環境綠美化，全面推動「無塵、無煙、無傷害」三無運動，締造了零垃圾、無菸害校園。從只有47位學生的迷你小學校，至今成長為萬人的大學府，一路走來，堅持用心辦學，努力營造優美整潔之學習環境，且在所有師生共同努力下，創造出無數的傳奇事蹟：

（一）學校落實「有教無類，因材施教」之精神，採多元學制，培育多元能力人才，從數理、語文資優班至綜合職能班，咸能達到造就一流人才之目標--品德、體能、技術及態度一流。

（二）訂定永續教育推動計畫，廣植樹木，保留自然風貌，提供師生自然生態之環境與教材。

（三）充分推動環境教育，將環境教育列為本位課程，使學生了解全球環境現況，從自省到自愛，進而維護環境整潔及落實生活環保。

（四）訂定垃圾減量、分類及資源回收

社區服務～旗津淨灘。

環保校外參觀體驗資源回收。

辦法，將正確環保觀念推廣至家庭及社會中；宣導並推動節水、節電、節源措施，運用網路公告、電子公文e化、雙面影印等措施，以減少用紙量。

（五）關懷及協助社區弱勢族群與團體，每年舉辦「三代同歡」活動，培養學生「敬老慈幼，悲天憫人」胸襟，及知福、惜福與感恩之心。

願景藍圖：

三十多年來，中山工商恆為創造人文自然生態、環保、健康、節能、省資源的目標而努力，因而成就現今「山中傳奇」；未來以「建構偉大的學校」及「滿足0～100歲學習心願」為願景，進而建構師生、學校與社區良性互動的、永續的學習環境。

教育永續發展獎

臺南縣內角國民小學

實績介紹：

位於臺南縣關子嶺山腳下白河蓮鄉的內角國民小學，是台南縣最北端的學校，民國92年起投入永續校園環境運動，自93年起連續三年積極申請教育部永續校園環境改造計畫，打造節能、節源、綠色親和、健康舒適的示範教育環境，96年起執行活化校園空間總體方案計畫，結合永續校園歷年來發展經驗，將閒置教室空間打造成為健康、節能、自然、舒適的閱讀空間，作為節能節源教育推展基地。

諸多與永續校園相關的硬體環境改造設計，對該校而言是一種有系統的永續環境教具充實措施，配合「小小蓮鄉深度導覽員」課程的發展、設計與實踐，帶領兒童

進入環境教育的學習場域。採「故事化」的教學設計，以兒童文學的手法，將校內豐富的永續校園素材編寫成童話故事，校園內各個不同的環境設施或景點，被擬人化成故事中一個個富有不同特質與能力的精靈，而續以校園精靈故事為本，發展出樹的造型藝術創作、兒童繪本創作以及小小導覽員等三大主題課程內涵，兒童的學習場域內涵與故事情節相互交疊，兒童的校園生活即是故事生活。

這種結合永續環境設施發展出的課程創新，也是教師專業發展上的新嘗試。惟有此環境教育課程的實施，冀望藉由兒童所熟悉的校園環境素材出發，擴展其學習機會與成功經驗，以期培養其高等思維能力，而最終目的則在於建立起人與環境間的一種協調關係。

長期投入永續校園經營工作，全校師生不斷嘗試、反思與成長，將寶貴經驗對各學校與鄰近社區推廣與分享，協助鄰近社區推動社造運動，以實際行動將永續理念的種子對外散播。對內角國小而言，永續與節能是一種生活態度，更甚於作法。惟有當這種態度深植心靈，環境與教育永續方得以具體落實。這是該校未來不變的方向。

願景藍圖：

- **快樂**：孩子能快樂的投入學習
- **關懷**：孩子能關心自己與他人
- **成長**：能子能創造並努力不懈

教育永續發展獎

桃園縣中壢市內定國小

實績介紹：

內定國小為全國各級學校中，距離焚化廠最近的一所國小，雖無好山好水的自然環境，又處在中壢工業區內，但是該校轉化危機為轉機，積極推動環境教育，近年更以「全校式經營」的理念，建立永續教育文化轉型新願景。

例如「健康自由行」教學計畫，以喚起社區擁有感及地方感為設計目的，並呼應全球節能減碳的浪潮，安排學生騎乘自行車前往學區內「埤塘生態」、「地方文化」、「地方產業」等場域進行體驗活動。

在節能減碳及校園永續性方面，則以倡導延長生命週期、減少生態足跡為規劃理念，透過「還給地球二分之一的機會」、「袋袋相傳」、「皂符環境」等延續性活動，並廣邀家長參與，讓每一個環保措施擴展至家庭生活中。還規劃了學生中英文校園導覽培訓、中英文網站建置，並完成「紅火蟻入侵」、「廚餘落葉堆肥」等行動研究。

為倡導永續教育的文化轉型，內定國小使行政、教學、社區等資源充分連結，強調每一個教學活動都以學生學習為主體，因此每個學習體驗課程都希望能夠展現激勵學生動機或喚起環境覺知的效果，並提供多元的環境行動經驗機會；最後則希望在環境教學、校園空間、師生生活、社區意識等面向，透過各種永續性策略之落實，實踐對綠色學校的承諾。

願景藍圖：

- 以全校式經營理念，建立校園永續性文化。
- 以學生為學習主體。
- 落實環境生態、地方文化與產業、弱勢關懷、節能減碳四面向。
- 社區是學習的延伸校區。

企業永續發展獎

中華電信股份有限公司

實績介紹：

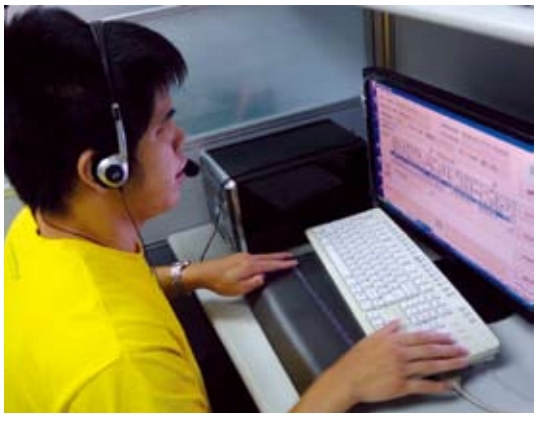
中華電信身為高度在地化的電信業者，是社區發展的好鄰居，也是國際間電信業者最重要的合作夥伴。隨著科技的進展，該公司已突破傳統電信的框架藩籬，逐步將CSR的理念融入產品服務的研發與應用，邁向資通訊領域的整合，以期對人類社會的永續發展做出最好的貢獻。主要的特色有：

一、正派經營發展

奉行正派、永續的價值理念、維護股東最大的權益、帶動相關產業的蓬勃。

二、負責任的營運

堅持一貫的嚴謹，進行全面性的風險控管、資訊透明，在全體員工共同努力與



結合淡江大學盲生資源中心，推動「以ICT協助視障者遠距工作專案」，期能透過典範的建立，延伸至APEC經濟體成員。

客戶忠誠的支持下，達成合併營業收入2,016.7億元的目標，占2008年全國實質GDP的1.54%，納稅總金額138.9億元，名列全國企業翹楚。

三、回應利害關係人

1. 實現「員工安心」的企業承諾

確實執行同仁「自願性」優惠離退方案、提供多樣化僱用、促進就業機會、重視員工權益、健康、安全、訓練、發展與內部創業等。

2. 博得「消費者信賴」

推出符合國內法令的郵件過濾機制、堅守消費者隱私保護、持續提升服務品質、降低產品服務負面影響、投入資源進行基地台電磁波議題研究、主動積極回應通訊安全問題等。

四、提升生活品質

秉持電信核心專業及企業志工的參與，縮短通信落差、落實電信服務普及、推廣數位學習、創造數位機會、提升在地文化、經濟產業發展、參與國際ADOC 2.0（APEC Digital Opportunity Center）計畫等。

五、因應氣候變遷

領先國內電信產業，第一家完成溫室氣體盤查，並獲得第三方認證；推動員工自主環保、研發「智慧節能服務」、持續創新ICT綠色科技，提供未來低碳產業發展的重要支援。

遠景藍圖：

在永續的世界裡，沒有無條件的成長；持續堅持「專注本業，注重專業，提高效率，感動服務」，兼顧創造數位機會與環境永續發展兩大重點；以「成為最有價值與最值得信賴的資通訊公司」為最終遠景。

企業永續發展獎

台灣康寧顯示玻璃股份有限公司

實績介紹：

隨著液晶顯示器（LCD）產業的成長，康寧亦逐步開發台灣地區的顯示器事業，提供主動矩陣式液晶顯示器 （即薄膜電晶體液晶顯示器）所使用的玻璃基板。康寧生產的超高品質玻璃基板，主要用於筆記型電腦、平面顯示器、液晶電視、可攜式電子產品及通訊裝置。

為滿足客戶不斷成長的需求、因應政府工業發展政策、並提升企業整體競爭力，台灣康寧顯示玻璃公司於2000年正式註冊，並於同年開始興建其第一座玻璃基板生產廠房。2001年5月，康寧宣布台灣地區第一座TFT-LCD玻璃基板加工廠完工，該廠房座落於台南科學工業園區內。 隨著產業的快速成長，台南廠亦不斷擴充產能，並於2004年3月加入熔爐製程；自此，台南廠成為規模完整的LCD玻璃基板生產廠。

2004年4月康寧宣布在台中中部科學工業園區建立第二座LCD玻璃基板廠，主要係生產並提供客戶大尺寸玻璃基板，歷時僅一年多，台中廠於2006年1月落成。台中

台灣康寧台中廠。


台灣康寧台南廠。

台中廠社會關懷活動。

廠是康寧有史以來最大的工廠，俟目前進行中的擴廠工程完成後，更將成為業界中全球最大的 LCD 玻璃製造工廠。此外，台中廠的完工，在工廠規模及建廠速度上，均可謂經營史中一項重要的里程碑。據估計，興建台中廠使用十萬公噸以上的鋼材，約相當於超過十座艾菲爾鐵塔或兩座帝國大廈的用量。

在台灣員工的打拼下，目前台灣康寧台南與台中兩廠已成為康寧營運績效最佳的工廠，並仍持續致力於績效改善與社區回饋。

願景藍圖：

台灣康寧致力成為領先全世界之TFT-LCD玻璃基板生產供應商，專注於提供最好且最可靠之綜合價值予客戶，並藉此為全體同仁、股東以及鄰近社區，創造快樂及福祉。

未來康寧將於：提昇營運績效，維護員工安全，確保產品品質，加強環境保護，致力節能減廢，發展培育人才，投入創新研發與增進社區關係等不同面向，持續努力，將台中與台南廠打造為世界級的製造廠。

在康寧，企業社會責任是其得到利害關係人信任的積極承諾。這項承諾透過各項業務促成了他們在經濟與環保的永續發展-包括了營運、產品、對社會的回饋，以及對員工的支持。

對於企業公民的承諾，是台灣康寧營運超過150年的重要成功因素之一，並且將延續其今日的成功，直到長遠的未來。

康寧推出業界第一款不添加重金屬之玻璃基板。

企業永續發展獎

皇將科技股份有限公司

實績介紹：

皇將科技股份有限公司，以自有品牌CVC製藥設備起家，進而朝科學檢驗儀器產業發展；創立卅年來，不斷以創新的突破技術，以及讓客戶認識CVC，相信CVC，愛上CVC的品牌哲學，建立客戶口碑，贏得全球如輝瑞、亞培、惠氏、博士倫、永信等知名大藥廠的信賴，將CVC打造成為國際知名品牌。

在不斷成長茁壯中，皇將深感企業對社會的責任與永續發展的重要；觀察全球永續發展的兩大議題，一是綠色環保意識的抬頭及人類對生存與安全健康的重視，因此在新產品、新技術的發展上，特別重視能開發出具備綠色環保與安全健康的新世代產品。

以皇將發展中的環保型液相層析檢驗儀器（HPLC）為例，即是著眼目前市面上的HPLC皆需使用大量的有機溶劑，對環境與人體的影響甚鉅；有機溶劑不僅回收、安置都須經過特殊處理，以免外洩造成污染；對須在密閉實驗室裡操作的人員而言，長期吸入大量的有毒揮發氣體，更對身體健康造成鉅大傷害。

而皇將研發的奈升級超高壓微量技術，將可大量降低HPLC的溶劑用量；此種新型奈升級HPLC預計只需傳統型溶劑用量的1／8000，即同樣一加侖的溶劑，目前市面上的HPLC只能用2.6天，而皇將超新環保科技的HPLC則能用到60年；不但可節省大量的溶劑成本，又能達到環保安全的目的，是帶動綠色風潮的革命性創新科技。

願景藍圖：

讓CVC成為國際知名品牌，打造皇將成為小資本高獲利的工匠型企業。

不走台灣大多數企業的OEM、ODM發展捷徑，皇將的願景是讓CVC成為國際知名品牌，並且透過持續在產品、技術上的精雕細琢，精進工藝水準，發展出最適合的管理模式，為皇將帶來真正的生命力，成為小資本高獲利的工匠型企業。

社團永續發展獎

財團法人台灣兒童暨家庭扶助基金會

實績介紹：

一個即將邁入60週年的兒童福利機構——台灣兒童暨家庭扶助基金會，已扶助了國內外18萬5千名貧困孩童自立，仍不斷提出創新服務方案，讓弱勢家庭努力向前、保持希望，己立立人、用愛循環。

家扶基金會的福利服務工作範圍很廣，從基本的弱勢兒童家庭急難救助、經濟補助、獎助學金、團體輔導、育樂活動，到關懷受虐兒童、保護安置服務、家庭寄養服務、遲緩兒早期療育，幼兒啟蒙教育、青年自立釣竿計畫、家長生活發展帳戶之

「有兒童需要的地方，就有家扶」理念，已幫助18萬5千名弱勢兒童。

脫貧計畫；甚至到推動民法繼承編修法，免除揹債兒惡夢，以及發展社會企業為弱勢家庭創造就業機會，運用志工力量舉辦溫馨活動……，這些都是家扶積極主動、認真扛起關懷弱勢兒童與家庭的工作與服務使命。

最難能可貴的是這些曾經接受過幫助的兒童和家庭，在成長或生活改善之後，都能珍惜資源、惜福感恩、回饋社會，除了捐款或認養貧童，也自組家扶之友會志工團隊，經常參與服務工作，將社會上的善心、愛心、與信心連線，讓美善永續循環。

家扶書香列車前進校園及偏遠鄉鎮，將兒童保護觀念向下紮根。

願景藍圖：

愛，就是在別人的需要上，看見自己的責任。秉持「及時的幫助、溫暖的關懷、基督的愛心、社工的專業」之精神，不分種族、性別、宗教、國籍，服務從台灣生根，關懷向國際延伸。

一、堅持核心價值及使命的傳遞：家扶以案主為中心的服務理念須繼續發揚，使核心價值在社會發光。

二、活化組織功能：依機構使命為導向，以團隊方式進行，秉持專業的行動能量，有效運用各項資源，提供更好、更快、更聚焦的關懷。

三、發展國外據點：於華人地區設立據點，整合志工力量，

幫助自立之大專青年飲水思源，前進88災區清理家園。

成立家扶愛心小舖，培訓自強媽媽一技之長。

以服務為導向，提供當地華人兒童與家庭相關之服務工作。

四、接軌國際，拓展國外認養服務：延續國外認養方案，結合家扶國際聯盟，參與國際服務。

五、成立智庫，研發及出版：運用智庫有計畫研究、倡議及出版相關叢書。

六、人力資源的管訓及運用：有計畫的培訓人才，建立人力資源資料庫，並持續發展整合志工團隊，在各地提供及時的幫助，就近服務兒童。

七、持續「深耕、品質、創新、延伸」：因應環境及社會變遷，結合人文關懷與生態環保，繼續開創多元之服務方案，將關懷延伸至社會每個需要的角落，讓家扶的愛與時俱進、永續發展。

社團永續發展獎

中華救助總會

實績介紹：

中華救助總會歷經60年的蛻變，不斷的努力向前、創新發展，以實現「關懷、救助、服務」使命，傳送社會福利專業服務。

藉由與政府部門、學術界以及非營利組織等夥伴關係的建立，以推動兩岸婚姻的健全發展、以及兩岸社會福利服務的專業永續等工作。

一、在台大陸配偶服務－健全兩岸婚姻，幸福家庭永續

根據內政部入出國及移民署統計，截至98年8月底止，大陸配偶來台依親定居已達28

兩岸社會福利學術研討會。

多元包容，協助新移民適應台灣社會。

萬1,845人。為協助這群新移民早日適應台灣社會，建立幸福家庭，該會自民國88年起，持續辦理法令說明會、生活成長營、親職講座、急難救助與電話諮詢服務等，並成立大陸配偶志願服務團，提高她/他們社會參與機會。由於其用心關懷和積極協助，大陸配偶已把中華救助總會當成她／他們在台灣的「娘家」。

二、兩岸社會福利交流－促進兩岸社會福利服務，健全永續

為促進兩岸社會福利及慈善事業之健全發展，自民國91年結合台灣、大陸、香港及澳門等地學者專家，持續辦理「兩岸社會福利學術研討會」，及相關機構參訪交流，已達多項預期目標：

（一）搭建兩岸社會福利交流平台，帶動相關機構建立更多連結及合作。

（二）推廣非營利組織專業治理與永續關懷弱勢族群理念。

（三）行銷台灣之美：透過交流參訪，讓大陸來台人士體驗台灣的自由氛圍、民主機制，行銷台灣之美。

願景藍圖：

一、尊重差異，多元包容：尊重客群的文化差異與多元特質，協助服務對象自我認同與發展。

二、推廣交流，促進合作：建立夥伴關係，促進合作，共同提升。

三、專業活力，追求卓越：提升專業，強化核心能力。

四、創新服務，永續發展：時時檢視，改革創新，提供與時俱進之服務，再創組織的社會價值，為永續培力。

建立合作機制，健全兩岸婚姻。

兩岸學者著作聯展。

社團永續發展獎

社團法人台灣護理學會

實績介紹：

台灣護理學會為一全國性護理學術專業團體，以發展護理專業、促進護理學術研究、提高護理教育水準、增進全民健康及提昇國際地位為宗旨。歷年來會員人數穩定成長，至今已有近七萬名會員。隨著會員人數增長及醫療科技日新月異，本會每年辦理百場研習活動，民國99年起更開放會員免費參加，力求嘉惠國內護理人員。

落實環保永續發展

秉持永續發展理念，自96年9月起正式啟用會務資訊化系統，護理人員可登入該會網站查詢及更新個人基本資料、辦理入會、報名研習活動、閱覽發行之三本專業期刊，以及研習活動訊息全面採E-mail方式寄發，節省傳真及印製期刊所需紙張及碳粉，澈底落實節能減碳及無紙化之環保政策。

開啟數位學習時代

97年11月建置專屬於護理人員的繼續教育數位學習平台，提供三班輪值及離島或偏遠地區護理人員參與繼續教育的機會，節省護理人員參加研習活動往返交通時間，迄今已超過6萬人次完成課程。此外，藉由該會提供一套標準化的共通性（包括基礎及進階）課程，減少重複訓練資源的投入，有效整合醫療護理教育的資源，創造雙贏模式。

台灣護理學會資訊系統。

提昇全民健康照護品質

參與國際護理協會（ICN）國際性研究計畫：96年「動員台灣護理人員促進都市少女健康計畫」，經由研發策略促進都市女孩健康；99年「質優職場．優質照護行動專案計畫」，預期經由正向執業環境的顯著改善，達到提昇照護品質、維護病人安全及促進民眾健康之最高目標。

願景藍圖：

一、 國際／社會關懷：持續關注國際社會及弱勢族群之需求，進行國際醫療人道救援，培訓友邦及弱勢國家護理人員，以提昇國際整體照護品質；發展災難護理領域，建立災害資料知識庫、儲備志工招募人才、培養及教育災難救護之護理專業知識，並與政府部門相互連結提供救援機制，提昇護理人員因應災變之知能。

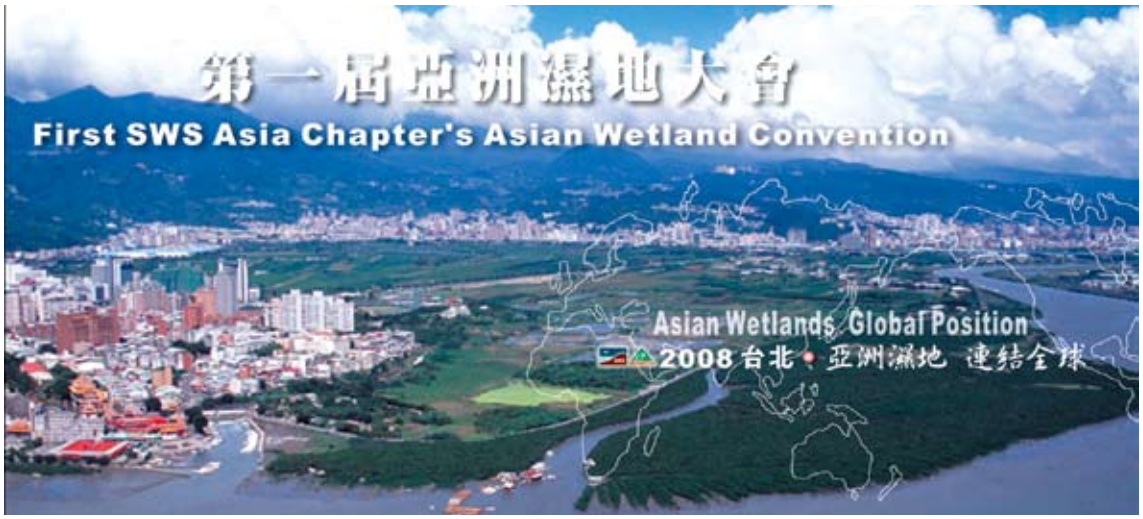
二、 專業提昇及認證：持續辦理急診加護、精神衛生、手術全期、手術專責、兒科急重症、腫瘤、腫瘤個案管理、社區衛生等護理師認證，及社區基層精神衛生護理能力鑑定考試；擴大護理研習活動辦理場次及參與人數，並適時向政府機關申請研究計畫，促進護理學術研究與發展。

