

行政院國家科學委員會專題研究計畫 成果報告

氣候變遷下的永續環境治理：法律與政策的因應模式--氣候變遷減緩與調適措施之財務機制(I) 研究成果報告(完整版)

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行政院國家科學委員會補助專題研究計畫成果報告

氣候變遷下的永續環境治理：法律與政策的因應模式—

氣候變遷減緩與調適措施之財務機制(I)

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成果報告類型(依經費核定清單規定繳交)：精簡報告 完整報告

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壹、報告內容

前言：

甫於 2009 年 12 月在哥本哈根落幕之氣候變化綱要公約第 15 次締約國大會所發表的「哥本哈根協議」，雖然沒有得到所有締約國的共識而獲得締約國大會的通過，但還是有一份相當具有指標性的文件，於僅有 12 段內容之「哥本哈根協議」中，就有高達 7 段是提及有關財務資源的重要性，此顯示財務機制於氣候變遷之減緩與調適措施的設計以及執行上的重要性。因此，全球氣候變遷之國際管制架構下設置包括全球環境設施、調適基金等各相關財務機制，此外，其他相關國際組織，包括世界銀行等亦設立各式之財務機制，試圖取得或動員足夠的財務資源，協助其會員國進行氣候變遷之減緩與調適。由此可知財務機制於氣候變遷治理下的重要性，本計畫第一個研究目的即為就重要之國際氣候變遷財務機制加以分析，並歸納出相關制度設計的關鍵要素。

就我國氣候變遷相關財務機制的設計，本計畫將分對外與對內兩層次討論。對外之財務機制係指我國的外援政策是否可以或如何將氣候變遷此一國際重要環境議題主流化，據此實際達成協助我邦交國的目的。對內之財務機制則涉及公部門應如何針對我國之氣候變遷減緩與調適政策，設計出適當之財務機制。以氣候變遷減緩而言，我國預計運用之經濟誘因政策工具（排放權交易、能源稅）得如何參考國際間及其他國家的運作經驗，設計適合我國的相關機制。以氣候變遷調適而言，本研究將分析是否可整合目前國內各類與環境議題相關之基金，於我國成立「氣候變遷調適基金」的可行性，再者，本研究亦將分析應透過何種方式提供私部門協助履行相關政策的誘因。本研究於針對國內相關財務機制的設計建議，將參考前述就國際相關財務機制所得出的分析成果。

研究目的：

本研究主要的研究目的有二：第一、針對國際間重要之氣候變遷相關的財務機制進行研究與分析——包括於氣候變遷管制體制（氣候變化綱要公約以及京都議定書）下以及其他重要國際組織（例如聯合國以及世界銀行）中之各類型的財務機制進行研究，就該些國際相關之財務機制（成功或失敗）的運作經驗加以分析，希望藉此歸納出成功之財務機制運作所需之制度設計要素、亦或是失敗之財務機制係因為哪些制度設計要素的關係。於完成第一個研究目的之後，以相關研究成果作為第二項研究目的——針對我國對外與對內之相關財務機制提供具體的政策建議——的基礎：所謂對外之財務機制，主要係指我國的外援政策是否可以或如何將氣候變遷此一國際重要環境議題主流化，特別是考慮到我許多邦交國均深受氣候變遷此一環境問題之苦、亟需相當龐大之財務資源以進行氣候變遷之調適；至於對內之財務機制，則主要涉及針對公部門應如何針對我國之氣候變遷減緩與調適政策，設計出適當之財務機制，包括是否可整合目前國內各類與環境議題相關之基金、成立「氣候變遷基金」、以及是否可透過經濟誘因類之管制工具，提供私部門參與並協助公部門進行氣候變遷之減緩與調適之誘因。

本年度之研究計畫重心為第一項研究目的中有關成功之財務機制運作所需之制度設計要素。

文獻探討：

有關本計畫主要之研究議題（氣候變遷的財務機制），於國內目前並無完整的相關研究文獻：例如於「中華民國期刊論文索引系統」以關鍵字查詢，輸入「財務機制」之關鍵字，出現 23 篇文獻，但均無針對氣候變遷議題之討論；輸入「氣候變遷之財務機制」、「氣候變遷減緩」、「國際財務機制」之關鍵字則未出現任何文獻；輸入「氣候變遷調適」之關鍵字僅出現 1 篇文獻，該文係以介紹 UNDP 與 GEF 所共同出版之「氣候變遷調適策略綱領」於我國運用之可行性（郭彥廉，2008.7）；輸入「Global Environment Facility」之關鍵字，則出現同一篇文獻；輸入「氣候變化綱要公約」以及「京都議定書」則出現較多文獻，前者共有 158 筆、後者則有 295 筆，上述之文獻有些係重複，並可以下列四大主題簡略歸類之：第一、公約/議定書之介紹以及參與締約國大會之報告，第二、各部門、各產業（住商部門、營建部門、鋼鐵業、石化業、產業整體等）、或企業之因應對策或公約/議定書將對之所造成之衝擊，第三、科技面（例如再生能源類）以及減量策略，以及第四、各國（例如日本、美國、歐盟）對於公約以及議定書之因應對策介紹；若另個別輸入「清潔發展機制」（32 篇）、「排放權交易」（36 篇）、「排放交易」（53 篇）、「彈性機制」（20 篇）、或「京都機制」（8 篇）等關鍵字，亦可以下列三大主題簡略歸納之：第一、經濟面與產業面之文獻，第二、技術面，第三、制度介紹性質，包括各國之比較。以上之國內文獻中與法學研究較為相關者為：針對氣候變化綱要公約進行介紹（葉俊榮，2004.2），探討京都議定書下之三種彈性履約機制（排放權交易、JI、CDM）以及／或其與世界貿易組織下之國際貿易規則間的法律關係（施文真，2005.7&2008.10、范建得&蘇義淵，2006.9、范建得，2008.3、許耀明，2007.6）等。至於有關我國援外政策，輸入「外交援助」（5 篇）、「外援政策」（7 篇）、「援外政策」（40 篇）等關鍵字，顯示之文獻有些為分析數個已開發國家之外援政策，與我國之外援政策較為相關的文獻則包括介紹我國之援外政策（李登科，1999.12）以及討論民間團體與外援政策的關係（官有垣，邱瑜瑾，2003.3、官有垣，2002.12、林德昌，2004.1），惟相關文獻均討論與本研究計畫相關的議題。

與本計畫相關之外文文獻為數不少，除了學術專書以及期刊論文之外，許多民間團體、研究機構或國際組織亦針對相關議題於網站上發表法律面、經濟面、政策面、實務面等研究報告或立場文件。本計畫預計國際組織的出版品、學術性之專書與法學期刊論文為主要之參考文獻，若干研究機構以及國際組織之研究報告亦會選擇較具有專業性、法律性以及實務面之文獻。以氣候變遷之財務機制為例，國際組織之出版品包括 UNEP 於 2008 年所出版之兩份報告均針對如何動員公、私部門之資源建構有助於氣候變遷的財務機制（UNEP，2008a & 2008b），世界銀行於其年度發表之「世界發展報告」（2010）中針對氣候變遷對於發展與弭貧所造成之影響、以及相關財務機制提出其作法，此外，Bancal, Jean-Charles, 2009 與 Takacs, David, winter 2009 則針對氣候變遷公約下之財務機制以及如何透過「碳交易」作為氣候變遷調適之財務機制，另，Schipper, E. Lisa F. & Burton, Ian (eds), 2009 一書則針對氣候變遷之調適進行詳細之介紹，其中一章由 UNFCCC 執筆，則簡介於調適策略所需之投資與財務資源。由於國際間針對氣候變遷之財務機制還處於發展快速的階段，因此，許多新設計出的財務機制尚未有專門的文獻加以分析，僅有歷史較為悠久的全球環境設施（GEF）有相當多之分析文獻，但此類之文獻均多出現於 GEF 設立以及經重組後的時間點（約 1990 年代中期）。由於許多財務機制涉及投資與貿易政策工具，也因此與本議題相關的許多之文獻均以分析該類財務機制與世界貿易組織下之國際經貿法的關係為主，有關該些相關文獻，可參考施文真 2005.7&2008.10 兩文中所列出的外文文獻。

研究方法：

本研究將主要以文獻蒐集與審查的方式進行。由於與本研究計畫相關的國內學術期刊類之文獻不多（特別是本計畫第一、二年預計完成之研究議題），故本研究將主要針對國外之文獻進行蒐集以及分

析的工作，並據此提出分析的結果。國內之資料來源則包括中華民國期刊論文索引系統、全國博碩士論文索引等電子資料庫所蒐集之相關學術期刊論文以及博碩士論文。英文文獻資料的來源包括有：透過 Lexis-Nexis, WestLaw 等線上提供全文之外文期刊資料庫，蒐集與研究主題相關之學術期刊，由於此類資料庫大多收集北美洲所出版之期刊，因此，由歐洲出版之期刊，則預計透過圖書館所提供的館際合作方式，向國內以及國外之圖書館借閱。

此外，針對本研究議題，國際間的發展與變化相當快速，因此，除了學術期刊論文之外，各國政府、國際政府間組織、民間團體、以及學術研究機構的網站中，不僅針對本研究議題之最新發展加以報導，也提供許多即時之分析與研究報告，特別是以下幾個組織之網站—聯合國氣候變化綱要公約 (UNFCCC)、聯合國環境署 (UNEP)、聯合國發展署 (UNDP)、世界銀行 (World Bank)、聯合國貿易與發展會議 (UNCTAD)、世界企業永續發展協會 (WBCSD)、國際環境法中心 (CIEL)、國際環境法與發展基金會 (FIELD)、國際永續發展機構 (IISD)、紐約大學法學院國際法與司法機構 (IILJ) 下有關國際氣候財務之研究團隊、國際貿易與永續發展中心 (ICTSD)、氣候基金更新網 (Climate Funds Update) 主要已開發國家 (歐盟、美國、英國、日本等) 之海外援助機構等等，此等組織之網站以及研究成果亦是資料來源之一。

結果與討論 (含結論與建議)：

本計畫簡要的針對目前國際間有關氣候變遷之減緩與調適措施的財務機制，就其定義、分類、以及制度設計的三大要素做一簡要的說明，並介紹三個運作較成熟、又具有高度之國際關注的財務機制 (GEF、CDM、EU ETS)。此一研究課題對我國有以下兩個重要之啟示：第一、對內而言，參考國際間不同類型之財務機制運作的經驗，擷取運作良好且有效之經驗，以據此設計適合於我國引進之氣候變遷減緩與調適措施之財務機制，第二、對外而言，為更有效參與氣候變遷之國際事務，於瞭解各類型之財務機制的參與所需付出之成本、以及參與可獲得的利益，方得選擇適合且法律上有空間允許我國參與的國際、區域、或雙邊財務機制。但欲深度瞭解氣候變遷之財務機制，有必要針對不同類型之財務機制，於實務上運作的案例一一加以介紹，以據此修正或驗證制度設計要素的指導原則，此需要更為詳細之分析，此將為本研究者將陸續於第二年之研究計畫中進行之研究對象，也希望本文粗淺地針對此一研究課題所提出的初步觀察，引發其他更優秀之研究者對此一研究課題的研究興趣。

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參、計畫成果自評

本研究主要的研究目的有二：第一、針對國際間重要之氣候變遷相關的財務機制進行研究與分析，就該些國際相關之財務機制（成功或失敗）的運作經驗加以分析，希望藉此歸納出成功之財務機制運作所需之制度設計要素、亦或是失敗之財務機制係因為哪些制度設計要素的關係。於完成第一個研究目的之後，以相關研究成果作為第二項研究目的——針對我國對外與對內之相關財務機制提供具體的政策建議——的基礎。本年度之研究計畫重心為第一項研究目的中有關成功之財務機制運作所需之制度設計要素，研究計畫之成果符合本項研究目的。此外，本計畫之研究成果，與研究者另一針對國際經濟組織之治理改革經驗的國科會計畫（國際貨幣基金治理體系之改革，NSC 99-2410-H-004-153-）之研究成果相結合，此一結合不同類型之國際財務機制（氣候變遷、國際發展援助）的研究，於學術上尚未有學者加以嘗試，故此部分之研究成果已投稿至 TSSCI 期刊，現正進行審查中，於應用上，此亦有助於本計畫於後續之研究計畫中接續完成第一個研究目的中有關成功之財務機制的運作準則，以便以此為基礎進行第二個研究目的之研究內容。

1. 前言

於2009年12月在哥本哈根落幕之氣候變化綱要公約（UN Framework Convention on Climate Change，以下UNFCCC）第15次締約國大會，雖然使得眾多觀察家大感失望地未針對所謂「後京都時代」下幾個重要議題（例如減量義務）達成共識或具有法律拘束力的大會決議，但在幾個主要的締約國進行最後協商的狀況下，通過一份相當重要的文件——所謂的「哥本哈根協議」（Copenhagen Accord）。該份協議雖然沒有得到所有締約國的共識而獲得締約國大會的通過（締約國大會僅「注意到（takes note）」此一協議），但協議中所列出的一些後續行動的原則，預計將發揮一定程度之政治影響力，說服各締約國朝其所列之目標邁進。¹於僅有12段內容之「哥本哈根協議」中，就有高達7段（第3、5、6、7、8、9、10段）是提及有關財務機制／財務援助／財務資源需求的重要性。

此一結果並不意外，畢竟氣候變遷之減緩與調適措施的設計以及執行需要投入相當鉅額的成本與資源，²也因此於UNFCCC之條文中，第4條第3項要求已開發締約國應提供新的、額外的財務資源供開發中締約國履行公約之義務、第12條第3項進一步要求已開發締約國應將如何滿足此一義務之執行細節列入應提交至締約國大會的國家通訊中、第11條建立了公約的財務機制，並以全球環境設施（Global Environment Facility，以下簡稱GEF）作為公約的財務機制；同樣，於京都議定書第11條第2項第a款有類似UNFCCC第4條第3項之規定，並設置了「調適基金」（Adaptation Fund，以下簡稱AF），此外，京都議定書中所設計出協助已開發國家履行該等締約國於議定書下所負有之減量義務，亦訂定了三項所謂的京都機制——排放權交易、清潔發展機制、共同履行，透過此三項京都機制，亦提供不少開發中國家所需之財務與技術資源，亦屬於廣義之財務機制的一環。於後續歷次的締約國大會中，亦陸續成立「低度開發國家基金」以及「特別氣候變遷基金」，並針對京都機制的運作規則詳加規定。

除了於氣候變遷之國際管制架構中，其他相關國際組織，包括聯合國及其所屬機構、世界銀行與其他區域開發銀行，亦針對如何協助其下之各會員國進行氣候變遷之減緩與調適（主要針對協助開發中國家與低度開發國家進行氣候變遷之調適），透過財務機制的運作，取得或動員足夠的財務資源。以世界銀行為例，其下之「碳融資小組（carbon finance units）」即透過管理12種不同之所謂的「碳基金」，掌握因京都機制以及歐盟之溫室氣體排放權交易機制的啟動後，所帶來對特定開發計畫所產出之溫室氣體減量單位的國際市場需求，媒合來自已開發國家政府以及私部門的基金，於開發中國家進行投資，並與四大區域開發銀行合作，設立「氣候投資基金」，增加投入開發中國家因應氣候變遷議題之資源。由此可得知，財務機制於氣候變遷的相關管制措施中，係為氣候變遷治理中相當重要的制度設計面，因此，本篇文章將以氣候變遷的財務機制為研究對象，首先於第二部分針對其定義與分類進行介紹，

*本部分之計畫成果已於「氣候變遷下的永續環境治理：法律與政策的因應模式」（臺灣大學法律學院環境永續政策與法律中心主辦，2010.10.9）口頭宣讀，目前正進行專書論文集的編輯工作。

¹ 自第15次締約國大會之後，陸續有公約之締約國提交願意被列入哥本哈根協議前言、表達同意此一協議之書面信函，截至2010年9月23日為止，於194個締約國中，已有139個締約國將此類信函送交至秘書處，顯示此一協議的重要性於締約國之間具有相當高的共識。

² 「政府間氣候變遷小組」（Intergovernmental Panel on Climate Change，以下簡稱IPCC）於其第四版評估報告指出，欲於2050年將全球溫室氣體降低百分之五十，預估需付出GDP百分之一到三的成本。Barker, T.I. et al, Technical Summary, in: *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (2007).

第三部分簡單介紹目前國際間或區域間較為重要的財務機制之運作，於瞭解氣候變遷財務機制之概念與實務後，第四部分將分析氣候變遷財務機制於設置以及運作上，應注意的重要制度運作要素與原則，以做為我國未來設計或參與本國或國際間之氣候變遷財務機制時的參考依據。

2. 定義與分類

2.1. 財務機制之定義與功能

財務機制於商業上可定義為：「例如銀行貸款、債券或股份、準備金或積蓄、銷售利潤等資金獲取之方法與管道」。³於 UNFCCC 之官方網頁中所編纂的氣候變遷詞彙釋義（Glossary of climate change acronyms）中將「財務機制」解釋為：「已開發國家締約國（附件二締約國）應提供財務資源協助開發中國家締約國履行公約。為此，公約建立一財務機制以提供開發中國家締約國資金。公約之締約國依據每四年一次之審查，持續性的指派全球環境設施（Global Environment Facility，以下簡稱 GEF）運作其財務機制。財務機制必須對締約國大會負責」。⁴參考上述定義，本文將氣候變遷之財務機制定義為：經由一特定機構，透過一套制式之標準與程序，募集與分配資金，以提供國家進行氣候變遷之減緩與調適工作。

除了財務機制之外，目前於國際間進行類似的討論時，也使用「氣候融資」（climate finance）⁵或「碳融資」（carbon finance）⁶等名詞。基本上觀察該些名詞所使用的背景與上下文，其所代表的意義應與前述之財務機制的定義相同，基本上均涉及資金的來源、資金的分配、以及資金管理之制度（包含機構、規則、程序等）。故，於本文中將統一使用「財務機制」一詞。

氣候變遷之財務機制主要目的當然係以資助國家採取與執行氣候變遷之減緩與調適措施，依據著名之智庫「世界資源機構」（World Resources Institute）針對氣候變遷之財務機制的研究指出，氣候變遷財務機制通常有七大功能：監督（oversight）、資源動員（resource mobilization）、資源分配（resource allocation）、計畫週期管理（project cycle management）、標準化設定（standard setting）、科學與技術諮詢（scientific and technical advice）、課責（accountability），於此七大功能中，該財務機制亦具備相對應之角色，整理如表一：⁷

表一：氣候變遷財務機制之功能與角色

³ “Method or source through which funding is made available, such as bank loans, bond or share issue, reserves or savings, sales revenue.” Available from: <http://www.businessdictionary.com/definition/financial-mechanism.html> (last visited: 2010/10/1).

⁴ “Developed country Parties (Annex II Parties) are required to provide financial resources to assist developing country Parties implement the Convention. To facilitate this, the Convention established a financial mechanism to provide funds to developing country Parties. The Parties to the Convention assigned operation of the financial mechanism to the Global Environment Facility (GEF) on an on-going basis, subject to review every four years. The financial mechanism is accountable to the COP.” From the Glossary of climate change acronyms, available from: http://unfccc.int/essential_background/glossary/items/3666.php#F (last visited: 2010/10/1).

⁵ 例如一本紐約大學出版之相關著作即以「氣候融資」為其書名：Steward, R.B., Kingsbury, B. & Rudyk, B., Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development, NYU Press (2009).

⁶ 例如世界銀行即使用「碳融資」一詞，可參考其所屬之「碳融資小組」（World Bank's Carbon Finance Unit）之網頁：<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,menuPK:4125909~pagePK:64168427~piPK:64168435~theSitePK:4125853,00.html> (last visited: 2010/10/1)

⁷ Ballesteros, A. et al, Power, responsibility, and accountability: re-thinking the legitimacy of institutions for climate finance, figure 1 at p.7 (November 2009).

功能	角色
監督	訂定政策、優先計畫與適格條件
資源動員	信託基金的挹注 由執行機構與私部分獲取額外來源的資金
資源分配	於多個主要議題（例如減輕、調適、森林）間分類資源於符合資格之接受者間設定優先順序
計畫週期管理	計畫之準備與批准 貸款與補助協議之財務管理
標準化設定	績效指標（performance metrics）之發展與批准 環境與社會防衛機制之發展與批准
科學與技術諮詢	適當之政策與最佳可得技術（BAT）之諮詢 科學趨勢與風險評估之諮詢
課責	計畫表現之監督與評估 爭議計畫之審查與查核

來源：Ballesteros, A. et al, November 2009

於此七大功能中，除了第二、三項之外，其他五項均涉及財務機制中之基金管理的制度，顯見於氣候變遷之財務機制下，制度設計的重要性。

2.2. 氣候變遷財務機制之分類

依據不同的分類基準，與氣候變遷相關的財務機制可有許多不同之分類。以下簡要以財務機制設置之目的與用途、規模、資金來源、與資金所資助之計畫類型四個不同的分類基準，說明目前國際間有關氣候變遷之財務機制的大致狀況。

2.2.1. 用途

若以財務機制所設置的目的以及其資金主要使用的用途為分類的基準，氣候變遷之財務機制可區分：資助減緩氣候變遷措施之財務機制、資助調適氣候變遷措施之財務機制、以及同時資助兩類型措施之財務機制。歐盟之排放權交易機制（EU emissions trading scheme，以下簡稱 EU ETS）應屬於協助氣候變遷之減緩措施的財務機制，因該機制的主要目的係為了協助溫室氣體的減量；⁸依據京都議定書 2007 年第三次會員大會決議⁹所成立的「調適基金」（AF）則屬於以資助氣候變遷之調適措施為主的財務機制；而協助擔任 UNFCCC 之財務機制的 GEF，多數之贊助計畫均涉及氣候變遷之減緩措施，但亦於近幾年投入有關氣候變遷調適措施的工作，雖然其有關調適措施之財源主要係來自 UNFCCC 於 2001 年第七次締約國大會時所設立的「低度開發國家基金」（Least Developed Countries Fund）與「特殊氣候變遷基金」（Special Climate Change Fund），但其於 2001 年受到來自 UNFCCC 第七次締約國大會之指

⁸ 但依據歐盟於 2009 年 4 月 23 日針對其排放權交易制度之改進所通過的指令，歐盟各會員國針對來自於拍賣核發量所取得之資金，雖可自行決定如何使用，但其中之百分之五十，必須依照指令第十條第三項所規定的方式使用，其中有許多項涉及減緩措施（例如鼓勵再生能源的使用、降低毀林等），但亦有包括協助調適措施的研發與示範計畫的進行。

⁹ Decision 1/CMP.3 “Adaptation Fund”, FCCC/KP/CMP/2007/9/Add.1.

示，撥出部分資源支助試驗型與示範型的調適計畫。¹⁰

2.2.2.規模

若依據財務機制所運作之平台或規模，可將其區分為國際/多邊財務機制、區域性財務機制、雙邊財務機制、以及單邊/片面機制。例如所有於 UNFCCC 或京都議定書之下所設立的財務機制，均屬於國際/多邊型之財務機制；區域性之財務機制則可包括類似歐 EU ETS、或是一些由區域開發銀行所支援或協助運作的財務機制，例如於亞洲開發銀行下所運作與支援的三大類碳融資機制；¹¹雙邊的財務機制則往往涉及由某一國家（通常為已開發國家）提供一筆資金，協助符合特定條件之國家（通常為開發中國家）執行氣候變遷減緩或調適措施，例如德國政府於 2008 年所資助成立的、「國際氣候倡議」（International Climate Initiative）、¹²英國政府於 2008 年成立的「環境轉型基金」（Environmental Transformation Fund）¹³等等；單邊/片面的財務機制即是各國國內針對氣候變遷議題所設置之財務機制，例如巴西於 2008 年所設置、由巴西開發銀行負責管理的「巴西雨林基金」（Brazil Amazon Fund）、¹⁴或由印尼政府於 2009 年所設立的「印尼氣候變遷信託基金」（Indonesia Climate Change Trust Fund）¹⁵等等。

2.2.3.資金來源

若以財務機制中的資金來源作為分類之基準，可分為資金係來自公部門的財務機制、以及資金來自私部門的財務機制。¹⁶於國際層級上之公部門資金來源可能包括：傳統之雙邊或多邊海外發展援助（Overseas Development Aid）、針對開發中國家債務之債務減讓或減輕（concessional debt）、貸款擔保、科技轉移協定等等，而於各國國內之公部門資金來源則可能包括政府預算（例如碳稅）、特別公課（例如空氣污染防制費）等，資金來源係由公部門所提供之財務機制目前為大宗，例如所有於 UNFCCC 以及京都議定書下的財務機制與各類基金均屬於此類。私部門之資金來源則有可能透過排放權交易、保險機制、吸引外人投資等方式籌措資金，例如目前歐盟的排放權交易機制。此外，亦有一些財務機制係包含來自公部門與私部門的資金，例如由世界銀行所管理之眾多碳基金之一的「原型碳基金」（Prototype Carbon Fund, PCF），¹⁷其資金的來源即包含七家私人公司以及六個政府所投入之資金。

2.2.4.財務機制所資助之類型

¹⁰ <http://www.thegef.org/gef/adaptation> (last visited: 2010/10/4).

¹¹ 請參考：<http://www.adb.org/Climate-Change/funds.asp> (last visited: 2010/10/4)

¹² 請參考：http://www.bmu-klimaschutzinitiative.de/en/home_i (last visited: 2010/10/4)

¹³ 請參考：http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/intl_strat/ietf/ietf.aspx (last visited: 2010/10/4)

¹⁴ 請參考：<http://www.amazonfund.org/> (last visited: 2010/10/4)

¹⁵ 請參考：<http://www.icctf.org/site/> (last visited: 2010/10/4)

¹⁶ Stewart, R.B., Kingsbury, B. & Rudyk, B., *Climate Finance: Key Concepts and Ways Forward* (December 2, 2009), Harvard Project on International Climate Agreements, available from: <http://belfercenter.ksg.harvard.edu/files/Stewart%20Final.pdf> (last visited: 2010/10/4).

¹⁷ 請參考：<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,contentMDK:21630008~menuPK:5216148~pagePK:64168445~piPK:64168309~theSitePK:4125853,00.html> (last visited: 2010/10/4)

依據財務機制所資助之活動類型，可分為投資計畫型(project lending)、政策/規劃方案類型(program or policy lending)、以及投資型(investment)之財務機制。所謂投資計畫型，係指財務機制提供某一具體之個案計畫(例如興建太陽能發電廠)所需要之資金以及/或技術；所謂政策/規劃方案類型，係指財務機制所支助者，並非單一個案投資計畫，而係協助贊助國規劃或執行一系列之相關政策或法規，例如協助贊助國規劃再生能源之補助策略或措施；最後，投資型係指該財務機制用其資金購買具溫室氣體減量成效計畫所產生之溫室氣體減量單位，例如清潔發展機制(Clean Development Mechanism，以下簡稱CDM)計畫經認證後所獲取的「經認證之減量單位」(certified emissions reductions，以下簡稱CERs)。京都議定書中的CDM即為典型的投資計畫型之財務機制，GEF亦同，惟GEF於2008年開始亦投入類似政策/規劃方案類型的資助方案(programmatic approach)，針對一系列之個案計畫加以串連，試圖基於策略性的考量，強化該些計畫所形成的大規模影響。¹⁸至於許多於世界銀行以及各個區域開發銀行下所協助管理的碳基金，例如前述的PCF，即為投資型的財務機制。

3. 重要之國際與區域財務機制簡介

端視針對氣候變遷之財務機制的定義，目前規模上屬國際性之財務機制者，於UNFCCC以及京都議定書下即有四到五個財務機制，於世界銀行之下亦有三到六類財務機制，而雙邊性之財務機制則至少六到七個，此係為保守之估計。氣候變遷之財務機制以如此快速的速度增長，顯見此一機制對於因應氣候變遷之環境問題上的重要性，而如此眾多的財務機制，各自有其不同的資金來源、資金分配、與資金管理機制。以下將針對三類不同類型之財務機制(GEF、CDM、EU ETS)進行簡介。

3.1. GEF

GEF為國際性、資金來源為公部門、主要贊助包括調適與減緩之投資計畫型的財務機制。世界銀行於1991年經由執行委員會第91-5號決議通過設置一試辦性質的「全球環境設施」(pilot phase，以下簡稱GEF-P)，成立一「全球環境信託基金」，由世界銀行負責管理此一基金並負責所有的計畫事項(包括計畫審核與撥款等)，並由參與GEF-P的會員國依照一定比例撥款挹注基金，負責資助參與的會員國進行全球性的環境保護工作所需的援助，此外，UNEP負責提供GEF-P所需要的相關科學與技術諮詢工作，UNDP則負責進行投資前期之研究以及技術支援工作。GEF-P成立並開始運作的期間，正是UNFCCC以及「生物多樣性公約」(Convention on Biological Diversity，以下簡稱CBD)進行協商的期間(1990-1992)，而兩個公約的條文中均包括有財務機制的設置，因此，已開發國家為了不增加其給予財務資助的負擔，均希望GEF-P可以直接成為兩個公約的財務機制，協助公約的開發中締約國履約，但是由於GEF-P與世界銀行的關係非常密切，而開發中國家向來對於世銀，特別是其決策的機制抱持不信任的態度，因此，許多開發中國家均希望於兩個公約中成立獨立的財務機制。協商的結果為雙方互讓一步：於UNFCCC以及CBD中，均將GEF列為過渡期的財務機制(interim mechanism)，¹⁹待GEF-P進行重整以符合公約財務機制的要求(例如透明與公平的決策程序)後，再由締約國大會決定其是否可以成為公約的財務機制。基於此，GEF於1994年進行大幅度的重整，自世界銀行中獨立出來，由參與的各會員國組成一特殊的國際財務機制，並有其特殊的組織架構以及決策程序，而此一重整後

¹⁸ 請參考：GEF, *Adding Value and Promoting Higher Impact through the GEF's Programmatic Approach*, available from: http://www.thegef.org/gef/sites/thegef.org/files/publication/Programmatic_Approach.pdf (last visited: 2010/10/4)

¹⁹ 請參考：FCCC第21條第3項以及CDB第39條。

的 GEF 現在已正式成為 FCCC、CBD、1994 年聯合國抗沙漠化公約（Convention to Combat Desertification，以下簡稱 CCD）的財務機制，同時也是 2001 年「斯德歌爾摩持久性有機污染物公約」（Stockholm Convention on Persistent Organic Pollutants，以下簡稱 POPs 公約）的過渡期財務機制。GEF 並不是聯合國的特別機構，與聯合國的關係也不如其與世界銀行的關係來的密切，目前共有 176 個參與國（Participants），重整後的 GEF 有其完整的組織架構，包括一大會（Assembly）、理事會（Council）、以及秘書處（Secretariat）。大會為 GEF 的最高決策單位，由 GEF 所有的參與國代表組成，每三到四年開會一次，負責檢討 GEF 運作的一般性原則、依據理事會提交之報告檢討並評估 GEF 之運作、審查 GEF 的會員籍相關議題、以及修改「重整之 GEF 成立文件」（Instrument for the Establishment of the Restructured Global Environment Facility）；理事會則是由大會指派 32 個會員組成，其中 16 位來自開發中國家、14 位來自已開發國家、2 位來自經濟轉型國家（前蘇聯共和國以及中歐與東歐國家），理事會主要負責 GEF 日常的運作，包括其所資助計畫的所有相關事項（例如計畫的審核、通過、評估等）；秘書處負責提供大會以及理事會必要的協助，雖然秘書處由世界銀行提供行政上的支持，但其運作係完全獨立於世界銀行。大會以及理事會應以共識決的方式運作並做出其所有決議，如果共識決無法達成必須要舉行正式投票時，理事會必須以「雙重多數決」—要有超過百分之六十的所有參與者以及超過百分之六十的提供財務資金者兩重的多數決—的方式通過其任何決議：此一決策模式係混合了傳統上聯合國系統以及國際環境公約以「一國一票」的決策程序，以及世界銀行與國際貨幣基金會以會員所繳交的會費決定票數的「一元一票」的決策程序，充分反應出當初 UNFCCC 等公約要求 GEF-P 必須以透明公平的方式進行重整的要求。

GEF 僅針對有助益於「全球環境保護」的事項予以補助，並不針對地方性的環境議題（例如河川污染問題）予以補助，「全球環境保護事項」則包括：臭氧層的保護、氣候變遷之議題、生物多樣性之保育、國際水域的保護、對抗沙漠化、以及持久性有機污染物之處理。當其身處為相關國際環境公約的財務機制時，相關的補助項目，包括氣候變遷、生物多樣性、抗沙漠化、持久性有機污染物四大事項，GEF 的優先放款計畫以及工作項目必須要受到來自相關公約的締約國大會所給予的指示與指導方針。此外，GEF 資助的計畫，並非該計畫的總額支出，而係補助所謂的「差額成本」（incremental cost），亦即是：該計畫必須是申請國原本依其國內之發展或經濟需求即要進行，而為了上述六大項「全球性」的環境保護工作，進行計畫的調整所必須額外支付出的差額成本，即由 GEF 全額予以補助。GEF 目前於氣候變遷類別下之運作，包括資助氣候變遷減緩與調適之投資計畫的差額成本，此外，其亦接受來自 UNFCCC 締約國大會的委託與指示，負責擔任 LDCF 以及 SCCC 兩個公約所成立之基金的財務機制。²⁰

3.2. CDM

CDM 為國際型、資金來源為私部門、主要贊助包括調適與減緩之投資計畫型的財務機制，其所設立之法源依據為京都議定書第十二條以及後續由議定書會員大會所通過之相關決議。CDM 的目的有二：協助非附錄一的締約國達成永續發展以及本議定書的目標，以及協助附錄一的締約國達成其於議定書下的具體減量目標，此亦為所有之 CDM 計畫的最高指導原則。於 CDM 之下，非附錄一締約國得受益於將產出 CERs 之 CDM 計畫活動，而附錄一締約國則得使用經由 CDM 計畫所產生的 CERs 做為達成其依據議定書所規定之具體減量義務之一部分。CDM 由 CDM 執行委員會（Executive Board，以下簡稱 CDM EB）負責監督，但必須接受來自議定書會員大會之指示並對其負責。經由 CDM 計畫活動所得到之排放減量，必須經由會員大會所指定之營運實體（designated operational entities，以下簡稱

²⁰ 有關 GEF 下針對氣候變遷之資助，請參考：http://www.thegef.org/gef/climate_change (last visited: 2010/10/5)

DOEs) 依據下列三項原則進行認證 (certified): 第一、經各參與之締約國同意 (批准) 之自願參與、第二、與氣候變遷之相關之實際的、可測量出的、並長期性的利益、第三、排放量之減低必須是額外於 (超出於) 若沒有該計畫活動將可能產生之排放量, 本項之規定為所有類型之 CDM 計畫必須要遵守的基本原則, 而於後續之會員大會亦通過相關的決議補充本項的規定。CDM 計畫程序必須經由 DOEs 此一獨立的類似認證或驗證之單位, 針對 CDM 計畫的申請進行確認工作、並於計畫開始執行之監督進行查證工作此兩步驟之法律依據。CDM 下之參與, 包括計畫活動的參與以及 CERs 的取得, 均得允許私人以及/或公部門實體 (private and/or public entities) 之參與, 而該等實體也必須受到 CDM EB 所頒佈之相關規範的拘束。針對 CDM 計畫運作的詳細模式以及程序, 於議定書尚未生效前, 即由公約在 2001 年所召開的第七次締約國大會時通過第十七號決議「京都議定書第十二條定義之清潔發展機制之運作模式與程序」,²¹ 另於隔年 (2002 年) 所召開的第八次 COP 時通過第二十一號決議「予清潔發展機制執行理事會之指導原則」,²² 此兩號決議針對 CDM 之運作規則與程序定義的更為明確, 以便有興趣參與 CDM 計畫之各方得有一明確的參與程序與準則, 而於議定書生效後於 2005 年所召開之第一次會員大會時, 亦通過第三號與第四決議, 無條件的通過接受此兩號決議。²³

CDM 基本上係希望引進資金與技術至開發中國家, 一來協助開發中國家取得相關之資源、二來也協助已開發國家取得 CERs 以滿足期於議定書下之減量義務。如同 GEF, CDM 所投注之資源必須是該投資計畫之差額成本, CDM 的市場規模逐漸擴大, 成為相當受到矚目的「碳融資」項目。於 CDM 之運作上, CDM EB 扮演相當重要的角色, 其任務包括: 針對 CDM 後續之運作模式與程序, 以及 EB 之議事規則的修訂做成建議案並提交議定書之會員大會、批准排放基線以及監督計畫之方法論、負責營運實體之認可 (accreditation) 並向會員大會提出 DOEs 之建議案, 同時也對於認可營運實體之標準進行審查並向會員大會提出建議案、負責協助所有與 CDM 計畫相關之資訊公開事項、負責建置並維護 CDM 登記處以及 CDM 計畫之資料庫等等。於大部分的情況之下, EB 僅針對其所受被授權負責的事務範圍內有做成建議案的權力, 但該些建議案最終均尚必須為會員大會以決議 (decisions) 的方式通過, 唯一的一個例外則是設計 CDM 各個計畫中針對排放基線以及監督計畫所必須適用的方法論, 授權 EB 得「批准」建立排放基線與監督方法論準則之審查基準、與排放基線、監督計畫以及計畫邊界相關的方法論。

EB 由來自議定書締約國之十名委員 (members) 組成, 其中包括五名分別來自聯合國下之五個區域團體 (regional groups)、兩名來自附錄一國家、兩名來自非附錄一國家、一名開發中小島國家代表。第三號決議附錄第 8 段規定委員由上述相關選區提名, 並由議定書之會員大會投票產生, 委員任期一任兩年, 至多可任此職務六年, 並應具備適當科技及/或政策專長。EB 應自行選舉主席與副主席, 分別由一名來自附錄一國家與一名來自非附錄一國家之委員擔任。EB 開會時應有超過三分之二之委員、且必須包括代表來自附錄一締約國多數之委員以及非附錄一締約國多數之委員在場, 方構成法定出席人數, EB 之決定應盡可能以共識決為之, 若共識決無法達成協議, 則決定將以出席委員四分之三多數決通過, EB 之會議應對所有締約國、以及所有經公約認可之觀察員以及利害關係人²⁴, 以觀察員的身份

²¹ Decision 17/CP.7 Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol, FCCC/CP/2001/13/Add.2。

²² Decision 21/CP.8 Guidance to the Executive Board of the clean development mechanism, FCCC/CP/2002/7/Add.3。

²³ Decision 3/CMP.1, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol, FCCC/KP/CMP/2005/8/Add.1 (本號決議與公約之第七次締約國大會第十七號決議內容完全雷同); Decision 4/CMP.1, Guidance relating to the clean development mechanism, FCCC/CP/2002/7/Add.3 (本號決議內容除了包含公約之第八次締約國大會第二十一號決議內容外, 另增加兩個有關 CDM 執行理事會針對 CDM 計畫進行重新審查之附件)。

²⁴ 「利害關係人」於第三號決議附錄第一段第 e 項定義為「受到或可能受到提案中之 CDM 計畫活動影響之公眾, 包括個人、團體或社區。」

參加，除非 EB 決定不公開其會議。EB 亦得成立委員會、小組或工作小組以協助其運作。

CDM 得贊助之計畫只要符合議定書第十二條以及相關之大會決議即可，惟於公約第七次締約國大會所通過的第十七號決議前言提到，附錄一締約國應避免以使用核能設備所產生之 CERs 作為符合其於議定書第三條之減量義務，此外，向來具有爭議性的「土地使用、土地使用變遷以及林業計畫 (land use, land-use change and forestry project activities, 簡稱 LULUCF)」，相關大會決議則規定僅有造林與再造林 (A/R)²⁵ 方得被用作 CDM 計畫，並且於第一次承諾期間內 (2008-2012)，於 CDM 下因 LULUCF 計畫增加 (移轉) 至締約國之指定排放量 (assigned amount)，不得超過該國之基準年排放量的百分之一乘以五，而於往後之承諾期間內應如何使用 LULUCF 計畫，則留待後續之協商。

於 CDM 此一財務機制運作程序中，除了議定書之會員大會以及 CDM EB 外，私人機構於其中也扮演相當重要的角色，特別是經指定之營運實體 (DOEs)，因為其必須負責 CDM 計畫於向 CDM EB 提出申請前之確認 (validation) 工作，於該計畫在 CDM EB 登記 (registration) 後、開始執行後，亦負責監督以及進行查證 (verification) 及認證 (certification)，以便向 CDM EB 申請 CERs 之核發 (issuance)。營運實體必須為法人 (legal entity)，無論是一國內的法人或國際組織，並符合相關之規定，包括其必須具備足夠的人力進行確認、查證及認證業務；其必須財務穩定，投保保險，對於可能因其活動而生之損害賠償已有妥善安排；其必須有針對其業務運作之內部流程文件，對於實現 CDM 之程序與模式有足夠之專業，對於該實體之功能之執行與運作有能負全責的管理組織架構；就其作為一個 DOE 之功能，該實體未曾成為業務過失 (malpractice)、詐欺等訴訟之被告等等，符合上述資格之法人均可向 EB 申請認可。DOE 必須以可靠、獨立、不歧視並透明之方式進行其業務，遵守相關之國內法。一個 DOE 針對一項 CDM 計畫活動僅得予以認可或查證並認證，換言之，同一項 CDM 計畫活動必須由不同的 DOE 負責 CDM 計畫登錄前之認可以及登錄後、計畫活動開始進行後之查證與認證此兩階段的工作。

至於一 CDM 計畫之申請步驟，以下依據其申請步驟簡要說明：

第一、尋找一可行的 CDM 計畫，並準備計畫設計文件 (project design document, 以下簡稱 PDD)，PDD 中相當重要者為額外性此一要件之計算方法論，其中應包括兩大要素：第一要素為排放基線情境 (baseline scenario)，此係為額外性要件中用作比對該 CDM 計畫若不存在時，該地區原本預估之 GHG 排放量，第二要素為「計畫界線與任何可能溢漏之調整」(project boundary and any adjustments for leakage)，所有的計畫都必須計算於計畫參與者可掌控下之 GHG 排放均主要且得合理的被歸屬於該 CDM 之計畫活動，而此一排放量應考量可能之「溢漏」一於計畫界線外所產生之排放，但得計算出並可歸屬於該 CDM 之計畫活動者一進行調整主。PPD 中所使用的額外性方法論 (additionality methodology) 必須為經過 EB 通過的方法論 (包括已通過以及由該計畫所新提出、欲取得 EB 通過者)；除了額外性要件方法論之外，PDD 中也必須包括詳細的計畫監督方案 (monitoring plan)，而監督方案所使用之方法論亦必須是經由 EB 所通過者；再者，該計畫也必須於地主國依據當地之相關法規進行環境影響評估 (包括跨境之影響評估)，評估的結果也必須列在 PDD 中。此一 PDD 必須於地主國內公告以便當地之所有利害關係人得以針對此一 CDM 計畫提出評論。

第二、獲得 CDM 計畫地主國的 DNA 通過，證明此一計畫之參與係出於自願，且該計畫活動有助於地主國之永續發展，此外，亦必須確認進行投資之附錄一締約國，為了該 CDM 計畫所投入之金錢並非其固有之官方發展援助 (Official Development Assistance) 的部分預算。

第三、將 PDD 送交給經過 EB 認可之 DOE，DOE 會將該計畫置於 CDM 之網站上，供所有之利害關係

²⁵ Afforestation refers to direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planning, seeding and/or the human-induced promotion of natural seed sources. Reforestation means direct human-induced conversion of non-forested land to forested land through planning, seeding or human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989.

人於 30 天內提供意見與評論並加以回應，DOE 於此一階段主要依照相關規定，予以確認 (validate) 該 CDM 計畫。

第四、如果使用已經 EB 通過的方法論，DOE 可直接進行計畫的確認 (validation) 與登錄 (registration)。如果 DOE 認為需要該計畫欲使用新的方法論，則 DOE 必須於進行登錄之前，先將該新方法論送交至 EB，由其批准後，方得使用。²⁶

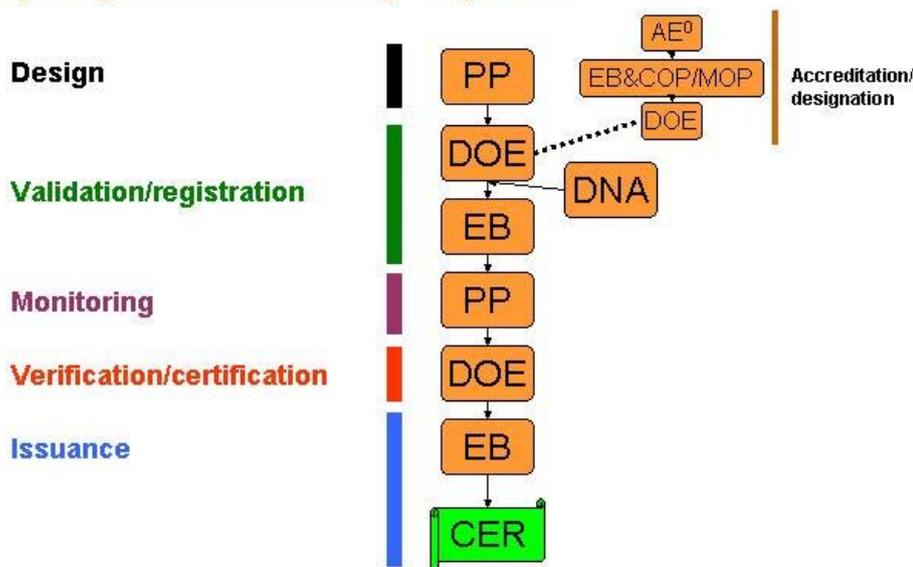
第五、提交確認報告以及 PDD 至 EB 進行登錄 (registration)，於 DOE 收到要求登錄之日起八週後生效，除非遇有 CDM 之參與國或至少三名以上的 EB 之委員要求重新審查 (review)，則必須進行重新審查。登錄後必須公布相關文件，並接受公眾評論 (public comments)。

第六、完成登錄後，CDM 計畫投資者即開始進行籌募資金的工作與執行計畫，並開始進行監督。由不同針對該計畫給予確認之 DOE 負責查證 (verification，由 DOE 定期針對該 CDM 計畫受監測之降低 GHGs 人為排放量的事後評估) 與認證 (certification，由 DOE 核發的書面證明，確定於特定的期間內，所降低之排放量係如查證過後的數量) 的工作。

第七、於收到要求核發之日起十五天生效，除非參與國或至少三位 EB 之委員要求進行重新審查，否則即由 CDM EB 核發 CERs。

以下為 CDM 計畫之進行流程圖：

CDM project activity cycle



3.3. EU ETS²⁷

²⁶ EB通常需要耗費相當多的時間審閱新的方法論（包括排放基線以及監督的方法論），可能需要長達四個月或以上的時間

²⁷ 有關歐盟排放權交易機制，請參考：施文真（2008.10），〈由交易單位之法律性質重新檢視排放權交易制度與WTO之關係〉，《政大法學評論》，105期，頁121，頁140-148；施文真（2010.9接受刊登），〈初探納入航空業之歐盟排放權交易制度與其他國際法義務的互動關係〉，《政大法學評論》。

EU ETS 為區域型、資金來源為私部門、主要目標為協助氣候變遷減緩措施之執行的財務機制。於討論有關氣候變遷之財務機制時，特別是涉及如何自私部門籌募相關之資金，排放權交易制度向來受到高度的關注，特別是 EU ETS 自 2005 年正式啟動後所造成之規模與影響，更加深許多研究者與觀察家對於排放權交易此一機制的興趣。排放權交易制度若以得交易單位的取得為分類基準，主要可歸類為兩大類型：第一、排放上限與（核發量）交易（“cap and trade”, or “allowances trading”），第二、排放（現況）基準與溢額交易（“baseline and credit”, “credit trading”, or “project-based/credit based/offset trading”），所謂「排放上限與交易」指的是，管制者針對參與排放權交易的所有參與者，就管制物質（例如二氧化碳）於一管制期間內設定排放總量/排放上限，而於此一上限下，將得排放的總量分為同等單位，以各種不同的方式（拍賣、無償分配等等）將其分配給各個參與者，分配給各參與者後，各參與者得用此來達成其排放標準，²⁸若某些參與者所採取的減量措施使得其實際的排放量少於其分配量（「核發量（allowances）」），多餘的部分即可賣出，若某些參與者進行減量的成本過高，或無法達成法定的減量目標，其即可於交易市場中購買不足的「核發量」，無論參與者如何使用其所分配到的核發量，於管制期屆滿時，其負有持有或繳回與其實際排放量或法定排放量相等的核發量之義務，否則將受到法律上的處罰，EU ETS 即屬於此類之交易制度。所謂「排放基準與溢額交易」（baseline and credit）指的是，由管制者建立或認證、或由各參與者申報並經過認證，設定一排放基準²⁹，於管制期間或約定期間內，各參與者實際的排放狀況則由主管機關進行盤查與監督，若管制期或約定期屆滿時，參與者實際的排放量低於其排放基準，則可將多餘的排放量，亦即是所謂的「溢額」（credit）賣出；此一「溢額」亦可能來自於投資特定的開發計畫，由此一開發計畫中產生具有降低排放量效果的減量單位，經相關單位認證過後，得將此一經由計畫所得的減量單位進行交易，此則被稱為 project-based trading，前述之京都議定書下的 CDM 即為此類型的排放權交易制度。

歐盟的 ETS 為目前全球最大的溫室氣體排放權交易市場，歐盟於 2000 年就歐盟區域內的溫室氣體交易公布一綠皮書，並同時展開與會員國以及公民的諮商，歐盟執委會則於 2001 年提出一立法草案，經過後續一連串的立法程序後，於 2003 年 10 月 13 日通過第 2003/87 號指令：「於共同體內成立一溫室氣體排放許可交易機制並修改理事會第 96/61 號指令」³⁰（以下簡稱 ETS 指令），創造出目前全球最大的溫室氣體交易市場。依據本號指令，歐盟於 2005 年正式啟動其區域內的溫室氣體排放量交易機制，2005-2008 年為第一階段的試驗期，2008 年以後將以五年為一期持續進行，第二階段（2008-2012）剛好與京都議定書的第一次承諾期重疊。於其後，歐盟持續針對 ETS 之運作加以修改，包括於 2008 年 11 月 19 日正式通過「修改第 2003/87/EC 號指令以將空運活動納入共同體之溫室氣體排放交易之第 2008/101/EC 號指令」（以下簡稱「航空業排放權交易指令」），³¹將航空業亦納入 EU ETS 下，此外，歐盟執委會於 2008 年 1 月 23 日公布一套氣候與能源之立法草案，當中包括修改 ETS 指令使其於 2013 年後的運作範圍擴大，並對於排放上限的訂定、核發量分配方式等等制度設計，規劃重大的改變，此一規劃落實於 2009 年 4 月 23 日所通過之第 2009/29 號指令：「修正第 2003/87 號指令以改善與擴大共

²⁸ 個別參與者應達成的排放標準，一般多以傳統的直接管制型的立法訂定：可能以排放上限為之（例如各排放源所排放的二氧化碳不得超過某一濃度），也可能以減量標準為之（例如各排放源所產生的二氧化碳，於管制期到期之日，相較於法定基準年，必須削減一定的百分比或排放量）。

²⁹ 此一排放基準可能是各參與者的排放現況，亦即是不採取任何減量措施的狀況時的排放量、亦有可能是針對排放現況依比例或特定的標準進行調降的排放量。

³⁰ DIRECTIVE 2003/87/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

³¹ DIRECTIVE 2008/101/EC OF THE EUROPEAN PARILAMENT AND OF THE COUNCIL of 10 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community.