三、 護理參政：強化護理人員對醫療照護相關政策之影響力，提昇照護品質及全國人民健康。

四、 夥伴關係：與各健康照護相關專業團體結盟合作，並與相關政府單位積極互動，提昇工作環境品質及全民醫療照護。

永續發展行動計畫執行績優獎

內政部營建署城鄉發展分署



第一屆亞洲濕地大會大型看板。

實績介紹：

為落實推動本土生物多樣性工作，內政部營建署城鄉發展分署依照國家永續發展委員會生物多樣性分組指定，辦理劃定「國家重要濕地」作業，首創以整體「國土規劃」及「區域計畫」的立場，在「濕地」尚無法令位階下，首次透過由下而上的公開推薦，及濕地DNA指標系統評選的方式，完成「國家重要濕地分布圖」。

民國96年12月19～20日「全國公園綠地會議」中舉辦75處國家重要濕地授證儀式及宣讀「台灣濕地保育宣言」；次年啟動「2008臺灣濕地年」系列活動，包括辦理臺灣濕地保育系列論壇、舉辦「第一屆亞洲濕地大會」、建置「國家重要濕地」網站、舉辦濕地生態導覽、影像徵選活動、編撰相關出版品、配合相關活動整合行銷等7項活動。其中最重要莫屬與國際濕地科學家學會合作，共同舉辦「第一屆亞洲濕地大會」，並於98年6月獲國際濕地科學家學會頒贈榮譽獎項，表彰我國舉辦亞洲濕地大會的卓越貢獻。

98年內政部營建署城鄉發展分署首次補助縣市政府、社區、學術團體辦理國家重要濕地生態調查巡守、濕地監測及相關生態復育工作，並針對濕地進行長期性研究規劃與資訊整合，以「明智利用」為策略，建立國家重要濕地保育、復育與經營管理機制，促進臺灣地區濕地之永續發展。

從辦理濕地推薦評選、爭議濕地會勘、全國公園綠地會議、第一屆亞洲濕地大會，至98年補助18縣（市）23處濕地後的社區巡守及僱工購料等，累計已達5,000人次參與。

在完成「重要濕地分布圖」行動計畫後，將以目前75處國家重要濕地為基礎，經套疊鳥類、哺乳類、兩棲類、爬蟲類等生態分布熱點後，再藉由串連海岸河川湖泊，與連接中央山脈保育軸，以建構我國濕地生態網絡。並將結合社區、學術機構和NGO，共同推動濕地復育、維護管理、監測評估、生態導覽及教育解說等活動，建立我國志工人力系統。

將持續與國際濕地科學家學會進行交流、簽署合作備忘MOU，以強化濕地保育國際交流，吸收國外寶貴經驗，展現台灣經驗與價值。積極爭取台灣參與國際組織與會議之機會，善盡國際社會責任。

「國家重要濕地保育計畫」後續推動之重要方向如下：

（一）推動濕地保育與明智利用

（二）建構整體濕地生態網絡

（三）建構濕地永續管理法令體系

（四）整合提升濕地科學

（五）強化濕地保育國際交流

濕地網路系統示意圖。

國際濕地科學家學會頒贈榮譽獎項。

頒贈國家重要溼地保育榮譽顧問證書。

永續發展行動計畫執行績優獎

行政院環境保護署溫室氣體減量管理辦公室

實績介紹：

為因應全球暖化及氣候變遷等國際議題，環保署自民國93年起即積極推動各項溫室氣體盤查及自願減量等相關事宜，並已分別建立盤查、查證及登錄相關能力，簡述如下：

一、盤查制度：自93年起推動，於三年內推動30家試行盤查作業，並完成盤查標準作業程序、表單、技術手冊等配套措施，97年更擴大推動盤查試行作業至住商及運輸部門，累計至今已協助95家廠商完成盤查作業。

二、查證制度：於96年起推動，已完成7家業者及兩協會之查證試行作業，並於98

國家登錄平台啟用說明會。

年完成管理查驗機構作業原則，培訓150名以上之查驗人員。

三、登錄平台：96年7月建立國家溫室氣體登錄平台，正式推動工業及能源產業試行登錄溫室氣體盤查資料作業，目前已完成經濟部工業局、能源局等部會登錄系統整合作業，除了將3萬多家空污固定污染源列管資訊納入，亦已累計151家廠商提報溫室氣體清冊資訊，約掌握工業及能源部門燃料燃燒排放量達68.50%。

前揭國家溫室氣體登錄平台主要區分產業、管理部門及查驗三大專區，功能包括資訊公告、盤查登錄、盤查成果揭露、減量技術資訊查詢與下載、產業互動與交流等，除可提供業者上傳排放量資料外，亦能提供國內外溫室氣體最新資訊、減量技術及展示我國業者努力成果，有助於各界了解政府溫室管理最新進展。

針對我國溫室氣體減量工作，環保署除推動溫室氣體減量法立法外，亦將持續推動各項能力建制與宣導工作，針對國家溫室氣體登錄平台部分，將優先建立查驗作業管理、先期專案及抵換專案管理子系統，並推動與該署空水廢毒許可管理系統及空氣固定污染源資料庫之資訊整合作業，朝簡化業者申報作業程序，及提升政府機關行政效率之電子化政府方向邁進，未來將再積極強化碳足跡及抵換交易平台設計，俾成為我國功能完整的產業登錄溫室氣體盤查與減量資訊系統。

執行產業盤查試行作業。

2009永續發展國際論壇

永續會蔡勳雄執行長於國際論壇主持及致詞。

由行政院國家永續發展委員會（以下簡稱永續會）主辦的「2009永續發展國際論壇」於98年6月9日至10日於台北舉行，本次論壇特邀請聯合國和平大使、世界知名保育專家珍古德博士及永續會陳曼麗委員擔任專題演講，並邀請德國、日本永續會代表、永續會委員等，發表國家別永續發展策略；另亦邀請美國波特蘭市、馬來西亞及台北市永續會代表，介紹其永續城市推動成效與經驗。

珍古德：期許全球的人都能在當地永續發展

珍古德博士於演講中闡述了她個人對於永續發展的期許：「…要全球能夠朝向永續發展的要件，第一是要能夠改善窮人的生活環境，第二是讓富人接受新的價值觀，第三是讓全世界的人都能在他們自己生存的環境裡和諧共存，使人類的生長活動，都能在當地永續發展…」

她呼籲民眾正視目前全球許多國家仍陷於貧窮與饑餓的問題，有幸地，人有智慧和科技來克服一切困難，而受創的大自然也有能力自行復原，希望人類多想想，自己只是廣大世界裡，人群裡的一份子而已，假若每個人都能多思考，並從自身改變生活及消費習慣，所凝聚的效果將會很可觀，並足以改變我們生存的環境，使地球變得更好。

陳曼麗：任何政策都應有婦女的參與

永續會陳曼麗委員亦以「永續，提升人類的高度」為題發表演講，她從全球化的危機中，強調「全球化思考，草根性行動」是台灣努力擴展永續的基因，到各個角落紮根。

陳委員指出，婦女占人口的一半，任何政策都應有婦女的參與；女性是很好的生活者，也是很好的溝通者和決策者。只

德國環境與發展NGO論壇主席 Jurgen Maier與永續會蔣本基委員（右）。

要給女性機會，女性會努力表現自己的長處，貢獻社會。在永續發展議題，女性積極發表自己的見解，並希望納入決策；如2009年8月於新加坡舉行的APAC會議中即有女性和永續發展的論壇，可見女性意見受到極大重視。

Jurgen Maier：我們真正需要的是質化的成長

德國環境與發展NGO論壇主席 Jurgen Maier於演講中提到德國政府及民間近年在朝向永續發展上的努力與成果，他與珍古德博士同樣強調人類抑制消費的重要性。他指出，我們應該超越舊有的成長定義，量化的成長是沒有意義的，我們真正需要的是質化的成長。

Jurgen Maier指出，一般用來衡量經濟成長的指標是國民生產總值（GNP），而長久以來，GNP的成長與能源和原料資源的消費量成長大致相等。以同樣邏輯思考，可再生能源對GNP是不利的，因為風力和陽光是免費的。此例顯示，以GNP當作衡量生活的指標存在著謬誤。

他最後強調，「遲早我們都必須使經濟更具永續性，且我們現在必須更快的去處理這項議題，那些仍然執迷於過去的國家，將會成為這個世紀的輸家，他們將必須向國外購買永續發展的技術，並為解決挑戰而付出比其他國家更高的轉變成本。」

分享各國推動永續經驗 注入多元聲音

再次造訪我國的日本永續發展評議會秘書長黑坂三和子，以「日本永續發展策略與現況」為題發表演講。為使國際人士更了解我國在永續發展工作上的推動成果，永續會蔣本基委員與台北市永續發展委員會魏國彥副執行長，則分別以「中華民國永續發展策略與現況」、「永續城市—台北」為題發表演講。

美國波特蘭市永續委員會主席Dr. Robert Wise與馬來西亞國立大學環境與發展學院首席研究員Dr. Halimaton Saadiah Hashim，也於會中介紹美國波特蘭市及馬來西亞的永續城市發展現況，以促進交流。

該論壇共有來自政府機關、各縣市政府永續會代表及民間團體等300人與會，會中針對各國推動永續發展進行經驗交流，提供各級政府及國人的參考。另本次並邀請國內小學至大學的學生，發表其永續發展感言，以表達世代傳承之精神。由原住民青少年組成的樟樹國中鼓隊，於開幕式中，展現台灣多樣性文化與活力，為整個永續發展論壇，注入更多年輕人的聲音。

本論壇之舉辦獲得各界熱烈迴響，主辦單位已於會後將相關會議資料及論壇之現場實錄置於永續會網站（http://sta.epa.gov.tw/NSDN/），歡迎各界上網參閱。

永續會民間委員專訪

從一條河說起—推動永續 需要決心與執行

余範英委員（余紀忠文教基金會董事長）

20年前，中時報系大樓鄰近淡水河，同仁在舟車往返中，對於河水的髒、臭感同身受；當時即體認到永續發展與環境的重要性，常藉著媒體與政府對話、交流，使環保成為全民關心的切身議題。從調查採訪的角度切入，記錄河川的污染樣貌，邀集相關學者於1990年成立「河川保護小組」，舉辦河川保護的學術研討會，開始關心河川保育。

因應1992年聯合國21世紀議程（AGENDA 21），行政院成立國家永續發展委員會，除了官員層級不斷拉高至院長身兼主委，其間亦完成許多重要的規劃及推動各工作分組行動計畫，延伸國際益見熾熱的永續理念在台灣深植。

多年的經驗告訴我，環境影響評估，在推動永續發展裡格外重要。一個開發案是否以環境為優先考量，考量其未來對環境的衝擊，擺脫複雜利益糾葛，平衡環境與經濟，在在都攸關全民世代生計。在永續會提出討論的重大議案，涉及層面甚廣，包括產業政策、農業發展、交通規劃、生態旅遊等，實應以政策環評來檢視政策是否符合永續國土規劃指標。

這幾年的風災水害，讓國人體悟國土保育的重要及復育的迫在眉睫，國土規劃法需儘快通過，山、林、水、土等資源的規劃與整合，從政府到民間都要落實。在新政府的組織轉型過程中，面對破壞的山河，最亟需的是：「決心」和「執行」。

擔任多屆的永續會委員，深感台灣的發展偏重經濟，經建會擔負經濟發展並有執行權，但永續會既無實權，遑論推動。

關於永續會的持續與整合，建議應再加強，結合委員在不同領域的專業，提昇跨部會溝通協調機制。期許未來的環境資源部，能妥善整合「環境」與「資源」，為台灣人民，為下一代子孫構織美好前景。

正視氣候異變 及早應變與自救

林俊興委員（祐生研究基金會董事長）

09年莫拉克颱風導致台灣重大災情，我們應從氣候變遷觀點來審視災害。迄今全球尚未有適用的模型來解釋氣候變遷，IPCC的專家學者侷限於氣象領域、解釋版本分歧，得到的結論薄弱，僅歸咎CO_2是各界共識；且台灣在IPCC未受到應有的關注，學術界與民間團體不應太依賴IPCC說法，我們應自行解讀在國內所發

生的異變現象，以預測未來可能的動向，提早預防，以圖自救。

自災後在永續會工作會議裡，永續會委員即不斷提醒及建議政府應從八八水災的災難型態來整體反饋檢討，尤應嚴正審視台灣夏季的災變類型。民國98年夏季異常高溫，颱風從赤道產生，但氣旋動能減弱，加上中央山脈阻隔，氣流原地盤旋，挾帶龐大雨量，使莫拉克重創南台灣。

此外，極端氣候也反映在熱帶疫病的地理分布上，像近年台灣夏季登革熱的疫區呈北移趨勢，這類熱帶疫病的擴大現象，亦值得注意及提早因應。

從98年下半年起修訂的國家永續發展策略綱領（草案），已包含「災害防救」的面向，並討論「生態系異常之減災策略」、「疫病災害之防救措施」、「提升颱洪乾旱預警能力」、「健全土石流災害之減災策略」及「地層下陷災害因應對策」等因應措施，期望可以發揮防患功能。

在委員任期內，個人特別對於「生物多樣性」與「健康與福祉」兩組的議題格外關注，若能有效緩解生態異常，則未來令人擔憂的熱帶疫病溫帶化、糧荒等問題，或可及時改善保全人口。

擔任委員八年，對於永續會近年的嬗變及努力予以肯定，民間委員擔任監督政策的角色，而各工作分組接受建議予以落實。即便政務首長因政權丕變而異動，但在行動計畫的要求，與嚴密的管考機制把關下，其運作尚能暢行無礙，效能立竿見影。

在民主社會，執行政策的事務官才是穩固政府機制的基石。透過多年來與相關部會對話和互動的過程，發現國內文官素養相當高，多數抱持積極配合的學習心態，在向學界、民間請益時，更是從善如流。坦言之，期許各界對官員的努力予以鼓勵，永續委員也會不負所託，持續為全民福祉發聲、建言。

永續為百年大計 政策定位應更長遠

李玲玲委員（台灣大學生態學暨演化生物學研究所教授）

永續會設置是依據環境基本法29條，其任務是「負責國家永續發展相關業務之決策，並交由部會執行」；惟經多方考量，目前永續會仍被定位為協調及諮詢，而非決策。然永續委員的組成包括部會、專家學者與民間團體代表，因此永續會仍提供了一個官方與民間對話交流的平台，彼此針對永續的議題從不同角度提出各種看法討論，協助各部會在推動工作上彼此整合，並進而與國際接軌。

然而永續發展政策應有深思熟慮的長期規劃，且應超越黨派、針對國家整體的長遠發展訂定，不應受選舉或政黨輪替而影響其延續性。永續發展政策的形成需要從

環境、社會與經濟等多方面思考，也需要參考各種權益關係者的意見。許多先進國家在規劃永續發展政策時，往往會分析未來五十年、甚至一百年全球發展的趨勢，以及在此趨勢下自己的優劣勢與各種的限制和機會，以訂定發展的願景、目標與策略。並且在政策形成的過程中，經常會提供非常多的機會讓各類權益關係者代表充分參與表達意見，以便形成共識。這樣的過程或許費時耗力，然而一旦共識形成、政策確立，政策的推動就比較不會受到政黨輪替與人事異動的影響，也較能夠為民眾所支持。

我國的永續發展政策若有類似的長遠規劃，訂定明確的長期目標、政策主軸及相關工作的期程，則政府各部門推動工作的方向就能有更清楚的依循。目前永續會正協助修訂的永續發展政策綱領，就是期許未來能在行政院體系下，依據綱領研訂及確認永續會各工作分組的策略與行動計畫，繼而確立各部會需負責執行的工作項目，使重要的工作能延續及落實。

以生物多樣性分組為例，民國90年行政院通過「生物多樣性推動方案」，要求各部會依規劃分工及落實方案的內容。由於方案的內容相當多，永續會又挑選其中較為優先的工作項目納入行動計畫，並依照各項工作的目標與期程，持續追蹤其執行成效，定期作滾動式地檢討。97年起，生物多樣性分組更與國際接軌，針對生物多樣性公約推動2010目標下的七大關鍵領域，檢討更新行動計畫內的工作項目，以使我國生物多樣性的工作成果能符合國際公約的目標。經過這些年的努力，我們欣然發現，許多部會已體認如何將本身業務與生物多樣性密切結合，以落實行動計畫，並有顯著成果。

例如：過去未受到重視，也無專門法規可循的濕地保育，在生物多樣性行動計畫要求內政部主辦「完成重要濕地與珊瑚礁區域分佈圖」的工作項目後，內政部市鄉規劃局（後改制為城鄉發展分署）從國土規劃的角度辦理國家重要溼地評選，廣納政府與民間意見，達成第一階段75處國家重要溼地的指定，並逐步規劃重要溼地後續的調查與維護管理，其積極態度也獲得國家永續發展獎的肯定。

此外，在國科會、林務局及中研院等單位的積極推動下，中研院生物多樣性中心建構「台灣生物多樣性資訊網」，做為匯集我國生物物種最新資料的官方網站，供各界查詢；同時也在該資訊網的架構下，整合了農林漁牧等試驗研究單位的種原資料庫，掌握我國在各類種原保存的現況。其他如植群圖的製作、原住民族生物學誌的出版、外來入侵種防治架構的建立與防除工作的執行、政府與民間夥伴關係的建立等，都是生物多樣性分組的重要成果。民國99年正值國際生物多樣性年，各部會已經陸續展開生物多樣性的相關活動，生物多樣性分組將從5月22日國際生物多樣性日起在台北植物園舉辦「生物多樣性工作成果展」，以讓各部會、縣市政府、民間團體與民眾分享生物多樣性的工作成果。

惟目前永續會許多分組的行動計畫並未更新，以往的追蹤研考機制已回歸到部會自行研考，而缺乏跨部會的協調與整合，再加上民間委員的任期僅一年，太頻繁的更動，可能讓一些委員無法充分發揮其功能，這些狀況都有改進的空間。最重要的

是，期許永續會能在協助政府訂定永續發展願景、目標、策略、計畫，與追蹤評量永續發展的成效上發揮更大的功能，使政府施政方向及成效更符合永續發展的目標，使國家社會與全民都能受惠。

面對氣候變遷 不只節能減碳 更需因應與調適

蔣本基委員（台灣大學環境工程學研究所教授）

永續會的前身，最早始於民國81年成立跨部會的「行政院對外工作會報全球環境變遷工作小組」，接著83年擴編為「行政院全球環境變遷政策指導小組」，其宗旨是呼應國際的環保相關公約及推動國內的永續工作。這些年，因執政當局的重視及因應國際潮流所趨，不斷地提昇永續會主委的位階，從最早由政務委員擔任，到目前由行政院長擔任主委。

永續的議題廣泛且影響深遠，民國89年修正永續會設置要點，除擴大委員代表性，並首度納入企業及民間團體代表，以廣諮社會各界意見，作為該會各工作分組推動政策的重要參考。新政府並於民國98年完成「永續發展政策綱領」之編撰，訂定推動永續發展的願景為：期許當代及未來世代都能享有「寧適多樣的環境生態」、「活力開放的繁榮經濟」及「安全和諧的福祉社會」。

「永續發展政策綱領」在執行策略措施，即以兼顧環境與經濟發展均衡概念之生態工業區（EIP），做為推動「節能減碳」及「綠色產業」之示範計畫，強調將工業園區生態化，建立綠色產業供應鏈，使園區內的產業成一自給自足的共生體系，以降低環境成本與污染。

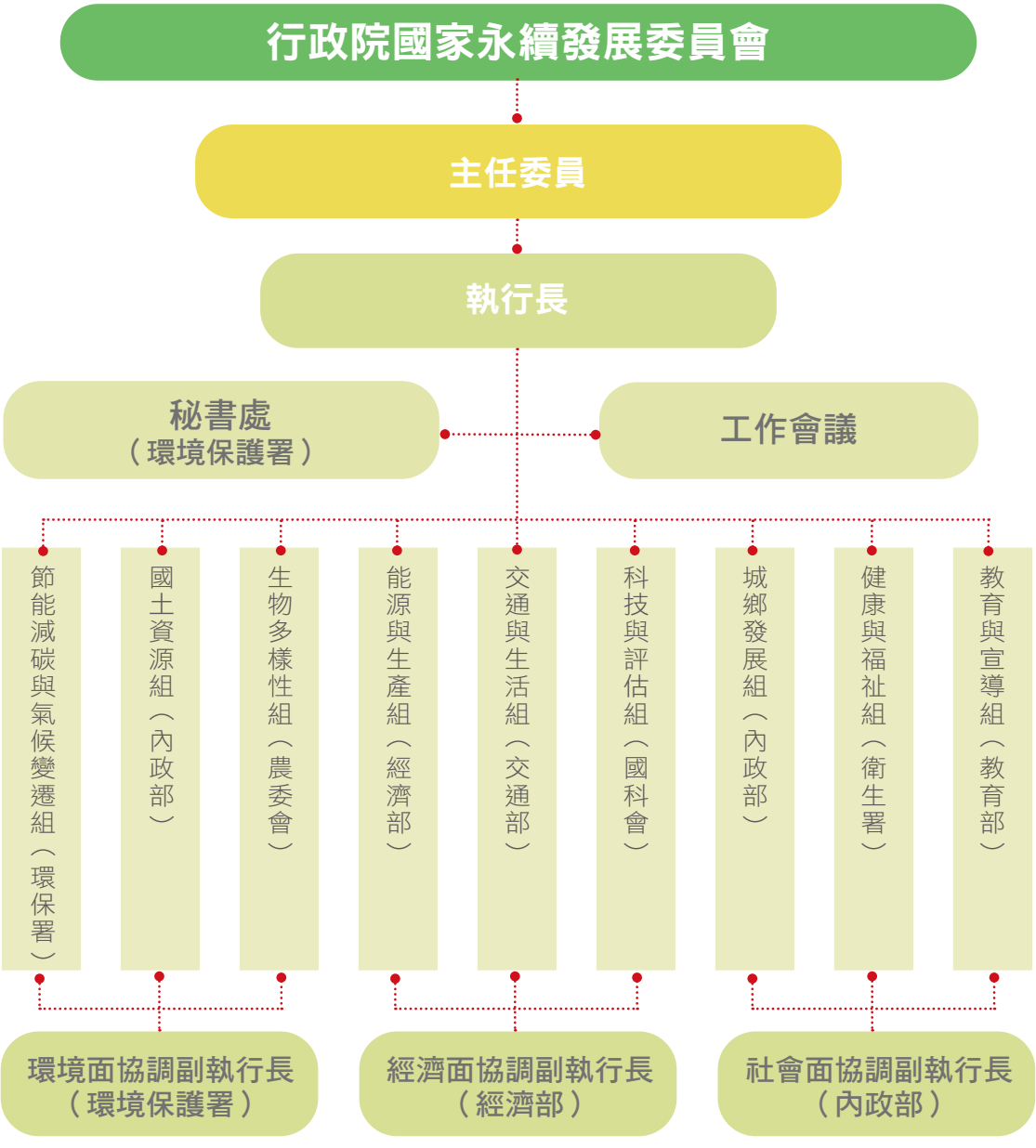
面對氣候驟變造成的天災，當前的永續發展工作，考量近年極端氣候對人類生活的重大衝擊，以莫拉克颱風為例，多位相關學者提出的檢討報告裡，即建議88水災後的重點工作應包括六大構面：環境監測與控制、災情控制與評估、災區復育與規劃、災民關懷與輔導、資訊建置與評估。此外，政策上，不僅要推動節能減碳，同時要因應及調適，如：結合產官學、環保團體、社區大學等各界力量共同推動低碳社區，結合社區營造、清淨家園的觀念，期共同建置一完整的低碳生活圈，才是更進一步的落實。

未來環境資源部成立後，將朝向整合式流域管理，以流域為單元，整體規劃水資源利用、水質保護、治山防洪、海岸防護與國土復育等工作；建構一縣市一生態親水河川，我們建議五大項河川評鑑指標，包括：水質清淨程度，流域生態環境，水岸環境活化、資源化，政府行政管理及民間投入參與；具體目標是讓九大河川不發臭，其包括：淡水河、南崁溪、老街溪、濁水溪、新虎尾溪、鹽水溪、急水溪、二仁溪及愛河。

附錄

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委員名單

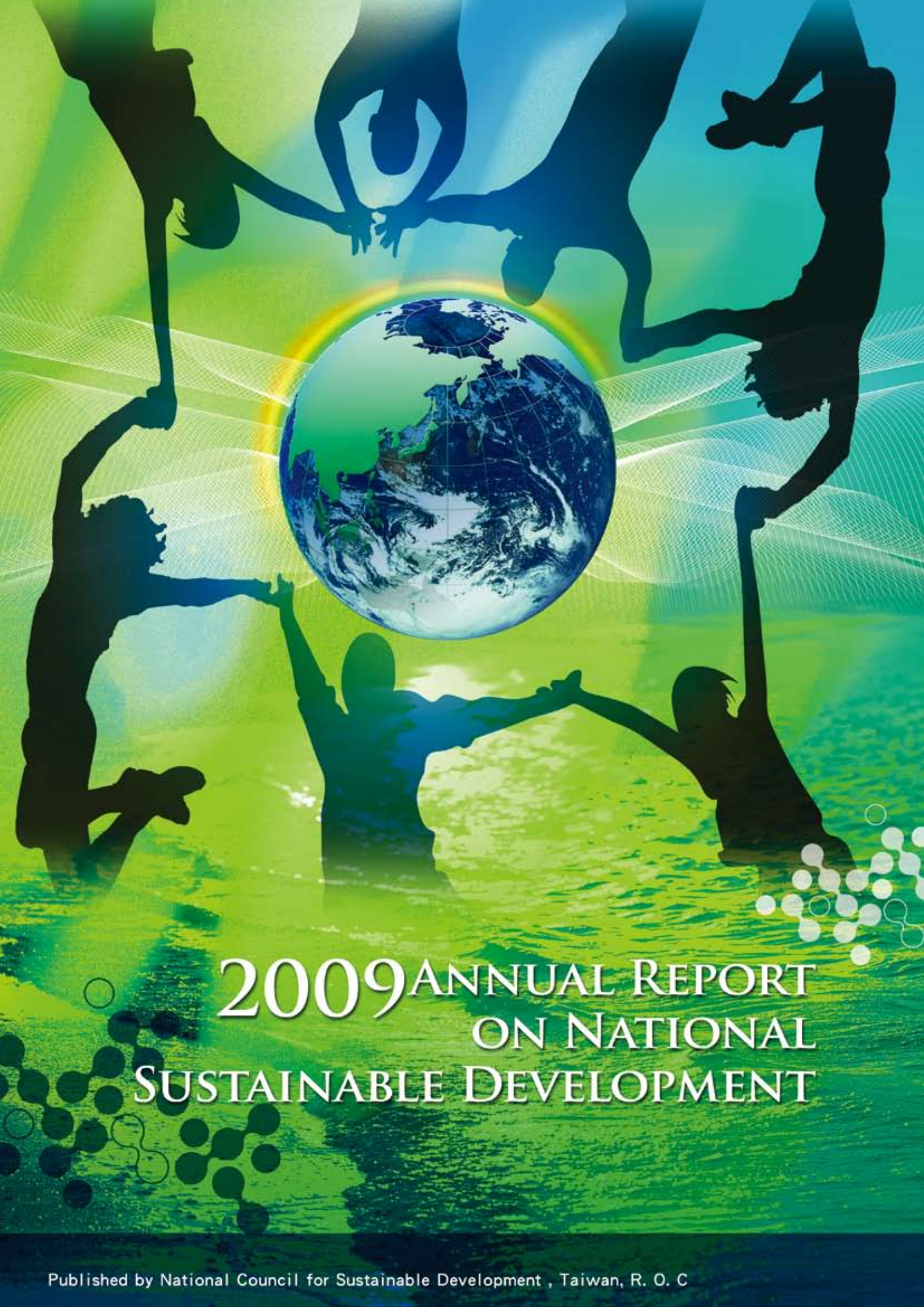
政府官員

姓名	職稱	姓名	職稱
吳主任委員 敦義	行政院　院長	毛委員 治國	交通部　部長
蔡委員兼執行長 勳雄	政務委員、經濟建設委員會主任委員	陳委員 武雄	農委會　主任委員
		李委員 羅權	國科會　主任委員
江委員 宜樺	內政部　部長	楊委員 志良	衛生署　署長
吳委員 清基	教育部　部長	沈委員 世宏	環保署　署長
施委員 顏祥	經濟部　部長		

非政府機關委員

專家學者	
姓名	職稱
李玲玲	台灣大學生命科學院生態學與演化生物學研究所　教授
邵廣昭	中央研究院生物多樣性研究中心研究員
陸曉筠	國立中山大學海洋環境及工程學系　助理教授
張怡怡	台北醫學大學生化學科系教授
張四立	國立台北大學自然資源與環境管理研究所　教授
陳宏宇	台灣大學地質科學系　教授
黃宗煌	開南大學觀光運輸學院　院長
廖惠珠	淡江大學經濟系教授
蔣本基	國立台灣大學環境工程學研究所教授
蕭代基	中華經濟研究院　院長

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
林耀國	中華民國荒野保護協會理事長
周聖心	千里步道籌畫中心　執行長
周春娣	財團法人環保媽媽環境保護基金會　創辦人及董事長
陳麗紅	中華民國都市計劃學會　理事
陳士章	台灣原住民族人文關懷協會理事長
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　理事長
謝長富	台灣生物多樣性保育學會理事長



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Preface

On 23 August 1997, the National Council for Sustainable Development (NCSD) was established by the Executive Yuan (EY) to strengthen Taiwan's environmental protection, enhance social justice, promote economic development, maintain national resources, construct a healthy and sustainable homeland and pursue national sustainable development. The president promulgated the "Basic Environment Act" in December 2002, through which Article 29 of the Act granted legal status to the NCSD. The Council consisted of members from the government, academia and NGOs. At that time, the Premier of the EY jointly-held the NCSD's position as chairman, while secretarial work were executed by the Environmental Protection Administration (EPA). Besides evaluating issues related to sustainable development, the NCSD completed important documents such as "Sustainable Development Policy Guidelines", "Sustainable Development Action Plan", "Sustainable Development Declaration of Taiwan", "Taiwan Agenda 21" and "Sustainable Development Indicators".

This year's annual report compiles the significant achievements made by public, private and civil sectors toward sustainable development in 2009. Topics covered in this edition include Important Affairs of the NCSD (Chapter 1); NCSD Working Group Achievements (Chapter 2); Sustainable Development Indicators (Chapter 3); National Sustainable Development Award Recipients (Chapter 4); 2009 International Forum on Sustainable Development (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.

Important Affairs of the NCSD

1.1 Working Meetings

1. 21 April 2009 – 26th Working Meeting
2. 8 May 2009 – 27th Working Meeting
3. 23 June 2009 – 28th Working Meeting
4. 31 December 2009 – 29th Working Meeting

1.2 NCSD Mode of Operations

Operating model

Policy guidelines → **Develop cross-ministerial and ministerial action plans and programs** → **Evaluate performance** → **Promotion work**

Revise policy guidelines | Revise action plans

State of execution

Formulate Sustainable Development Policy Guidelines

Key components
1. President's views, and Premier's directive
2. Announce annual indicator results and review
3. International trends and major issues
4. NCSD Working Meetings and regional forums
5. National symposiums on technology, energy, and the environment
6. Consensus meetings between agencies
7. Public opinion of NCSD's activities and Web sites

Related ministries or NCSD working groups develop Action Plans or Promotion Programs

Processes
1. Review by 9 NCSD working groups
2. Discussion by 3 NCSD working groups
3. Discussion in NCSD Working Meetings
4. Decision-making in NCSD Assembly

Calculate, announce and review sustainability indicators

Revise indicators
1. Refer to UN's third sustainable development indicator system
2. Use existing indicators as models to build on
3. Reflect policy guidelines and action plans

Review indicators
1. Announce annual achievements
2. Review political views, policy implementation
3. Adjust future action plans, policy guidelines and policies of ministries

Promote the following affairs :
1. Sustainable Development Awards
2. International forums
3. Publish annual report
4. Set up Web site and update

Operating principles
1. Encourage citizen action in sustainable development
2. Stay abreast of international trends
3. Information transparency

The Assembly Committee Meeting was held in the Executive Yuan

1.3 Important Achievements

Here are some of the important achievements of the NCSD in 2009 :

(1) Compilation of the Sustainable Development Policy Guidelines

The Sustainable Development Policy Guidelines were drawn up by the NCSD based on Agenda 21: Taiwan Sustainable Development Strategic Guidelines. Relevant agencies were convened at four regional forums in northern, central, southern and eastern Taiwan to draw up preliminary drafts including a broad range of views. The draft Guidelines were further discussed at the 27th and 28th NCSD working meetings. An editing committee was then assembled from non-government members of the NCSD to review and revise the draft, which was completed in late August 2009.

The Sustainable Development Policy Guidelines includes an overall vision, basic principles, concepts and focal policies. The focal policies cover four dimensions, which are elaborated in 22 themes (listed below). Each theme is further detailed with issues, objectives and strategies.

- **sustainable environment:** atmosphere, water, land, oceans, biodiversity, and environmental management
- **sustainable society:** population and health, residential environments, social welfare, cultural diversity, and disaster prevention
- **sustainable economy:** economic development, industry development, transportation development, sustainable energy, and resource reuse
- **implementation mechanisms:** education, technology research and development, information-based society, civic participation, government restructuring, and international cooperation

(2) Selection of sustainable development issues relating to presidential campaign views for inclusion in the Sustainable Development Action Plan

During the December 25th NCSD Working Meeting, the Council reviewed and selected 41 topics from the "Follow-up List for Implementing Ma Ying-jeou's Presidential Campaign Views" compiled by the Research, Development and Evaluation Commission, Executive Yuan. These topics were included in the NCSD's Sustainable Development Action Plan to put into effect the president's political views on sustainable development. A total of 167 concrete tasks are now

listed since the inclusion of the president's views in the NCSD Action Plans.

(3) Evaluation of performance in promoting sustainable development in 2008

The NCSD held a briefing on the 2008 Sustainable Development Indicators on 17 July 2009 to publicly announce the government's performance in promoting sustainable development in 2008 according to the indicator system. Over a dozen media groups sent reporters to the briefing. Comparing the results of the 41 indicators against the previous year (2007), progress was made in 27 indicators (66%), while headway was lost in 11 indicators (27%) and scores remained the same in 3 indicators (7%). Much attention from all circles has recently focused on the carbon dioxide emissions indicator showing a 4.4% overall reduction, equivalent to a 4.7% per capita decrease in emissions (for details on the 2008 Sustainability Indicator calculation results, please see Chapter 3).

(4) Completion of Taiwan's new Sustainable Development Indicator System

During the 25th NCSD Working Meeting in December 2008 it was resolved to develop a new sustainable development indicator system based on the UN's October 2007 announcement of its third sustainable development indicator system framework. This new system draws on related indicators in international sustainable development circles as well as indicators used by advanced nations. The new system was created to replace the existing system, which was based on the UN's first indicator system framework announced in 1996. This will put Taiwan in step with the latest international trends.

Following widespread discussion of the draft second Sustainable Development Indicator System in four agency coordination meetings and four regional forums in northern, central, southern and eastern Taiwan, the draft was approved in the 29th NCSD Working Meeting on 31 December 2009. The new version specifies 99 indicators categorized under 41 themes in 12 dimensions. The NCSD will use this new indicator system to evaluate Taiwan's yearly performance in sustainable development starting in the year 2010. Details on the new sustainable indicator system are highlighted in Chapter 3.

(5) The 2009 National Sustainable Development Awards Selection and Awarding Ceremony

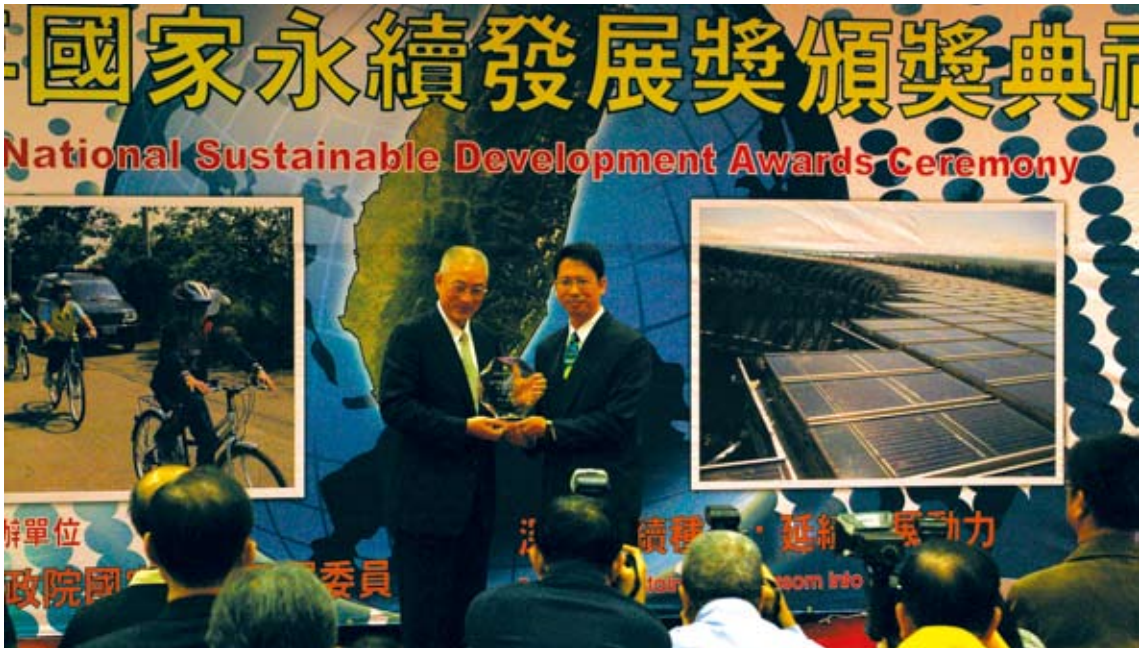
The National Sustainable Development Awards have been held since 2004. The 2009 National Sustainable Development Awards were chosen in a three-staged process including a paper review, an on-site inspection by council members, and a selection process with a total of 11 award recipients in the categories of education, business, civil organizations, and government action plan implementation. The awarding ceremony was held on 7 December 2009 at the Executive Yuan with Premier Wu Den-yih present to confer awards in person. For more information on the National Sustainable Development Awards recipients, please see Chapter 4.

2009 National Sustainable Development Award Recipients

Award	Recipient
Sustainable School Award	Chungshan High School, Kaohsiung County Neijiao Elementary School, Tainan County Neiding Elementary School, Chungli City, Taoyuan County
Sustainable Enterprise Award	Chunghwa Telecom Taiwan Corning Inc. CVC Technologies, Inc
Sustainable NGO Award	Taiwan Fund for Children and Families Chinese Association for Relief and Ensuing Services Taiwan Nurses Association
Execution of Sustainable Development Action Plan Award	Urban and Rural Development Branch, Construction and Planning Agency, Ministry of the Interior - Wetland Conservation Plan Greenhouse Gas Reduction Management Office, EPA, Executive Yuan - The Establishment of National Greenhouse Gas Registry System

(6) The 2009 International Forum on Sustainable Development

The NCSD held the 2009 International Forum on Sustainable Development on 9 June 2009 at the National Library, inviting experts and members of sustainable development agencies in other countries including the US, Japan, Germany, Britain and Malaysia to introduce the status of sustainable development in their own



Premier Wu presents the Sustainable Enterprise Award

countries and share experience with NCSD members and other attendees. UN Peace Ambassador and world-renowned conservationist Dr. Jane Goodall was invited to give a keynote speech and engage in a diverse exchange of views with those present at the forum. For more details on this forum, please see Chapter 5.

(7) Review of the National Land Security and Restoration Plan

The Council for Economic Planning and Development, Executive Yuan, compiled the draft National Land Security and Restoration Plan. The NCSD National Land Resources Working Group and the Urban and Rural Development Working Group held separate working group meetings in coordination with four regional forums in northern, central, southern and eastern Taiwan, and three NCSD working meetings. Discussion from these meetings was drawn upon in the review of the National Land Security and Restoration Plan during the 29th NCSD Working Meeting on 31 December 2009.

(8) Review of the draft Coastal Conservation and Restoration Program

The draft Coastal Conservation and Restoration Program was compiled by the NCSD Secretariat based on resolutions made during the Executive Yuan's 7th administrative meeting in February 2009. The final review of this draft was made at the 29th NCSD Working Meeting on 31 December 2009 after being discussed in three coordination meetings, two National Land Resources Working Group meetings, four regional forums and two NCSD Working Meetings.

NCSD's 26th Working Group Meeting

NCSD Working Group Achievements

The Sicao Green Tunnel (supplied by Taijang National Park Management Office)

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

Promoting the Greenhouse Gas Reduction Act and Drafting Programs

The Executive Yuan is currently heavily engaged in the work of getting the Greenhouse Gas Reduction Act passed, which will be the first of its kind for a developing nation. The provisions of the Act will be in line with international accords, and will lead to the design and establishment of carbon emission reduction mechanisms. Assisting industry in maintaining competitiveness and encouraging popular participation in carbon reduction schemes are two other major themes of the Act.

The EPA has already convened a number of meetings with representatives of the private and public sectors to discuss the draft of the National Greenhouse Gas Reduction Program. Topics that have been discussed include setting reduction targets for government agencies, promoting policies, itemizing projects, distributing the workload, and setting deadlines for appraisals of effectiveness.

International Cooperation and Participation in Environmental Protection Accords

Taiwan has been active in promoting offshore carbon rights and has recently completed a full evaluation of this mechanism. Meetings were also held among officials from various government agencies, experts, and industries, which resulted in the establishment of the Strategic Alliance for Clean Development and Management and Carbon Rights. A carbon rights trading information platform is being planned, which garnered the support and input of delegates at the Copenhagen climate summit.

Ten of Taiwan's diplomatic allies spoke on behalf of Taiwan at the COP15/CMP5 meetings. Taiwan's team also held bilateral meetings with teams from the U.S., the E.U., and diplomatic allies. Meetings were also held with high-level representatives of the IPCC (Intergovernmental Panel on Climate Change), the World Meteorological Organization (WMO), the International Council for Local Environmental Initiatives (ICLEI), the Global Environment Facility (GEF), and Germany's Potsdam Institute for Climate Impact Research.