同體之排溫室氣體排放許可交易機制」(以下簡稱「ETS 修正指令」)。³²以下僅針對目前(亦即是 2012 年以前)歐盟的 ETS 運作,包括其排放上限的設定、交易的對象與範圍、排放許可的分配、排放許可的交易、制度設計、與其他溫室氣體排放交易制度的連結,做一簡述。

針對排放上限(cap)的設定,於 2005-2012 年的兩階段當中,歐盟的 ETS 並沒有設計一個歐盟層級的排放上限,而係授權各會員國訂定其各自的國家上限、並授權會員國於國家上限內依據 ETS 指令附錄三中所訂定的標準,分配給納入 ETS 下的設施與經營者,至於各會員國的排放上限,應以各會員國就歐盟於京都議定書下所負之減量義務應分擔的比例為上限,會員國可以於此一上限下,自行決定要分配多少的核發量(allowances)給受 ETS 指令所管制的設施與部門。此一排放上限的規定,於航空業部門以及預計於 2013 年之後之階段,將有一個統一的歐盟排放上限(EU-wide cap),而不再有 27 個會員國的國家排放上限。

針對交易的對象與範圍,於第一與第二階段,僅針對二氧化碳進行排放權之交易,不過 ETS 指令第三十條亦要求執委會應針對歐盟 ETS 執行狀況進行審查與未來的發展,於 2004 年年底向歐盟議會與理事會提出建議草案,當中應包括附錄一應如何以及於何時進行修正以納入其他活動(例如化學品、鋁業與交通部門等)以及其他列於附錄二中的溫室氣體,以增加 ETS 機制的經濟效率。此外,於第一與第二階段所納入之管制活動項目如表二所列,航空業則預計於 2012 年正式加入 EU ETS。

表二：歐盟 ETS 指令附錄 1 所規定納入管制的活動項目³³

管制活動	溫室氣體
能源活動 燃燒設施的活動,其熱輸入功率超過 20 百萬瓦,至於有害或都市廢棄物處理設施則排除在外。 礦油煉製活動。 焦炭爐活動。	二氧化碳
鐵系金屬生產與加工 金屬礦石(包括硫化物礦石)煅燒與燒結設施的活動 製造生鐵或鋼鐵(原生或二次熔煉)設施的活動,含連續鑄造,產能每小時超過 2.5 公噸。	二氧化碳
礦產工業 生產水泥熟料旋轉窯設施的活動,產能每天超過 500 公噸。 生產石灰旋轉窯或其它加熱爐設施的活動,產能每天超過 50 公噸。 生產玻璃或玻璃纖維設施的活動,熔製量每天超過 20 公噸。 生產陶瓷產品(含屋瓦、磚塊、耐火磚、瓷磚、陶瓷器)燒烤窯設施的活動,其中 (i) 窯產能每天超過 75 公噸;或 (ii) 窯容積超過 4 立方公尺,而且設定密度每立方公尺超過 300 公斤。	二氧化碳
其他活動 由伐木或其他纖維物質來生產紙漿工廠的活動。 生產紙類產品工廠的活動,產能每天超過 20 公噸。	二氧化碳

歐盟之 ETS 制度的首要步驟即是針對各會員國內從事附錄一活動之設施核發一排放許可(emission permit),以進行排放權(核發量)的交易。自 2005 年 1 月 1 日起,未持有會員國主管機關所核發之排

³² DIRECTIVE 2009/29/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community.

³³ 本表取自：侯萬善，歐盟的CO₂排放交易機制，下載自：<http://proj.moeaidb.gov.tw/tigo/page6-4.asp>

放許可的設施，不得從事將產生二氧化碳排放之附錄一所列的活動，排放許可的內容包括：經營該設施之經營者（operators）、該設施所從事的活動與排放的描述、監督的要求（必須特別訂出監督的方法與頻率）、申報要件、以及要求受管制的設施必須於年度管制期屆滿的四個月內，交出（surrender）與其排放許可相同的排放核發量（allowances）。針對排放許可的分配與交易，於2005年開始的第一階段（2005-2008），會員國應無償發給至少百分之九十五的排放核發量，於第二階段（2008-2013），會員國則應無償發給至少百分之九十的排放核發量，針對航空業，於2012-2013年間，總核發量之百分之十五將以拍賣的方式分配，其餘除了保留特定比例（百分之三）給予新加入者之外，剩下之核發量將免費供航空器經營者申請，預估於於2013年以後，將逐步增加拍賣核發量之比例。

會員國應確保其所核發的排放核發量得於歐盟內的參與者之間、以及與透過指令第二十五條所承認之排放核發量的第三國持有者間進行移轉，歐盟會員國之間應承認彼此所核發的排放核發量，且應確保最遲於每年4月30日前，各設施的經營者必須交出該設施所被分配之排放核發量同等、經認證過的排放核發量，而該些交出的排放核發量則因此被取消收回（cancel）。現行ETS所涵蓋之設施的經營者，不得使用分配給航空器之經營者的核發量來滿足其於ETS指令下之義務，但航空器之經營者得使用購買自現行ETS參與者所擁有的核發量作為符合其於相關指令下的義務。此外，EU ETS之參與者亦可於一定之比例內，使用CERs或京都議定書下之「共同減量」（joint implementation，以下簡稱JI）計畫所獲得的「排放減量單位」（emission reduction unit，以下簡稱ERUs），以符合其法定減量義務。自2005年開始，會員國得允許其國內參與ETS者使用CERs、而ERUs則必須於2008年後方得被使用，依據所謂的「連結指令」，³⁴各會員國必須於其國家分配計畫下訂定每一管制對象得使用ERUs以及CERs作為符合其排放核發量中的比例，於此一比例內，會員國得於其國家登記處下，將其管制對象所持有的一單位ERUs或CERs轉換成為一排放核發量，但經由核能設施以及LULUCAF之投資計畫所取得的ERUs以及CERs不得轉換為ETS下的排放核發量；至於航空業，於2012-2013年，航空器之經營者得使用ERUs以及CERs以符合本指令下之義務，但數額不得超過其應交出之核發量的百分之十五。

針對ETS的制度設計，指令中就監督與申報、認證、罰金、資訊公開、登記制度等，訂有相當細緻的制度性設計。以罰金為例，各會員國應針對未依規定交出與其排放核發量等量的排放核發量之設施，訂定處罰的規定，包括公布其經營者的姓名以及處以罰鍰，罰鍰的計算為：對於排放量超出被分配之排放核發量者，每超出一噸二氧化碳之排放應處以100歐元的罰金（於第一階段中罰鍰降為40歐元），而繳交罰金並沒有豁免受罰者還是必須依規定交出與其被分配之排放許可相同的排放核發量。於多數之核發量還是無償核發給各ETS參與者的階段，歐盟之ETS較無法發揮財務機制的功能，因其無法動員多餘的資源支助氣候變遷之減緩或調適措施，但隨著其逐步推動增加以拍賣的方式分配核發量，可供歐盟所運用之資金亦將逐步累積成相當可觀的金額，因此，如何將此一資金加以運用，³⁵亦將成為EU ETS是否得扮演一成功之財務機制的關鍵要素。

4. 氣候變遷財務機制之設置與運作的三大要素

³⁴ DIRECTIVE 2004/101/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms.

³⁵ 以航空業為例，指令授權各會員國得決定如何運用拍賣所得之收入，但主要用途需用於協助歐盟與第三國對抗氣候變遷議題，包括降低溫室氣體之排放、調適氣候變遷於歐盟籍第三國，特別是開發中國家所造成之衝擊、贊助包括於航太與空運領域中有關減緩與調適之研發、以及資助歐盟管理ETS機制的支出。此外，此一拍賣之所得也得將之捐入「全球能源效率與再生能源基金」以及避免毀林（deforestation）之措施。而修改過後之ETS指令亦針對會員國應如何決定運用拍賣所得，訂有相當詳細的規定。

參考前段中針對財務機制的定義，以及目前就氣候變遷之財務機制進行研究之文獻，³⁶資源的取得/動員 (resource mobilization/generation)、資源的分配(resource disbursement/delivery)、以及機制的管理/組織面安排之治理 (administration/governance of institutional arrangements) 係所有之氣候變遷財務機制均需具備的關鍵要素，以下就此三大要素，簡要說明於設計財務機制時，需特別加以考量以及可能影響財務機制運作之有效性的相關議題。

4.1. 資源的取得/動員

依據第二部分中所列之財務機制的分類，其中有一類是以財務機制之資金來源係經由公部門或私部門募得作為分類基準，此為資源取得之兩大管道，而於此兩大管道之下，尚有許多不同類別之資源來源。無論是來自公部門或私部門之資金，依據 UNFCCC 第 4.3 條，以及第 13 次締約國大會所通過之第一號決議「芭里行動計畫 (Bali Action Plan)」第 1 (e) (i) 段，財務機制中有關資源之取得與動員的指導原則包括：適當性(adequacy)、可預測性(predictability)、永續性(sustainability)、衡平(equity)、共同但有差別之責任與能力 (common but differentiated responsibilities and respective capabilities)、以及可測量性 (measurability)。³⁷針對各指導原則，簡要說明如下。

財務機制之資金來源若係以公部門、且以各國政府為主，首先於 UNFCCC 下所揭諸的一項指導原則即為「共同但有差別之責任與能力」，據此，已開發國家必須承擔付出較多資源的責任，但，以分攤資金的角度觀察，亦必須考慮到「衡平」原則。此外，為了財務機制運作的長期性與穩定性，資金之來源亦必須具「可測量性」以及「可預測性」，就資金取得之多寡而言，「適當性」則相當關鍵，但其必須視個案決定。此五項原則雖然缺一不可，但取決於財務機制運作的時程 (time frame)，某些原則的達成可能有不同的認定，再者，有時某些原則的達成卻可能影響另一些原則之達成。例如：以資金來源為已開發國家透過國家預算編列 ODA 募集為例，就當年度而言此一資金來源可能具有可測量性以及可預測性，但若以長期來看，此一資金來源的方式則可能無法符合此兩指導原則，因為一國之年度預算並無法於事前預知，再者，由於 UNFCCC 要求已開發國家必須提供的資金為「新的且額外的」(new and additional)，亦即是不能以該國既有之 ODA 作為滿足公約下提供財務之義務，因此，此一方式亦可能違反「共同但有差別之責任與能力」以及「衡平」；若以私部門之投資挹注做為資金來源，即便私部門之資金可能較公部門所得提供的資金來得充裕且「適當」，但可能較難符合可測量性以及可預測性，因為私部門之投資計畫多半取決於投資人是否有投資意願以及所願意付出之投資金額 (與技術)。因此，端視氣候變遷財務機制的時程、資金主要來源、目的等，於規劃資金來源時，此五大指導原則必須視個案、扮演不同比重的角色。

4.2. 資源的分配

財務機制中的資源分配可能包括以下幾種不同的意涵：第一、有關資源移轉之型態，例如透過直接的贈與 (grants)、提供低利貸款 (concessional loans)、或提供投資計畫的管道 (例如 CDM)，第二、涉及資金所資助之計畫類型，例如投資計畫類、政策/規劃方案類型以及投資型，第三、資源分配至接

³⁶ 例如：Bird, N. & Brown, J., *International Climate Finance: Principles for European Support to Developing Countries* (March 2010); Global Canopy Programme, *The Little Climate Finance Book: A guide to financing options for forests and climate change* (2009).

³⁷ Global Canopy Programme, *id.*, at 31.

受方的管道，例如接受方是否得直接申請並取得財物機制中的資金（direct access to fund）、或是需要透過一撥款或審核之中間機制等。依據 UNFCCC 第 11 條，以及「芭里行動計畫」第 1 (e) 段，財務機制中有關資源之分配的指導原則包括：有效性（effectiveness）、效率（efficiency）、衡平（equity）、適當性（appropriateness）、³⁸以及國家自主性（national ownership）。³⁹針對各指導原則，簡要說明如下。

資源的分配涉及到該財務機制下的資金得否有效率地支助需要援助的計畫（「效率性」），此外，其也涉及取得資金的接受方得取得適當之資源（「適當性」）、有效（「有效性」）的執行相關計畫，此外，符合接受援助資格的接受方是否有公平之取得或使用該財務機制下的資金（「衡平性」），以及該接受方是否對於獲得資金補助的計畫有參與規劃、因此有強烈的、自發性的動機予以執行（「國家自主性」），也是攸關財務機制資源分配的重要指導原則。如同前述有關資金來源此一制度要素，此五項原則雖然缺一不可，但端視資源分配之型態、資助的計畫類型、以及分配的管道，有時某些原則的達成卻可能影響另一些原則之達成。例如資金若係透過貸款的方式補助接受國國內之某一政策/規劃方案型之計畫，為確保資金之運用係有效的得以達成有助於氣候變遷之減緩與/或調適，該財務機制有可能針對資金之運用列出一些相關條件，要求接受國於執行計畫時必須遵守，此時，「有效性」之指導原則即有可能減損「國家自主性」此一原則；或，當私部門之資金，希望以最有效以及有效率的方式，將資源以外人直接投資的方式投入某一類型、某一部門、或某特定國家內之投資計畫時，「衡平性」即有可能無法達成。⁴⁰因此，端視氣候變遷財務機制的資金分配型態、資助的計畫類型、以及分配的管道，於規劃資金分配原則時，此五大指導原則必須視個案、扮演不同比重的角色。

4.3. 機制的管理/組織面

為確保財務機制之資金來源以及資金分配，可充分遵循前述之各項指導原則，其機制的管理以及治理架構，對於各項指導原則得否落實，扮演相當關鍵的角色，也因此，眾多討論氣候變遷財務機制的文獻，均將焦點至於機制的管理面。以前述所介紹之 GEF 為例，其在取得 UNFCCC 之締約國是否願意將公約之財務機制交由 GEF 運作的考慮過程中，有關其管理與組織面是否有遵循公約的規定加以調整，係一關鍵因素，可見於財務機制的三大要素中，有關機制的管理與組織此一制度面向，至為重要。依據公約第七條，財務機制中有關組織安排面向之指導原則包括：透明化（transparency）、效率（efficiency）、有效性（effectiveness）、各方之平衡代表性（balanced representation of all parties）。⁴¹針對各指導原則，簡要說明如下。

對於任何組織之運作，程序面之安排例如決策機制透明化、資訊公開與取得等，以及組織內負責決策訂定之機關是否具有正當性與代表性，攸關影響各方對此一機制的正當性與公信力的認知，此外，組織的架構與運作亦必須兼顧效率以及有效性。但，視財務機制的規模（國際性、區域性、雙邊性、單邊性）以及資源所資助之活動類型（投資計畫型、政策/規劃方案類型、投資型），財務機制的組織安排與設計差異性非常大，有類似 GEF 此一國際性、主要贊助投資計畫型之財務機制，也有類似世界銀行下之 PCF 此一投資型的財務機制，也有雙邊或單邊性之財務機制，不同類型之財務機制的機制管理與組織安排所必須注意之指導原則比重可能不同。例如國際性之財務機制的組織面（以 GEF 為例）

³⁸ *Id.*, at 84.

³⁹ Bird, N. & Brown, J., *supra* note 36, at 9.

⁴⁰ 此即為目前CDM運作之一項困難且受人批評之現況：目前有超過百分之七十已註冊的CDM計畫集中於中國、印度與巴西，其中中國佔了超過百分之四十。

⁴¹ Global Canopy Programme, *supra* note 36, at 123.

可能必須特別注意「各方之平衡代表性」此一原則，但若因此使得管理機制過於龐大、或決策機制因此較為複雜，可能影響機制之「效率」；或，類似 PCF 此類財務機制，其管理者（世銀）身負該基金/信託基金之管理人身份，對出資者負受託人之責任（fiduciary duties），於此類之財務機制中，透明性可能不如有效性或效率來的重要。因此，端視氣候變遷財務機制的類型，於設計其管理組織面時，此四大指導原則必須視個案、扮演不同比重的角色。

除了上述針對組織設計之指導原則外，針對財務機制的組織與制度運作，亦有研究者透過分析該組織的權力（power）、責任（responsibility）、以及課責（accountability）的角度，思考財務機制之正當性。⁴²權力係指財務機制下，在參與者彼此之間、以及參與者與管理組織間，經由正式或非正式的管道行使其能力以做出決策的方式，其包括財務機制的參與者、決策程序、管理機構、行政與管理人員之權責等；⁴³責任係指權力的正當行使，特別是權力的行使係為了確保財務機制中的資源得以公平、有效以及有效率的被使用與達成預定之目標，其包括於管理機構針對資源之使用制訂政策或批准投資計畫時，參與此一資源分配的程序時之權力行使，也包括確保贊助計畫於地主國的「國家自主性」（country ownership）；⁴⁴課責則是為了確保負責任的行使權力所要求之標準與制度，這也是財務機制取得其正當性的關鍵要素：財務機制必須同時對贊助者以及接受贊助者負責，課責的首要步驟為針對一財務機制之目標與目的訂定非常具體，並就其運作之表現訂出可測量之指標（measurable indicators），此外，亦需要身為財務機制之資金管理人的受託人責任以及財務管理的標準，除此之外，也必須注意並管理所贊助計畫或活動之環境與社會風險。⁴⁵

4.4. 小結

以上係針對財務機制運作之三大關鍵要素：資源的取得、資源的分配、機制的管理於設計與操作時，必須各自注意哪些指導原則作一簡要的分析，並整理於表三。必須注意的是，端視不同之財務機制的類型，其三大制度要素設計時所必須遵循或注意的指導原則會有不同。

表三：財務機制之三大制度要素的設計指導原則

財務機制的制度要素	指導原則
資源的取得	適當性（adequacy）
	可預測性（predictability）
	永續性（sustainability）
	衡平（equity）
	共同但有差別之責任與能力（common but differentiated responsibilities and respective capabilities）
	可測量性（measurability）
資源的分配	有效性（effectiveness）
	效率（efficiency）
	衡平（equity）

⁴² Ballesteros, A. et al, *supra* note7.

⁴³ *Id.*, at 8.

⁴⁴ *Id.*, at 9, 27-34.

⁴⁵ *Id.*, at 8, 34-42.

	適當性 (appropriateness)
	國家自主性 (national ownership)
組織管理面	透明化 (transparency)
	效率 (efficiency)
	有效性 (effectiveness)
	各方之平衡代表性 (balanced representation of all parties)
	權力 (power)
	責任 (responsibility)
	課責 (accountability)

5. 代結論：國際財務機制運作之經驗對我國之啟示

本文簡要的針對目前國際間有關氣候變遷之減緩與調適措施的財務機制，就其定義、分類、以及制度設計的三大要素做一簡要的說明，並介紹三個運作較成熟、又具有高度之國際關注的財務機制 (GEF、CDM、EU ETS)。此一研究課題對我國有以下兩個重要之啟示：第一、對內而言，參考國際間不同類型之財務機制運作的經驗，擷取運作良好且有效之經驗，以據此設計適合於我國引進之氣候變遷減緩與調適措施之財務機制，第二、對外而言，為更有效參與氣候變遷之國際事務，於瞭解各類型之財務機制的參與所需付出之成本、以及參與可獲得的利益，方得選擇適合且法律上有空間允許我國參與的國際、區域、或雙邊財務機制。

但欲深度瞭解氣候變遷之財務機制，有必要針對不同類型之財務機制，於實務上運作的案例一一加以介紹，以據此修正或驗證制度設計要素的指導原則，此需要更為詳細之分析，此將為本研究者將陸續進行之研究對象，也希望本文粗淺地針對此一研究課題所提出的初步觀察，引發其他更優秀之研究者對此一研究課題的研究興趣。此外，以私部門為主的財務機制，例如保險機制，亦相當重要，此部分於本研究中並未著墨，請參考本書中由汪信君教授所著之「氣候變遷減緩與保險機制」。最後，各類財務機制的運作，均需有大方向之政策與法制之調整等大環境配套措施，為因應氣候變遷議題，我國於此面向之應對，就決策層次，請參考葉俊榮教授所著之「氣候變遷的治理模式—法律典範的衝擊與轉變」、以及張文貞教授所著之「氣候變遷下的環境及政策影響評估—思考面向的提出」等文，就法制層面，則請參考李建良教授所著之「氣候變遷的法律對策與規範模式：系列研究總說」、以及許耀明教授所著之「氣候變遷的跨國規範模式—巨災風險、跨國規範及其國際法意涵」等文。

附件二：

Title: Financial mechanisms for climate change: what lessons can be learned from the reform experiences of the IMF?*

I. Introduction

Financial mechanism has always been an important, yet controversial institutional pillar under the

* 本部分之計畫研究成果已於「Law in a Sustainable Asia (Kyushu University & Asian Law Institute主辦, 2011.5.26-27, Kyushu, Japan)」研討會中口頭發表，會後已完成改寫並投稿至TSSCI，現正審查中。

international climate change regime. The negotiation leading up to the United Nation Framework Convention on Climate Change (UNFCCC) has already demonstrated the controversies surrounding the design and governance structure of the financial mechanism under the Convention.⁴⁶ Article 11 of the UNFCCC requires that the financial mechanism “shall function under the guidance of and be accountable to the Conference of the Parties...”, and “shall have an equitable and balanced representation of all Parties within a transparent system of governance”. When developed country parties (Annex I parties) undertook concrete legal obligations to reduce six types of greenhouse gases (GHGs) under the Kyoto Protocol, the concept of ‘financial mechanism’ broadened and the types of such mechanism became extremely diversified. In the current post-2012 climate change negotiation, financial mechanism again became one of the crucial negotiation agenda. The “Copenhagen Accord” issued after COP 15 to the UN FCCC, albeit not unanimously adopted, is nevertheless an important decision relating to further development of the climate change regime. In this 12—paragraph document, there are seven paragraphs that touch upon issues relating to financial resource and financial mechanism. Furthermore, COP 16 to the UNFCCC adopted the so-called “Cancun Agreements”. The Cancun Agreements also lay down various significant provisions on financial mechanisms, including the newly-created Green Climate Fund. This illustrates the importance of financial mechanisms in adopting and implementing policies on climate change mitigation and adaptation. Amongst the mostly debated issues concerning the design of financial mechanism, the governance structure has always been a crucial one. The design and effectiveness of such financial mechanisms, especially their governance structure in ensuring the democratic quality of producing a fair and equitable resources generating and allocation process will determine whether any financial mechanism can achieve its goal of assisting developing countries to implement climate change mitigation and adaptation policies.