In keeping with the spirit of international cooperation, international experts have also been invited to Taiwan to attend a number of upcoming conferences. These include the International Workshop on Pacific Greenhouse Gases Measurement and the International

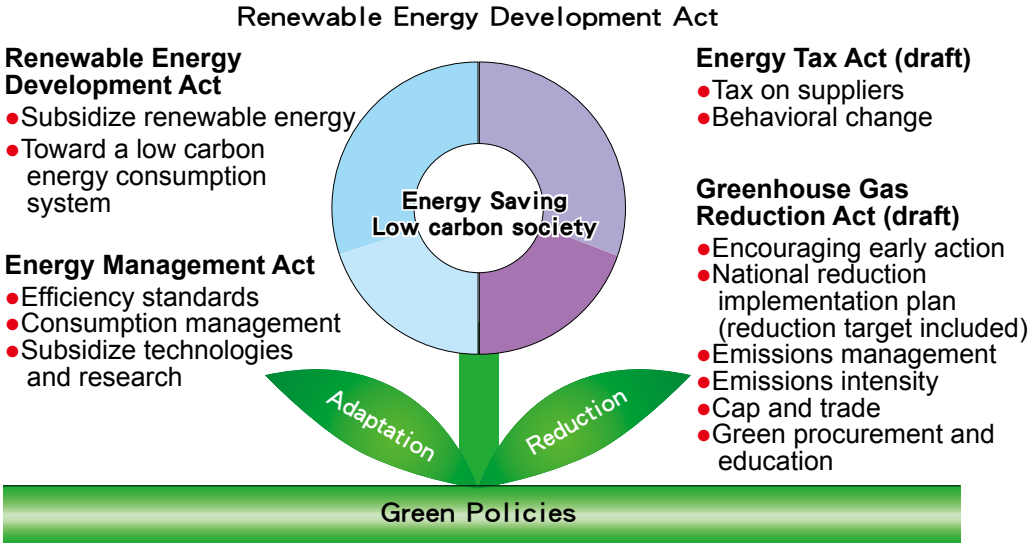
Conference on Developing Trends in Greenhouse Gas Testing and Certification in June 2009; the Symposium on Self-imposed Greenhouse Gas Reductions for the Electronics Industry in July 2009; and the Experts Discussion on Greenhouse Gas Reduction Management and the Symposium on the Design of the U.S. Emissions Trading Mechanism in August 2009. In July 2009, Taiwan was the first nation in the world to conduct a ship-based greenhouse gas monitoring voyage of the Pacific Rim area. In addition, a project to monitor greenhouse gases produced from aviation will begin in the latter half of 2010.

Building Capacity for Greenhouse Gas Reductions

To date, 224 enterprises around the island have submitted data on greenhouse gas emissions to the National Greenhouse Gas Record Platform for inspection, exceeding the target for 2009. The system of online data inspection is now fully operational. On 6 November 2009, the EPA announced the Working Principles for Managing Greenhouse Gases Verification Bodies, which give details of verification procedures and the minimum requirements that organizations and personnel must meet to submit an application for data evaluation. The principles are in accord with similar international verification systems. Also in 2009, the Greenhouse Gas Inventorying and Registration Guidelines and the Greenhouse Gas Certification Guidelines were assessed and approved, which should lead to increased accuracy of submitted data.

Leading the Way to Energy Conservation and Carbon Reduction

The EPA has been unstinting in its efforts to promote the concepts of saving energy and reducing carbon emissions among enterprises, retailers, and the public at large. To achieve this, the EPA has held a number of events island-wide, has been actively working to raise media profiles, and has set up the "Cooler" website, a part of the EcoLife site. Members of the public can now go online and sign a pledge to save energy and reduce carbon emissions. The website also allows them to evaluate personal electricity use and the savings on carbon emissions that can be made from reduced consumption. As of the end of 2009, over 950,000 people had used the site, proving its value as a public education tool.



2.2 National Land Resources Working Group

Disaster Management and Prevention

As in other countries, the government of Taiwan is working hard to mitigate the impact of climate change. The Central Weather Bureau, part of the Ministry of Transport and Communications, is instigating a 4-year (2008~2011) research project into the integration and usability of an online service giving information on oceanic weather conditions. The Water Resources Agency, part of the Ministry of Economic Affairs, has set up a disaster prevention information website in order to make disaster early warning and response more effective. In order to give the work of disaster prevention an even firmer foundation, the Executive Yuan's National Disaster Prevention and Protection Commission is

continuing to promote the 5-Year Plan to Upgrade Disaster Prevention

As for urban disaster prevention, the Ministry of the Interior's Architecture and Building Research Institute has finished conducting its Strategic Research into Modifying Urban Land Use to Mitigate Climate Change Disasters. The institute's researchers looked into possible disaster scenarios and current response capabilities, and their conclusions will be useful reference material for local government urban planners and lawmakers in charge of revising related regulations.

Accelerating the Reclamation of Forest Land for Planting High-Quality Forests

More forest land needs to be reclaimed so that more high-quality forests can be planted. To this end, during 2009 the Forestry Bureau tended to 14,259 hectares of state-owned forest land, and reclaimed 211 hectares of degraded land, 73 hectares of coastal forest, and planted trees on 43 hectares of land on outlying islands. A further 373 hectares of landslides have also undergone ecological engineering in order to prevent repeated sliding of an estimated 9.2 million cubic meters of land and encourage the growth of new forests.

Maintaining Pristine Mountain Forests and the Establishment of a National Hiking Trails Website

The concept of leave-no-trace (LNT) hiking has been gaining momentum worldwide and Taiwan's Forestry Bureau is playing its part. The 11th stage of training for 170 seed instructors and the 3rd stage of training for 39 senior LNT instructors were recently completed. 24 LNT mountain activity programs have also been formulated, with funds set aside for teaching materials. The Taiwan Mountain Recreation website is now also up and running, providing detailed maps of hiking trails around the island. To date, the site has received over 1.5 million hits.

Bringing Local Reclamation of Wetlands up to Speed with International Practice

In 2009 the Ministry of the Interior's Construction and Planning Agency started promoting the National Major Wetlands Ecological and Environmental Survey and Reclamation Plan. The aim of the plan is to protect existing wetlands, enrich both urban and rural landscapes, and create local eco-networks. The plan ambitiously attempts to supersede traditional building methods and old ways of looking at problems, for example by allocating part of the plan's budget to local governments. Grassroots organizations such as township offices, civil organizations, residential community groups, and vocational colleges, have also been encouraged to join in efforts to reclaim and beautify wetlands. They are also involved in patrolling these areas, conducting surveys, and monitoring the ecology, and their participation in the work of sustainable environmental protection has led to excellent results.

More international recognition for Taiwan's wetlands is also being sought through exchanges with international wetlands organizations. The head of the Society of Wetland Scientists (SWS), Andrew H. Baldwin, was invited to Taiwan, and on 30 November 2009, signed a Regional Strategic Program of Action Cooperative Memorandum for 2010~2015 on behalf of the SWS. His cosignatory was Mr. Ye Shiwen, head of the Construction and Planning Agency. Strengthening ties with international wetlands organizations in this manner will allow Taiwan to draw upon a well of knowledge and technological know-how in the field of wetlands reclamation.

Signing a Regional Strategic Program of Action Cooperative Memorandum for 2010~2015

2.3 Biodiversity Working Group

Enhancing Taiwan's Conservation Area Systems and Their Management

In April 2009 the Council of Agriculture declared the establishment of the 664-hectare Biegu Wildlife Protected Habitat in Chiayi County. This brings the total number of natural protected areas in Taiwan to 84, occupying 19% of the total land area of the island.

Diagram showing the area covered by the Biegu Wildlife Protected Habitat, Chiayi County (supplied by the Forestry Bureau)

The Taijiang National Park Management Office officially opened its doors on 12 December 2009. The park encompasses a total area of 39,310, mostly marine territory; the terrestrial part of the park includes the Qigu salt fields, the Black-faced Spoonbill Protected Area, the Sicao Wildlife Protected Area, and coastal windbreak forests. This marks the establishment of Taiwan's 8th national park, offering a fine combination of historical, ecological, and industrial resources. The establishment of the park has raised the total area of land occupied by national parks up to 8.64%.

Protecting Coastal Areas and Wetlands The following are some of the efforts being made to improve protection of coastal areas:

1. The Taiwan Coastal Areas Natural Environment Protection Plan (first comprehensive review) calls for the establishment of 21 coastal conservation areas, including 63 natural environment conservation areas, and 21 ordinary conservation areas. These protected zones will cover a total area of 1.32 million hectares.

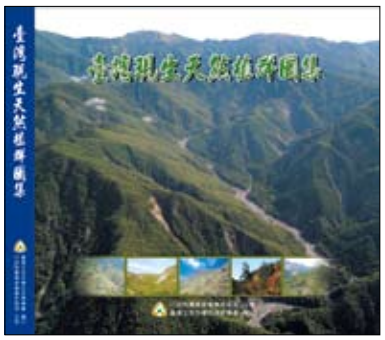
2. Interdepartmental resources are currently being integrated in order to formulate and promote short, medium, and long-term plans as required by the National Essential Wetlands Conservation Plan (2011~2016)

3. On 30 November 2009, a Regional Strategic Action Program Cooperative Memorandum was signed with the SWS in order to strengthen bilateral cooperation and facilitate the use of better knowledge and technology in reclaiming Taiwan's wetlands.

Completion of the Mapping of Taiwan's Existing Flora

The Council of Agriculture recently completed its 6-year National Survey and Mapping of Floral Diversity. This was the first integrated plan to survey floral diversity in 1.62 million hectares of land on the island and produce the results in the form of comprehensive maps. The set of maps allows comparison of ratios of protected plant species. Using overlay mapping of environmental factors, the habitat distribution and special characteristics of certain plant species can also be ascertained. The maps are thus a major contribution to conservation efforts, national land planning, academic research, and environmental protection education.

The Forestry Bureau also held a book launch for Maps of Taiwan's Existing Flora on 17 December 2009, to let the public know the results of the breakthrough research and deepen understanding of the wonderful diversity of flora in Taiwan.



Cover of Maps of Taiwan's Existing Flora

First Official Species Checklist Lists Over 50,000 Indigenous Species

With the help of grants from the Council of Agriculture's Forestry Bureau and the National Science Council, the Academia Sinica's Biodiversity Research Center was able to carry out the Taiwan Species Checklist Plan. This resulted in Taiwan's first official species checklist, the 2008 Taiwan Species Diversity I. Current Research II. Species Checklist, which was published in 2009. Containing 51,212 species, the checklist shows Taiwan has not only

one of the highest concentrations of species per unit area of anywhere in the world but also a high proportion of endemic species. The checklist will certainly prove to be of immense value to researchers, educators, conservationists and people involved in agriculture, forestry, fishing, and livestock rearing.

Participating in the Global Seed Vault Plan

On 26 February 2009, a representative from the Council of Agriculture and the administrative head of the Svalbard Global Seed Vault (SGSV) signed an agreement signifying Taiwan's official participation in the Svalbard Seed Vault Seed Conservation Plan. Seeds from 15 species of rice, grain, and vegetables unique to Taiwan will be stored in the vault – sometimes called the Doomsday Seed Vault – which represents a new leaf in the book of international cooperation and development for Taiwan's agricultural industry.

Improving Quarantine Management and Screening for Invader Seeds

The Council of Agriculture recently announced the Quarantine Requirements for Wood used for Packing Imported Commodities and revisions to the Quarantine Requirements for the Importation of Plants or Plant Products. In addition, in keeping with the Convention on Biological Diversity's main theme for 2009 – invader seeds – from 22 May 2009, the council's biodiversity team ran the May 22 International Biodiversity Day – Invader Seeds Screening Activity at the Hongshulin Ecology Exhibition Hall. The purpose of the exhibition was to make the public aware of the need to prevent the spread of foreign invader seeds.

A box containing the seeds sent to SGSV, showing the letters TARI (Taiwan Agricultural Research Institute) and the RFID logo

Invader seed screening activity

2.4 Energy and Production Working Group

Legislation of the Renewable Energy Development Act

Taiwan imports up to 98% of its energy resources, so the local economy has been heavily impacted by the spiraling price of oil in recent years. Add to this growing international pressure to control greenhouse gas emissions and it becomes apparent that immediate action needs to be taken to develop domestic sources of renewable energy that help reduce emissions. After a number of years of research and evaluation, the Renewable Energy Development Act was finally promulgated on 8 July 2009. This will provide the legal framework around which renewable energy will be developed.

One of the biggest producers of carbon dioxide are power plants that burn fossil fuels. In order to encourage power plant operators to invest in renewable energy the regulations stipulate that the wholesale purchase price of renewable energy cannot be lower than the average power plant operating costs. Guaranteeing plant operators room to make a profit should encourage them to invest in research and development of low-cost renewables that have a higher rate of electricity generation.

National Energy Conference Reaches Consensus on Low-carbon Economy

On 14 and 15 April 2009 the Executive Yuan held the National Energy Conference as a part of the national Energy Conservation and Carbon Reduction campaign. Consensus-building was another major theme of the conference, and consensus was reached on 249 items that aim to promote a low-carbon economy and low-carbon society. One of the main items covered was the

President Ma addressed in 2009 National Energy Conference

formulation of the Sustainable Energy Act, which prescribes the government's responsibility to implement carbon footprint, carbon disclosure and similar systems based on the principle of attaining a carbon neutral society. The act also calls for the following measures:

- Building more dedicated bicycle paths and revising traffic regulations to give bicycles superior road rights.
- Raising awareness about energy security.
- Raising the status of energy resource managing authorities.
- Improving safety, monitoring mechanisms, and information disclosure in the nuclear power industry.

The government is also promoting other measures to facilitate the development of the market for green electricity. These include:

- Designing a purchasing mechanism for green electricity that realistically reflects the costs of renewable energy sources.
- Adjusting fuel tax rates so that they follow variations in the market price of oil.
- Giving consumers the right to choose where they source their electricity from.
- Establishing a power distribution center.
- Working to get the Natural Gas Industry Act passed.

Another big step in the direction of greener energy occurred on 15 November 2009, when the Executive Yuan sanctioned the Ministry of Economic Affairs' Scheme to Upgrade the Green Energy Industry. As a result, government research and development investment in green energy technology will reach at least NT$20 billion over the next 5 years in order to lead Taiwan's manufacturers toward developing low-carbon, high-value products and services. It is forecast that the output value of the green energy industry will rise from NT$160.3 billion in 2008 to NT$1.158 trillion by 2015.

Promoting Research and Evaluation of a Green Tax

At a meeting on 19 October 2009, the Executive Yuan's Tax Reform Commission resolved to support the introduction of a green tax system. Priority will be given to promoting a green energy tax and a carbon dioxide tax after careful evaluation of their economic, industrial, and environmental effects. Consideration will also be given to opinions from all relevant stakeholders. A suitable time for enforcement will be chosen after the new tax system has been legally codified.

Advising on Energy Conservation and Carbon Reduction

On 25 February 2009, the Ministry of Economic Affairs officially established the Energy Conservation and Carbon Reduction Guidance Team for Commercial Operations. To date, the team has conducted 4 surveys of energy consumption at established businesses, four energy saving/emission reduction plans for new businesses, five surveys of energy consumption in traditional wet markets, and has advised ten restaurant chains and ten takeaway beverage chains on how to reduce energy consumption.

As for energy conservation and carbon reduction in the fisheries industry, on 18 May 2009, the Council of Agriculture's Fisheries Agency set up an energy conservation and carbon reduction team. The team will ensure that a target of 20% carbon emissions reduction is achieved during the implementation of the Coastal Regeneration Plan, part of an economic stimulus scheme for coastal areas.

2.5 Transportation and Livelihood Working Group

1. Raising Public Transport Efficiency and Passenger Service Standards

The Ministry of Transport and Communications' (MOTC) Directorate General of Highways (DGH) is currently implementing an improvement plan to address problems with public transport. Problems with bus services include insufficient information regarding schedules; vehicles that are aging or in disrepair; waiting areas with inadequate facilities; ineffective route planning; and poor schedule coordination with other forms of public transport. The DGH is also conducting an assessment of bus transport on national highways and is subsidizing Xinzhu, Taizhong, and Tainan city government assessments of bus transport within their own administrative boundaries.

The MOTC's Railway Reconstruction Bureau is currently busy working toward improving rapid transit in metropolitan areas and creating energy efficient trains and stations that are in line with the trend toward sustainable development. Major projects being undertaken include increasing grade separation of railroads, adapting more lines on which to run rapid transit trains, and improving branch lines of the rail system. Seven grade separation and line adaptation projects were undertaken in 2009 in the cities around the island. Four branch line improvement projects were also carried out, as were three projects to improve the train service on the east coast line.

Promoting Ecotourism and the East Coast Bicycle Route Network Demonstration Plan

The MOTC's Energy Conservation and Carbon Reduction East Coast Bicycle Route Network Demonstration Plan was completed in February 2009. The plan aims to turn the east coast of Taiwan into a model area for cycling, and to this end the Tourism Bureau's Northeast and Yilan Coast National Scenic Area's office has been working hard to implement policy. The office has already planned how to integrate the bicycle tunnel on the Old Caoling Trail, the Longmen~Yanliao Bicycle Path, and the Yilan Coastal Bicycle Path into the east coast network. Infrastructure improvements include better facilities on the paths, better signage, and improvements to the verges of the paths. Promotional activities have also been held that have helped to raise its media profile.

Bicycle paths that encourage people to get more healthy exercise are not the only aspect of ecotourism that the various national scenic area offices have been working on. Activities such as beach cleaning and tree planting have also been held in conjunction with local port authorities.

Online Transport Information and the New Integrated Road Network Traffic System

The MOTC has designed and is now operating the National Traffic Information Center website. The site offers up-to-date information on road and traffic conditions gleaned from a number of governmental and private sector sources. The information is also available for use by businesses that wish to add value to an existing service. The MOTC has also designed and is now operating the Land, Sea, and Air Public Transport Information Center which gives details of routes, schedules, and fares for trains, buses, airplanes, and ships. There is even information on municipal bus routes for all cities around the island, making the site a valuable one-stop source of information for passengers and travelers alike.

Hits on the site have increased by 54.25% since last year. Part of the reason for this is introduction of Intelligent Transport System technology that is improving safety and traffic flow on the island's freeways and highways.

The Old Caoling Trail Bicycle Tunnel

National Highway No. 6 in Nantou's construction focus on environment, ecology and landscape

Improving Weather and Earthquake Forecasting

The MOTC has also completed the Climate Change and Extreme Weather Monitoring and Forecasting System Development Plan. The plan will enhance the Central Weather Bureau's ability to predict short-term weather patterns and sudden extreme weather conditions, which will be of economic benefit and will help to prevent disasters such as flooding. In addition, 19 seismic monitoring stations have been superseded by state-of-the-art 24-bit seismographs. Three borehole seismographs have also been installed, which are able to give higher quality readings due to the much-reduced background interference at deeper depths.

The Green Marketing Promotion Plan

The Ministry of Economic Affairs (MOEA) has been providing guidance on green business practices to businesses in traditional markets and shopping malls deemed suitable for displaying the Model Green Commercial Environment Logo. Based on the principle of getting the message across as effectively as possible, advice has been given on saving energy, reducing the creation of garbage, and recycling. It is hoped that by promoting the practice of purchasing green products among the general public, green consumerism will eventually become a part of daily life and everyone can do their bit to slow down global warming.

2.6 Technology and Evaluation Working Group

Promoting Scientific Research and Evaluation of Climate Change

1. Since 2007 the National Science Council has been overseeing the Strategy for Evaluating and Responding to the Adaptability and Weaknesses of Taiwan's Ecologies and Disaster Prevention Measures Regarding Climate Change. This wide-ranging research project has been looking into Taiwan's susceptibility to water- and wind-related disasters. It has also searched for weaknesses in local ecologies, water supply systems, public health systems, and the forestry, agricultural, and fisheries industries in the face of climate change. Results from the part of the project that analyzed the susceptibility of Taiwan's ecological systems to climate change were announced at a meeting held in October 2009 that was attended by over 100 people.

2. As a result of the possible impacts of climate change, and following a resolution of the 8th National Technology Conference at the beginning of 2009, the interdepartmental Taiwan Climate Change Impact Evaluation and Information Platform Establishment Plan is currently being promoted. The plan was brought to fruition following an all-out effort by the National Science Council to get the major relevant research units around the island involved. The plan will run for 3 years, from November 2009 to October 2012, and details of its implementation will be worked out by the National Science and Technology Center for Disaster Reduction.

A meeting announcing the results from a project that analyzed the susceptibility of Taiwan's ecological systems to climate change

Working on the platform will be the Academia Sinica's Research Center for Environmental Changes, the Central Weather Bureau, and the National Science and Technology Center for Disaster Reduction, as well as other local academic experts (see Diagram 1 for the structure of the platform). Bringing together cutting edge scientific research and technological developments, along with the resources and capabilities of the units involved, will put the platform at the center of Taiwan's climate change impact research in years to come. Addressing the needs and technological requirements of end users will also be a priority, and it is expected that water agencies will be the first beneficiaries of the research.

Although the National Science and Technology Center for Disaster Reduction is responsible for the building of a platform that can support databases and an information service, the task of predicting changes in Taiwan's climate in the 21st Century has been given to three teams made up of scientists from different institutions. The conclusions that the teams arrive at will be used for research into the local impacts of climate change and how it can be integrated with downstream applications. The predictions that the three teams make will also be used to build an integrated platform for interdisciplinary research into climate change and possible applications of the findings.

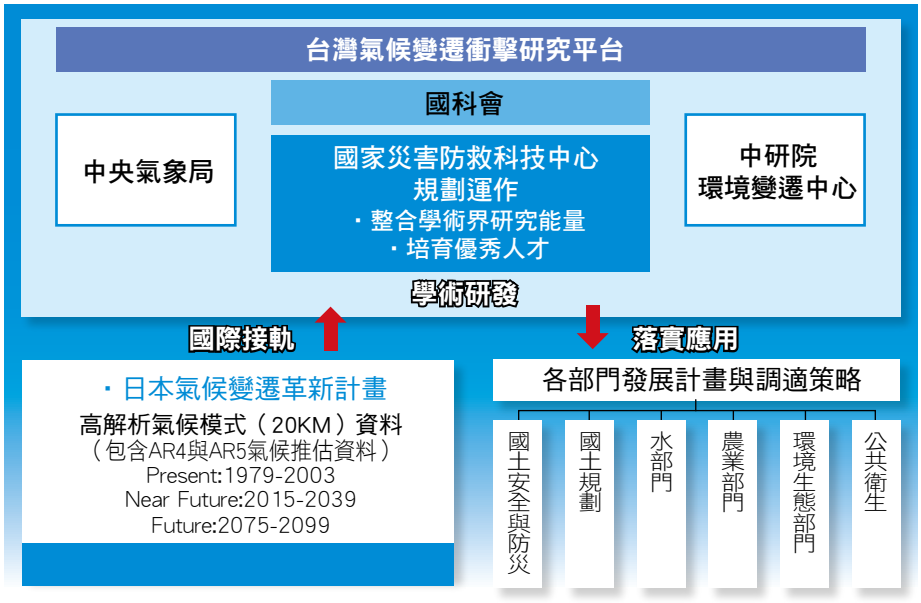
The 3-year plan leans heavily toward interdisciplinary integration in order to fulfill the needs for systemization, technological innovation, and useful application in meeting the following overall goals:

- Establishing a platform for the integration of interdisciplinary research (and resulting applications) into climate change
- Establishing systems for accurately predicting future climate changes for Taiwan
- Formulating suitable policy for government agencies to stimulate the departmental application of R&D findings
- Giving special attention to the aspects of climate change research in which Taiwan is strong while staying in step with international trends and practices
- Getting reports of climate research findings published in international publications

Promoting the National Science and Technology Plan - Energy

On 10 June 2009, the National Science Council passed the Overall Planning Report for the National Science and Technology Plan - Energy. The four guiding

Diagram 1: The Taiwan Climate Change Impact Evaluation and Information Platform



principles of the plan are:

- Integration of resources
- Policy planning for energy resource technology development
- Selection of the most important fields for future national research into energy resource technology
- Allocating and adjusting budgeted funds

The plan will integrate existing resources, such as plans and research, belonging to the National Science Council, the MOEA's Bureau of Energy, the Atomic Energy Council, the MOIA, the MOTC, the Council of Agriculture, and the EPA. The thrust of the R&D will be in the following fields:

- Energy resource conservation technology
- New uses for energy resources and energy resource environmental protection
- Development and exploitation of renewable energy sources
- Assessment and integration of government policy toward the development of energy resource technology

The seven main energy resources and technologies to be researched and developed include clean coal, ocean tides, nuclear energy, methane hydrate, coastal winds, intelligent electronic networks, and government energy resource policy.

2.7 Urban and Rural Development Working Group

Promoting Eco-friendly Architecture and the Revision of the Reusable Building Materials Standards and Specifications

The MOI's Architecture and Building Research Institute has been promoting research into green architecture for many years now, and in 2009 began implementing the Eco-city Green Architecture Scheme. A total of 415 certification and green labeling cases have been passed so far. It is estimated that implementation of the scheme will result in annual savings of 121 million kWh of electricity, 5.92 million tons of water, and 8.2 million tons of carbon. The Plan to Raise Energy Efficiency in Buildings was also put into action in 2009, and 28 energy efficiency projects were carried out. Another 28 projects that fell under the Green Architecture Renewal and Improvement Plan were also completed, with the aim of reducing the heat-trap effect that plagues Taiwan's cities. The institute, in conjunction with the CIB and the WGBC, two international building research organizations, also held the 2009 Green Building to Eco-city Conference, which was attended by 456 people representing 23 different nations.

In 2009, the institute also inspected 101 types of building materials – covering 1,300 different products - and approved the use of "approved green building material" labels on them. The MOEA's Industrial Development Bureau also played an active part in the promotion of the draft of the Revision of the Reusable Building Materials Standards and Specifications. The bureau also announced two sets of national standards covering stone used in pre-cast concrete and concrete that is used in earth-retaining walls and for covering landslide slopes. Draft revisions for 5 other sets of national standards were also drawn up in 2009. These will cover:

2009 Conference Green Building-Towards Eco-City (CBTEC)

- Hollow concrete bricks
- Lightweight aggregate used in structural concrete
- Lightweight aggregate used in concrete without steel re-enforcement
- Methods for testing if lightweight aggregate used in concrete contains metallic pollutants
- Methods for testing the density of structural concrete

2.8 Health and Welfare Working Group

On 31 January 2009, a new system for regulating organic farm products was introduced as a part of the effort to promote organic agriculture. The system relies upon random testing of raw and processed organic farm products, and also aims to strengthen existing labeling practices for such products. There are currently 11 organizations around the island that issue certification for organic farm products, and to date they have tested 2,961 tonnes of produce from 1,277 different farms.

Monitoring environmental hazards has always been a priority for the EPA. In the first quarter of 2009, testing for atmospheric dioxin revealed that the average density of this toxin has fallen significantly, from 0.089 pg I-TEQ/m^3 in 2002/2003 to 0.056 pg I-TEQ/m^3. All of these values are far below Japan's basic maximum permitted density of atmospheric dioxin, which is 0.6 pg I-TEQ/m^3. Great reductions in levels of environmental toxins, such as in this case, can only be beneficial to public health.

The EPA is also working to promote the dispersion and application of data collected from monitoring the quality of river water by collating the data collected from the previous year in the form of an annual report. This data is useful both for assessing the effectiveness of remediation projects and for gaining a clearer view of long-term trends in water quality. The data can be viewed or downloaded for free from the following website http://www.epa.gov.tw/wqm.

On 15 September 2009, the EPA held the Forum on 10-year Monitoring of Toxic Substance Distribution and Future Expectations as a part of its ongoing effort to educate the public about health hazards. During the forum a booklet was handed out detailing the results of surveys into toxic substance distribution that the EPA has been conducting since 1999. Ten years of surveys have not only amassed a wealth of data on toxic substance distribution, but also spurred the development of chemical analysis techniques and allowed the EPA to give specific suggestions on policy and technology for controlling and reducing the amount of toxins present in the environment. Use of the following substances is now being actively controlled or reduced: organic tin compounds, PBDEs, phthalate esters, mercury, and organic pesticides.

On 5 October 2009, the EPA held the Forum on Restricting the Use of Endocrine Disruptors, to which legislators, scholars, experts, and representatives of environmental groups were invited. The forum involved some heartfelt discussions on the subjects of endocrine disruptors in everyday consumer products; ways by which people are exposed to endocrine disruptors and their negative impact on health; and how the public can guard against such exposure.

On a similar note, in March 2009 the Council of Aboriginal Affairs published their annual statistical report of a health survey of the island's aboriginal population. The statistics not only give the standard static data on death and causes (such as from cancer) but also give dynamic data collated from records from clinics and hospitals around Taiwan. Establishing such a dedicated statistical long-term record of aboriginal health care will give a clearer picture of the health profile of Taiwan's aboriginal peoples.

2.9 Education and Promotion Working Group

The MOE has also been playing its part in the national effort to save energy and reduce carbon emissions. This was demonstrated by the holding of the 2009 Interdepartmental Symposium on Implementing Energy Conservation and Carbon Reduction Education by the MOE's environmental protection team in January 2009. A procedural action plan was drawn up to assist central and local government agencies in developing environmental protection education and holding interdepartmental knowledge exchange meetings at which staff can enhance their knowledge and expertise through discussing policy and sharing relevant experiences.

In July 2009 the MOE selected ten elementary and junior high schools with particularly special features to be considered for campus greening and other

enhancements as part of the long-term goal of sustainable management of special schools. Details of the scheme were presented at a forum, which was open to all interested parties. In October, the MOE held a closing presentation for the 2008 Campus Greening Plan – Energy Resource Education Center in the National Science and Technology Museum, Kaohsiung. On display were achievement posters, instructional materials, lesson plans, and other proof of achievement from 32 schools that have received grants from the MOE. It was fully evident from the exhibits that each school had implemented the plan in its own special way.

In May 2009, the MOE also held a series of environmental education guidance workshops for local government officials as a part of continuing efforts to promote and implement environmental education. A report of the results of the last mid-term environmental education plan (2005~2008) was made available to participants, who were also able to listen to discussions between experts and hear them share their experiences. The improvements made were also reviewed, and the knowledge gained from implementing the last plan will be referentially useful when the next plan is to be drawn up. It is hoped that the workshops will lead to a wider dispersion of the concept of environmental education and make policy implementation more effective.

The MOE is also on a drive to promote organic ecology on campuses and to this end held the 2009 Organic Ecology Campus Children's Summer Camp over the summer. During the camp the students were taken into natural environments and shown how to cherish and protect them as well as make use of the resources in them. The camp also taught students that not only agricultural products can be organic but also that the concept of organic can be applied to their everyday environment, such as their school campuses.

The closing presentation of the 2008 Campus Greening Plan

From October to December the EPA held the 2009 National Environmental Protection Summit for Township and Borough Chiefs. Over 800 people from every corner of the island attended the symposium, including the head of the National Township and Borough Chief Liaison Association, town mayors, and officials from local environmental protection departments. Fruitful discussions were held on sustainable methods to make the local environment cleaner, quieter, healthier, and more livable.

In order to encourage people to make environmental protection a part of their daily lives the EPA held a "One chopstick at a time" press conference in December to promote the use of stylish, washable chopsticks in place of disposable wooden ones for customers of food concessions in department stores. The concession operators are also being encouraged not to actively give disposable chopsticks with takeaway meals. It is estimated that this will result in a reduction of 40.4 million sets of disposable chopsticks being made and used, which would have created 350 tonnes of waste and 320 tonnes of carbon dioxide emissions.

Green Chopstick Program - Stylish and In!

Sustainable Development Indicators (SDI)

NCSD CEO Tsai Tsun-Hsiung (second from the left) and Minister of EPA Stephen Shu-hung Shen (second from the right) host the 2008 SDI Announcement Release

Taiwan's sustainable development indicator (SDI) system was based on the 1996 United Nation's sustainable development indicator framework, and convened by the Council for Economic Planning and Development, Executive Yuan (CEPD). The first computational results of the SDI system were announced on Environment Day, 5 June 2003. The scores are used to evaluate and reflect Taiwan's overall effort in promoting sustainable development.

3.1 2008 SDI Results Announced

The current framework of Taiwan's Sustainable Development Indicators is based on the 1996 United Nation's sustainable development indicator PSR (Pressure-State-Response) framework and our nation's current conditions. Forty-one indicators are grouped into 6 major categories: ecological resources, environmental pollution, economic pressure, social pressure, institutional response, and urban development. The indicator framework and the trends of each indicator are explained in detail on the NCSD website at http://sta.epa.gov.tw/NSDN/.

The SDI for 2008 as compared to those of 2007 shows 27 marked improvements, 3 status quo and 11 deviations from sustainability. In terms of categories, all 6 major categories showed progress toward sustainable development.

(1) Ecological Resources

Composite index scores for ecological resources exhibited a continual downward trend from 1988 to 2006, besides the status quo of "undamaged forest area ratio". Generally speaking, the status of ecological resources in Taiwan has deviated away from sustainability in recent years. Looking at data in 2007, aside from positive indicator scores in the "undamaged forest area ratio" indicator, all other indicator values are lower compared to previous years. Nonetheless, due to a higher score in the "undamaged forest area ratio"

indicator, the composite index score is slightly higher in 2008 (95.61) than 2007 (95.31) (Figure 1), showing progress in sustainable development.

(2) Environmental Pollution

From 2005 to 2008, there had been progressive improvement in the environmental quality index, and as of 2007, its index of 100.71 had been the highest since 1988 (figure 2), showing a marked improvement in environmental protection efforts.

Looking at trends in each indicator, resource recycling is showing a steadily improving trend since 1998. The carbon dioxide emissions has steadily improved over the years, in 2008, the CO_2 emission level of displayed negative growth (-4.42%), it indicates Taiwan's effective control of carbon dioxide emissions.

As for PSI (pollution standards index), average values have slowly increased (besides 2004 value) but generally speaking the difference is subtle.

(3) Social Pressure

From 1988 to 1997, social pressure index scores had shown a departure from sustainability, however from 1998 to 2008 index scores had fluctuated around 94. In terms of individual indicators, daily per capita garbage volumes have slowly increased from 1988 to 1998, and showed decrease from 1998 to 2003, but increase slowly again since 2003 onward. Betel nut plantation area has gradually decreased since 1999, indicators of public health including death rate due to cancer and contagious disease infection rate have increased, and public nuisance complaints have gone up.

(4) Economic Pressure

The economic pressure composite index had increased from 100 to 108.46 from 1988 to 2008, indicating steady decrease of Taiwan's economic pressure and moving toward sustainable development. Even though the use of pesticide with respect to agricultural production shows a steady

Figure 1. Ecology composite index trend

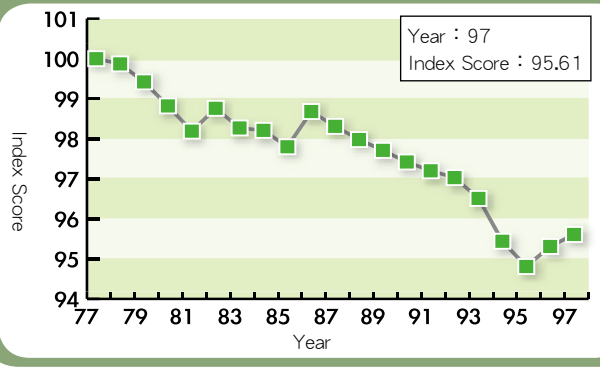


Figure 2. Environmental quality composite index trend

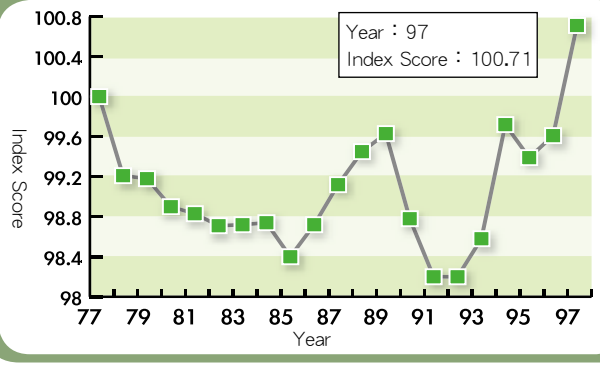


Figure 3. Ecology and environment composite index trend

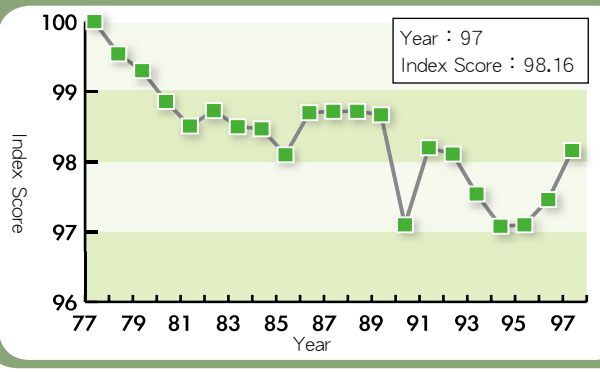


Figure 4. Social pressure composite index trend

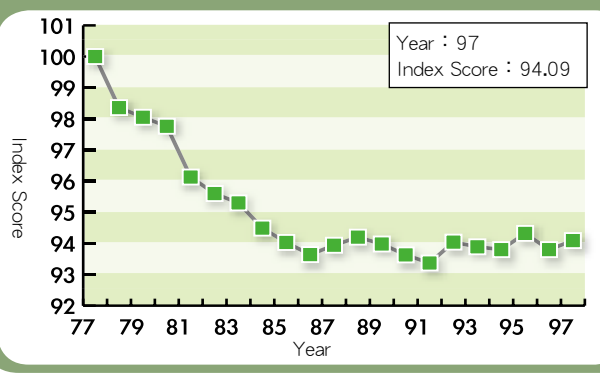


Figure 5. Economic pressure composite index trend

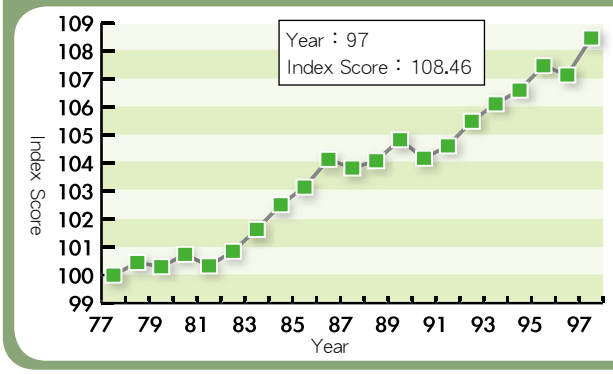


Figure 6. Social and economic composite index trend

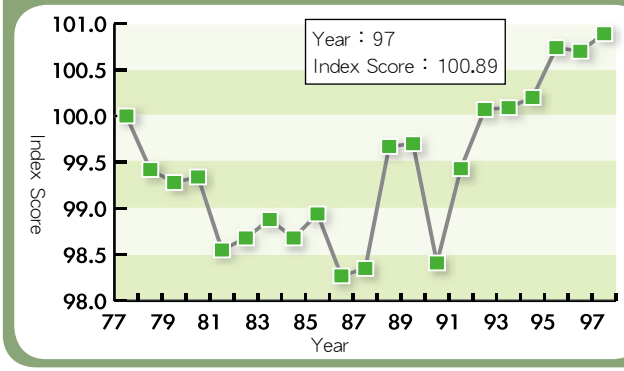


Figure 7. Institutional response composite index trend

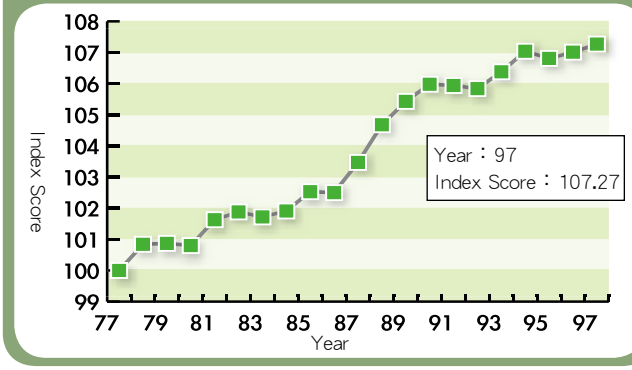
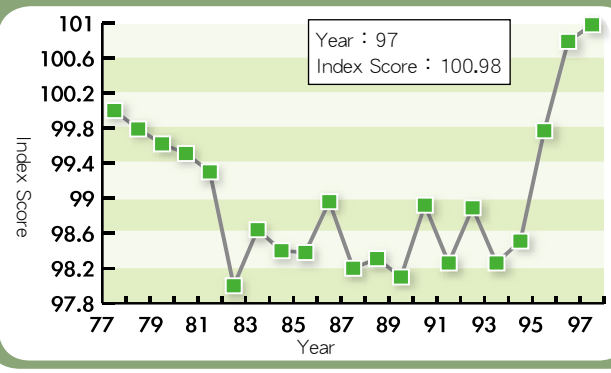


Figure 8. Urban development composite index trend



increase and burdens the environment, industrial water usage and labor productivity improved simultaneously. Furthermore, the proliferation of computer usage and internet moves the economy toward sustainable development (Figure 5).

Comparing the 2007 index with the 2008 index, 4 out of 7 indexes show sustainable development, hence the economic pressure composite index increased from 100.7 in 2007 to 100.89 in 2008 (Figure 6).

(5) Institutional Response

Since 1991, overall institutional response has shown a gradual improvement, showing steps toward sustainability. Over the last several decades, institutional response indicators have been above the baseline score of 100, and overall trends show a continual improvement. The government is clearly increasing its emphasis on sustainable issues by implementing regulations and systems that encourage government, corporate and civil sector concerns for sustainable issues. Planning and execution of related policies is having a positive effect on sustainable development (Figure 7).

Institutional response indicators for 2008 show a decrease in government-initiated provision of resources (for instance ecological conservation budget) and assistance toward promoting sustainability have increased slightly as well. Policy implementation (for instance underground water pollution treatment) has increased 2~3% over the last three years and indicators of citizens putting sustainable development concepts into practice have increased simultaneously (Increased use of Green Mark and slight increase in public participation of living environment renovation plan).

(6) Urban Sustainable Development

Overall trends show urban sustainability composite index scores on a rising trend toward sustainability (Figure 8). In terms of the 7 individual indicators, "urban average per capita income" has the most noticeable increase. In addition, ownership of small

vehicles, the number of passengers using mass transportation, area of urban park per capita, pollution ratio of major rivers, daily electricity and water consumption per capita are moving toward sustainable development.

Conclusion

Comparing 2007 data with 2008 data, the indicators showing progress toward sustainable development include: 28 indicators such as CO_2 emission volume. In addition, 10 other indicators showed deviation from sustainable development.

A composite analysis of the state, pressure and response domains shows that the state of the ecology and environment has experienced an overall departure from sustainability, due to the greater loading on ecological resources in recent years despite amelioration of environmental pollution. In terms of pressure, there is a growing gap between social and economic development, reflecting a gradual transformation in Taiwan's economic structure over the past decades with little letup in the dimension of social pressure. Addressing Taiwan's current challenges and pressures, the response indicators show the government's efforts and determination to implement policies that will promote sustainable development.

The government publishes the SDI annually with the hope that this system and its supporting policies will lead to real changes in government administration. However, the sustainable development of a nation relies on the participation of all citizens. The purpose of the SDI is to encourage ongoing reflection by policymakers and competent authorities, as well as to encourage participation of citizens in extending their concerns and supervision of related policies.