Meanwhile, international financial mechanisms for development assistance have been in operation since the establishment of the Bretton Woods institutions —the International Monetary Fund (IMF) and the World Bank Group in 1947. The governance structure of the IMF has been under constant scrutiny for the past five decades and has finally resulted in a series of governance reforms starting in 2008. Can the reform experiences in the IMF provide valuable lessons on the design of governance structure of the existing or new financial mechanisms for climate change mitigation and adaptation? This will be the main research question this article seeks to answer. This article begins with an introduction on financial mechanisms for climate change, followed by an overview of the IMF governance reformed. With the experiences of the IMF reform in mind, Part IV provide an analysis on how the IMF reform experiences can provide some lessons for the financial mechanism for climate change, with particular focus on the governance structure.

II. Financial mechanism for climate change

1. Definition and functions of financial mechanisms for climate change

Financial mechanism can be defined as: “Method or source through which funding is made available, such as bank loans, bond or share issue, reserves or savings, sales revenue.”⁴⁷ In the “Glossary of climate

⁴⁶ This refers to the debate and negotiation on whether the then-World Bank operated Global Environmental Facility (GEF) at its pilot phase should be designated as the financial mechanism under the Convention. The ultimate result was to designate the GEF as the ‘interim’ financial mechanism, with the condition that the GEF “should be appropriately restructured and its membership made universal to enable it to fulfil the requirements of Article 11”. UNFCCC, Article 21.3.

⁴⁷ “Method or source through which funding is made available, such as bank loans, bond or share issue, reserves or savings, sales revenue.” Available from: <http://www.businessdictionary.com/definition/financial-mechanism.html> (last visited: 2011/5/21).

change acronyms” from the UNFCCC website, financial mechanism is defined as “Developed country Parties (Annex II Parties) are required to provide financial resources to assist developing country Parties implement the Convention. To facilitate this, the Convention established a financial mechanism to provide funds to developing country Parties. The Parties to the Convention assigned operation of the financial mechanism to the Global Environment Facility (GEF) on an on-going basis, subject to review every four years. The financial mechanism is accountable to the COP.”⁴⁸ From these two definitions, financial mechanisms for climate change will be defined in this article as follows: “A pre-determined standards and procedures set by an institution through which funding is mobilized and disbursed for the purpose of climate change mitigation and adaptation.” Noted that, similar terms such as “climate finance”⁴⁹ or “carbon finance”⁵⁰ are also used in the relevant literature.

The main function of the financial mechanisms for climate change is to assist countries to adopt and implement policies for climate change adaptation and mitigation. According to the World Resources Institute, the typical functions of such mechanisms include: oversight, resource mobilization, resource allocation, project cycle management, standard setting, scientific and technical advice, and accountability. The corresponding roles for such mechanisms are illustrated in Table 1.⁵¹

Table 1: Functions and roles of financial mechanisms for climate change

Function	Roles
Oversight	<ul style="list-style-type: none"> ● Setting policies, program priorities and eligibility criteria
Resource mobilization	<ul style="list-style-type: none"> ● Replenishment of trust fund ● Leveraging of additional sources of funding from Implementing Agencies, private sector
Resource allocation	<ul style="list-style-type: none"> ● Allocation of resources between multiple focal areas (e.g. mitigation, adaptation, forestry) ● Prioritization between eligible recipients
Project cycle management	<ul style="list-style-type: none"> ● Preparation and approval of projects ● Financial management of loan and grant agreements
Standard setting	<ul style="list-style-type: none"> ● Development and approval of performance metrics ● Development and approval of environmental and social safeguards
Scientific and technical advice	<ul style="list-style-type: none"> ● Advice on appropriate policies and best available technologies ● Advice on scientific trends ad risk assessment

⁴⁸ “Developed country Parties (Annex II Parties) are required to provide financial resources to assist developing country Parties implement the Convention. To facilitate this, the Convention established a financial mechanism to provide funds to developing country Parties. The Parties to the Convention assigned operation of the financial mechanism to the Global Environment Facility (GEF) on an on-going basis, subject to review every four years. The financial mechanism is accountable to the COP.” From the Glossary of climate change acronyms, available from: http://unfccc.int/essential_background/glossary/items/3666.php#F (last visited: 2011/5/21).

⁴⁹ For example, Steward, R.B., Kingsbury, B. & Rudyk, B., 2009, *Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development*, NYU Press.

⁵⁰ This term is used by the World Bank Group, for example, its “Carbon Finance Unit”: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,menuPK:4125909~pagePK:64168427~piPK:64168435~theSitePK:4125853,00.html> (last visited: 2011/5/21)

⁵¹ Ballesteros, A. et al, November 2009, *Power, responsibility, and accountability: re-thinking the legitimacy of institutions for climate finance*, figure 1 at p.7.

Accountability	<ul style="list-style-type: none"> ● Monitoring and evaluation of project and portfolio performance ● Review and inspection of problematic projects
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From: Ballesteros, A. et al

Five out of the seven functions of the financial mechanisms for climate change relate to the governance of the mechanisms. This clearly illustrates the importance of institutional design and governance structure of any financial mechanism for climate change.

2. Different types of climate change financial mechanisms by different yardsticks

There are a variety of financial mechanisms for climate change. Different types of financial mechanisms for climate change can be categorised by using different yardsticks such as the purpose of the mechanisms, the scale of the mechanisms, sources of funding, and the types of activities funded by the mechanisms. The following will briefly introduce the broad range of financial mechanisms for climate change by using these four different yardsticks.

2.1 purpose of the financial mechanisms

Depending on the purpose of setting up such a mechanism, financial mechanisms for climate change can be categorised as: financial mechanisms for climate change adaptation, for climate change mitigation, and for both purposes. The Emissions Trading Scheme of the European Union (EU ETS) is a type of financial mechanism for mitigation, as the main purpose of the scheme is to reduce the emissions of GHGs within the EU.⁵² Under the international climate change regime, the Adaptation Fund set up under the Kyoto Protocol at its third meetings of the parties⁵³ is a financial mechanism for climate change adaptation. The GEF mainly funded projects for mitigation purposes, although adaptation projects are funded as well from the “Least Developed Countries Fund” and the “Special Climate Change Fund”, both of which are established at COP 7 of the UNFCCC and are administered by the GEF. At the same COP, on the other hand, Parties to the UNFCCC also instructed the GEF to support pilot and demonstration projects for certain adaptation programmes.⁵⁴

2.2 scale

Depending on the scale or platform where a financial mechanism operates, there are international/multilateral, regional, bilateral and unilateral financial mechanisms for climate change. For example, all of the financial mechanisms under the international climate change regime are international/multilateral financial mechanisms. The EU ETS, as well as certain financial mechanisms supported or administered by regional development banks (e.g. the Asian Development Bank operates three

⁵² However, the revised EU ETS will become a type of financial mechanism for both climate change mitigation and adaptation. According to the revised ETS Directive adopted on 23 April 2009, member states can determine how to use the proceeds from the auction of allowances. Nevertheless, 50% of the proceeds must be used according to Article 10.3 of the revised Directive, which include funding for both mitigation and adaptation measures.

⁵³ Decision 1/CMP.3 “Adaptation Fund”, FCCC/KP/CMP/2007/9/Add.1.

⁵⁴ <http://www.thegef.org/gef/adaptation> (last visited: 2011/5/21).

different types of carbon finance mechanisms⁵⁵) are regional financial mechanisms. Bilateral financial mechanisms often involve funding provided by one country (usually developed countries) that supports a particular types of projects or activities for climate change mitigation or adaptation undertaken by eligible country (usually developing countries). For example, the “International Climate Initiative” set up by Germany⁵⁶ in 2008 and the “Environmental Transformation Fund” set up by the UK⁵⁷ in 2008 are two such type of bilateral financial mechanisms. Unilateral financial mechanisms are mostly established domestically, such as the “Brazil Amazon Fund” set up by Brazil in 2008⁵⁸ and the “Indonesia Climate Change Trust Fund” set up by Indonesia⁵⁹ in 2009.

2.3 sources of fund

The sources of funding for a financial mechanism can come from the public sector and the private sector.⁶⁰ At the international scale, public sources can come from the traditional Overseas Development Aid (ODA), concessional debt, loan guarantee, or technology transfer arrangements. At the domestic level, funding from the public sources might include government budgets (for example, carbon tax), special levy (for example, or air pollution control fee. Funding from the private sector might include credit offsets in developed countries (for example, the EU ETS), insurance, or foreign direct investment. Currently, most of the financial mechanisms for climate change have their funding sources from the public sectors, including all of the financial mechanisms under the international climate change regime. However, some financial mechanisms have their funding sources from both the public and the private sectors, such as most of the carbon funds administered by the World Bank Group. For example, the “Prototype Carbon Fund” raises its fund from seven private companies and six governments.⁶¹

2.4 types of activities funded by financial mechanisms

Financial mechanisms for climate change can support a wide range of activities, including project lending, program or policy lending, and for investment only. Financial mechanisms for project lending refer to providing funding and/or technologies for a specific project (for example, a solar power plant). Financial mechanisms for program or policy lending support a program of action or a set of policies (for example, a set of subsidy programs to support renewable energy sector). Financial mechanisms for investment only use their fund to purchase offsets generated from emissions reduction projects, such as the certified emissions

⁵⁵ <http://www.adb.org/Climate-Change/funds.asp> (last visited: 2011/5/21)

⁵⁶ http://www.bmu-klimaschutzinitiative.de/en/home_i (last visited: 2011/5/21)

⁵⁷ http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/intl_strat/ietf/ietf.aspx (last visited: 2011/5/21)

⁵⁸ <http://www.amazonfund.org/> (last visited: 2011/5/21)

⁵⁹ <http://www.icctf.org/site/> (last visited: 2011/5/21)

⁶⁰ Stewart, R.B., Kingsbury, B. & Rudyk, B., December 2, 2009, *Climate Finance: Key Concepts and Ways Forward*, Harvard Project on International Climate Agreements, available from: <http://belfercenter.ksg.harvard.edu/files/Stewart%20Final.pdf> (last visited: 2011/5/21).

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<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,contentMDK:21630008~menuPK:5216148~pagePK:64168445~piPK:64168309~theSitePK:4125853,00.html> (last visited: 2011/5/21)

reductions (CERs) generated from the Clean Development Mechanism (CDM) projects). The CDM under the Kyoto Protocol is a typical financial mechanism for project lending. The GEF started as a financial mechanism for project lending as well. However, the GEF picked up the practices of program/policy lending in 2008 when it began to provide “a long-term and strategic arrangement of individual yet interlinked projects that aim at achieving large-scale impacts on the global environment.”⁶² Some of the carbon funds administered by the World Bank Group are the type of financial mechanism for investment purposes.

3. Design elements and guiding principles of financial mechanism for climate change, with particular focus on the governance structure

Based on the definition given to financial mechanisms for climate change previously, as well as drawing from some research works in the relevant field,⁶³ a financial mechanism for climate change should comprise the following three key elements: resource mobilization (generation), resource disbursement (delivery), and governance of institutional arrangements (administration). The guiding principles in each element will be briefly introduced as follows.

3.1 Generation: resource mobilization

This element refers to how the resources/funding of a financial mechanism are generated. As the previous section indicated, the sources of funding can be derived broadly from the public and the private sectors. According to Article 4.3 of the UNFCCC and paragraph 1(e) of the so-called Bali Action Plan adopted at the 13th Conference of the Parties, the following five principles are crucial for resources mobilisation: adequacy, predictability, sustainability, equity and common but differentiated responsibilities and respective capabilities, and, measurability.⁶⁴

These five guiding principles are equally important when designing the method of how resources will be generated under the financial mechanism for climate change. However, depending on the time-frame, sources of funding, and objective and purpose, the importance and roles of each of these guiding principles will be different. For example, if the source of funding comes from the ODA through the governments' annual budgets, this can satisfy the principles of measurability and predictability in that particular year when the budget is approved. But from a long-term perspective, such a source of funding might be incompatible with precisely these two principles as each government's annual budget is hard to predict in advance. Furthermore, Article 4.3 of the UNFCCC requests the Annex II Parties to provide “new and additional” financial resources, which means that an Annex II Party cannot rely on its existing ODA to meet this financial obligation under the UNFCCC. On the other hand, when the source of funding comes from the private sector, for example, private investment, such type of funding might be more “adequate”. Nevertheless, it might also be more difficult to be “measurable” and “predictable”, as the availability of such type of funding largely depends on the willingness and capacities of those private investors to provide the necessary resources.

⁶² GEF, *Adding Value and Promoting Higher Impact through the GEF's Programmatic Approach*, available from: http://www.thegef.org/gef/sites/thegef.org/files/publication/Programmatic_Approach.pdf (last visited: 2011/5/21)

⁶³ For example: Bird, N. & Brown, J., March 2009, *International Climate Finance: Principles for European Support to Developing Countries*; Global Canopy Programme, 2009, *The Little Climate Finance Book: A guide to financing options for forests and climate change*.

⁶⁴ Global Canopy Programme, 2009, *supra note* 18, p. 31.

3.2 Delivery: resources distribution

This element refers to how resources of the financial mechanisms are delivered. It can refer to, first, the modes of distribution: the fund can be delivered by grants, concessional loans, or investment channel (for example, for a CDM project). Second, it can refer to the types of activities that the resources will fund: projects or programmes/policies. Third, it can also refer to the channel through which funding reach their target recipients: whether the recipients can have direct access to the fund, or they have to apply for the use of fund via an appropriation or review mechanism. According to Article 11 of the UNFCCC, paragraph 1(e) of the Bali Action Plan and the Paris Declaration on Aid Effectiveness, the following five principles are crucial in the delivery of resources: effectiveness, efficiency, equity, appropriateness,⁶⁵ and, national ownership.⁶⁶

These five guiding principles are equally important when designing the distribution channel of resources in the financial mechanism for climate change. However, depending on the modes of resource disbursement, funding activities and channels of disbursement, the importance and roles of each of these guiding principles will be different. For example, when funding is provided in the form of a loan to support certain types of programmes or policies, conditions might be imposed to ensure that the recipient country can use such funding effectively. But this is very likely to run counter to the principle of “national ownership”. When the resources come from the private sector that want to deliver the funding in the most effective and efficient manner, such funding might focus on one particular type of activities, a particular sector, or even in a particular region or country. Under this circumstance, the principle of equity might be compromised.⁶⁷

3.3 Administration: governance of institutional arrangement

The governance structure of a financial mechanism is crucial to ensure that the generation and delivery of resources can be designed and implemented in according with the above-mentioned guiding principles. It is, thus, not surprising that most of the research on climate change financial mechanism focus on the institutional arrangement and governance. Analyses have been done on the legitimacy of a financial mechanism from the perspective of their governance in the following three dimensions: power, responsibility, and accountability.⁶⁸ Power refers to the formal and informal distribution of the capacity to determine outcomes between and amongst Parties, and between Parties and the institutions they create. This includes membership, decision-making rules, governing body, and its administrative and management staff.⁶⁹ Responsibility refers to the exercise of power for its intended purpose, specifically to ensure that the resources entrusted to a financial mechanism are programmed effective and equitably. This includes responsibility exercised in allocating resources and in leading the design and implementation of projects and programmes, as well as ensuring country ownership in the host country.⁷⁰ Accountability refers to the standards and systems for

⁶⁵ Global Canopy Programme, 2009, *supra note* 18, p. 84.

⁶⁶ National ownership refers to the extent to which recipients exercise leadership over their climate change policies and strategies. Bird, N. & Brown, J., March 2010, *supra note* 18, p. 9.

⁶⁷ For example, the uneven distribution of the current CDM projects is one such example: there are more than 70% of the registered CDM projects in only three countries: China, India and Brazil, and China alone has attracted more than 40% of the CDM projects.

⁶⁸ Ballesteros, A. et al, November 2009, *supra note* 6, pp.8-9.

⁶⁹ *Id.*, p. 8.

⁷⁰ *Id.*, p. 9, 27-34.

ensuring that power is exercised responsibly. This is the key element in gauging the degree of legitimacy in a financial mechanism: institutions entrusted with climate finance must be accountable both to contributors and recipients. Accountability begins with a determination of an institution's precise goals and objectives, as well as agreement on measurable indicators of successful performance. It also includes fiduciary standards: specific duties attributable to the trustee of a trust fund holding money for the beneficiary of that fund. Furthermore, environmental and social risks and impacts of projects and programmes supported by the financial mechanism must also be managed responsibly.⁷¹

As to the guiding principles for the governance structure, the following four guiding principles are crucial according to Article 7 of the UNFCCC: transparency, efficiency, effectiveness, and balanced representation of all parties.⁷² Such principles will determine whether the financial mechanisms can be perceived as legitimate and impartial. These four guiding principles are equally important when designing the governance structure of the financial mechanism for climate change. Depending on the scale of the financial mechanism (international, regional, bilateral, or unilateral) as well as the types of activities supported (projects, programmes and policies, investment), there can be a variety of institutional arrangements for different types of financial mechanisms. Thus, the importance and roles of each of these guiding principles will be different. For example, for financial mechanism operating at the international level, such as the GEF, the principle of "balanced representation of all parties" will have a bigger role in the design of its governance structure. But the principle of efficiency might be compromised should such a financial mechanism, in responding to have a balanced representation of all parties, adopts a large decision-making body or a set of complex decision-making mechanism. On the other hand, in the case of the Prototype Carbon Fund where the World Bank is entrusted as the trustee who bears the fiduciary duties toward all the investors, transparency of its governance structure might come second comparing to the principles of effectiveness and efficiency.

As can be seen from this Part, financial mechanisms for climate change can take a variety of forms. In addition, each of the three design features, i.e. generation, delivery, and administration, of a financial mechanism for climate change has its own set of guiding principles. The effectiveness of such mechanisms in achieving their objectives depend mostly on whether their governance structure can ensure the democratic quality of producing a fair and equitable resources generation and allocation process. Some of the financial mechanisms for climate change, such as the GEF, have already adopted novel governance structure different from the traditional international financial mechanisms for development assistance, which began their operations since 1940s. After more than five decades of recalling for reform, the leading international financial mechanism for development assistance, the IMF, finally began a process of governance reform in 2008. Whether this reform will be effective in addressing all of the concerns behind the need and call for reform cannot be evaluated just yet, as the reform process is still undergoing. Nevertheless, there might be valuable lessons to be learned from this process to guide many of the emerging financial mechanisms for climate change that are still in the process of "under construction". The next Part will introduce the governance reform of the IMF and the lessons learned.

⁷¹ *Id.*, p. 8, 34-42.

⁷² Global Canopy Programme, 2009, *supra note* 18, p. 123.

III. Governance reform of the IMF and lessons learned

1. What needs to be reformed

The governance structures of the IMF, in particular the weighted voting system, have long been criticised by many since the 1970s. Developing countries have campaigned rigorously for a new international economic order within the UN system that called for reforms of the governance structure of international economic organisations since the early 1970s.⁷³ Such an early and repeated call for reform was only taken up by the members after more than 30 years when the IMF began a series of reform programmes targeting its governance structure in early 2000. Comprehensive reform of the IMF governance encompasses issues relating to quota, ministerial engagement and oversight, the size and composition of the Executive Board, voting rules, management selection, and staff diversity.⁷⁴ The most criticised aspect of the Fund's governance focused on its decision-making rules, in particular with regard to how votes are distributed (the "quota" system) and the voting rules, and its organisational arrangement, in particular the role of the Executive Directors.

1.1 decision-making

According to Article XII, Section 5(a) of the Articles of Agreement of the IMF (hereinafter IMF Agreement), each member has 250 votes "plus one additional vote for each part of its quota equivalent to one hundred thousand special drawing rights". The former is the basic votes of each IMF member. According to J. Gold, the purpose of designing the basic votes was to serve the function of recognising the doctrine of the equality of states, as well as to avoid too close an adherence to the concept of a private business corporation. Furthermore, some members might have such a small quota that, without having basic votes, they would have virtually no sense of participation in the affairs of the Fund.⁷⁵ The basic votes accounted for 11.26% of the total votes in 1994 when the IMF was created. However, the IMF Agreement does not specify the ratio of basic votes to total votes. As a result, the proportion of basic votes to the total votes decreased significantly during the last five decades as the membership of the IMF expanded and the regular quota increase took place since 1965. The basic votes accounted for only 2% of the total votes in 2005.⁷⁶ This erosion of basic votes means that members with small quota have decreasing influences within the decision-making process within the Fund, which undoubtedly rose controversies regarding the legitimacy of the decisions of the Fund.

In addition to basic votes, the quota system raises more concerns within the reform agenda. As Article XII, Section 5 stipulates, the more quota a member is allocated, the more votes that member can have. According to Article III, Section 1 of the IMF Agreement, the original members of the IMF have their quota stipulated in Annex A. As for other members, the quotas shall be determined by the Board of Governors. The

⁷³ Developing countries have tried to push through a series of declarations/resolutions under the UN Assembly to achieve such a goal. Two such examples are the "Programme of Action on the Establishment of a New International Economic Order" adopted by the UN Assembly in 1974, and the "Charter of Economic Rights and Duties of States" adopted in 1975.

⁷⁴ IMF, April 21, 2010, *Executive Board Progress Report to the IMFC: The reform of Fund governance*, para. 1.

⁷⁵ Gold, J., 1972, *Voting and Decisions in the International Monetary Fund*, pp. 18-19.

⁷⁶ Kelkar, V.L. et al., 2005, "Reforming the International Monetary Fund: towards enhanced accountability and legitimacy", in: Buirra, A. (ed), *Reforming the Governance of the IMF and the World Bank*, ch. 3, p.62.

subscription of each member shall be equal to its quota and shall be paid in full to the Fund. Section 2 sets down rules for quotas adjustment, including a regular five-year general review and an ad hoc review at the request of any member. An 85% majority of the total voting power is required for any change in quotas. The quota of an IMF member not only determines the voting power, but also the extent to which a member can use the resources of the Fund without any conditions, as well as how many special drawing rights (SDRs) can be allocated to it. In other words, quota will determine the rights and obligations of an IMF member. Quotas are designed to represent the relative economic power of each member globally, so the quota formula should reflect the economic status of each member. However, the initial quota formula was designed with a political objective: to give the US the highest quota share.⁷⁷ This so-called Bretton Woods formula was revised several times, but only with minor changes and has remained unchanged since 1983.⁷⁸ Both developing and developed members have criticised that this quota formula no longer reflects the real economic power and status of members globally. The revision of quota formula is, thus, called for in the reform programme.

Voting rules are another contentious issue within the reform programme. According to Article XII, Section 5(c) of the IMF Agreement: “Except as otherwise specifically provided, all decisions of the Fund shall be made by a majority of the votes cast.” The “otherwise specifically provided” is understood to refer to those provisions of the IMF Agreement that require special majorities for certain decisions. There are two types of special majorities (70% and 85%) and both are calculated in terms of the total voting power within the Fund.⁷⁹ Another type of special majorities rule is the double-majority rule that apply to only one type decision of the Fund: amendments to the IMF Agreement. According to Article XXVIII, an amendment to the IMF Agreement requires the acceptance of three-fifths of the members, having 85% of the total voting power. An abstention or a vote not cast has the same effect as a negative vote.⁸⁰ The types of decisions requiring special majorities have increased significantly since the Second Amendment to the IMF Agreement,⁸¹ resulting in giving greater veto power to those Members having, collectively or individually, 25% or 15% of the total voting power. For example, having 17.023% of the total voting power,⁸² the US alone holds the power to veto any type of decision that requires an 85% majority votes. Despite having these formal voting rules in the IMF Agreement, decisions within the IMF are often adopted by consensus without formal votes. According to Rule C-10 of the Rules and Regulations, the Chairman shall “ordinarily ascertain the sense of the meeting in lieu of a formal vote”, unless a member of the Executive Board requests for a formal vote. The “sense of the meeting” is defined as “a position supported by executive directors having sufficient votes to carry the question if a vote were taken.” The Chair has significant discretion as to how to interpret the silence of an executive director when there is no explicit decision to be taken, and a range of views have been expressed on a particular issue.⁸³ Formal votes are rare in the meetings of the Executive

⁷⁷ Mikesell, R.F., March 1994, “The Bretton Woods Debates: a memoir”, *Essay in International Finance*, p.22

⁷⁸ Mirakhor, A & Zaidi, I., December 2006, *Rethinking the Governance of the International Monetary Fund*, IMF Working Paper WP/06/273, pp.8-9.