3.2 New National Sustainable Development Indicators

Basis for New National SDI

The new indicators are based on consensus reached by the 25th Working Group's Meeting (held on 25 December 2008), which is listed as follows:

1. Develop indicators based on "Framework" of the 3rd Sustainable Development Indicator System by the United Nations (October 2007) and Taiwan's current indicators used as "seeds", with additional references of international SDIs (such as ESI and EPI) as examples.
2. Drafts of new indicators were completed before June 2009, with final version done by December 2009; 2009 results will be computed based on the new SDI.
3. The proposed new SDIs were discussed according to the last working group's meeting agenda.

Process of Amendment

The whole process of SDI draft was planned, promoted and integrated by the Secretariat of the NCSD, documented as follows:

1. "Framework" is based on the 3rd Sustainable Development Indicator System by the United Nations, with current indicators as "seeds", comparison of international SDI (such as ESI and EPI) and modeling of advanced countries' indicators. Initial draft completed by February 2009.
2. Convened "1st Cross-ministerial Coordination Meeting" on 4 March 2009, with competent authority ensuring that all indicators and computation models are reliable.
3. Convened regional meetings in northern, central, southern and eastern Taiwan concerning indicator amendments in April 2009.
4. Convened "2nd Cross-ministerial Coordination Meeting" on 25 May 2009, with competent authorities ensuring "appropriate" indicator terms, definitions and computation models.
5. Complete New SDI (Draft) based on the 25th Working Group's Meeting consensus.
6. In July 2009, editorial team of the "Sustainable Development Policies Guidelines" (Draft) "suggested" that there should be corresponding indicators for each policy, therefore the Secretariat formally appealed to the competent authority in August 2009, to request that corresponding indicators be included.
7. Convened "3rd Cross-ministerial Coordination Meeting" on 21 October 2009 to discuss the additional indicators.
8. Convened "4th Cross-ministerial Coordination Meeting" on 1 December 2009 to discuss: 1. Correspondence of indicators to policies, 2. Correspondence to UN 3rd SDI system.

On 31 December 2009, the new SDI system was finalized in the 29th Working Group's Meeting. It was confirmed that new SDI system will be used to calculate and reflect Taiwan's overall efforts of the previous year from 2010 onward.

The Subject of New National SDI

The new 2009 SDI version includes 12 aspects, 41 themes and 99 indicators (57 indicators more than current version), it is similar to the UN's sustainable development indicator framework which has 14 aspects, 44 themes and 96 indicators. Its range and scope are wide, suitable and sufficient to demonstrate the effectiveness of our country's sustainable development.

Table : New National Sustainable Development Indicators

Aspect	Theme	Indicator Title	Competent Authority
Environment	Air Quality	PSI Average (current indicator)	EPA (Department of Air Quality & Noise Control)
		Air pollutant concentration (amended according to the 3rd version of United Nations' environmental indicators)	EPA (Department of Air Quality & Noise Control)
	Water Quality	Water reservoir quality (current indicator)	EPA (Department of Water Quality Protection)
		Marine Environment Quality (amended according to the 3rd version of United Nations' environmental indicators) Marine Environmental Water Quality	EPA (Department of Water Quality Protection)
		Ratio of rivers suffering minor-pollution (current indicator)	EPA (Department of Water Quality Protection)
		BOD concentration (3rd version of United Nations' environmental indicators)	EPA (Department of Water Quality Protection)
	Waste	Garbage recycling rate (amended indicator PS-5)	EPA (Department of Waste Management)
		Daily per capita garbage volume (current indicator SP-1)	EPA (Department of Waste Management)
		EIA approval rate (current indicator)	EPA
	Environmental Management	Number of publicly announced toxic substances placed under monitoring (current indicator)	EPA (Department of Environmental Sanitation & Toxic Substance Management)
		Ratio of environmental and ecological budget by the central government (current indicator)	GDBAS
		Financial measures in promoting pollution prevention and recycling (current indicator)	EPA
Energy Conservation and Carbon Reduction	Greenhouse gas	Per capita CO_2 emissions due to fuel combustion (amended indicator)	EPA (Office of Greenhouse Gas Reduction Management)
		Annual increase of CO_2 emissions due to fuel combustion (new indicator)	EPA (Office of Greenhouse Gas Reduction Management)
		Greenhouse gas emissions (3rd version of United Nations' environmental indicators -35)	EPA (Office of Greenhouse Gas Reduction Management)
	Energy Usage	Daily per capita power consumption (current indicator)	MOEA (Bureau of Energy), Taipower
		Energy concentration (current indicator)	MOEA (Bureau of Energy)
		Ratio of resource-consumption based industries to manufacturing industry (current indicator)	MOEA (Industrial Development Bureau)

Energy Conservation and Carbon Reduction	Energy Conservation, Carbon Reduction	Percentage volume of renewable energy (amend according to 2006 EPI)	MOEA (Bureau of Energy)
		Energy conserved due to green buildings (new indicator)	MOI (CPAMI, ABRI)
		Bicycle path length per 10,000 people (new indicator)	SAC
National Land Resource	Land	Slope variation ratio (new indicator)	COA (SWCB)
		Subsidence land ratio (new indicator)	MOEA (Water Resource Agency)
		Developed land ratio (amend current indicator)	MOEA (CPAMI, DLA)
	Forest	Forest coverage area (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
	Coasts	Natural coast ratio (current indicator)	MOI
		Natural coastline loss ratio (new indicator)	CPAMI
	Water Resource	Effective water resource (current indicator)	MOEA (Water Resource Agency)
		Ratio of water usage to production value of the manufacturing industry (current indicator)	MOEA (Industrial Development Bureau)
		Underground water recharge volume (tonnes) (new indicator)	Water Resource Agency
		Underground water usage volume (tonnes) (new indicator)	Water Resource Agency, COA
	Natural disasters	Total national land area planting betel nuts (current indicator)	AFA
		Casualties due to natural disasters (amended according to the 3rd version of United Nations' environmental indicators)	MOI (National Fire Agency)
		Economic loss due to natural disasters (amended according to the 3rd version of United Nations' environmental indicators)	MOI (National Fire Agency)
Biodiversity	Heredity	Genetic resources and species preservation of biodiversity (new indicator)	Endemic Species Research Institute
	Species	Change in specific wildlife population (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
		Land area covered by specific exotic plants (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
		Populations of specific exotic invasive species (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
	Terrestrial ecosystem	Eco-sensitive area (current indicator)	MOI (CPAMI), COA
		Ratio of protected area to total land area (amended according to the 3rd version of United Nations' environmental indicators)	COA (Forest Bureau)
	Marine ecosystem	Marine protection area (amended according to the 3rd version of United Nations' environmental indicators and 2008 EPI)	COA (FA), MOI
		Ratio of coral ecosystem area to coverage area (3rd version of United Nations' environmental indicators)	MOI, Fisheries Agency

Production	Material usage	Material strengths used in economic development (3rd version of United Nations' environmental indicators)	MOEA
		Material strength used in non-manufacturing type of economic development (amended according to the 3rd version of United Nations' environmental indicators)	MOEA
		Domestic supplies (3rd version of United Nations' environmental indicators)	MOEA
		Non-manufacturing domestic supplies (amended according to the 3rd version of United Nations' environmental indicators)	MOEA
		Per capita national gravel production (current indicator)	MOEA (Bureau of Mine)
	Hygiene production	Reuse rate of industrial waste (amended according to the 3rd version of United Nations' environmental indicators)	EPA (Department of Waste Management)
		Reuse rate of toxic industrial waste (amended according to the 3rd version of United Nations' environmental indicators)	EPA (Department of Waste Management)
		Reduction rate of low-radioactive solid waste (current indicator)	AEC
	Agriculture	Ratio of cultivated land (current indicator)	COA
		Area of organic cultivation (3rd version of United Nations' environmental indicators)	COA (AFA)
		Fertilizer usage rate per hectare of farmland (amended according to current indicator EP-3, 3rd version of United Nations' environmental indicators-41 and 2005 ESI-32)	COA (AFA)
		Pesticide usage rate per hectare of farmland (amended according to 3rd version of United Nations' environmental indicators-42 and 2005 ESI-32)	COA (Bureau of Animal and Plant Health Inspection and Quarantine)
	Fishery	Overfishing (current indicator)	COA (FA)
	Labor	Labor production and unit production cost (amended according to current indicator EP-6 and 3rd version of United Nations' environmental indicators)	DGBAS
		Ratio of females receiving salary in non-agricultural sectors (3rd version of United Nations' environmental indicators)	DGBAS
	Overall economic effectiveness	Per capita GDP (3rd version of United Nations' environmental indicators)	DGBAS
		Ratio of gross domestic capital formation to GDP (amended according to the 3rd version of United Nations' environmental indicators)	DGBAS
		Annual increase in consumer price index(CPI) (amended according to the 3rd version of United Nations' environmental indicators)	DGBAS

Production	Public finance	Ratio of all levels of government borrowing above 1 year with outstanding non self-liquidating debt to GNP (amended according to the 3rd version of United Nations' environmental indicators)	NTA
Livelihood	Water usage	Percentage of population with access to suitable drinking water (EPI 2008)	EPA (Department of Environmental Sanitation & Toxic Substance Management)
		Sewage treatment rate (current indicator)	MOI (CPAMI)
		Daily per capita water consumption (current indicator)	MOEA (WRA)
	Transportation	Number of times public transport is utilized (current indicator)	MOTC (IOT)
		Domestic energy consumption by transport sector (amended according to 3rd version of United Nations' environmental indicators)	MOEA (Bureau of Energy)
		Times of tourist visits in Taiwan (new indicator)	MOTC (Tourism Bureau)
		Road : casualties every 10,000 vehicles (new indicator)	MOTC (Department of Statistics)
		Road maintenance efficiency (new indicator)	MOTC (Research Department)
	Green consumption	Green procurement amount of public and private sectors (new indicator)	EPA (Dept. of Supervision Evaluation & Dispute Resolution)
		Number of green marks awarded (new indicator)	EPA (Dept. of Supervision Evaluation & Dispute Resolution)
Health	Medical care	Percentage of population with access to basic infrastructure (3rd version of United Nations' environmental indicators)	EPA
		Infection immunity measures for children's diseases (3rd version of United Nations' environmental indicators)	EPA
		Usage rate of preventive health insurance by those 65 and above (new indicator)	EPA
	Nutrition	Children nutrition condition (3rd version of United Nations' environmental indicators)	EPA
	Health risks	Death rate of standardized cancer (current indicator)	EPA
		Infection rate of contagious disease (current indicator)	EPA
		Smoking rate of those above 18 (amended according to the 3rd version of United Nations' environmental indicators)	EPA
		Eating betel nut rate of those above 18 (amended according to the 3rd version of United Nations' environmental indicators)	EPA

Technology	R&D	Percentage of GDP spent on domestic R&D (3rd version of United Nations' environmental indicators)	National Science Council
	Telecom-munications	Ratio of internet users (current indicator)	DGBAS
		Number of people using handphones every 100 people (3rd version of United Nations' environmental indicators)	National Communications Commission
Urban and Rural Culture	Cultural Heritage	The number of ancient monuments and sites appointed (new indicator)	CCA (HACH)
	Community	Number of villages in compliance with SDI (new indicator)	EPA (Department of Environmental Sanitation & Toxic Substance Management)
	Urban	Expansion rate of urban areas (current indicator)	MOI (CPAMI)
		Green area per capita (current indicator)	MOI (CPAMI)
Welfare	Poverty	Ratio of low-income families (amended according to the 3rd version of United Nations' environmental indicators)	MOI (DSA)
		Accommodation rate (amended according to the 3rd version of United Nations' environmental indicators)	MOI (CPAMI)
	Average income	Difference in disposable income per household of each division (amended according to current indicator and 3rd version of United Nations' environmental indicators)	DGBAS
	Social benefits	Subsidy for the disadvantaged (new indicator)	MOI (DSA)
		Elderly passport and their participation (new indicator)	MOI (DSA)
		Suicide rate (3rd version of United Nations' environmental indicators)	DOH
Administration	Crime	Crime rate (amended according to the 3rd version of United Nations' environmental indicators)	MOJ
	Education	Dropout students (amended according to the 3rd version of United Nations' environmental indicators)	MOE
		Adult education participation ratio (new indicator)	MOE
Participation	International participation	Condition of Taiwan's participation in UN's international environmental organizations and other MEAs (new indicator)	MOFA
		International environmental cooperation and assistance to other nations (new indicator)	MOFA
	Public participation	Civil participation (current indicator)	EPA
		Community-based participation of social welfare (new indicator)	MOI (DSA)

National Sustainable Development Award Recipients

The 2009 National Sustainable Development Awards were chosen in a three-staged process including a paper review, an on-site inspection by council members, and a selection process with a total of 11 award recipients in the categories of education, business, civil organizations, and government action plan implementation. The awarding ceremony was held on 7 December 2009 at the Executive Yuan with Premier Wu Den-yih present to confer awards.

Sustainable School Award

Chung Shan High School, Kaohsiung County

Achievements

When stepping into the campus of Chung Shan High School, a garden with small artificial hills, a waterfall, and a creek with some rare rocks and fish comes in sight. Plants such as peach blossoms, camellias, azaleas, and lotus embellish the campus and make the school looked colorful and attractive in different seasons.

Chung Shan high school is dedicated to landscape gardening, wastes reduction, and smoke-free regu lation enforcement in order to create a "clean, smoke-free, and safe" campus. Starting with only 47 students, Chung Shan has been developed into a school accommodating over 10,000 students from southern Taiwan. The school has brought together committed students and teachers to achieve great things including the following :

- Chung Shan high school sets store in the talents of each student and develops them by providing specific and targeted classes.The school thus offers five educational programs including general, comprehensive, vocational and continued education programs. We strive to help each student reach her or his fullest potential.
- Set up a plan of sustainability education and conserve natural environment as part of the teaching materials for our teachers and students .
- The school promotes the environmental education and brings it into the syllabus for students to better understand current issues of global environmental protection and hence to take their responsibility on helping waste recycling and keeping the campus

Cijin Beach Cleaning Service Project

Recycling Facilities Field Trip

neat and tidy.

- Students are encouraged to promote environmental protection in their home and community. Students are taught how to save water and energy through using online bulletins, e-documents, and double-sided copying.
- Every year, Chung Shan high school invites local elders and disadvantaged people for social activities on campus. Students consistently say that this is an amazing growth activity.

Future Vision

For more than thirty years, the school has worked consistently to create a cultural, ecological, environmentally friendly, healthy, and energy saving enviroment which won the name of "Legend in the mountain". It aims to build a great school and satisfy the needs of all learners aged from 1 to 100 so as to establish a mutual and everlasting learning enviroment for the community.

Sustainable School Award

Neijiao Elementary School, Tainan County

Achievements

Located at the foot of Guanziling mountain in Baihe Township that is famous for its lotus production, Neijiao Elementary School is the northernmost school in Tainan county that has initiated a movement toward a sustainable campus in 2003. The school has actively participated in a sustainable campus development program promoted by the Ministry of Education for three successive years since 2004 in an effort to build an educational environment for demonstration of energy and resource conservation as well as eco-friendliness, all within a healthy and comfortable atmosphere. In 2007, the school enforced the campus environment activation program, by integrating the experiences of sustainable campus development and turning spare classrooms into healthy, energy-saving, natural, and comfortable reading spaces as the base for promoting energy and resource conservation education.

Many sustainable designs have indeed enriche materials for teaching environmental education systematically. The design and practice of "Little Guidebook on the Hometown of Lotus", in accordance with the school curriculum, lead our students into a field of environmental education. We have adopted "story-based" education approaches and turned diversified sustainable materials on campus into fairy tales; each

facility and location is personified with elves with different features and abilities. In addition, three major course outlines including the artistic creation of trees, the children's picture books, and the little guidebook are developed based on the stories of campus elves and incorporate story plots into the learning venues, transforming life at school into a life of stories.

Such innovative course design that combines the sustainable environmental facilities is also professional development of creativity for teachers. The purpose of these environmental education courses is to expand children's learning opportunities, successful experiences, cultivate high-level thinking ability, and construct a coordinating relationship between humans and the environment through a sustainable campus environment.

Our long-term dedication to the development of a sustainable environment offers us opportunities for innovative attempts at designing, growing, promoting, and sharing valuable experiences with other schools in neighboring communities as well as assisting in various projects of community development, spreading the idea of sustainability through practical actions. To us, sustainability and energy conservation is not merely actions but also an attitude for life. We believe that only when this attitude is rooted in spirit can environmental and educational sustainability be put into actual practice and will continue with this belief in mind toward the future.

Future Vision:

- **Happiness:** children can happily emerge in learning
- **Care:** children can show care for themselves and other people
- **Growth:** children can create and make efforts unremittingly

Sustainable School Award

Nei-Ding Elementary School, Chungli City, Taoyuan County

Achievements

Among all the schools in Taiwan, Nei-Ding Elementary School is the one closest to an incineration plant. Furthermore, there is no scenic environment with beautiful mountains or rivers because the school is located inside the Jungli Industrial Park. In spite of the disadvantages, teachers and staff have still assertively developed the school into a great educational environment. Based on the whole school approach, we have established a clear pursuit of sustainable education goals.

For example, we have "Healthy Community Bike Exploring Tours" every year. The purpose of this activity is to help the students to get familiar with our community and to create the sense of belonging to this place. Also, in order to respond to global trends of energy saving and carbon reduction, we take students to explore local ponds and agricultural fields, so they acquire special experiences outside the school.

As for energy saving, carbon reduction and campus sustainability, Nei-Ding Elementary School promotes the idea of life cycle extension and ecological footprint reduction. Therefore, activities, such as "Give the Earth Half a Chance", "Plastic Bag Recycling and Delivering", "Soap from Used Oil Recycling to Protect Our Environment," took place with the participation of students and parents to extend the school's actions on environmental protection into the family. In addition, a campus tour guide training program was established and an environmental education website has been established in both Chinese and in English. Furthermore, teachers and students at the school completed several field study activities on topics, such as "Stop the Invasion from Fire Ants" and "Compost from Kitchen Waste and Fallen Leaves."

Nei-Ding Elementary School has been collaborating with local communities with administrative support and teaching activities in order to change mindsets and promote the ideas of sustainability. As the most important target of teaching, students have been taken into account in designing various teaching activities , and teachers have been provided opportunities to become better informed and motivated by raising their awareness of environmental issues.

To sum up, Nei-Ding Elementary School is dedicated to environmental education, campus landscaping,

quality of life for teachers and students, and community consciousness through setting up and implementation of environmental sustainability strategies and ultimately achieving the goal as a "green school".

Future Vision

- To create a culture of sustainable campus based on the "whole-school approach".
- To maintain active: environmental ecology, local culture and industry, concern for minorities, and Energy Saving and Carbon Reduction
- To give students' learning top priority.
- The whole community is an extension of our school's learning goals.

Sustainable Enterprise Award

Chunghwa Telecom

Achievements

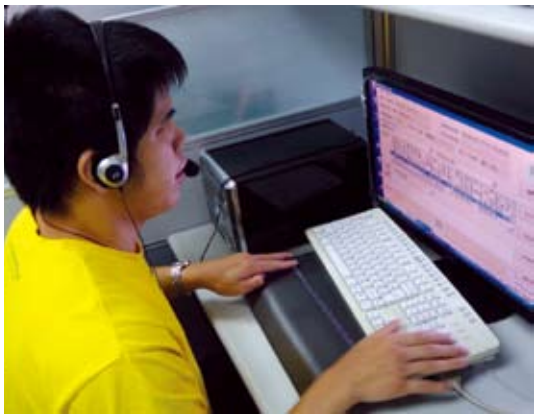
Chunghwa Telecom (CHT), as a domestic telecommunication service provider, is not only a friend to local communities, but also a major partner of the international telecommunication industry. With the development of science and technology, CHT has been able to overcome the barriers of telecommunication and move forward towards integration of Information and Communication Technologies (ICT). CHT will do the utmost to contribute to humankind's sustainability through incorporating the concept of Corporate Social Responsibility (CSR) in customer services and product development. CHT's corporate culture includes:

I. Ethical Operation and Development

By complying with the ethical codes and the values of sustainability, CHT serves the best interests of shareholders and contributes to the prosperity of related business.

II. Responsible Operation

By strictly following the rules of good corporate governance, comprehensive risk control, and information transparency, CHT managed to accomplish its annual operating target with the efforts of all employees and support from customers. In 2008, CHT's operating income reached NT$ 201.67 billion, which was approximately 1.54% of the GDP, and has thus become a leading corporation in the nation by contributing NT$13.89 billion in business tax.



Promoting the project of "Teleworking for the Visually Impaired with ICT."

III. Feedback to Stakeholders

1. Our Commitment to Employees: Rights and interests reassurance

Chunghwa Telecom offers a wide range of vacancies in order to increase employment opportunities. As to the rights and benefits, CHT introduced measures of occupational safety and health, and provides training programs for skills and capabilities as well as internal venture programs for employee development. For the purpose of human resource regeneration, CHT also brought in advance voluntary resignation and retirement programs.

2. Win Customer's Trust

Chunghwa Telecom presents e-mail filtering service to protect consumer privacy in compliance with domestic regulations. CHT also keeps improving service quality, reducing the negative impact of products and services, allocating resources for electromagnetic radiation studies, and giving proactive response to communication security issues, to win customer trust.

IV. Improve the Quality of Life

CHT aims to uphold the values of core business and telecommunications volunteer participation, bridge the digital divide, implement universal telecommunications services, promote e-learning, and create digital opportunities, enhance the local cultural, economic and industrial development, participate in international ADOC 2.0 (APEC Digital Opportunity Center) plans.

V. Responding to Climate Change

CHT was the first to complete greenhouse gas inventory, and has obtained a third-party certification in the domestic telecommunications industry; to promote staff being self-motivated on environmental protection, launched " Intelligent Energy Saving Services", continued innovation and ICT green technologies to provide vital support for low-carbon industrial development in the future.