⁷⁹ Gianviti, F., 1999, “Decision-Making in the International Monetary Fund”, in: IMF (ed.), *Current Developments in Monetary and Financial Law*, Ch.2A, pp.51—52.

⁸⁰ Mountford, A., March 2008, *The Formal Governance Structure of the International Monetary Fund*, IEO Background Paper BP/08/01, p.19.

⁸¹ Van Houtven, L., 2002, *Governance of the IMF: Decision-making, institutional oversight, transparency, and accountability*, IMF Pamphlet Series No. 53, p. 73.

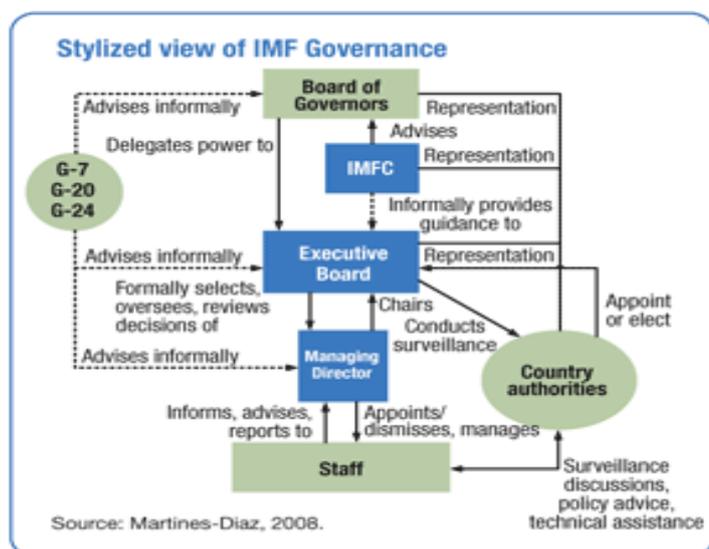
⁸² This is the US quota before 2006.

⁸³ Chelsky, J., March 2008, *Summarizing the Views of the IMF Executive Board*, IEO Background Paper BP/08/05, p.8.

Board. However, the formal procedures as stipulated in the IMF Agreement may profoundly affect the *de facto* decision-making process. Even where decisions are often taken informally, the resort to formal voting procedures remains a possibility and may have a significant effect on the willingness of members to arrive at a consensus.⁸⁴ Consequently, the voting rules, coupled with the imbalance of votes (both the basic votes and the weighted votes based on quotas) distributions, are another aspect of IMF decision-making that requires reform.

1.2 organisational arrangement

According to Article XII, Section 1 of the IMF Agreement, the IMF shall have a Board of Governors, an Executive Board, a Managing Director, and a staff, and a Council if the Board of Governors decides by an 85% majority of voting power. In addition to these formal governing bodies, the Board of Governors can also set up various committees for specific tasks or advisory purposes, such as the Interim Committee (set up in 1974 and renamed as the International Monetary and Financial Committee in 1999). Other informal alliances, such as G-7, G-20 or G-24, formed by different IMF members also interact with the IMF. The IMF governance is illustrated in the following chart.



Source: <http://www.imf.org/external/about/govstruct.htm>

According to Article XII, Section 2(a), all power under the IMF Agreement not conferred directly on the Board of Governors, the Executive Board, or the Managing Director shall be vested in the Board of Governors. Although the Board of Governors is the highest decision-making organ, most of its power has been delegated to the Executive Board as early as in 1946.⁸⁵ As a result, the Executive Board is the most important organ in the daily operations and decisions of the Fund, and has been the centre of focus in the call for governance reform.

According to Article XII, Section 3(a), the Executive Board is responsible for conducting the business of the Fund and for this purpose shall exercise all the powers delegated to it by the Board of Governors. The

⁸⁴ Zamora, S., July 1980, "Voting in International Economic Organizations", 74:3 *American Journal of International Law* 566, p.568.

⁸⁵ Mountford, A., March 2008, *supra note 35*, p.7.

Executive Board consists of Executive Directors with the Managing Director as chairman. Five of the Executive Directors shall be appointed by the five members having the largest quotas (appointed Directors) and fifteen shall be elected by the other members (elected Directors). The number of elected Directors can be changed by the Board of Governors using an 85% majority of the total voting power. The Executive Board shall function in continuous session at the principal office of the Fund, i.e. its Headquarter in Washington D.C. Regarding voting, appointed Directors are to cast the number of votes allotted to the member appointing him, whilst elected Directors have to cast the number of votes which counted towards his election. In other words, split voting is not permitted for elected Directors to cast their votes. Two major reform issues relating to the Executive Board are the electoral system and the role of the Executive Directors under the IMF.

Currently there are 24 Executive Directors, including 5 appointed (the US, Japan, Germany, France, and the UK) and 19 elected Directors. Elected Directors are elected for the terms of two years. As 3 elected Directors come from constituency that have only one member (China, Saudi Arabia,⁸⁶ and Russia), only 16 elected Directors come from multi-member constituencies. Comparing to those constituencies that only have one member, two Directors elected by most of the African members come from constituencies of 21 and 24 members, respectively.⁸⁷ As not all members have an appointed Director representing them at the meeting of the Executive Board, Article XII, Section 3(j) provides that, when a member that is not entitled to appoint an Executive Director, that member can send a representative to attend any meeting of the Executive Board when a request made by, or a matter particularly affecting, that member is under consideration. The IMF Agreement does not specify how the constituencies are formed. Thus, constituencies may be based on informal arrangements or on a written agreement amongst the participating members.⁸⁸ There are diverging views regarding the role of mixed multi-country constituencies, as well as a related issue of whether constituencies having a dominant country allow for proper representation of the small countries.⁸⁹ The Executive Board began as a compact body where the multi-country constituencies represented, on average, around 5.6 members in 1945. As the membership of the Fund enlarges, the average size of a multi-country constituency grew to 10.8 members today. The problem of crowded constituencies was compounded by the increase in the number of single-country constituencies from 5 to 8, which is a third of the Board's seat.⁹⁰ How to ensure that elected Director that comes from constituency of members with divergent interests (for example, creditor v.s. member using the Fund's resources) reflect the positions of all the members within the same constituency have been a controversial issue. Directors representing an individual member can be held directly to account by their authorities and in effect dismissed and replaced at will. On the other hand, elected Director, once elected, serves a two-year term with little incentive to be accountable to his or her constituency.⁹¹ In fact, the fact that a Director has been selected by certain members does not create any

⁸⁶ According to Article XII, Section 3(c), Saudi Arabia became entitled to appoint its own Director in 1978 when its currency became widely used by the members.

⁸⁷ Mountford, A., March 2008, *supra note* 35, p.10.

⁸⁸ Portugal, M., 2005, "Improving IMF Governance and Increasing the Influence of Developing Countries in IMF Decision-making", in: Buirra, A. (ed), *Reforming the Governance of the IMF and the World Bank*, ch. 4, p.94

⁸⁹ *Ibid*, p.95

⁹⁰ Martinez-Diaz, L., May 2008, *Executive Boards in International Organizations: Lessons for Strengthening IMF Governance*, IEO Background Paper BP/08/08, p.18.

⁹¹ Woods, N. & Lombardi, D., August 2006, "Uneven patterns of governance: how developing countries are represented in the IMF", 13:3 *Review of International Political Economy* 480, p 483.

obligation for him or her to defer to their views or to cast his or her votes in accordance with their instructions. His or her votes are valid even if they are inconsistent with any instructions he or she may have received from his or her constituents.⁹² Another criticism relating to the electoral system is that, two multi-country constituencies representing African countries are too large with 21 and 24 members each, whereas the average size of multi-country constituencies is 11 members. This increases the burden of these two Directors, especially considering that they represent members that usually engage in long term borrowing, which are quite demanding in terms of workload.⁹³

As has been stated previously, the Board of Governors have delegated most of the powers to the Executive Directors. Therefore, the Executive Directors possess great power, whose duties include approval of relevant policies of the Fund, discussion on bilateral surveillance under Article IV as well as multilateral surveillance on the international monetary system, approval of all decisions relating to the use of Fund's resources, approval of the selection of the Managing Director, approval of the decisions on the IMF budget and personnel etc. In other words, the Executive Directors carry most, if not all of the important day-to-day operational decisions of the Fund. The second reform issue relating to the Executive Board concerns the role and character of the Executive Directors: are they officials of the IMF or member governments' representatives? This is a crucial question as it will determine to whom Executive Directors should be held accountable. During the drafting of the IMF Agreement, the UK was primarily of the view that Executive Directors are international officials whilst the US preferred to grant more political power to the Executive Directors. The US view seemed to prevail, as the result was a resident, 12-member board based in the IMF Headquarter that meets in continuous sessions.⁹⁴ Nevertheless, the IMF Agreement does not specify whether the Executive Directors should be fully or partially accountable to their appointed or elected members. After analysing the functions and duties of the Executive Directors, Francois Gianviti, the former General Counsel of the IMF, concludes that "an Executive Director of the IMF is an official of the organisation, legally accountable to the IMF for the discharge of his duties."⁹⁵ However, in the case of appointed Directors, they can be recalled at will by their capitals. And in the case of both appointed and elected Directors, the impact on their future careers in their home countries provide an incentive to listen to their authorities' guidance.⁹⁶ It is, thus, impossible that Executive Directors ignore instructions or guidance from members and act as independent officials of the IMF. As a result, the character of the Executive Directors remains controversial. This problem became even more serious by the fact that the Executive Board itself has no self-evaluation process, nor is its performance evaluated by any other body other than the extent to which members evaluate the performance of the Directors which represent them.⁹⁷

2. The reform programme

The call for reform has not stopped after the 1970s. The Group of Twenty-Four, composed of representatives of developing countries, issued a communiqué in 1983 stating that the "current monetary and

⁹² Gianviti, F., 1999, *supra note* 34, p.48.

⁹³ Portugal, M., 2005, *supra note* 43, p.96

⁹⁴ Martinez-Diaz, L., May 2008, *supra note* 45, pp.15-16.

⁹⁵ Gianviti, F., 1999, *supra note* 34, pp.45—48.

⁹⁶ IEO of the IMF, 2008, *Governance of the IMF: An evaluation*, p. 16.

⁹⁷ Martinez-Diaz, L., May 2008, *supra note* 45, p.20.

financial system suffers from many shortcomings and inequities, notable, the inadequate share of developing countries in decision-making...”⁹⁸ The “International Conference on Financing for Development” conveyed by the UN in March 2002 adopted the “Monterrey Consensus” regarding development finance. The delegates to this Conference stressed “the need to broaden and strengthen the participation of developing countries and countries with economies in transition in international economic decision-making and norm-setting’.., and encouraged the IMF and World Bank to “enhance participation of all developing countries and countries with economies in transition in their decision-making.”⁹⁹ In the spring of 2003, the Development Committee repeated this recommendation. But no action was taken to reform the allocation of voting power within both the IMF and the World Bank by the fall of 2004. The Ministers of the G24 declared that “enhancing the representation of developing countries requires a new quota formula to reflect the relative size of developing country economies” in October 2004. The Chair of the Deputies of G24 also asked that the G24 Secretariat centre to focus its research efforts over the coming months on governance issues.¹⁰⁰ These are the background leading up to the series of reform programme finally taken up by the IMF starting in 2006, which will be briefly introduced as follow.

The IMF governance reform kicked up in 2006 when the Executive Board recommended to the Board of Governors a package of reforms on quotas and voice.¹⁰¹ The recommendation was adopted by the Board of Governors on September 18, 2006. Members representing 90.6% of the total voting power cast votes in favour of Resolution 61—5: ¹⁰² “Resolution on Quota and Voice Reform” (also called the “Singapore Resolution”).¹⁰³ The reform programme was designed as an integrated two-year programme, which include the following.¹⁰⁴ First, an ad hoc quota increases for a group of the most clearly underrepresented countries: China, South Korea, Mexico and Turkey. This ad hoc quota increases represent 1.8% of the total quota. Second, the Executive Board was requested to reach agreement on a new quota formula by 2007. Such a formula should provide a simpler and more transparent means of capturing members’ relative positions in the world economy. Third, the Executive Board is also requested to propose an amendment of the IMF Agreement to provide for at least a doubling of the basic votes that each member possesses, so as to ensure adequate voice for low-income countries. In addition, the amendment should also safeguard the proportion of basic votes in total voting power. Fourth, the Resolution called on the Executive Board to act expeditiously to increase the staffing resources available to those Executive Directors elected by a large number of mostly African members whose workload is particularly heavy. Furthermore, the Executive Board will consider the merits of an amendment of the IMF Agreement that would enable such Executive Directors to appoint more than one Alternate Executive Directors. The first reform agenda can be implemented immediately as long as

⁹⁸ Gold, J., September 1984, “Public International Law in the International Monetary System”, 38 *Southwestern Law Journal* 799, pp.835-836.

⁹⁹ UN, 2003, *Monterrey Consensus of the International Conference on Financing for Development*, paras. 62 & 63.

¹⁰⁰ Beltran, G.S. for The G24 Research Program, 2005, *Governance in Bretton Woods Institutions*, pp. 3-4.

¹⁰¹ IMF, September 1, 2006, *IMF Executive Board Recommends Quota and Related Governance Reforms*, Press Release No. 06/189.

¹⁰² IMF, September 18, 2006, *IMF Board of Governors Approves Quota and Related Governance Reform*, Press Release No. 06/205.

¹⁰³ The text of Resolution 61-5 can be found in: IMF, December 22, 2006, *Proposed Amendment of the Articles of Agreement Regarding Basic Votes—Preliminary considerations*, Appendix I

¹⁰⁴ IMF, September 1, 2006, *supra note 56*, IMF, September 18, 2006, *supra note 57*.

the four members that receive the ad hoc quota increases complete the legal requirement in Article III, Section 2(d) of the IMF Agreement. As for the third reform agenda, the Executive Board approved an increase in the staffing resources for the two African Executive Directors' offices through the allocation of an additional advisor position in May 2007.¹⁰⁵ As for other reform issues, the Executive Directors are requested to complete all these reform issues as a package deal by 2008.

After starting the first step of reform in Singapore, the Executive Board continued to implement the reform programme as instructed by the Board of Governors. It is to be noted that, at the IMFC Meeting in September 2006, the US has declared that it does not seek an increase in its voting share even if the new quota formula points in that direction, and the US has called upon other industrial members to join it in this commitment.¹⁰⁶ The Executive Directors adopted the reform package on quota and voice and recommended the programme to the Board of Governors on March 28, 2008.¹⁰⁷ The Board of Governors, with 175 members representing 92.93% of the total voting power voted in favour of this package, adopted Resolution 63-2:

“Resolution on Reform of Quota and Voice in the International Monetary Fund” on April 28, 2008.¹⁰⁸ As the 2008-reform programme involved the amendment of the IMF Agreement, a double-majority is required, i.e. it requires the approval of three-fifths of the members having 85% of the total voting power. After almost three years, this 2008 reform package came into force on March 3, 2011 after 117 members representing more than 85% of total voting power have accepted the amendment proposal. This 2008 reform include the following main elements.¹⁰⁹ First, on quota: a new quota formula is adopted, and the second round of ad hoc quota increases would be allocated on the basis that members that are underrepresented under the new quota formula are eligible for increases. This second round of ad hoc quota increases would be approximately 9.55% of the total quotas to enhance representation for dynamic economies. Several underrepresented industrial members (Germany, Ireland, Italy, Japan, Luxembourg, and the US) have agreed to forgo part of the quota increase for which they are eligible. Furthermore, underrepresented emerging market and developing economies, whose shares in global PPP GDP are more than 75% greater than their actual pre-Singapore quota share, can receive a minimum nominal quota increase of 40% from their pre-Singapore level. In addition, considering that the four members that received quota increases in the first round of ad hoc increases in 2006 remain substantially underrepresented, these four members will receive a minimum nominal second round increase of 15%. Second, on basic votes: the Resolution approved the proposed amendment of the IMF Agreement to triple the basic votes—the first such increase since the establishment of the Fund in 1944. The amended Article XII, Section 5(a)(i) provides that: “the basic votes of each member shall be the number of votes that results from the equal distribution among all the members of 5.502 percent of the aggregate sum of the total voting power of all the members, provided that there shall be no fractional basic votes.” This is the first time where basic votes will be determined by a fixed proportion to the total votes, so that basic votes for members receiving fewer quotas will not have their basic votes “diluted” in the future round of regular or ad

¹⁰⁵ IMF, March 28a, 2008, *Reform of Quota and Voice in the International Monetary Fund—Report of the Executive Board to the Board of Governors*, note 5.

¹⁰⁶ Copper, R.N. & Truman, E.M., February 2007, *The IMF Quota Formula: Linchpin of Fund Reform*, Policy Briefs in International Economics Number PB07-1, Peter G Peterson Institute for International Economics, note 10 & p.7.

¹⁰⁷ IMF, March 28b, 2008, *IMF Executive Board Recommends Reforms to Overhaul Quota and Voice*, Press Release No. 08/64.

¹⁰⁸ IMF, April 29, 2008, *IMF Board of Governors Adopts Quota and Voice Reforms by Large Margin*, Press Release No. 08/93.

¹⁰⁹ IMF, March 28b, 2008, *supra* note 62; Resolution 63-2.

hoc quota increases. Third, on Executive Directors: the Resolution recommended that Executive Directors representing constituencies having more than 19 members would be entitled to appoint an additional Alternative Director to the one position granted to all Executive Directors. This would enhance the capacity of the two Executive Directors' offices representing African constituencies. In sum, 54 members will see their quota shares increase from pre-Singapore levels by between 12 to 106%,¹¹⁰ and the aggregate shift in quota shares for these 54 members is 4.9% points. If the increase in basic votes is included, a total of 135 members have seen their voting shares increase. Although this 2008 reform has provided for a fixed proportion of basic votes to the total voting power, the percentage is less than 6%: far behind the 11.26% when the IMF was set up in 1944.¹¹¹

The Communiqué of the IMFC issued on October 4, 2009 states that, IMF is and should remain a quota-based institution. It also emphasised that quota reform is crucial for increasing the legitimacy and effectiveness of the Fund, and supported a shift in quota share to dynamic emerging market and developing countries of at least 5% from over-represented countries to under-represented countries.¹¹² Accordingly, the Executive Directors adopted a third reform programme on quotas and governance on November 5, 2010 and recommended the reform package to the Board of Governor.¹¹³ Governors representing 95.32% of the total voting power had case votes in favour of this recommendation and adopted the “Resolution on Quota and Reform of the Executive Board” on December 16, 2010.¹¹⁴ In this 2010 reform programme, the 14th General Review of Quotas was proposed with an unprecedented doubling of quotas and a major realignment of quota shares amongst members. This will result in a shift of more than 6% of quotas shares to dynamic emerging market and developing countries and more than 6% from over-represented to under-represented members.¹¹⁵ One-half of the shifts come from advanced economies and one third comes from oil producers. 110 out of the current 185 members, including 102 emerging or developing members, will see their quota share increased or maintained.¹¹⁶ It will also protect the quota shares and voting power of the poorest members: members eligible for borrowing from the low-income Poverty Reduction and Growth Trust and whose per capital income is below the IDA threshold (US\$1,135 in 2008) will have their voting shares preserved.¹¹⁷ Furthermore, the Board also agreed that a new quota formula should be decided by January 2013, and that the next quota review should be completed by January 2014, two years ahead of schedule.¹¹⁸ In addition to the quota reform, the 2010 reform programme also proposed another amendment to the IMF Agreement to change the system of the Executive Directors: the Executive Directors will remain its current size of 24 members, the

¹¹⁰ For example, Korea will see its quota increase by 106%, Singapore by 63%, Turkey by 51%, China by 50%, India, Brazil and Mexico all by 40%. IMF, April 2008, *Reform of IMF Quotas and Voice: Responding to Changes in the Global Economy*.

¹¹¹ For example, G4 has suggested that the percentage of basic votes to the total voting power should be fixed at the level of 1944 when the IMF was established. Beltran, G.S. for The G24 Research Program, 2005, *supra note 55*, p. 21.

¹¹² IMF, October 4, 2009, *Communique of the International Monetary and Financial Committee of the Board of Governors of the International Monetary Fund*

¹¹³ IMF, November 5a, 2010, *IMF Executive Board Approves Major Overhaul of Quotas and Governance*, Press Release No. 10/418.

¹¹⁴ IMF, December 16, 2010, *IMF Board of Governors Approves Major Quota and Governance Reforms*, Press Release No. 10/477.

¹¹⁵ *Ibid.*

¹¹⁶ IMF, November 5b, 2010, *IMF Board Approves Far-reaching Governance Reforms*, IMF Survey online

¹¹⁷ IMF, November 5a, 2010, *supra note 68*.

¹¹⁸ IMF, November 5b, 2010, *supra note 71*.

Executive Directors will consist only of elected Executive Directors, ending the category of appointed Directors, and, there will be further scope for appointing second Alternate Executive Directors to enhance representation of multi-country constituencies.¹¹⁹ The reform on the Executive Directors was made possible when the EU agreed to give up two seats.¹²⁰ And the composition of the Board will be reviewed every 8 years, starting when the quota reform takes effect.¹²¹ For this third reform package to take effect, two procedures must be completed. First, the amendment to the IMF Agreement regarding the composition of the Executive Directors needs to be accepted by at least three-fifths of the members representing 85% of the total voting power. Second, the 14th general quota review must be accepted by members representing at least 79% of the total quotas on November 5, 2010 to give their consent in writing to their quota increases.¹²² When both the 2008 and 2010 reform packages take effect, the top 10 shareholders of the IMF will represent the top 10 countries in the world, namely the US, Japan, the four main European countries, and the four “BRICs” —Brazil, Russia, India, and China.¹²³

IV. Lessons learned

1. A note of caution

Before conducting the analyses on whether the governance reform of the IMF can offer some lessons for the financial mechanisms for climate change, it is to be noted that these two types of financial mechanisms exhibit differences in many ways. This might render some of the IMF reform experiences inapplicable or inappropriate in the case of climate change financial mechanisms.

First, the IMF is an international organisation possessing full juridical personality, as stated in Article IX, Sec 1 of the IMF Agreement. Financial mechanisms for climate change, on the other hand, have very diversified organisational structures and legal forms, ranging from a trust-fund type to a full-scale organisation such as the GEF. Second, the IMF has full capacity to make its own policies and decisions regarding, for example, how the members can use its resources. Financial mechanisms, especially those under the international climate change regime, have to “function under the guidance of and be accountable to” the COP. Third, the IMF operates at the international level, whilst many of the climate change financial mechanisms operate at the regional or even domestic level. Fourth, the IMF only supports programmes rather than projects, whilst most, if not all of the climate change financial mechanisms support mainly project activities and only a few (for example, the GEF) begins to support programmes and policies just recently. Fifth, as an international organisation, the membership of the IMF opens only to sovereign states. Some of the climate change financial mechanisms, for example, most of the carbon funds administered by the World Bank, permit private sectors and non-governmental entities to take part. Last, in terms of resource mobilisation, the IMF has all of its resources from the public sector, i.e. the paid-in subscriptions of its members. The climate change financial mechanisms, on the other hand, have a variety of channel to generate its resources.

Despite these differences, the IMF and climate change financial mechanism all serve as a funding channel to support activities for specific purposes. In addition, they all have a set of institutional arrangements

¹¹⁹ IMF, November 5a, 2010, *supra* note 68.

¹²⁰ IMF, March 3a, 2011, *Important Milestone Reached to Reinforce IMF Legitimacy*, IMF Survey online.

¹²¹ IMF, November 5b, 2010, *supra* note 71.

¹²² IMF, March 3b, 2011, *IMF Quota and Governance Publications: June 2006-March 2011*.

¹²³ IMF, March 3a, 2011, *supra* note 75.

through which standards and procedures are laid out on how to generate and deliver resources. Moreover, whether the mechanism itself can be perceived as legitimate and effective will be determined, to a large extent, on how its governance structure is arranged. In this aspect, i.e. governance structure, the above-mentioned differences between the IMF and the climate change financial mechanisms do not seem to be as stark as they appear to be.

2. Lessons learned

Ironically, the current governance structure of one of the climate change financial mechanism, the GEF, was designed with an aim of reforming its governance structure when the GEF pilot phase (GEF—P) was operated by the World Bank in 1991. As mentioned in Part III, developing countries have long felt dissatisfied toward the governance structure of the two Bretton Woods institutions. When the UNFCCC was negotiated between 1990—1992, developed countries would prefer to designate the GEF—P as the Convention’s financial mechanism. Notably, this ran into strong opposition from the developing countries because of the close relationship of the GEF—P with the World Bank. As a result, the GEF—P started the restructure process in 1992 and ended in 1994, with a clear instruction from the UNFCCC that its financial mechanism “shall have an equitable and balance representation of all Parties within a transparent system of governance” in mind.¹²⁴ The decision-making mechanism of the GEF does not contain the IMF quota-type weighted votes, and adopts a novel double-majority voting rules in the Council where decisions need to be approved by both a 60% majority of the total member of participants and a 60% majority of the total contributions. The organisational arrangement also sets out a more balanced structure that is able to represent the interests of both donor and recipient participants. The Council, very similar to the Board of Executive Directors of the IMF functional-wise, consists also of constituency groupings, 16 of which are from developing countries, 14 from developed countries, and 2 from the countries of central and eastern Europe and the former Soviet Union.¹²⁵

In the process of calling for reform, some commentators have called for the IMF to adopt the GEF—like double majority voting rules so that decisions can represent the interests of both donor and recipient members.¹²⁶ But the reform programmes have not taken up this proposal. Within the issues that are called for reform, as presented in Part II.1, the distribution of votes, including basic votes and quota, and the composition of the Executive Directors are the main reform programmes, with particular focus on the distribution of votes. What lessons can be drawn?

First, as most, if not all of the focus of criticism pointed to the how votes are distributed. The mixture of having basic votes and quota—based weighted votes are to balance the principle of sovereign equality of states and the effective function of a financial institution. However, when the proportion of basic votes to the total voting power diminished, the sovereign equality of states faltered. In addition, when quota formula no longer reflects the real economic status of each member, the effectiveness of the institution also suffered. Both

¹²⁴ For more on the GEF, see, for example: Silard, S.A., 1995, “The Global Environment Facility: A new development in international law and organization”, 28 *George Washington Journal of International Law and Economics* 607; Werksman, J., 1995, “Consolidating Governance of the Global Commons: Insights from the Global Environment Facility”, 6 *Yearbook of International Environmental Law* 27

¹²⁵ Paragraph 16 and Annex E to the “Instrument for the Establishment of the Restructure Global Environment Facility”.

¹²⁶ For example: Woods, N. & Lombardi, D., August 2006, *supra note* 46, p. 495; Stiglitz, J. & others, 2009, *Report of the Commission of Experts of the President of the United Nationsl General Assembly on Reforms of International Monetary and Financial System*, New York, p.94.

of these discontents affect how the IMF can be perceived as legitimate and effective by its members. This is a powerful driving force behind the determination to push for reform in the distribution and design of votes. The reform on basic votes might be somehow disappointing, as the fixed proportion (5.502%) is less than half of the percentage when the IMF was established (11.26%). Nevertheless, the distribution of total voting power between advanced economies (donors) and emerging market and developing countries (potential recipients) has improved. Before the 2006 reform (pre-Singapore), the advanced economies possess 60.6% of voting shares whilst emerging market and developing economies have 39.4%, with Asian countries only 10.4%. When the 2010 reform program takes effect, this proportion will be changed into 55.3% v.s. 44.7% (with Asian countries possessing 16.1%). This illustrates that, even if a balanced representation of all individual member cannot be achieved, at least the distribution of power between donor members, as a group, and recipient members, as a group must be maintained.

Second, a commentator noted that, proposal for quota reform within the IMF should follow three basic principles. First, reform must be simple and transparent. Second, as a financial institution, creditors need to have a decisive voice in policy making so as to ensure that creditors remain confident in the institution's lending decisions. Third, any proposed reform must not seek to remove the veto power of the largest individual creditor, the US.¹²⁷ These principles also apply to other reform programmes of the IMF. As Sir J. Gold also noted, the international monetary system has been fashioned, developed, and changed primarily under the influence of the US. The prospect of worldwide change in the system or in the international governing it will be negligible or nonexistent unless the US sponsors or supports a change.¹²⁸ These principles can all be observed in the IMF governance reform process. First, the reform has been discussed extensively amongst members. Second, creditors maintain a majority in the total voting power. Third, the US still maintains a crucial veto power even after the 2010 reform takes effect: the US voting share is 17.0% pre-Singapore, the shares will remain 16.5% post-2010. This voting share enables the US to have a veto power in those decisions that require an 85% majority of total voting power. This illustrates that, any discussion and decisions on governance issues need to be transparent, and that major donors must remain confidence in how the institution reaches its decisions by maintaining a decisive voice.

Last, as commented by Zamora, "international economic organisations are consequences of the world economic system; they are not determinants of that system. With few exceptions, these organisations react to, rather than initiate, economic changes... To reform the world economic system, the developing countries must alter economic realities, and then see to it that international organisations reflect those new realities."¹²⁹ The called for reform of the Bretton Woods institutions began as early as in the 1970s. Why is it that only as recent as in the early 21st century that such a call for reform has finally been taken up? This might be explained by the changing global economic landscape since the 21st century where the gap between advanced economies and emerging economies in decreasing rapidly. This illustrates that, instead of hoping others to change the governance structures of any financial mechanism to their own benefits, potential recipient countries need to transform themselves first and foremost, and be well-prepared so as to possess enough bargaining chips in the process of negotiation.

¹²⁷ Kelkar, V.L. et al., 2005, *supra note* 31, p.56.

¹²⁸ Gold, J., September 1984, *supra note* 53, pp.841-842.

¹²⁹ Zamora, S., July 1980, *supra note* 39, pp. 602-603.

V. Conclusion

How can the design of the governance structure of the financial mechanism for climate change learn from these lessons, in particular in light of the four guiding principles as identified in Part II.3?

First, the distribution of power between donor members, as a group, and recipient members, as a group must be maintained. This seems to be a slightly modified principle of “balanced representation of all parties”. But this will be particularly useful to those climate change financial mechanisms operating at the international scale that has a very large membership.

Second, any discussion and decisions on governance issues need to be transparent, and that major donors must remain confident in how the institution reaches its decisions by maintaining a decisive voice. This echoes the principles of transparency and effectiveness. In the discussion of designing the governance structure of any climate change financial mechanism, the process must involve all the stakeholders, in particular the donors and recipients. In addition, any decision-making rules and/or organisational arrangements must allow certain rooms for donors to exercise their power so that they will be willing to continue support the operations of the mechanism they believe is effective.

Third, potential recipient countries need to transform themselves first and foremost, and be well-prepared so as to possess enough bargaining chips in the process of negotiation. This definitely falls outside of the four guiding principles! Nevertheless, when it comes to climate change mitigation and adaptation policies, no country should expect others to support such activities without undertaking and demonstrating their own efforts to contribute equally to such a daunting task. When a country demonstrates its own matching determination to design and implement climate change mitigation and adaptation policies, it is more likely that such a country will be invited to participate in any climate change financial mechanisms and, as a result, to gain the opportunities to take part in and influence the operations of such mechanism. This might be particularly important in those financial mechanisms that operate on a smaller scale, for example at the bilateral or regional level. It also might apply to those financial mechanisms that generate their resources from the private sectors where investors are more willing to invest in activities that have a demonstrating positive effect on climate change mitigation or adaptation, which can only take place in a country that provides a supportive environment for such types of activities.

國科會補助專題研究計畫項下出席國際學術會議心得報告

日期：100年7月11日

計畫編號	NSC 99— 2621 — M — 004 — 002 —		
計畫名稱	氣候變遷減緩與調適措施之財務機制 (I)		
出國人員姓名	施文真	服務機構及職稱	國立政治大學國際經營與貿易學系教授
會議時間	100年5月26日至100年5月27日	會議地點	日本福岡九州大學
會議名稱	(中文)第八屆亞洲國際法學會：永續亞洲之法律 (英文)8th Asian Law Institute Conference: Law in a Sustainable Asia		
發表論文題目	(中文)氣候變遷之財務機制：IMF 治理之改革所帶來之經驗 (英文)Financial mechanisms for climate change: what lessons can be learned from the reform experiences of the IMF?		

一、參加會議經過：

本次參加「第八屆亞洲國際法學會：永續亞洲之法律」係與本計畫之總計畫主持人（台大法律系葉俊榮教授）以及各子計畫之主持人（台大法律系張文貞教授與汪信君教授），就本整合型計畫之內容共同組成一個 panel，發表研究成果。本 panel（Panel E2: Climate change & Legal Governance）共有四篇論文，分別為葉俊榮教授之「Emerging Climate Change Law & Changing Governance」、張文貞教授之「Environmental Impacts Assessments in the Age of Climate Change: Some introductory notes」、汪信君教授之「Climate Change & Insurance Mechanism」、以及本人之「Financial Mechanisms for Climate Change Mitigation & Adaptation: What Lessons Can be Learned from the Reform Experiences of the IMF?」。參與會議之行程如下表：

日期	行程
100.5.25	搭乘華航 CI110 班機，於 20：35 抵達福岡
100.5.26	9:00-10:30 大會註冊與報到、開幕式、專題演講
	10:30-12:00 參加 Panel F1「環境法」
	12:00-2:00 午餐
	2:00-3:20 參加 Panel E2「氣候變遷與法律治理」並發表論文

	4:00-5:30 參加 Panel F3 「環境法」
	6:00- 大會晚宴
100.5.27	9:00-10:30 參加 Panel B4 「國際貿易法」
	11:00-12:45 參加 PanelF5 「環境法」
	下午：自由活動
100.5.28	搭乘華航 CI111，10:10 自福岡起飛返回台北

二、與會心得

此次之會議由亞洲法學會（Asian Law Institute, ASLI）所舉辦，亞洲法學會係由數個亞洲著名大學之法學院（我國之臺灣大學法學院、政治大學法學院、以及台北大學法學院為該學會之會員）於 2003 年所組成，每年於召開年會時一併舉辦主題性之學術研討會，今年之主題為「永續亞洲之法律」。與會之學者包括來自亞洲各地之法學院、以及來自歐美各大學之法學院從事與亞洲地區相關之法學研究之學者與實務工作，本屆會議由日本九州大學主辦。

本次會議規模相當大，於一天半的議程中，共有 30 個各類主題的 panel、102 篇論文發表，含括的主題從行政法、憲法、比較法、公司法、刑事法、經貿法、環境法、家事法、國際公法、人權法、文化多樣性、法律與發展、氣候變遷等等，非常豐富。本研究者所參加之 panel 多聚焦於環境法與經貿法，參加的 panels 所發表之論文，包含國際環境法制議題（例如名古屋遺傳資源取得之惠益均享議定書等等）、跨境環境議題（例如國際私法下之環境損害賠償制度、印尼於東南亞所造成之霾害污染責任問題）以及各國之內國環境議題（例如臺灣溫室氣體減量法下之排放權交易制度）等，相當多樣化，再者，每個 panel 的參加人數均為 10-20 位聽眾，使得報告人與聽眾之間有充分的討論機會，故參與該些 panels 對本研究者之研究相當有幫助。此外，本研究者與本整合型計畫之各主持人所共同組成之 panel，亦有許多與會之聽眾針對各篇論文提出相當具有建設性的建議，有助於計畫結案報告內容之整合與撰寫。

三、考察參觀活動(無是項活動者略)：無

四、建議：無

五、攜回資料名稱及內容：收錄所有會議論文之光碟

六、其他：參與本次會議所發表之論文

Law in a Sustainable Asia

8th Asian Law Institute Conference

Thursday and Friday, 26 and 27 May 2011, Kyushu, Japan

COVER PAGE FOR PAPER SUBMISSION

Financial mechanisms for climate change: what lessons can be learned from
the reform experiences of the IMF?

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For ASLI Secretariat Use Only	
Date of Presentation <i>(delete where applicable):</i>	Thursday, 26 May 2011
Panel Assigned:	E2 Climate Change & Legal Governance

Title: Financial mechanisms for climate change: what lessons can be learned from the reform experiences of the IMF?

Abstract: The “Copenhagen Accord” issued after COP 15 to the UN FCCC, albeit not unanimously adopted, is nevertheless an important decision relating to further development of the climate change regime. In this 12—paragraph document, there are seven paragraphs that touch upon issues relating to financial resource and financial mechanism. Furthermore, COP 16 to the UNFCCC adopted the so-called “Cancun Agreements”. The Cancun Agreement also lays down various significant provisions on financial mechanisms, including the newly-created Green Climate Fund. This illustrates the importance of financial mechanisms in adopting and implementing policies on climate change mitigation and adaptation. The design and effectiveness of such financial mechanisms, especially their governance structure in ensuring the democratic quality of producing a fair and equitable resources generation and allocation process will determine whether any financial mechanism can achieve its goal of assisting developing countries to implement climate change mitigation and adaptation policies.

International financial mechanisms for development assistance have been in operation since the establishment of the Bretton Woods institutions —the International Monetary Fund (IMF) and the World Bank Group in 1947. The governance structure of the IMF has been under constant scrutiny for the past five decades and has finally resulted in a series of governance reforms in the IMF starting in 2008.

Can the reform experiences in the IMF provide valuable input on the design of governance structure of the existing or new financial mechanisms for climate change mitigation and adaptation? This will be the main research question this article seeks to answer.

Key words: financial mechanisms, governance reform, IMF, climate change

I. Introduction

Financial mechanism has always been an important, yet controversial institutional pillar under the international climate change regime. The negotiation leading up to the United Nation Framework Convention on Climate Change (UNFCCC) has already demonstrated the controversies surrounding the design and governance structure of the financial mechanism under the Convention.¹ Article 11 of the UNFCCC requires that the financial mechanism “shall function under the guidance of and be accountable to the Conference of the Parties...”, and “shall have an equitable and balanced representation of all Parties within a transparent system of governance”. When developed country parties (Annex I parties) undertook concrete legal obligations to reduce six types of greenhouse gases (GHGs) under the Kyoto Protocol, the concept of ‘financial mechanism’ broadened and the types of such mechanism became extremely diversified. In the current post-2012 climate change negotiation, financial mechanism again became one of the crucial negotiation agenda. The “Copenhagen Accord” issued after COP 15 to the UN FCCC, albeit not unanimously adopted, is nevertheless an important decision relating to further development of the climate change regime. In this 12—paragraph document, there are seven paragraphs that touch upon issues relating to financial resource and financial mechanism. Furthermore, COP 16 to the UNFCCC adopted the so-called “Cancun Agreements”. The Cancun Agreements also lay down various significant provisions on financial mechanisms, including the newly-created Green Climate Fund. This illustrates the importance of financial mechanisms in adopting and implementing policies on climate change mitigation and adaptation. Amongst the mostly debated issues concerning the design of financial mechanism, the governance structure has always been a crucial one. The design and effectiveness of such financial mechanisms, especially their governance structure in ensuring the democratic quality of producing a fair and equitable resources generating and allocation process will determine whether any financial mechanism can achieve its goal of assisting developing countries to implement climate change mitigation and adaptation policies.

Meanwhile, international financial mechanisms for development assistance have been in operation since the establishment of the Bretton Woods institutions —the International Monetary Fund (IMF) and the World Bank Group in 1947. The governance structure of the IMF has been under constant scrutiny for the past five decades and has finally resulted in a series of governance reforms starting in 2008. Can the reform experiences in the IMF provide valuable lessons on the design of governance structure of the existing or new financial mechanisms for climate change mitigation and adaptation? This will be the main research question this article seeks to answer. This article begins with an introduction on financial mechanisms for climate change, followed by an overview of the IMF governance reformed. With the experiences of the IMF reform in mind, Part IV provide an analysis on how the IMF reform experiences can provide some lessons for the financial mechanism for climate change, with particular focus on the governance structure.

II. Financial mechanism for climate change

1. Definition and functions of financial mechanisms for climate change

Financial mechanism can be defined as: “Method or source through which funding is made available,

¹ This refers to the debate and negotiation on whether the then-World Bank operated Global Environmental Facility (GEF) at its pilot phase should be designated as the financial mechanism under the Convention. The ultimate result was to designate the GEF as the ‘interim’ financial mechanism, with the condition that the GEF “should be appropriately restructured and its membership made universal to enable it to fulfil the requirements of Article 11”. UNFCCC, Article 21.3.

such as bank loans, bond or share issue, reserves or savings, sales revenue.”² In the “Glossary of climate change acronyms” from the UNFCCC website, financial mechanism is defined as “Developed country Parties (Annex II Parties) are required to provide financial resources to assist developing country Parties implement the Convention. To facilitate this, the Convention established a financial mechanism to provide funds to developing country Parties. The Parties to the Convention assigned operation of the financial mechanism to the Global Environment Facility (GEF) on an on-going basis, subject to review every four years. The financial mechanism is accountable to the COP.”³ From these two definitions, financial mechanisms for climate change will be defined in this article as follows: “A pre-determined standards and procedures set by an institution through which funding is mobilized and disbursed for the purpose of climate change mitigation and adaptation.” Noted that, similar terms such as “climate finance”⁴ or “carbon finance”⁵ are also used in the relevant literature.

The main function of the financial mechanisms for climate change is to assist countries to adopt and implement policies for climate change adaptation and mitigation. According to the World Resources Institute, the typical functions of such mechanisms include: oversight, resource mobilization, resource allocation, project cycle management, standard setting, scientific and technical advice, and accountability. The corresponding roles for such mechanisms are illustrated in Table 1.⁶

Table 1: Functions and roles of financial mechanisms for climate change

Function	Roles
Oversight	<ul style="list-style-type: none"> ● Setting policies, program priorities and eligibility criteria
Resource mobilization	<ul style="list-style-type: none"> ● Replenishment of trust fund ● Leveraging of additional sources of funding from Implementing Agencies, private sector
Resource allocation	<ul style="list-style-type: none"> ● Allocation of resources between multiple focal areas (e.g. mitigation, adaptation, forestry) ● Prioritization between eligible recipients
Project cycle management	<ul style="list-style-type: none"> ● Preparation and approval of projects ● Financial management of loan and grant agreements
Standard setting	<ul style="list-style-type: none"> ● Development and approval of performance metrics ● Development and approval of environmental and social safeguards
Scientific and	<ul style="list-style-type: none"> ● Advice on appropriate policies and best available technologies

² “Method or source through which funding is made available, such as bank loans, bond or share issue, reserves or savings, sales revenue.” Available from: <http://www.businessdictionary.com/definition/financial-mechanism.html> (last visited: 2011/5/21).

³ “Developed country Parties (Annex II Parties) are required to provide financial resources to assist developing country Parties implement the Convention. To facilitate this, the Convention established a financial mechanism to provide funds to developing country Parties. The Parties to the Convention assigned operation of the financial mechanism to the Global Environment Facility (GEF) on an on-going basis, subject to review every four years. The financial mechanism is accountable to the COP.” From the Glossary of climate change acronyms, available from: http://unfccc.int/essential_background/glossary/items/3666.php#F (last visited: 2011/5/21).

⁴ For example, Steward, R.B., Kingsbury, B. & Rudyk, B., 2009, *Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development*, NYU Press.

⁵ This term is used by the World Bank Group, for example, its “Carbon Finance Unit”: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,menuPK:4125909~pagePK:64168427~piPK:64168435~theSitePK:4125853,00.html> (last visited: 2011/5/21)

⁶ Ballesteros, A. et al, November 2009, *Power, responsibility, and accountability: re-thinking the legitimacy of institutions for climate finance*, figure 1 at p.7.

technical advice	<ul style="list-style-type: none"> ● Advice on scientific trends ad risk assessment
Accountability	<ul style="list-style-type: none"> ● Monitoring and evaluation of project and portfolio performance ● Review and inspection of problematic projects

From: Ballesteros, A. et al

Five out of the seven functions of the financial mechanisms for climate change relate to the governance of the mechanisms. This clearly illustrates the importance of institutional design and governance structure of any financial mechanism for climate change.

2. Different types of climate change financial mechanisms by different yardsticks

There are a variety of financial mechanisms for climate change. Different types of financial mechanisms for climate change can be categorised by using different yardsticks such as the purpose of the mechanisms, the scale of the mechanisms, sources of funding, and the types of activities funded by the mechanisms. The following will briefly introduce the broad range of financial mechanisms for climate change by using these four different yardsticks.

2.1 purpose of the financial mechanisms

Depending on the purpose of setting up such a mechanism, financial mechanisms for climate change can be categorised as: financial mechanisms for climate change adaptation, for climate change adaptation, and for both purposes. The Emissions Trading Scheme of the European Union (EU ETS) is a type of financial mechanism for mitigation, as the main purpose of the scheme is to reduce the emissions of GHGs within the EU.⁷ Under the international climate change regime, the Adaptation Fund set up under the Kyoto Protocol at its third meetings of the parties⁸ is a financial mechanism for climate change adaptation. The GEF mainly funded projects for mitigation purposes, although adaptation projects are funded as well from the “Least Developed Countries Fund” and the “Special Climate Change Fund”, both of which are established at COP 7 of the UNFCCC and are administered by the GEF. At the same COP, on the other hand, Parties to the UNFCCC also instructed the GEF to support pilot and demonstration projects for certain adaptation programmes.⁹

2.2 scale

Depending on the scale or platform where a financial mechanism operates, there are international/multilateral, regional, bilateral and unilateral financial mechanisms for climate change. For example, all of the financial mechanisms under the international climate change regime are international/multilateral financial mechanisms. The EU ETS, as well as certain financial mechanisms supported or administered by regional development banks (e.g. the Asian Development Bank operates three

⁷ However, the revised EU ETS will become a type of financial mechanism for both climate change mitigation and adaptation. According to the revised ETS Directive adopted on 23 April 2009, member states can determine how to use the proceeds from the auction of allowances. Nevertheless, 50% of the proceeds must be used according to Article 10.3 of the revised Directive, which include funding for both mitigation and adaptation measures.

⁸ Decision 1/CMP.3 “Adaptation Fund”, FCCC/KP/CMP/2007/9/Add.1.

⁹ <http://www.thegef.org/gef/adaptation> (last visited: 2011/5/21).

different types of carbon finance mechanisms¹⁰⁾ are regional financial mechanisms. Bilateral financial mechanisms often involve funding provided by one country (usually developed countries) that supports a particular types of projects or activities for climate change mitigation or adaptation undertaken by eligible country (usually developing countries). For example, the “International Climate Initiative” set up by Germany¹¹ in 2008 and the “Environmental Transformation Fund” set up by the UK¹² in 2008 are two such type of bilateral financial mechanisms. Unilateral financial mechanisms are mostly established domestically, such as the “Brazil Amazon Fund” set up by Brazil in 2008¹³ and the “Indonesia Climate Change Trust Fund” set up by Indonesia¹⁴ in 2009.

2.3 sources of fund

The sources of funding for a financial mechanism can come from the public sector and the private sector.¹⁵ At the international scale, public sources can come from the traditional Overseas Development Aid (ODA), concessional debt, loan guarantee, or technology transfer arrangements. At the domestic level, funding from the public sources might include government budgets (for example, carbon tax), special levy (for example, or air pollution control fee. Funding from the private sector might include credit offsets in developed countries (for example, the EU ETS), insurance, or foreign direct investment. Currently, most of the financial mechanisms for climate change have their funding sources from the public sectors, including all of the financial mechanisms under the international climate change regime. However, some financial mechanisms have their funding sources from both the public and the private sectors, such as most of the carbon funds administered by the World Bank Group. For example, the “Prototype Carbon Fund” raises its fund from seven private companies and six governments.¹⁶

2.4 types of activities funded by financial mechanisms

Financial mechanisms for climate change can support a wide range of activities, including project lending, program or policy lending, and for investment only. Financial mechanisms for project lending refer to providing funding and/or technologies for a specific project (for example, a solar power plant). Financial mechanisms for program or policy lending support a program of action or a set of policies (for example, a set of subsidy programs to support renewable energy sector). Financial mechanisms for investment only use their fund to purchase offsets generated from emissions reduction projects, such as the certified emissions reductions (CERs) generated from the Clean Development Mechanism (CDM) projects). The CDM under the Kyoto Protocol is a typical financial mechanism for project lending. The GEF started as a financial mechanism for project lending as well. However, the GEF picked up the practices of program/policy lending

¹⁰ <http://www.adb.org/Climate-Change/funds.asp> (last visited: 2011/5/21)

¹¹ http://www.bmu-klimaschutzinitiative.de/en/home_i (last visited: 2011/5/21)

¹² http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/intl_strat/ietf/ietf.aspx (last visited: 2011/5/21)

¹³ <http://www.amazonfund.org/> (last visited: 2011/5/21)

¹⁴ <http://www.icctf.org/site/> (last visited: 2011/5/21)

¹⁵ Stewart, R.B., Kingsbury, B. & Rudyk, B., December 2, 2000, *Climate Finance: Key Concepts and Ways Forward*, Harvard Project on International Climate Agreements, available from: <http://belfercenter.ksg.harvard.edu/files/Stewart%20Final.pdf> (last visited: 2011/5/21).