We were the first to complete greenhouse gas inventory, and obtain third-party certification in the domestic telecommunications industry. We promote staff being self-motivated on environmental protection, launched "Intelligent Energy Saving Services" and continue innovation and ICT green technologies to provide vital support for low-carbon industrial development in the future.

Future Vision

In the world of sustainability, there is no unconditional growth. With respect to CSR fulfillment, in future, we will be more focused on paving the foundation for our core competitiveness, which is to create digital opportunities and environmental sustainability. We shall maintain focused on our core business, emphasize our professional competency, improve the operational efficiency and offer inspiring services to customers. Our ultimate mission is to become the most reliable and valuable ICT corporation.

Sustainable Enterprise Award

Corning Taiwan

Achievements

As the LCD industry grew, Corning started its Display business in Taiwan to provide glass substrates for active matrix liquid crystal displays (LCDs), also known as thin film transistor liquid crystal displays (TFT-LCDs). Our premium-quality glass substrates are used in notebook computers, flat-panel desktop monitors, LCD TVs, portable electronic and communications devices.

To meet growing customer needs, address government policies for industrial development and increase our overall competitiveness, Corning Display Technologies Taiwan was registered in 2000 and began construction on its first glass substrate facility that same year. By May 2001, Corning announced the completion of its first TFT-LCD glass substrate finishing facility in Taiwan, located in the Tainan Science-based Industrial Park. To keep pace with the rapid growth of the industry, Corning expanded the capability of its Tainan facility to include melting operations in March 2004. With this expansion, the Tainan plant became a fully integrated LCD glass substrate manufacturing facility.

In April 2004, Corning announced plans for a second LCD glass substrate manufacturing facility, located at the Central Taiwan Science Park in Taichung. The Taichung facility would focus on larger size glass substrates to meet the growing demand for LCD displays

Corning Taiwan, Taichung Plant


Corning Taiwan, Tainan Plant

Social Care Event in the Taichung Plant of Corning Taiwan

and televisions.

The grand opening ceremony for the LCD glass manufacturing facility in Taichung was held on January 11, 2006. The Taichung facility is among the world's largest LCD glass substrate manufacturing facilities and was designed to accommodate further expansion as needed based on customer demand. The completion of this facility is considered a milestone in Corning history due to the scale of the plant and speed with which it was completed. It is estimated that the Taichung facility is made of over 100,000 metric tons of steel – equivalent to more than 10 Eiffel Towers or two Empire State Buildings. Construction of the Taichung plant mobilized well beyond 20,000,000 hours of labor (about 10,000 man-years).

By the great effort from employees in Taiwan in past years, both Taichung and Tainan plants have become the most efficient manufacturing facilities for worldwide Corning and continue to demonstrate its commitment to Taiwan.

Future Vision

As the world's leading TFT LCD glass substrate supplier, Corning in Taiwan focused on providing the greatest total value to our customers while positively contributing to the lives and interests of our employees, our stakeholders and the communities where we operate.

To be world class manufacturing facilities, Corning Taichung plant and Tainan plant will focus on performance excellence, employees safety, product quality, environmental protection, emission and GHG control, people development, innovation and community relations.

At Corning Incorporated, corporate social responsibility is a proactive commitment to preserving the trust of our stakeholders. This commitment contributes to sustainable economic and environmental development through all our business activities – how we operate, what we sell, how we give, and how we support our people, the communities in which we operate and society at large.

Our commitment to corporate citizenship has been part of the very essence of our company for more than 150 years and will sustain our success today, tomorrow and far into the future.

The 1st glass substrate without heavy metal among domestic peers

4

National Sustainable Development Award Recipients

Sustainable Enterprise Award

CVC Technologies, Inc.

Achievements

Founded in 1979, CVC Technologies, Inc. started from pharmaceutical equipment and then HPLC(High Pressure Liquid Chromatography) instruments, after thirty years of development, CVC has build up a solid foundation not only through innovations in both product design and technological advances but also with a brand which customers perceived, trusted and loved. For years CVC has been supported by many pharmaceutical giants in the world, such as Pfizer, Abbott, Wyeth, Bausch & Lomb, YSP Taiwan, etc., and became one of the most famous and reliable providers of pharmaceutical equipment.

The bigger and stronger CVC is, the more CVC is conscious of requiting and responsibility. Being part of the global village, CVC is able and willing to make more contributions to the sustainable development on earth. There are two main trends in the pursuit of sustainability, the environmental protection and the human health security. CVC has taken these two as the primary principles when developing new technologies and products.

The eco-friendly HPLC CVC has been working on providing the best example; the idea came from the current practice of all HPLC instruments using great volumes of organic solvent. The solvent is dangerously toxic to both human health and environment and thus strictly requires a very complex procedure to collect the used waste to avoid contamination. Even when the solvent is well disposed of researchers staying in air-conditioned lab would still unavoidably inhale the toxic air because the solvent is highly volatile.

In view of drawbacks of current HPLC instruments, CVC intends to find an ultimate solution. Thanks to the nanoscale flow rate technology of high-performance liquid chromatograph, the new type of HPLC is able to reduce solvent down to 1/8000 of original consumption, meaning one gallon of solvent can allow the new HPLC to run 22,000 days while it can only last for 2.6 days when used in current HPLC. This green technology will truly set a trend of eco-revolution by greatly lowering the cost of solvent as well as improving environmental and human health.

Future Vision

Instead of the OEM and ODM used mostly by Taiwan's SME enterprises, CVC intends to pursue a different path by self-branding and innovative technologies. Inspired by the traditional craftsmanship, CVC is keen to do the best, becoming the most as a small-cap but ambitious enterprise.

Sustainable NGO Award

Taiwan Fund for Children and Families

Achievements

Taiwan Fund for Children and Families (TFCF), a child welfare organization that is going to celebrate its 60th anniversary, has supported over 185,000 domestic and foreign children in need to become self-reliant. Still, TFCF has kept introducing innovative programs that help disadvantaged families advance bravely, hold out hope, and reach out to others after attaining self-reliance. In this way, love circulates and nurtures everyone involved.

The scope of welfare services that TFCF provides is quite extensive, covering emergency relief to disadvantaged children and families, financial support, scholarships, group counseling, educational and recreational activities, care for abused children, protection and replacement services, foster care program, early intervention for children with delayed development as well as poverty reduction programs including Head Start Program, Youth Capacity Building Program and Family Development Account Program. Furthermore, TFCF has advocated and initiated the amendment of the Civil Code-Succession to exempt the heavy burden of children inheriting family debts. TFCF has also created job opportunities for disadvantaged families by developing social enterprises and has mobilized voluntary force to organize heart-warming

For almost 60 years, TFCF has always held the belief that wherever there is a need for child care, there is TFCF and has helped more than 185,000 children in need reach self-reliance.

activities. These are the tasks TFCF has actively and earnestly undertaken with its mission in caring for disadvantaged children and families.

It is worthy of praise that those children and families who had received help tend to value resources, be grateful and contribute to the community after they grow into independent adults or become better off. They not only make donations or sponsor children in need, but also organize TFCF volunteer groups and actively participate in community services, so as to link kindness, love and faith of many people to make the virtuous deeds sustain in our society forever.

Future Vision

Love is seeing your responsibility in the needs of others. Through immediate help, tender care and professional experiences in social work with the love of Christ, TFCF has extended assistance and love from Taiwan to international community regardless of race, gender, religion and nationality.

- To pass on our core values and missions: Our service is centered on the beneficiaries we serve. We will continue to work with children and families in need in order to make our core values known in society.
- To empower our organization: With our missions, teams as well as professional execution, we will utilize all resources efficiently to provide better, faster, and more focused services.
- To establish overseas offices: We will establish offices in areas where Chinese people live and work with volunteers to provide local disadvantaged children and families with services they need.
- To expand international services: By collaborating with ChildFund Alliance, we will continue to carry out the foreign sponsorship program and offer services worldwide to children in need.

TFCF also arranges foster families to protect abused children.

4

National Sustainable Development Award Recipients

Circulation of love : College students who once were TFCF-sponsored children and later became volunteers to help with the cleaning work in Typhoon Morakot-affected areas.

- To research and develop: We will utilize think tanks to research, advocate, and publish books related to our work.
- To manage and apply human resource: We will train our staff, set up a database of human resources and work with local volunteer groups to provide immediate local help to disadvantaged children.
- To continue localization, quality, innovation and extension: We will continue to initiate diverse services and programs according to environmental and social changes, integrate humanitarian care and environmental protection into our services and programs, and reach out to every corner of the society where care is needed. We hope TFCF will develop sustainably with love continuing to grow over time.

TFCF Love Stores are set up to provide job opportunities and trainings for the parents of TFCF-sponsored children to help their families escape poverty.

Sustainable NGO Award

Chinese Association for Relief and Ensuing Services (CARES)

Achievements

Over the past 60 years, the Chinese Association for Relief and Ensuing Services (CARES) has steadily evolved with a commitment to progress and innovation to fulfill its mission of "care, relief and service" and deliver professional social welfare services.

In partnership with government agencies, academic institutes, and non-profit organizations, CARES has made the following significant achievements:

1. Services for mainland spouses in Taiwan:

Fostering solid cross-strait marriages for sustainable family well-being

According to statistics compiled by the National Immigration Agency under the Ministry of the Interior, there were 281,845 mainland spouses permanently residing in Taiwan as of late August of 2009. Since 1999, CARES has provided various services to help this new group of immigrants to quickly adapt to Taiwanese society and establish happy families. These services include seminars on the legal and regulatory system in Taiwan, life and personal growth camps, parenting classes, emergency assistance, and telephone consultation services. Through its attentive care and active assistance, CARES has become like a second home to mainland spouses in Taiwan.

2. Cross-strait social welfare exchanges:

Promoting the sound and sustainable development of cross-strait social welfare services

In order to promote the sound development of cross-strait social welfare services and charitable work, CARES began in 2002 to arrange cross-strait social welfare seminars and exchange visits by related institutions. These activities have have already achieved the following several objectives:

(1) Building a platform for cross-strait social welfare exchanges

(2) Promoting the concepts of professional NPO management and sustainable care for disadvantaged groups

(3) Promoting the beauty of Taiwan: Through

CARES helps new immigrants to adapt to Taiwanese society.

exchange visits, mainlanders have experienced the beauty of the freedom and democratic systems of Taiwan

Future Vision

- Embracing Diversity: Respecting the cultural differences and unique qualities of guest groups, and helping others towards personal development
- Promoting Exchanges and Cooperation: Establishing partnerships, promoting cooperation, and moving forward together
- Aspiring to Excellence: Enhancing professional abilities and strengthening core competencies
- Innovative Services and Sustainable Development: Continuously reviewing, reforming and innovating to provide modern services and reorganizing social values to achieve sustainable empowerment

Cross-strait seminar, the platform to promote social welfare exchanges.

Holding joint exhibitions of cross-strait scholarly works

Sustainable NGO Award

Taiwan Nurses Association

Achievements

Taiwan Nurses Association (TWNA) is one of Taiwan's largest professional organizations in the nursing field. It exists to improve nursing professionality, enhance research, upgrade education, further public health and raise the international status of Taiwan's nursing profession. TWNA membership has been growing steadily and reached nearly 70,000 in 2009. To meet the needs of increasing members and rapidly advancing medical technology, TWNA regularly organizes around one hundred workshops for members each year. Registration fees for all TWNA activities have been wavied for members since 2009 in order to encourage participation and promote a general improvement in professional nursing quality.

4

National Sustainable Development Award Recipients

Implementing Sustainable Environmental Protection Measures:

In line with national policies on environmental sustainability and energy conservation, TWNA has since September 2007 launched an electronic system that allows members to check and update personal data online, register or renew membership, sign up for workshops, and download TWNA's three official e-journals. The system is now the main conduit for TWNA communication with all announcements posted by e-mail and on the web. These actions reduce waste generated by faxing and printing, significantly lower the use of toxic printer toners, and help move us closer to the ideal paper-free office environment and energy conservation.

Opening an E-Learning Era:

TWNA has established its e-learning Web in November 2008. The system was designed to provide nurses working irregular shifts or in remote areas with easier access to continual education opportunities and to save significant time and energy otherwise spent on commuting. So far, the e-learning Web has helped more than 60,000 members finish CE course requirements. Moreover, by offering standardized e-courses covering both basic and advanced levels, TWNA is able to reduce redundancies in terms of training costs and resources and effectively integrate medical and nursing education resources, achieving a true "win-win" model.

Promoting Quality Care within a "Health for All" Policy

TWNA has also worked with International Council of Nurses (ICN) on two international programs. The "Urban Girl Policy and Research Project", designed to mobilize nurses for ICN urban girl health initiative in 2007, helped develop strategies to improve the health of girls living in urban environments. And for the Quality Workplaces for Quality Care Campaign 2009, TWNA and ICN have worked together to enhance nursing care quality, maintain patient safety and promote a policy of health for all.

Future Vision:

1. International Relief and Social Concerns:

TWNA will continue to pay close attention to the demands of the international community and vulnerable people/groups, organize international medical humanity relief and rescue, provide training to help upgrade nursing care quality in developing nations, develop nursing specifically for disastrous situations, set up knowledge/expert systems for disaster prevention, recruit international volunteers, train members in disaster rescue skills, coordinate with government agencies on emergency rescue services, and equip nurses with necessary knowledge and skills to cope with disasters.

2. Professional Enhancement and Accreditation:

Besides accreditations of Certify Critical Care RN, Psychiatric Mental Health Nurse, Oncology Certified Nurse, Pediatric Critical Care Nurse, Certified Nurse, Operating Room, and Oncology Case Manager, TWNA will also accredit RN First Assistant and begin certifying Community Health Nurses in 2009. TWNA will work on expanding the scale and numver of workshops and encouraging participation as well as soliciting government funds for more research projects to promote a positive research environment.

3. Policy Involvement:

TWNA will strengthen nursing profession's influence on major health policies and work on enhancing nursing care quality and maintaining public health.

4. Partnership:

TWNA will also established liaisons with health-related organizations and actively work with government agencies to promote a safe working environment and quality national healthcare.

1. The Office of Taiwan Nurses Association
2. Information-based and e-Learning Web
3. The 29th Board of Directors Meeting
4. Over 600 members participated in a symposium on perioperative patient safety and fire prevention
5. ICN President Rosemary Bryant and TWNA staff
6. Nearly 200 TWNA members participated the 24th ICN Quadrennial Congress in Durban, South Africa

Information-based and e-Learning Web

Execution of Sustainable Development Action Plan Award

Urban and Rural Development Branch, Construction and Planning Agency, Ministry of Interior

First SWS Asia Chapter's Asian Wetland Convention

Achievements

Often called the "nurseries of life", wetlands are some of the most biologically productive natural ecosystems in the world. Not only are they a rich and dynamic habitat, they have many functions as well, from water filtration and quality improvement to flood control and shoreline stability in the event a typhoon or tsunami. In order to better promote native biological diversity, the National Council for Sustainable Development's Biological Diversity Group assigned the Urban and Rural Development Branch, Construction and Planning Agency, Ministry of the Interior to carry out the National Essential Wetlands operation. Wetland areas were evaluated, categorized and selected systematically from a local and regional approach. Despite a lack of wetland related laws and regulations, a National Essential Wetlands Distribution Map was drawn up for the first time after consulting with local governments, citizen organizations and the private sector.

During the 2007 National Parks and Green Network Conference (December 19-20), the Declaration of Wetland Conservation in Taiwan was announced in a ceremony and seventy-five National Essential Wetland permits were granted. The following year of 2008 was designated as Taiwan Wetlands Year, which saw the commencement of the Taiwan Wetlands Conservation Forum Series, the First SWS Asia Chapter's Asian Wetland Convention, and the National Essential Wetlands website, along with guided tours of wetland ecosystems, photo image collection and selection, compilation of relevant publications, and integration of marketing-related activities. Foremost in the list was co-hosting the First Asian Wetland Convention with the Society of Wetland Scientists International. That opportunity afforded Taiwan an excellent foundation with which to build an international exchange platform for wetland conservation, learning and research. In June of 2009, the Society of Wetland Scientists International recognized the outstanding contribution to the Asian Wetland Conference held by the government with a prestigious award.

For the first time, in 2009, the Urban and Rural Development Branch, Construction and Planning Agency, Ministry of the Interior granted financial aids to city and county governments, communities, and academic institutions that handle National Essential Wetlands ecological surveys and patrols. These contribute to wetland monitoring, protection and repair, and promote long-term study, planning and smart usage strategies in order to establish National Essential Wetlands' conservation, restoration and management methods, all the while serving to advance sustainable development of wetland areas in Taiwan.

Wetlands are located in various places: their scope, size and characteristics all different. Successful wetland conservation only happens with the contributions of

municipal governments, ordinary citizens and local communities. About 5,000 people have participated ever since the initial wetlands recommendation and selection process, through the disputed wetlands surveys, up until the National Parks and Green Spaces Conference and the First Asian Wetland Convention. As of now (2009), grants have been given to twenty-three wetlands in eighteen counties and cities for community patrols, supplies and services.

(A) National Essential Wetlands selection process: about 400 participants.

(B) Six surveys of thirteen disputed wetlands: about 500 participants.

(C) National Parks and Green Spaces Conference (Wetland System): about 1,200 participants.

(D) First Asian Wetland Convention: about 1,850 participants.

Map of Wetlands network

Future Vision

The completion of the National Essential Wetlands Distribution Map assigned by the National Council for Sustainable Development's Biological Diversity Group, allows the current seventy-five National Essential Wetlands to be used as the basis for incorporating vibrant ecological habitats of birds, mammals, amphibians, reptiles and more. Those areas will then be incorporated with coasts, rivers, and lakes, to form a networked wetland ecosystem together with Conservation Corridor for Central Mountain Core. Communities, academic institutions and non-governmental organizations can jointly promote wetland restoration, maintenance management, monitoring and evaluation, guided tours of wetland ecology, educational commentary and other activities to establish a volunteer manpower system.

Execution of Sustainable Development Action Plan Award

Greenhouse Gas Reduction Management Office of the Environmental Protection Administration, Executive Yuan

Achievements

Due to the ever pressing issues of global warming and climate change, the Environmental Protection Administration (EPA) has been actively working on domestic greenhouse gas inventory and voluntary reductions since 2004. The most recent achievement includes capacity-building on inventory, verification and reporting as the following details:

1. Inventory System: a pilot program on emission inventory began in 2004, which had promoted 30 factories between year 2004 and 2006 and lead to the completion of a standardized emission inventory procedure, associated application forms and technical manuals. The pilot program has further expanded to residential, commercial and transportation sectors in 2008. Up to now, the Taiwan EPA had assisted 95 factories in accomplishing their Inventories.

2. Verification System: began in 2007, which had completed piloting verification for 7 factories and 2 industrial associations. In 2009, the EPA has finished the Directions for Greenhouse Gas Validation and Verification Bodies Management and trained for over

Workshop on inventory procedures

150 verifiers.

3. National Greenhouse Gas Registry: established in July 2007, which had conducted the pilot inventory registration in industrial and energy sectors. Currently, the registry systems of IDB (Industrial Development Bureau) and BoE (Bureau of Energy) had been successfully integrated with EPA's Registry. Besides, the registry has introduced the information of over 30,000 stationary air pollution sources, and covered greenhouse gas inventories of 151 major factories which occupied 68.5% of combustion emissions from industrial and energy sectors.

The national greenhouse gas registry can be divided into 3 areas: the Industry Area, Verification Area and Administration Area. The services provided by these areas include information announcement, inventory registration and disclosure, reduction technology inquiry and information download, interaction and communication etc. The registry not only provides the service of emissions information upload for the industries, but also offers the information of latest international and domestic greenhouse gas information, reduction technologies and the achievement of industrial efforts on GHG management, which could help people acknowledge the progress of government's GHG management.

Future Vision

Taiwan's domestic actions on greenhouse gas reductions include the legislative approach of Greenhouse Gas Reduction Act and other continuous capacity building and promotion efforts. Aiming for a simplified application process, Taiwan EPA will integrate the National Greenhouse Gas Registry with Environmental Management System (EMS) and the stationary air pollution sources database. For enhancing administrative efficiency of electronic governance, the registry will establish the subsystems of verification management and reduction projects management (early action projects and offset projects). In addition, EPA will promote carbon footprint and design offset/trading platform in the coming future. All of these approaches are in order to help the national registry become a well function and complete information system for domestic greenhouse gas inventory and reduction management in Taiwan.

Conducting the industry trial inventory

2009 International Forum on Sustainable Development

CEO Tsai Tsun-hsiung made an opening speech in the Forum

The National Council for Sustainable Development (NCSD) held the 2009 International Forum on Sustainable Development on 9-10 June 2009 in Taipei. Dr. Jane Goodall, a UN Peace Ambassador and world renowned conservationist, and NCSD member Ms. Man-li Chen hosted the keynote address, while representatives from German NGO and Japan Council for Sustainable Development delivered nation-wise sustainable development strategies. In addition, members from sustainable committees of US Portland, Malaysia and Taipei City were invited to share their relevant sustainable city development results and experiences.

Jane Goodall : Hopes that all mankind could experience sustainable development

Dr. Jane Goodall in her opening speech conveyed clearly her expectations of sustainable development: "The criteria for global sustainable development are: first, improve the living environment of the poor and needy; second, the rich could adopt new values and third, people across the globe could live in harmony with their environment, so that all activities of mankind could experience sustainable development…"

She appealed to the public to face squarely the poverty and hunger crisis that strike many nations across the globe. Fortunately, mankind has wisdom and technology to solve all problems, while the earth has ability to self-heal. She just wanted people to think more globally, as part of one big family. If people could think more and start to change individual behaviors, the combined results could be phenomenal – better environment and a healthier earth.