¹⁶

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0..contentMDK:21630008~menuPK:5216148~pagePK:64168445~piPK:64168309~theSitePK:4125853.00.html> (last visited: 2011/5/21)

in 2008 when it began to provide “a long-term and strategic arrangement of individual yet interlinked projects that aim at achieving large-scale impacts on the global environment.”¹⁷ Some of the carbon funds administered by the World Bank Group are the type of financial mechanism for investment purposes.

3. Design elements and guiding principles of financial mechanism for climate change, with particular focus on the governance structure

Based on the definition given to financial mechanisms for climate change previously, as well as drawing from some research works in the relevant field,¹⁸ a financial mechanism for climate change should comprise the following three key elements: resource mobilization (generation), resource disbursement (delivery), and governance of institutional arrangements (administration). The guiding principles in each element will be briefly introduced as follows.

3.1 Generation: resource mobilization

This element refers to how the resources/funding of a financial mechanism are generated. As the previous section indicated, the sources of funding can be derived broadly from the public and the private sectors. According to Article 4.3 of the UNFCCC and paragraph 1(e) of the so-called Bali Action Plan adopted at the 13th Conference of the Parties, the following five principles are crucial for resources mobilisation: adequacy, predictability, sustainability, equity and common but differentiated responsibilities and respective capabilities, and, measurability.¹⁹

These five guiding principles are equally important when designing the method of how resources will be generated under the financial mechanism for climate change. However, depending on the time-frame, sources of funding, and objective and purpose, the importance and roles of each of these guiding principles will be different. For example, if the source of funding comes from the ODA through the governments’ annual budgets, this can satisfy the principles of measurability and predictability in that particular year when the budget is approved. But from a long-term perspective, such a source of funding might be incompatible with precisely these two principles as each government’s annual budget is hard to predict in advance. Furthermore, Article 4.3 of the UNFCCC requests the Annex II Parties to provide “new and additional” financial resources, which means that an Annex II Party cannot rely on its existing ODA to meet this financial obligation under the UNFCCC. On the other hand, when the source of funding comes from the private sector, for example, private investment, such type of funding might be more “adequate”. Nevertheless, it might also be more difficult to be “measurable” and “predictable”, as the availability of such type of funding largely depends on the willingness and capacities of those private investors to provide the necessary resources.

3.2 Delivery: resources distribution

This element refers to how resources of the financial mechanisms are delivered. It can refer to, first, the modes of distribution: the fund can be delivered by grants, concessional loans, or investment channel (for

¹⁷ GEF, *Adding Value and Promoting Higher Impact through the GEF’s Programmatic Approach*, available from: http://www.thegef.org/gef/sites/thegef.org/files/publication/Programmatic_Approach.pdf (last visited: 2011/5/21)

¹⁸ For example: Bird, N. & Brown, J., March 2009, *International Climate Finance: Principles for European Support to Developing Countries*; Global Canopy Programme, 2009, *The Little Climate Finance Book: A guide to financing options for forests and climate change*.

¹⁹ Global Canopy Programme, 2009, *supra note 18*, p. 31.

example, for a CDM project). Second, it can refer to the types of activities that the resources will fund: projects or programmes/policies. Third, it can also refer to the channel through which funding reach their target recipients: whether the recipients can have direct access to the fund, or they have to apply for the use of fund via an appropriation or review mechanism. According to Article 11 of the UNFCCC, paragraph 1(e) of the Bali Action Plan and the Paris Declaration on Aid Effectiveness, the following five principles are crucial in the delivery of resources: effectiveness, efficiency, equity, appropriateness,²⁰ and, national ownership.²¹

These five guiding principles are equally important when designing the distribution channel of resources in the financial mechanism for climate change. However, depending on the modes of resource disbursement, funding activities and channels of disbursement, the importance and roles of each of these guiding principles will be different. For example, when funding is provided in the form of a loan to support certain types of programmes or policies, conditions might be imposed to ensure that the recipient country can use such funding effectively. But this is very likely to run counter to the principle of “national ownership”. When the resources come from the private sector that want to deliver the funding in the most effective and efficient manner, such funding might focus on one particular type of activities, a particular sector, or even in a particular region or country. Under this circumstance, the principle of equity might be compromised.²²

3.3 Administration: governance of institutional arrangement

The governance structure of a financial mechanism is crucial to ensure that the generation and delivery of resources can be designed and implemented in according with the above-mentioned guiding principles. It is, thus, not surprising that most of the research on climate change financial mechanism focus on the institutional arrangement and governance. Analyses have been done on the legitimacy of a financial mechanism from the perspective of their governance in the following three dimensions: power, responsibility, and accountability.²³ Power refers to the formal and informal distribution of the capacity to determine outcomes between and amongst Parties, and between Parties and the institutions they create. This includes membership, decision-making rules, governing body, and its administrative and management staff.²⁴ Responsibility refers to the exercise of power for its intended purpose, specifically to ensure that the resources entrusted to a financial mechanism are programmed effective and equitably. This includes responsibility exercised in allocating resources and in leading the design and implementation of projects and programmes, as well as ensuring country ownership in the host country.²⁵ Accountability refers to the standards and systems for ensuring that power is exercised responsibly. This is the key element in gauging the degree of legitimacy in a financial mechanism: institutions entrusted with climate finance must be accountable both to contributors and recipients. Accountability begins with a determination of an institution’s precise goals and objectives, as well as agreement on measurable indicators of successful performance. It also includes fiduciary standards: specific duties attributable to the trustee of a trust fund holding money for the beneficiary of that fund. Furthermore, environmental and social risks and impacts of projects and programmes supported by the

²⁰ Global Canopy Programme, 2009, *supra note* 18, p. 84.

²¹ National ownership refers to the extent to which recipients exercise leadership over their climate change policies and strategies. Bird, N. & Brown, J., March 2010, *supra note* 18, p. 9.

²² For example, the uneven distribution of the current CDM projects is one such example: there are more than 70% of the registered CDM projects in only three countries: China, India and Brazil, and China alone has attracted more than 40% of the CDM projects.

²³ Ballesteros, A. et al, November 2009, *supra note* 6, pp.8-9.

²⁴ *Id*, p. 8.

²⁵ *Id*, p. 9, 27-34.

financial mechanism must also be managed responsibly.²⁶

As to the guiding principles for the governance structure, the following four guiding principles are crucial according to Article 7 of the UNFCCC: transparency, efficiency, effectiveness, and balanced representation of all parties.²⁷ Such principles will determine whether the financial mechanisms can be perceived as legitimate and impartial. These four guiding principles are equally important when designing the governance structure of the financial mechanism for climate change. Depending on the scale of the financial mechanism (international, regional, bilateral, or unilateral) as well as the types of activities supported (projects, programmes and policies, investment), there can be a variety of institutional arrangements for different types of financial mechanisms. Thus, the importance and roles of each of these guiding principles will be different. For example, for financial mechanism operating at the international level, such as the GEF, the principle of “balanced representation of all parties” will have a bigger role in the design of its governance structure. But the principle of efficiency might be compromised should such a financial mechanism, in responding to have a balanced representation of all parties, adopts a large decision-making body or a set of complex decision-making mechanism. On the other hand, in the case of the Prototype Carbon Fund where the World Bank is entrusted as the trustee who bears the fiduciary duties toward all the investors, transparency of its governance structure might come second comparing to the principles of effectiveness and efficiency.

As can be seen from this Part, financial mechanisms for climate change can take a variety of forms. In addition, each of the three design features, i.e. generation, delivery, and administration, of a financial mechanism for climate change has its own set of guiding principles. The effectiveness of such mechanisms in achieving their objectives depend mostly on whether their governance structure can ensure the democratic quality of producing a fair and equitable resources generation and allocation process. Some of the financial mechanisms for climate change, such as the GEF, have already adopted novel governance structure different from the traditional international financial mechanisms for development assistance, which began their operations since 1940s. After more than five decades of recalling for reform, the leading international financial mechanism for development assistance, the IMF, finally began a process of governance reform in 2008. Whether this reform will be effective in addressing all of the concerns behind the need and call for reform cannot be evaluated just yet, as the reform process is still undergoing. Nevertheless, there might be valuable lessons to be learned from this process to guide many of the emerging financial mechanisms for climate change that are still in the process of “under construction”. The next Part will introduce the governance reform of the IMF and the lessons learned.

III. Governance reform of the IMF and lessons learned

1. What needs to be reformed

The governance structures of the IMF, in particular the weighted voting system, have long been criticised by many since the 1970s. Developing countries have campaigned rigorously for a new international economic order within the UN system that called for reforms of the governance structure of international economic

²⁶ *Id.*, p. 8, 34-42.

²⁷ Global Canopy Programme, 2009, *supra note* 18, p. 123.

organisations since the early 1970s.²⁸ Such an early and repeated call for reform was only taken up by the members after more than 30 years when the IMF began a series of reform programmes targeting its governance structure in early 2000. Comprehensive reform of the IMF governance encompasses issues relating to quota, ministerial engagement and oversight, the size and composition of the Executive Board, voting rules, management selection, and staff diversity.²⁹ The most criticised aspect of the Fund's governance focused on its decision-making rules, in particular with regard to how votes are distributed (the "quota" system) and the voting rules, and its organisational arrangement, in particular the role of the Executive Directors.

1.1 decision-making

According to Article XII, Section 5(a) of the Articles of Agreement of the IMF (hereinafter IMF Agreement), each member has 250 votes "plus one additional vote for each part of its quota equivalent to one hundred thousand special drawing rights". The former is the basic votes of each IMF member. According to J. Gold, the purpose of designing the basic votes was to serve the function of recognising the doctrine of the equality of states, as well as to avoid too close an adherence to the concept of a private business corporation. Furthermore, some members might have such a small quota that, without having basic votes, they would have virtually no sense of participation in the affairs of the Fund.³⁰ The basic votes accounted for 11.26% of the total votes in 1994 when the IMF was created. However, the IMF Agreement does not specify the ratio of basic votes to total votes. As a result, the proportion of basic votes to the total votes decreased significantly during the last five decades as the membership of the IMF expanded and the regular quota increase took place since 1965. The basic votes accounted for only 2% of the total votes in 2005.³¹ This erosion of basic votes means that members with small quota have decreasing influences within the decision-making process within the Fund, which undoubtedly rose controversies regarding the legitimacy of the decisions of the Fund.

In addition to basic votes, the quota system raises more concerns within the reform agenda. As Article XII, Section 5 stipulates, the more quota a member is allocated, the more votes that member can have. According to Article III, Section 1 of the IMF Agreement, the original members of the IMF have their quota stipulated in Annex A. As for other members, the quotas shall be determined by the Board of Governors. The subscription of each member shall be equal to its quota and shall be paid in full to the Fund. Section 2 sets down rules for quotas adjustment, including a regular five-year general review and an ad hoc review at the request of any member. An 85% majority of the total voting power is required for any change in quotas. The quota of an IMF member not only determines the voting power, but also the extent to which a member can use the resources of the Fund without any conditions, as well as how many special drawing rights (SDRs) can be allocated to it. In other words, quota will determine the rights and obligations of an IMF member. Quotas are designed to represent the relative economic power of each member globally, so the quota formula should reflect the economic status of each member. However, the initial quota formula was designed with a political

²⁸ Developing countries have tried to push through a series of declarations/resolutions under the UN Assembly to achieve such a goal. Two such examples are the "Programme of Action on the Establishment of a New International Economic Order" adopted by the UN Assembly in 1974, and the "Charter of Economic Rights and Duties of States" adopted in 1975.

²⁹ IMF, April 21, 2010, *Executive Board Progress Report to the IMFC: The reform of Fund governance*, para. 1.

³⁰ Gold, J., 1972, *Voting and Decisions in the International Monetary Fund*, pp. 18-19.

³¹ Kelkar, V.L. et al., 2005, "Reforming the International Monetary Fund: towards enhanced accountability and legitimacy", in: Buira, A. (ed), *Reforming the Governance of the IMF and the World Bank*, ch. 3, p.62.

objective: to give the US the highest quota share.³² This so-called Bretton Woods formula was revised several times, but only with minor changes and has remained unchanged since 1983.³³ Both developing and developed members have criticised that this quota formula no longer reflects the real economic power and status of members globally. The revision of quota formula is, thus, called for in the reform programme.

Voting rules are another contentious issue within the reform programme. According to Article XII, Section 5(c) of the IMF Agreement: “Except as otherwise specifically provided, all decisions of the Fund shall be made by a majority of the votes cast.” The “otherwise specifically provided” is understood to refer to those provisions of the IMF Agreement that require special majorities for certain decisions. There are two types of special majorities (70% and 85%) and both are calculated in terms of the total voting power within the Fund.³⁴ Another type of special majorities rule is the double-majority rule that apply to only one type decision of the Fund: amendments to the IMF Agreement. According to Article XXVIII, an amendment to the IMF Agreement requires the acceptance of three-fifths of the members, having 85% of the total voting power. An abstention or a vote not cast has the same effect as a negative vote.³⁵ The types of decisions requiring special majorities have increased significantly since the Second Amendment to the IMF Agreement,³⁶ resulting in giving greater veto power to those Members having, collectively or individually, 25% or 15% of the total voting power. For example, having 17.023% of the total voting power,³⁷ the US alone holds the power to veto any type of decision that requires an 85% majority votes. Despite having these formal voting rules in the IMF Agreement, decisions within the IMF are often adopted by consensus without formal votes. According to Rule C-10 of the Rules and Regulations, the Chairman shall “ordinarily ascertain the sense of the meeting in lieu of a formal vote”, unless a member of the Executive Board requests for a formal vote. The “sense of the meeting” is defined as “a position supported by executive directors having sufficient votes to carry the question if a vote were taken.” The Chair has significant discretion as to how to interpret the silence of an executive director when there is no explicit decision to be taken, and a range of views have been expressed on a particular issue.³⁸ Formal votes are rare in the meetings of the Executive Board. However, the formal procedures as stipulated in the IMF Agreement may profoundly affect the *de facto* decision-making process. Even where decisions are often taken informally, the resort to formal voting procedures remains a possibility and may have a significant effect on the willingness of members to arrive at a consensus.³⁹ Consequently, the voting rules, coupled with the imbalance of votes (both the basic votes and the weighted votes based on quotas) distributions, are another aspect of IMF decision-making that requires reform.

1.2 organisational arrangement

³² Mikesell, R.F., March 1994, “The Bretton Woods Debates: a memoir”, *Essay in International Finance*, p.22

³³ Mirakhor, A & Zaidi, I., December 2006, *Rethinking the Governance of the International Monetary Fund*, IMF Working Paper WP/06/273, pp.8-9.

³⁴ Gianviti, F., 1999, “Decision-Making in the International Monetary Fund”, in: IMF (ed.), *Current Developments in Monetary and Financial Law*, Ch.2A, pp.51—52.

³⁵ Mountford, A., March 2008, *The Formal Governance Structure of the International Monetary Fund*, IEO Background Paper BP/08/01, p.19.

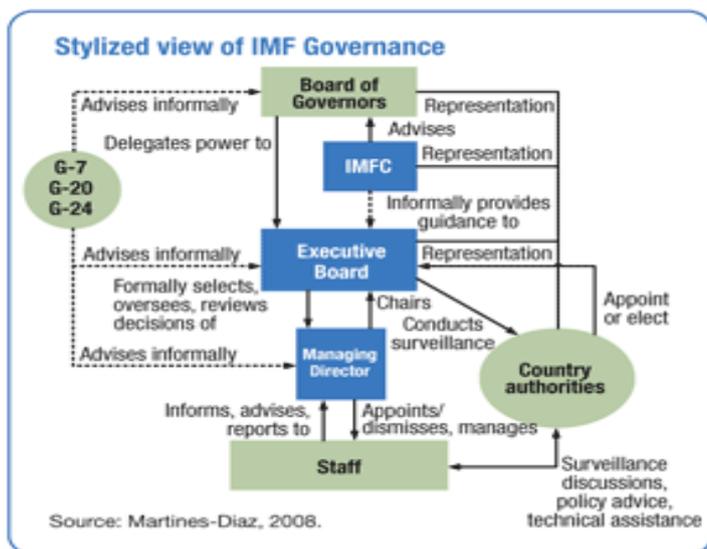
³⁶ Van Houtven, L., 2002, *Governance of the IMF: Decision-making, institutional oversight, transparency, and accountability*, IMF Pamphlet Series No. 53, p. 73.

³⁷ This is the US quota before 2006.

³⁸ Chelsky, J., March 2008, *Summarizing the Views of the IMF Executive Board*, IEO Background Paper BP/08/05, p.8.

³⁹ Zamora, S., July 1980, “Voting in International Economic Organizations”, 74:3 *American Journal of International Law* 566, p.568.

According to Article XII, Section 1 of the IMF Agreement, the IMF shall have a Board of Governors, an Executive Board, a Managing Director, and a staff, and a Council if the Board of Governors decides by an 85% majority of voting power. In addition to these formal governing bodies, the Board of Governors can also set up various committees for specific tasks or advisory purposes, such as the Interim Committee (set up in 1974 and renamed as the International Monetary and Financial Committee in 1999). Other informal alliances, such as G-7, G-20 or G-24, formed by different IMF members also interact with the IMF. The IMF governance is illustrated in the following chart.



Source: <http://www.imf.org/external/about/govstruct.htm>

According to Article XII, Section 2(a), all power under the IMF Agreement not conferred directly on the Board of Governors, the Executive Board, or the Managing Director shall be vested in the Board of Governors. Although the Board of Governors is the highest decision-making organ, most of its power has been delegated to the Executive Board as early as in 1946.⁴⁰ As a result, the Executive Board is the most important organ in the daily operations and decisions of the Fund, and has been the centre of focus in the call for governance reform.

According to Article XII, Section 3(a), the Executive Board is responsible for conducting the business of the Fund and for this purpose shall exercise all the powers delegated to it by the Board of Governors. The Executive Board consists of Executive Directors with the Managing Director as chairman. Five of the Executive Directors shall be appointed by the five members having the largest quotas (appointed Directors) and fifteen shall be elected by the other members (elected Directors). The number of elected Directors can be changed by the Board of Governors using an 85% majority of the total voting power. The Executive Board shall function in continuous session at the principal office of the Fund, i.e. its Headquarter in Washington D.C. Regarding voting, appointed Directors are to cast the number of votes allotted to the member appointing him, whilst elected Directors have to cast the number of votes which counted towards his election. In order words, split voting is not permitted for elected Directors to cast their votes. Two major reform issues relating to the Executive Board are the electoral system and the role of the Executive Directors under the IMF.

Currently there are 24 Executive Directors, including 5 appointed (the US, Japan, Germany, France, and

⁴⁰ Mountford, A., March 2008, *supra note* 35, p.7.

the UK) and 19 elected Directors. Elected Directors are elected for the terms of two years. As 3 elected Directors come from constituency that have only one member (China, Saudi Arabia,⁴¹ and Russia), only 16 elected Directors come from multi-member constituencies. Comparing to those constituencies that only have one member, two Directors elected by most of the African members come from constituencies of 21 and 24 members, respectively.⁴² As not all members have an appointed Director representing them at the meeting of the Executive Board, Article XII, Section 3(j) provides that, when a member that is not entitled to appoint an Executive Director, that member can send a representative to attend any meeting of the Executive Board when a request made by, or a matter particularly affecting, that member ins under consideration. The IMF Agreement does not specify how the constituencies are formed. Thus, constituencies may be based on informal arrangements or on a written agreement amongst the participating members.⁴³ There are diverging views regarding the role of mixed multi-country constituencies, as well as a related issue of whether constituencies having a dominant country allow for proper representation of the small countries.⁴⁴ The Executive Board began as a compact body where the multi-country constituencies represented, on average, around 5.6 members in 1945. As the membership of the Fund enlarges, the average size of a multi-country constituency grew to 10.8 members today. The problem of crowded constituencies was compounded by the increase in the number of single-country constituencies from 5 to 8, which is a third of the Board's seat.⁴⁵ How to ensure that elected Director that comes from constituency of members with divergent interests (for example, creditor v.s. member using the Fund's resources) reflect the positions of all the members within the same constituency have been a controversial issue. Directors representing an individual member can be held directly to account by their authorities and in effect dismissed and replaced at will. On the other hand, elected Director, once elected, serves a two-year term with little incentive to be accountable to his or her constituency.⁴⁶ In fact, the fact that a Director has been selected by certain members does not create any obligation for him or her to defer to their views or to cast his or her votes in accordance with their instructions. His or her votes are valid even if they are inconsistent with any instructions he or she may have received from his or her constituents.⁴⁷ Another criticism relating to the electoral system is that, two multi-country constituencies representing African countries are too large with 21 and 24 members each, whereas the average size of multi-country constituencies is 11 members. This increases the burden of these two Directors, especially considering that they represent members that usually engage in long term borrowing, which are quite demanding in terms of workload.⁴⁸

As has been stated previously, the Board of Governors have delegated most of the powers to the Executive Directors. Therefore, the Executive Directors possess great power, whose duties include approval of relevant policies of the Fund, discussion on bilateral surveillance under Article IV as well as multilateral surveillance on the international monetary system, approval of all decisions relating to the use of Fund's

⁴¹ According to Article XII, Section 3(c), Saudi Arabia became entitle to appoint its own Director in 1978 when its currency became widely used by the members.

⁴² Mountford, A., March 2008, *supra note* 35, p.10.

⁴³ Portugal, M., 2005, "Improving IMF Governance and Increasing the Influence of Developing Countries in IMF Decision-making", in: Buirra, A. (ed), *Reforming the Governance of the IMF and the World Bank*, ch. 4, p.94

⁴⁴ *Ibid*, p.95

⁴⁵ Martinez-Diaz, L., May 2008, *Executive Boards in International Organizations: Lessons for Strengthening IMF Governance*, IEO Background Paper BP/08/08, p.18.

⁴⁶ Woods, N. & Lombardi, D., August 2006, "Uneven patterns of governance: how developing countries are represented in the IMF", 13:3 *Review of International Political Economy* 480, p 483.

⁴⁷ Gianviti, F., 1999, *supra note* 34, p.48.

⁴⁸ Portugal, M., 2005, *supra note* 43, p.96

resources, approval of the selection of the Managing Director, approval of the decisions on the IMF budget and personnel etc. In other words, the Executive Directors carry most, if not all of the important day-to-day operational decisions of the Fund. The second reform issue relating to the Executive Board concerns the role and character of the Executive Directors: are they officials of the IMF or member governments' representatives? This is a crucial question as it will determine to whom Executive Directors should be held accountable. During the drafting of the IMF Agreement, the UK was primarily of the view that Executive Directors are international officials whilst the US preferred to grant more political power to the Executive Directors. The US view seemed to prevail, as the result was a resident, 12-member board based in the IMF Headquarter that meets in continuous sessions.⁴⁹ Nevertheless, the IMF Agreement does not specify whether the Executive Directors should be fully or partially accountable to their appointed or elected members. After analysing the functions and duties of the Executive Directors, Francois Gianviti, the former General Counsel of the IMF, concludes that "an Executive Director of the IMF is an official of the organisation, legally accountable to the IMF for the discharge of his duties."⁵⁰ However, in the case of appointed Directors, they can be recalled at will by their capitals. And in the case of both appointed and elected Directors, the impact on their future careers in their home countries provide an incentive to listen to their authorities' guidance.⁵¹ It is, thus, impossible that Executive Directors ignore instructions or guidance from members and act as independent officials of the IMF. As a result, the character of the Executive Directors remains controversial. This problem became even more serious by the fact that the Executive Board itself has no self-evaluation process, nor is its performance evaluated by any other body other than the extent to which members evaluate the performance of the Directors which represent them.⁵²

2. The reform programme

The call for reform has not stopped after the 1970s. The Group of Twenty-Four, composed of representatives of developing countries, issued a communiqué in 1983 stating that the "current monetary and financial system suffers from many shortcomings and inequities, notable, the inadequate share of developing countries in decision-making..."⁵³ The "International Conference on Financing for Development" conveyed by the UN in March 2002 adopted the "Monterrey Consensus" regarding development finance. The delegates to this Conference stressed "the need to broaden and strengthen the participation of developing countries and countries with economies in transition in international economic decision-making and norm-setting'.., and encouraged the IMF and World Bank to "enhance participation of all developing countries and countries with economies in transition in their decision-making."⁵⁴ In the spring of 2003, the Development Committee repeated this recommendation. But no action was taken to reform the allocation of voting power within both the IMF and the World Bank by the fall of 2004. The Ministers of the G24 declared that "enhancing the representation of developing countries requires a new quota formula to reflect the relative size of developing country economies" in October 2004. The Chair of the Deputies of G24 also asked that the

⁴⁹ Martinez-Diaz, L., May 2008, *supra note* 45, pp.15-16.

⁵⁰ Gianviti, F., 1999, *supra note* 34, pp.45—48.

⁵¹ IEO of the IMF, 2008, *Governance of the IMF: An evaluation*, p. 16.

⁵² Martinez-Diaz, L., May 2008, *supra note* 45, p.20.

⁵³ Gold, J., September 1984, "Public International Law in the International Monetary System", 38 *Southwestern Law Journal* 799, pp.835-836.

⁵⁴ UN, 2003, *Monterrey Consensus of the International Conference on Financing for Development*, paras. 62 & 63.

G24 Secretariat centre to focus its research efforts over the coming months on governance issues.⁵⁵ These are the background leading up to the series of reform programme finally taken up by the IMF starting in 2006, which will be briefly introduced as follow.

The IMF governance reform kicked up in 2006 when the Executive Board recommended to the Board of Governors a package of reforms on quotas and voice.⁵⁶ The recommendation was adopted by the Board of Governors on September 18, 2006. Members representing 90.6% of the total voting power cast votes in favour of Resolution 61—5:⁵⁷ “Resolution on Quota and Voice Reform” (also called the “Singapore Resolution”).⁵⁸ The reform programme was designed as an integrated two-year programme, which include the following.⁵⁹ First, an ad hoc quota increases for a group of the most clearly underrepresented countries: China, South Korea, Mexico and Turkey. This ad hoc quota increases represent 1.8% of the total quota. Second, the Executive Board was requested to reach agreement on a new quota formula by 2007. Such a formula should provide a simpler and more transparent means of capturing members’ relative positions in the world economy. Third, the Executive Board is also requested to propose an amendment of the IMF Agreement to provide for at least a doubling of the basic votes that each member possesses, so as to ensure adequate voice for low-income countries. In addition, the amendment should also safeguard the proportion of basic votes in total voting power. Fourth, the Resolution called on the Executive Board to act expeditiously to increase the staffing resources available to those Executive Directors elected by a large number of mostly African members whose workload is particularly heavy. Furthermore, the Executive Board will consider the merits of an amendment of the IMF Agreement that would enable such Executive Directors to appoint more than one Alternate Executive Directors. The first reform agenda can be implemented immediately as long as the four members that receive the ad hoc quota increases complete the legal requirement in Article III, Section 2(d) of the IMF Agreement. As for the third reform agenda, the Executive Board approved an increase in the staffing resources for the two African Executive Directors’ offices through the allocation of an additional advisor position in May 2007.⁶⁰ As for other reform issues, the Executive Directors are requested to complete all these reform issues as a package deal by 2008.

After starting the first step of reform in Singapore, the Executive Board continued to implement the reform programme as instructed by the Board of Governors. It is to be noted that, at the IMFC Meeting in September 2006, the US has declared that it does not seek an increase in its voting share even if the new quota formula points in that direction, and the US has called upon other industrial members to join it in this commitment.⁶¹ The Executive Directors adopted the reform package on quota and voice and recommended the programme to the Board of Governors on March 28, 2008.⁶² The Board of Governors, with 175 members representing 92.93% of the total voting power voted in favour of this package, adopted Resolution 63-2:

⁵⁵ Beltran, G.S. for The G24 Research Program, 2005, *Governance in Bretton Woods Institutions*, pp. 3-4.

⁵⁶ IMF, September 1, 2006, *IMF Executive Board Recommends Quota and Related Governance Reforms*, Press Release No. 06/189.

⁵⁷ IMF, September 18, 2006, *IMF Board of Governors Approves Quota and Related Governance Reform*, Press Release No. 06/205.

⁵⁸ The text of Resolution 61-5 can be found in: IMF, December 22, 2006, *Proposed Amendment of the Articles of Agreement Regarding Basic Votes—Preliminary considerations*, Appendix I

⁵⁹ IMF, September 1, 2006, *supra note 56*, IMF, September 18, 2006, *supra note 57*.

⁶⁰ IMF, March 28a, 2008, *Reform of Quota and Voice in the International Monetary Fund—Report of the Executive Board to the Board of Governors*, note 5.

⁶¹ Copper, R.N. & Truman, E.M., February 2007, *The IMF Quota Formula: Linchpin of Fund Reform*, Policy Briefs in International Economics Number PB07-1, Peter G. Peterson Institute for International Economics, not 10 & p.7.

⁶² IMF, March 28b, 2008, *IMF Board of Governors Adopts Quota and Voice Reforms by Large Margin*, Press Release No. 08/93.

“Resolution on Reform of Quota and Voice in the International Monetary Fund” on April 28, 2008.⁶³ As the 2008-reform programme involved the amendment of the IMF Agreement, a double-majority is required, i.e. it requires the approval of three-fifths of the members having 85% of the total voting power. After almost three years, this 2008 reform package came into force on March 3, 2011 after 117 members representing more than 85% of total voting power have accepted the amendment proposal. This 2008 reform include the following main elements.⁶⁴ First, on quota: a new quota formula is adopted, and the second round of ad hoc quota increases would be allocated on the basis that members that are underrepresented under the new quota formula are eligible for increases. This second round of ad hoc quota increases would be approximately 9.55% of the total quotas to enhance representation for dynamic economies. Several underrepresented industrial members (Germany, Ireland, Italy, Japan, Luxembourg, and the US) have agreed to forgo part of the quota increase for which they are eligible. Furthermore, underrepresented emerging market and developing economies, whose shares in global PPP GDP are more than 75% greater than their actual pre-Singapore quota share, can receive a minimum nominal quota increase of 40% from their pre-Singapore level. In addition, considering that the four members that received quota increases in the first round of ad hoc increases in 2006 remain substantially underrepresented, these four members will receive a minimum nominal second round increase of 15%. Second, on basic votes: the Resolution approved the proposed amendment of the IMF Agreement to triple the basic votes—the first such increase since the establishment of the Fund in 1944. The amended Article XII, Section 5(a)(i) provides that: “the basic votes of each member shall be the number of votes that results from the equal distribution among all the members of 5.502 percent of the aggregate sum of the total voting power of all the members, provided that there shall be no fractional basic votes.” This is the first time where basic votes will be determined by a fixed proportion to the total votes, so that basic votes for members receiving fewer quotas will not have their basic votes “diluted” in the future round of regular or ad hoc quota increases. Third, on Executive Directors: the Resolution recommended that Executive Directors representing constituencies having more than 19 members would be entitled to appoint an additional Alternative Director to the one position granted to all Executive Directors. This would enhance the capacity of the two Executive Directors’ offices representing African constituencies. In sum, 54 members will see their quota shares increase from pre-Singapore levels by between 12 to 106%,⁶⁵ and the aggregate shift in quota shares for these 54 members is 4.9% points. If the increase in basic votes is included, a total of 135 members have seen their voting shares increase. Although this 2008 reform has provided for a fixed proportion of basic votes to the total voting power, the percentage is less than 6%: far behind the 11.26% when the IMF was set up in 1944.⁶⁶

The Communiqué of the IMFC issued on October 4, 2009 states that, IMF is and should remain a quota-based institution. It also emphasised that quota reform is crucial for increasing the legitimacy and effectiveness of the Fund, and supported a shift in quota share to dynamic emerging market and developing countries of at least 5% from over-represented countries to under-represented countries.⁶⁷ Accordingly, the

⁶³ IMF, April 29, 2008, *IMF Board of Governors Adopts Quota and Voice Reforms by Large Margin*, Press Release No. 08/93.

⁶⁴ IMF, March 28b, 2008, *supra note* 62; Resolution 63-2.

⁶⁵ For example, Korea will see its quota increase by 106%, Singapore by 63%, Turkey by 51%, China by 50%, India, Brazil and Mexico all by 40%. IMF, April 2008, *Reform of IMF Quotas and Voice: Responding to Changes in the Global Economy*.

⁶⁶ For example, G4 has suggested that the percentage of basic votes to the total voting power should be fixed at the level of 1944 when the IMF was established. Beltran, G.S. for The G24 Research Program, 2005, *supra note* 55, p. 21.

⁶⁷ IMF, October 4, 2009, *Communique of the International Monetary and Financial Committee of the Board of Governors of the International Monetary Fund*

Executive Directors adopted a third reform programme on quotas and governance on November 5, 2010 and recommended the reform package to the Board of Governor.⁶⁸ Governors representing 95.32% of the total voting power had cast votes in favour of this recommendation and adopted the “Resolution on Quota and Reform of the Executive Board” on December 16, 2010.⁶⁹ In this 2010 reform programme, the 14th General Review of Quotas was proposed with an unprecedented doubling of quotas and a major realignment of quota shares amongst members. This will result in a shift of more than 6% of quotas shares to dynamic emerging market and developing countries and more than 6% from over-represented to under-represented members.⁷⁰ One-half of the shifts come from advanced economies and one third comes from oil producers. 110 out of the current 185 members, including 102 emerging or developing members, will see their quota share increased or maintained.⁷¹ It will also protect the quota shares and voting power of the poorest members: members eligible for borrowing from the low-income Poverty Reduction and Growth Trust and whose per capital income is below the IDA threshold (US\$1,135 in 2008) will have their voting shares preserved.⁷² Furthermore, the Board also agreed that a new quota formula should be decided by January 2013, and that the next quota review should be completed by January 2014, two years ahead of schedule.⁷³ In addition to the quota reform, the 2010 reform programme also proposed another amendment to the IMF Agreement to change the system of the Executive Directors: the Executive Directors will remain its current size of 24 members, the Executive Directors will consist only of elected Executive Directors, ending the category of appointed Directors, and, there will be further scope for appointing second Alternate Executive Directors to enhance representation of multi-country constituencies.⁷⁴ The reform on the Executive Directors was made possible when the EU agreed to give up two seats.⁷⁵ And the composition of the Board will be reviewed every 8 years, starting when the quota reform takes effect.⁷⁶ For this third reform package to take effect, two procedures must be completed. First, the amendment to the IMF Agreement regarding the composition of the Executive Directors needs to be accepted by at least three-fifths of the members representing 85% of the total voting power. Second, the 14th general quota review must be accepted by members representing at least 79% of the total quotas on November 5, 2010 to give their consent in writing to their quota increases.⁷⁷ When both the 2008 and 2010 reform packages take effect, the top 10 shareholders of the IMF will represent the top 10 countries in the world, namely the US, Japan, the four main European countries, and the four “BRICs” —Brazil, Russia, India, and China.⁷⁸

IV. Lessons learned

1. A note of caution

Before conducting the analyses on whether the governance reform of the IMF can offer some lessons for the financial mechanisms for climate change, it is to be noted that these two types of financial mechanisms

⁶⁸ IMF, November 5a, 2010, *IMF Executive Board Approves Major Overhaul of Quotas and Governance*, Press Release No. 10/418.

⁶⁹ IMF, December 16, 2010, *IMF Board of Governors Approves Major Quota and Governance Reforms*, Press Release No. 10/477.

⁷⁰ *Ibid.*

⁷¹ IMF, November 5b, 2010, *IMF Board Approves Far-reaching Governance Reforms*, IMF Survey online

⁷² IMF, November 5a, 2010, *supra note 68*.

⁷³ IMF, November 5b, 2010, *supra note 71*.

⁷⁴ IMF, November 5a, 2010, *supra note 68*.

⁷⁵ IMF, March 3a, 2011, *Important Milestone Reached to Reinforce IMF Legitimacy*, IMF Survey online.

⁷⁶ IMF, November 5b, 2010, *supra note 71*.

⁷⁷ IMF, March 3b, 2011, *IMF Quota and Governance Publications: June 2006-March 2011*.

⁷⁸ IMF, March 3a, 2011, *supra note 75*.

exhibit differences in many ways. This might render some of the IMF reform experiences inapplicable or inappropriate in the case of climate change financial mechanisms.

First, the IMF is an international organisation possessing full juridical personality, as stated in Article IX, Sec 1 of the IMF Agreement. Financial mechanisms for climate change, on the other hand, have very diversified organisational structures and legal forms, ranging from a trust-fund type to a full-scale organisation such as the GEF. Second, the IMF has full capacity to make its own policies and decisions regarding, for example, how the members can use its resources. Financial mechanisms, especially those under the international climate change regime, have to “function under the guidance of and be accountable to” the COP. Third, the IMF operates at the international level, whilst many of the climate change financial mechanisms operate at the regional or even domestic level. Fourth, the IMF only supports programmes rather than projects, whilst most, if not all of the climate change financial mechanisms support mainly project activities and only a few (for example, the GEF) begins to support programmes and policies just recently. Fifth, as an international organisation, the membership of the IMF opens only to sovereign states. Some of the climate change financial mechanisms, for example, most of the carbon funds administered by the World Bank, permit private sectors and non-governmental entities to take part. Last, in terms of resource mobilisation, the IMF has all of its resources from the public sector, i.e. the paid-in subscriptions of its members. The climate change financial mechanisms, on the other hand, have a variety of channel to generate its resources.

Despite these differences, the IMF and climate change financial mechanism all serve as a funding channel to support activities for specific purposes. In addition, they all have a set of institutional arrangements through which standards and procedures are laid out on how to generate and deliver resources. Moreover, whether the mechanism itself can be perceived as legitimate and effective will be determined, to a large extent, on how its governance structure is arranged. In this aspect, i.e. governance structure, the above-mentioned differences between the IMF and the climate change financial mechanisms do not seem to be as stark as they appear to be.

2. Lessons learned

Ironically, the current governance structure of one of the climate change financial mechanism, the GEF, was designed with an aim of reforming its governance structure when the GEF pilot phase (GEF—P) was operated by the World Bank in 1991. As mentioned in Part III, developing countries have long felt dissatisfied toward the governance structure of the two Bretton Woods institutions. When the UNFCCC was negotiated between 1990—1992, developed countries would prefer to designate the GEF—P as the Convention’s financial mechanism. Notably, this ran into strong opposition from the developing countries because of the close relationship of the GEF—P with the World Bank. As a result, the GEF—P started the restructure process in 1992 and ended in 1994, with a clear instruction from the UNFCCC that its financial mechanism “shall have an equitable and balance representation of all Parties within a transparent system of governance” in mind.⁷⁹ The decision-making mechanism of the GEF does not contain the IMF quota-type weighted votes, and adopts a novel double-majority voting rules in the Council where decisions need to be approved by both a 60% majority of the total member of participants and a 60% majority of the total contributions. The

⁷⁹ For more on the GEF, see, for example: Silard, S.A., 1995, “The Global Environment Facility: A new development in international law and organization”, 28 *George Washington Journal of International Law and Economics* 607; Werksman, J., 1995, “Consolidating Governance of the Global Commons: Insights from the Global Environment Facility”, 6 *Yearbook of International Environmental Law* 27

organisational arrangement also sets out a more balanced structure that is able to represent the interests of both donor and recipient participants. The Council, very similar to the Board of Executive Directors of the IMF functional-wise, consists also of constituency groupings, 16 of which are from developing countries, 14 from developed countries, and 2 from the countries of central and eastern Europe and the former Soviet Union.⁸⁰

In the process of calling for reform, some commentators have called for the IMF to adopt the GEF—like double majority voting rules so that decisions can represent the interests of both donor and recipient members.⁸¹ But the reform programmes have not taken up this proposal. Within the issues that are called for reform, as presented in Part II.1, the distribution of votes, including basic votes and quota, and the composition of the Executive Directors are the main reform programmes, with particular focus on the distribution of votes. What lessons can be drawn?

First, as most, if not all of the focus of criticism pointed to the how votes are distributed. The mixture of having basic votes and quota—based weighted votes are to balance the principle of sovereign equality of states and the effective function of a financial institution. However, when the proportion of basic votes to the total voting power diminished, the sovereign equality of states faltered. In addition, when quota formula no longer reflects the real economic status of each member, the effectiveness of the institution also suffered. Both of these discontents affect how the IMF can be perceived as legitimate and effective by its members. This is a powerful driving force behind the determination to push for reform in the distribution and design of votes. The reform on basic votes might be somehow disappointing, as the fixed proportion (5.502%) is less than half of the percentage when the IMF was established (11.26%). Nevertheless, the distribution of total voting power between advanced economies (donors) and emerging market and developing countries (potential recipients) has improved. Before the 2006 reform (pre-Singapore), the advanced economies possess 60.6% of voting shares whilst emerging market and developing economies have 39.4%, with Asian countries only 10.4%. When the 2010 reform program takes effect, this proportion will be changed into 55.3% v.s. 44.7% (with Asian countries possessing 16.1%). This illustrates that, even if a balanced representation of all individual member cannot be achieved, at least the distribution of power between donor members, as a group, and recipient members, as a group must be maintained.

Second, a commentator noted that, proposal for quota reform within the IMF should follow three basic principles. First, reform must be simple and transparent. Second, as a financial institution, creditors need to have a decisive voice in policy making so as to ensure that creditors remain confident in the institution's lending decisions. Third, any proposed reform must not seek to remove the veto power of the largest individual creditor, the US.⁸² These principles also apply to other reform programmes of the IMF. As Sir J. Gold also noted, the international monetary system has been fashioned, developed, and changed primarily under the influence of the US. The prospect of worldwide change in the system or in the international governing it will be negligible or nonexistent unless the US sponsors or supports a change.⁸³ These principles can all be observed in the IMF governance reform process. First, the reform has been discussed extensively amongst members. Second, creditors maintain a majority in the total voting power. Third, the US still

⁸⁰ Paragraph 16 and Annex E to the “Instrument for the Establishment of the Restructure Global Environment Facility”.

⁸¹ For example: Woods, N. & Lombardi, D., August 2006, *supra note* 46, p. 495; Stiglitz, J. & others, 2009, *Report of the Commission of Experts of the President of the United Nations General Assembly on Reforms of International Monetary and Financial System*, New York, p.94.

⁸² Kelkar, V.L. et al., 2005, *supra note* 31, p.56.

⁸³ Gold, J., September 1984, *supra note* 53, pp.841-842.

maintains a crucial veto power even after the 2010 reform takes effect: the US voting share is 17.0% pre-Singapore, the shares will remain 16.5% post-2010. This voting share enables the US to have a veto power in those decisions that require an 85% majority of total voting power. This illustrates that, any discussion and decisions on governance issues need to be transparent, and that major donors must remain confident in how the institution reaches its decisions by maintaining a decisive voice.

Last, as commented by Zamora, “international economic organisations are consequences of the world economic system; they are not determinants of that system. With few exceptions, these organisations react to, rather than initiate, economic changes...To reform the world economic system, the developing countries must alter economic realities, and then see to it that international organisations reflect those new realities.”⁸⁴ The call for reform of the Bretton Woods institutions began as early as in the 1970s. Why is it that only as recent as in the early 21st century that such a call for reform has finally been taken up? This might be explained by the changing global economic landscape since the 21st century where the gap between advanced economies and emerging economies is decreasing rapidly. This illustrates that, instead of hoping others to change the governance structures of any financial mechanism to their own benefits, potential recipient countries need to transform themselves first and foremost, and be well-prepared so as to possess enough bargaining chips in the process of negotiation.

V. Conclusion

How can the design of the governance structure of the financial mechanism for climate change learn from these lessons, in particular in light of the four guiding principles as identified in Part II.3?

First, the distribution of power between donor members, as a group, and recipient members, as a group must be maintained. This seems to be a slightly modified principle of “balanced representation of all parties”. But this will be particularly useful to those climate change financial mechanisms operating at the international scale that has a very large membership.

Second, any discussion and decisions on governance issues need to be transparent, and that major donors must remain confident in how the institution reaches its decisions by maintaining a decisive voice. This echoes the principles of transparency and effectiveness. In the discussion of designing the governance structure of any climate change financial mechanism, the process must involve all the stakeholders, in particular the donors and recipients. In addition, any decision-making rules and/or organisational arrangement must allow certain rooms for donors to exercise their power so that they will be willing to continue support the operations of the mechanism they believe is effective.

Third, potential recipient countries need to transform themselves first and foremost, and be well-prepared so as to possess enough bargaining chips in the process of negotiation. This definitely falls outside of the four guiding principles! Nevertheless, when it comes to climate change mitigation and adaptation policies, no country should expect others to support such activities without undertaking and demonstrating their own efforts to contribute equally to such a daunting task. When a country demonstrates its own matching determination to design and implement climate change mitigation and adaptation policies, it is more likely that such a country will be invited to participate in any climate change financial mechanisms and, as a result, to gain the opportunities to take part in and influence the operations of such mechanism. This might be particularly important in those financial mechanisms that operate on a smaller scale, for example at the

⁸⁴ Zamora, S., July 1980, *supra note* 39, pp. 602-603.

bilateral or regional level. It also might apply to those financial mechanisms that generate their resources from the private sectors where investors are more willing to invest in activities that have a demonstrating positive effect on climate change mitigation or adaptation, which can only take place in a country that provide a supportive environment for such types of activities.

國科會補助計畫衍生研發成果推廣資料表

日期:2011/07/11

國科會補助計畫	計畫名稱: 氣候變遷減緩與調適措施之財務機制(I)
	計畫主持人: 施文真
	計畫編號: 99-2621-M-004-002- 學門領域: 永續發展研究-人文及社會科學
無研發成果推廣資料	

99 年度專題研究計畫研究成果彙整表

計畫主持人：施文真		計畫編號：99-2621-M-004-002-					
計畫名稱：氣候變遷下的永續環境治理：法律與政策的因應模式--氣候變遷減緩與調適措施之財務機制(I)							
成果項目		量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）	
		實際已達成數（被接受或已發表）	預期總達成數(含實際已達成數)	本計畫實際貢獻百分比			
國內	論文著作	期刊論文	0	0	100%	篇	部分之計畫研究成果已完成撰寫、並投稿至TSSCI 期刊，正進行審查中。
		研究報告/技術報告	0	0	100%		
		研討會論文	1	1	100%		
		專書	0	0	100%		
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%		
	參與計畫人力 (本國籍)	碩士生	2	2	100%	人次	聘請兩位碩士生擔任計畫兼任之研究助理，提供其參與研究計畫之方法論的訓練。
		博士生	0	0	100%		
博士後研究員		0	0	100%			
專任助理		0	0	100%			
國外	論文著作	期刊論文	0	0	100%	篇	參加兩個國際研討會，一篇研討會之論文正進行論文集之出版籌畫工作，另一篇研討會論文已改寫完畢投稿至TSSCI 期刊，正進行審查中。
		研究報告/技術報告	0	0	100%		
		研討會論文	2	2	100%		
	專書	0	0	100%	章/本		
	專利	申請中件數	0	0	100%	件	

		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力 (外國籍)	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		

其他成果
(無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)

本研究計畫與整合計畫之總計畫與子計畫，已針對研究成果，主辦一場國內研討會（「氣候變遷下的永續環境治理：法律與政策的因應模式」，臺灣大學法律學院環境永續政策與法律中心主辦，2010.10.9），並參加兩場國際研討會（' ' ' ' Workshop on Global Climate Change and International Law' ' ' ' , Shanghai WTO Affaris Consultation Center, Shanghai Academy of Social Sciences, Universite de paul cezanne aix-marseille 3, Centre d'Etudes et de Recherches Internationales et Communautaires, 2010.11.15, Shanghai, China; ' ' ' ' Law in a Sustainable Asia' ' ' ' , Kyushu University & Asian Law Institute, 2011.5.26-27, Kyushu, Japan），有助於推廣計畫之研究成果以及推動國際合作。

	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與(閱聽)人數	0	

國科會補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

達成目標

未達成目標（請說明，以 100 字為限）

實驗失敗

因故實驗中斷

其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文： 已發表 未發表之文稿 撰寫中 無

專利： 已獲得 申請中 無

技轉： 已技轉 洽談中 無

其他：（以 100 字為限）

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）（以 500 字為限）

1. 學術成就與價值：本研究計畫之成果，已分階段於三個研討會中進行宣讀，三篇研討會論文預計將各自收錄於正進行出版程序之中文論文集、英文論文集、以及一篇已投稿至 TSSCI 期刊之投稿文件。2. 社會影響力等應用價值：本計畫之研究成果（針對氣候變遷之財務機制的觀念加以釐清，並針對財務機制設計的制度要素以及各要素之指導原則進行彙整）除了有助於計畫第二、三年之研究內容的進行之外，也可協助我國之主管機關於設計氣候變遷財務機制時，應針對哪些制度要素加以考量。