Man-Li Chen : Every Policy Formulation Should Have the Participation of Women

NCSD member Man-Li Chen emphasized "Sustainable Development to Raise Mankind's Altitude" in her opening speech, and she demonstrated the importance of "Global Thinking, Grass-root Action" as the success DNA of Taiwan's sustainable development. Ms. Chen also pointed out that since women composed of nearly 50% of the population, it is critical that they have the rights to participate in any policy formulation. Women know how to live life and are excellent communicators and decision-makers. If women are

German NGO Forum on Environment and Development Director Jurgen Maier and NCSD Member Dr. Pen-Chi Chiang (right)

given the appropriate opportunity, they will demonstrate their abilities and contribute to society. In the sustainable development theme, women have constantly expressed their constructive opinions, for instance: the inclusion of Women and Sustainable Development Forum at the 5th International Conference on Asian and Pacific Coasts (APAC 2009) held in Singapore in October 2009 demonstrated the growing emphasis on inclusion of women's opinions.

Jurgen Maier : What We Really Need is Qualitative Growth

German NGO Forum on Environment and Development Director Jurgen Maier mentioned in his speech the efforts and results by the German Government and its people concerning sustainable development of recent years. He and Dr. Goodall unanimously declared the importance of curbing consumerism. He further pointed out that we should surpass the traditional definition of growth, because quantitative growth is meaningless with real qualitative growth.

Jurgen Maier pointed out that the traditional yardstick of economic growth is the Gross National Product (GNP). In the long term, GNP's growth is synonymous with the consumption of raw materials and precious resources. Following the same logic, renewable energy is unfavorable for GNP simply because wind and sunlight are free. From this example, it is obvious that using GNP as a measurement of living standards is absurd.

He emphasized: "Sooner or later, we all must move toward sustainable development." It is more important than ever that we treat this issue seriously, because those countries that rely on the past are doomed to become failures in the 21st century. They will be compelled to purchase sustainable development technologies from other countries, which in turn means higher cost.

Sharing of Sustainable Development Experiences - Infusion of Multi-faceted Voices

Secretary General of the Japan Council for Sustainable Development (JCSD) Ms. Miwako Kurosaka titled her speech "Strategies and Conditions of Japan's Sustainable Development." NCSD Member Dr. Pen-Chi Chiang and Deputy Executive Officer of Taipei Sustainable Development Committee Dr. Kuo-Yen Wei shared their experiences of Taiwan's sustainable development with speeches titled "Vision and Strategies for National Sustainable Development – the ROC Experience" and "Sustainable Development of Taiwan" respectively.

Director of Portland City Sustainable Development Dr. Robert Wise and the Institute for Environment and Development at the National University of Malaysia will also be exchanging views regarding Portland City and Malaysia's sustainable city development.

Around 300 people attended the forum including representatives from government agencies, county and municipal sustainable development councils, and civil organizations. National representatives exchanged experience in promoting sustainable development and this information was made available to all levels of government and citizens in Taiwan. Students ranging from elementary schools to universities were also invited to attend and express their views on sustainable development, demonstrating the spirit of legacy that will be passed down for generations to come. Indigenous youth from the Zhangshu Secondary School were presented at the opening ceremony and demonstrated Taiwan's multi-culture and vibrancy, infusing youth elements into the entire sustainable development forum.

The forum was warmly welcomed by all circles, and all related forum information and recordings were made available online at http://sta.epa.gov.tw/NSDN/ for reference.

Words from Our Members

Promoting Sustainability Requires Decisiveness and Implementation

by council member Yu Fanying, Chairman of the Yu Chi-Chung Culture & Education Foundation

Twenty years ago the China Times building was still next to the Danshui River. My colleagues and I used to arrive to work by boat or in land vehicles, and we all had to put up with the unsightly pollution in the river and the awful smells emanating from it. As a result, we became aware of the importance of sustainable development and environmental protection. Working in the media meant that we had a lot of contact with the government, which enabled us to work with policymakers in turning environmental protection into an issue of great public concern. We conducted surveys and interviews, and started to build up a picture of how badly polluted Taiwan's rivers really were. In 1990, the River Protection Team was established, comprising of a number of academic experts in the field, and the first symposium on river protection was held.

In response to the U.N.'s 1992 Agenda 21, the Executive Yuan established the National Council of Sustainable Development (NCSD). The council has been responsible for planning many major projects since then and overseeing the promotion of the action plans of each working group. This work has allowed the concept of sustainability, which is a hot topic internationally, to take root in Taiwan. The importance of the council is reflected in the fact that its members have risen through the government's ranks and that the head of the Executive Yuan is also the council's chief executive officer.

Experience garnered over the years has taught me that environmental impact assessments are particularly crucial in successfully promoting sustainable development. The prosperity of present and future generations depends on effectively balancing economic development with environmental protection. Thus any development project must first be thoroughly assessed for its future impact on the environment. It is also important that disputes arising from competing claims over resources are minimized. The overarching responsibility of the council is to ensure that government policy is in keeping with stated sustainability targets, hence it is not surprising that whenever a new project is discussed by the NCSD many interrelated aspects of government have to be taken into account. These include industrial policy, agricultural development, transport planning, and ecotourism.

The weather-related calamities of recent years have made many Taiwanese more aware of the pressing need for environmental protection and remediation. The National Land Planning Act needs to be passed so that proper, integrated management systems for the island's natural resources - the mountains, forests, water, and earth – can be implemented by both the government and the people. The government is in the process of being restructured, and decisiveness and implementation are required if the destruction of the island's mountains and rivers is to be halted. Many long-standing NCSD members are well aware that "development" has often been synonymous with "economy." This is shown by the fact that responsibility for economic development lies with the Council for Economic Planning and Development, which also has the power to implement policies. The NCSD, however, has relatively little authority, a state of affairs that will make promotion of the new law difficult.

We recommend that the efforts should be made to bolster the integration and continuity of the NCSD. This will facilitate the envisioned Ministry of Environment and Resources in its task of integrating environmental protection with the development of natural resources for the benefit of the island's residents and future generations.

Looking Squarely at Climate Change and Immediate Responses to Safeguard Our Environment

by council member Lin Chun-Shin, Chairman of Archilife Research Foundation

In August 2009, Typhoon Morakot swept across Taiwan causing heavy and widespread destruction, and so it is appropriate that we should look at weather-related disasters from the perspective of climate change. The world does not yet have a comprehensive model to explain climate change: IPCC experts are limited to the field of weather and there are a number of different inconclusive explanations for what is causing the major upheavals in our planet's climate, with CO_2 being the only commonly- recognized villain in the piece. Unfortunately, Taiwan has not been given the concern it deserves from the IPCC, and so it is probably better if the nation's academics and citizen groups did not rely too heavily on data and reports published by that organization. We should be developing our own explanations for local climate change in order to enhance our ability to forecast future trends and implement preventative measures. We must be able to save ourselves.

Since the disaster of August 2009, during its meetings NCSD members have reminded the government of the urgency for an overall review of disaster response, with special attention to be paid to summertime disasters. The summer of 2009 was particularly hot, and Typhoon Morakot formed closer to the equator and moved slowly. By the time it reached Taiwan it was carrying an enormous amount of rain. Consequently, when Morakot met the Central Mountain Range its swirling gusts became stuck in local topographical basins in southern Taiwan and the extraordinary amounts of rainfall that fell in those places was what caused the destruction.

In fact, Typhoon Kalmaegi the previous year was almost identical in form to Morakot, but as it didn't cause a disaster, the government didn't take it as a warning to upgrade flood prevention measures. Extreme weather also reflects in the distribution patterns of diseases in tropical countries: for example, cases of dengue fever in Taiwan are occurring both in the south and, in recent years, further north. The spread of such diseases is a cause for concern and preventative measures need to be put in place as soon as possible.

The draft of the National Sustainable Development Strategic Guidelines that was revised during the latter half of last year is a step in the direction of disaster prevention. Also under discussion are policies and measures to reduce disasters caused by ecological abnormalities, the spread of diseases, and landslides. A policy for responding to destructive land subsistence and efforts to improve the prediction of droughts and typhoon flooding are also being discussed. It is hoped that such measures will greatly enhance the firepower of the nation's disaster-prevention arsenal.

During my term on the council I have been particularly involved in the working groups on biodiversity, and health and welfare. It is clear that we need to effectively reduce ecological aberrations in order to alleviate worries over the spread of tropical diseases to temperate areas and the possibility of famines occurring.

I have spent eight years on the council and have been impressed by the positive changes and hard work of its members in recent years. The citizens' representatives have been effective in overseeing government policy; the work teams have been open to suggestions and have got things done. Even though political leaders and ministers have changed as a result of the KMT regaining power, the action plan is still being implemented smoothly and good results are already apparent. One of the reasons for this is the selection of the most qualified personnel as a result of strict civil service examinations.

In a democratic society, it is the civil servants implementing policy who are the cornerstones of a stable government structure. Many years on the council interacting with personnel on various agencies has left me with the impression that Taiwan officials are generally well-educated, responsible, accommodating and keen to learn. They are particularly helpful and friendly when seeking advice from academics or citizen groups. Frankly speaking, government officials deserve more plaudits than they generally receive and the NCSD - with its unswerving devotion to the public interest – is no exception.

Sustainable Development Policy to Look Beyond the Century

by council member Ling-Ling, Lee, Professor of Institute of Ecology and Evolutionary Biology, National Taiwan University

The NCSD was established according to Article 29 of the Basic Environment Act to develop "relevant strategies and policies on national sustainable development matters… [which] shall be conferred to relevant cabinet-level agencies for execution." However, the NCSD serves as more of an auxiliary or advisory body rather than a policy making body. Council members consist of government officials, scholars and experts, and civic groups. Thus it still provides a forum for dialogue between the government and the people, with both sides discussing a diversity of views on sustainability issues from different perspectives. Such discussion allows different government agencies to integrate their work and keep on track with international trends.

Sustainable development policy should be borne from contemplative long-term planning, and should be more farsighted than the national comprehensive development plans of political parties. When planning sustainable development policy many progressive nations often look ahead at global development trends over the next fifty or even hundred years and formulate a vision, targets and strategies for development based on their own advantages, limitations and opportunities. The process of formulating policy often provides numerous opportunities for different stakeholder representatives to express their views and develop a consensus. While this process may take a lot of time, once a consensus is reached and policy is confirmed, the implementation of policies is rarely affected by political party changeovers or shuffling of personnel. Such policies are also more likely to receive the support of the general public.

If Taiwan's sustainable development policy could focus more on long-term planning and set lasting objectives, policy themes and a work schedule, government agencies would be able to follow a clear path in implementing related work. The NCSD is currently drafting Sustainable Development Policy Guidelines for use within the Executive Yuan framework to formulate and confirm NCSD working group strategies and action plans. These guidelines will help confirm which tasks are to be carried out by each government agency to ensure important work is implemented on a continuous basis.

Taking the Working Group on Biodiversity for example, in 2001 the Executive Yuan approved the "Biodiversity Promotion Plan" in 2001, calling on each agency to partake in some aspect of implementation. In order to implement this immense plan, the NCSD prioritized certain work to include in action plans, followed up on implementation performance according to working objectives and schedules, and conducted rolling evaluations on a regular basis. From 2008, the Working Group on Biodiversity was able to get on track with international trends and evaluate and update action plans in line with the seven focal areas of the 2010 Biodiversity Target set forth by the Convention on Biological Diversity to ensure Taiwan's biodiversity work results accord with international objectives. Over the last few years of hard work we are pleased to find that many agencies are already recognizing the connection between biodiversity and their affairs, and are putting action plans into effect with noticeable results.

For example, some important achievements have been made in the area of wetland conservation – an area that had been neglected in the past and had no special regulations. These achievements were commended with the National Sustainable Development Award. Academia Sinica's Biodiversity Research Center established the Taiwan Biodiversity Information Network, which has come to serve as the official website for the latest information on species in Taiwan. The network is available for all to search and represents another successful step for the Working Group on Biodiversity.

Many of the NCSD working groups' action plans have not been updated and follow-up evaluation mechanisms are usually relegated for each government agency to perform on its own. In this respect we still lack coordination and integration across agencies. Moreover as civil members of the Council only serve one-year terms, the turnover rate is too high, possibly preventing some members from showing their full potential. In this respect, too, there is surely room for improvement. Our greatest hope is that the NCSD can assist the government formulate a vision, objectives, strategies, and plans for sustainable development, and put more effort into evaluating the performance of sustainable development initiatives. The government will then be able to follow a clear path to achieve sustainable development objectives for the benefit of the entire nation and its people.

Dealing with Climate Change - Suitable Responses and Adjustments Are As Important As Saving Energy and Reducing Carbon Emissions

By council member Chiang Pen-Chi, professor at NTU Graduate Institute of Environmental Engineering

The National Council for Sustainable Development (NCSD), in its initial stages, first established the cross-ministerial Executive Yuan Global Environmental Climate Change Working Group for Non-Domestic Work Reports in 1992. In 1994, the team was expanded and renamed the Executive Yuan Global Environmental Climate Change Policy Guidance Working Group. The team was responsible for promoting sustainable development in Taiwan, in keeping with the agreements set out in international accords on environmental protection. In recent years, successive governments have been responding to international trends by diverting more resources to sustainable development. As a result, the council's status has risen, and rather than the former method of appointing a council member to serve as chairman and deal with political affairs, now the nation's premier and vice-premier are appointed CEO and vice-CEO of the council.

Sustainable development is a wide-ranging issue that reverberates through all levels of society. The council's make-up was revised in 2000 to make it more representative and also to bring in more diverse opinions by allowing representatives from corporations and citizen groups to serve on the council. These opinions are now a valuable source of reference for the working teams that promote the committee's policies. In 2009, the new government drew up the Sustainable Development Policy Guidelines that bases the promotion of sustainable development on the expectation that present and future generations will enjoy a quiet environment rich in biodiversity, an open and vibrant economy, and a safe and harmonious society to live in.

One of the measures being implemented as a result of the Sustainable Development Policy Framework is the Eco-Industrial Park demonstration plan, which aims to balance environmental protection and economic development. This is a part of the overall effort to promote the national objectives of energy conservation, carbon reduction, and green production. The plan emphasizes the ecological aspects of industrial parks through the establishment of eco-friendly supply chains so that the parks can be transformed into self-sufficient systems that will produce little pollution and have minimum impact on the environment.

The current work of planning for sustainable development has to take into account the sizable impact of the extreme weather patterns of recent years on our lives, particularly the susceptibility of Taiwan to the sort of disasters that rapid climate change is exacerbating. Typhoon Morakot was a good example, and reports produced by a number of experts have recommended that the reconstruction work should cover five major aspects. These are:

- **Environmental monitoring and control**
- **Disaster assessment and control**
- **Reclamation and zone planning of disaster areas**
- **Support and guidance for disaster victims**
- **Establishment and assessment of information channels**

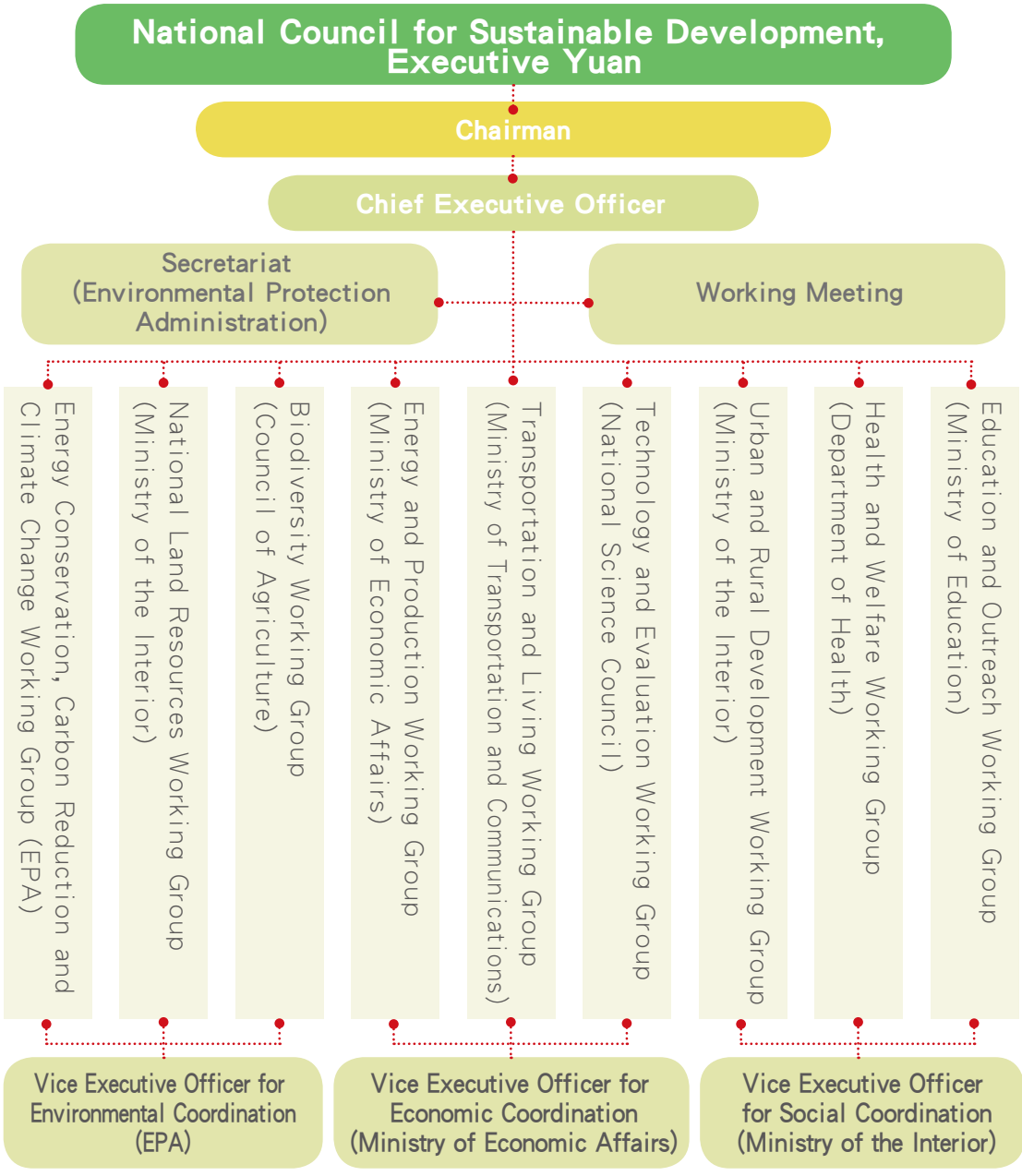
In terms of policy planning, promotion of the national Energy Conservation and Carbon Reduction campaign must go hand-in-hand with suitable responses and adjustments to real situations. The best way to bring about a low–carbon lifestyle for all is to coordinate the efforts of all of the involved stakeholders – manufacturers, academic experts, government officials, environmental protection groups, community organizations, etc – while promoting the concepts of community building and tidy home environments.

Looking to the future, the expected establishment of the Ministry of Environment and Resources will facilitate the integration of drainage area management, taking the drainage area as the administrative unit. This should lead to better overall planning as regards the use of water resources; water quality maintenance; erosion prevention and flood control in the mountains; protection of coastal areas; and land reclamation. Another objective will be the designating of a major river in each county as a "clean river." The nine major rivers in Taiwan are the Danshui, Nankan, Laojie, Zhuoshui, Sinhuwei, Lanshui, Jishui, Erren, and Ai, and one of the specific targets will be to clean up these rivers to the point that they no longer emit odors. To bring this about we suggest that assessments should be carried out for five general criteria: Water purity, ecological sanctity of drainage areas, vitality of riverbank environments and use of riverbank resources, administrative competency, and degree of public participation.

Appendix

Appendix I

Organizational Structure of NCSD



Appendix II

The Members of NCSD

Government official members

Name	Position Organization
Wu Den-yih	Premier, Executive Yuan
Tsai Tsun-hsiung	Minister without Portfolio and Chairman of Council for Economic Planning and Development, Executive Yuan
Chiang Yi-hua	Minister, Ministry of the Interior
Wu Ching-ji	Minister, Ministry of Education
Shih Yen-Shiang	Minister, Ministry of Economic Affairs
Mao Chi-Kuo	Minister, Ministry of Transportation and Communications
Chen Wu-hsiung	Minister, Council of Agriculture
Lee Lou-chuang	Minister, National Science Council
Yang Chih-Liang	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
Lu Shiau-Yun	Assistant Professor, Department of Marine Environment and Engineering, National Sun Yat-sen University

Name	Position Organization
Chang E. E.	Professor, Department of Biochemical Science, Taipei Medical University
Chang Ssu-Li	Professor, Institute of Planning, National Taipei University
Chen Horng-Yue	Professor, Department of Geosciences, National Taiwan University
Huang Chung-Huang	Professor and Dean, School of Transportation and Tourism, Kainan University
Liao Huei-chu	Professor, Department of Economics, Tamkang University
Jian Pen-Chi	Professor, Graduate Institute of Environmental Engineering, National Taiwan University
Shaw Daigee	President, Chung-Hua Institution for Economic Research

NGO representative members

Name	Position Organization
Yu Fan-ying	President, Yu Chi-Chung Cultural and Educational Foundation
Lin Chun-Shin	Chairman, Archilife Research Foundation
Lin Yao-guo	President, Society of Wilderness
Zhou Sheng-hsin	Director, Thousand-mile Trail Planning Center
Zhou Chun-di	Founder and President, Conservation Mothers Foundation
Chen Lih-horng	Director, Taiwan Institute of Urban Planning
Chen Shih-chang	Chairman, Formosan Society for Indigenous Sustainability
Liu Li-chu	Director, Cycling Life-Style Foundation
Lo Shang-Lien	Director, Taiwan Environmental Management Association
Hsieh Chang-fu	Director, Biodiversity Association of Taiwan