

## Investment and Financial Flows for the Future Climate Regime

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### KEY MESSAGES

Climate negotiators should;

- Explore viable options for market-based, self-generating sources of revenue to scale-up finance, meeting the criteria of additionality, adequacy, predictability, appropriateness and equity.
- Seek all party contributions to scale-up based on the principle of “common but differentiated responsibilities”. Explore and reach a consensus on the criteria for burden sharing; i.e. current circumstances, future potential growth, or historic responsibility.
- Implement various policy tools and regulations to incentivise private investment, including feed-in-tariffs, and subsidies to research and development (R&D) for clean, low carbon technologies.
- Establish and expand basic carbon market infrastructure to realise the full value of carbon.
- Improve capacity of the Global Environmental Facility (GEF) to responding to the diverse needs of developing countries, using the Adaptation Fund Board and its operating principles as a model for governance.
- Ensure coherence among external funds as well as with funds under the United Nations Framework Convention on Climate Change (UNFCCC) Framework.

A financial mechanism is an integral part of the climate regime. Article 4.3 of the Convention and Article 11 of its Protocol mandates that the financial assistance be transferred from Annex I (developed) countries to non-Annex I (developing) countries to address climate change at a global level. In meeting such financial needs, some progress has been made within the Convention;

- First and foremost, GEF was assigned as an operating entity of the financial mechanism for the Convention. GEF responds to the Conference of the Parties (COP) guidance via climate change focal area of the Trust Fund which financially supports both mitigation and adaptation.<sup>1</sup>
- The Special Climate Change Fund (SCCF) and the Least Developing Countries Fund (LDCF) were established under the Con-

vention at COP7 in 2002.

- The Adaptation Fund (AF) was also established under the Kyoto Protocol, with a particular focus on adaptation projects and programmes in non-Annex I countries. Recently, COP 14 and Fourth Session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP 4) adopted Rules of Procedure of the AF Board, Memorandum of Understanding (MOU) between COP/MOP and the GEF Council regarding secretarial services, Legal Arrangements for the Secretariat of the AF Board, and Strategic Priorities, Policies and Guidelines of the AF.
- The Bali Action Plan agreed at COP 13 in 2007 sets mandate in Paragraph 1e) to enhance actions on the provision of financial resources and investment.

*\*This brief reflects the views of participants at the IGES consultations on the post - 2012 climate regime.*



**Table 1. Current Available and Pledged Funding under the Convention (\$ million)**

Source	Estimated Amount	Period
<b>Funds under the Convention</b>		
Clean Development Mechanism (CDM)	33,406	–
Joint Implementation (JI)	6,269	–
Global Environment Facility (GEF) Trust Fund	990*	2006~2010
Special Priority on Adaptation of the Global Environment Facility (SPA)	50	2008~
Least Developed Countries Fund (LDCF)	172	As of Oct.21 2008
Special Climate Change Fund (SCCF)	91	As of Oct.21 2008
Adaptation Fund (AF)	400~1500	2008~2012

*Note: Amount committed for 4th Replenishment Period (all focal areas)(2006-2010)*

*Source: Mohner 2008.*

While the financial mechanism faces various challenges, such as interpretation of Measurable, Reportable, and Verifiable (MRV), financing new technology, and supporting capacity development of institutions, this policy brief focuses on the following key issues.

### Key issues

- Scaling up adequate, predictable, sustainable financial resources
- Enhancing mobilisation of private and public investment
- Institutional reforms within and outside the UNFCCC Framework

Part of materials and stakeholder perspectives presented are outcomes of IGES policy forum on Energy Security, IGES consultations on Post-2012 Climate Regime, and discussions at the UNFCCC workshops.

### 1. Scaling up adequate, predictable, sustainable financial resources

One of the key challenges facing the current climate regime is the financial gap between existing and future demand for effectively addressing mitigation, adaptation, and technology cooperation.

Table 1 summarises the funding available under the existing framework. As displayed in the table, resources are available both under the UNFCCC and outside of the UNFCCC. Current UNFCCC funds and schemes consist of the GEF Trust Fund, Strategic Priority on Adaptation of the Global Environment Facility (SPA), LDCF, SCCF, as well as AF under the Kyoto Protocol. Aside from the UNFCCC, International Financial Institutions (IFIs), governments of Annex I countries and other private firms have also established various carbon funds as well as bilateral and multilateral initiatives and partnerships to allocate more financial resources to address mitigation and adaptation efforts in non-Annex I countries, as summarised in Table 5.

Despite such progress, the UNFCCC estimates that global investment flows require \$200~\$210 billion for reducing Greenhouse Gas (GHG) emissions by 25 per cent below 2000 levels in 2030 for mitigation, and from ten to possibly hundreds of billions of US dollars per annum for adaptation (UNFCCC 2008a). The Human Development Report (2007/2008) of the United Nations Development Pro-

**Table 2. List of New Options and Mechanisms for Financing**

Proposed by	Source	Estimated Annual Revenue (\$ Billion)
<b>Contributions from Developed Countries</b>		
G77 and China	0.5~1% of additional GDP contribution	201~402
–	from Annex I countries	
–	Efficiency Penny (1% of end-use consumption by Group of Eight (G8) countries)	20
<b>Contributions from All Parties</b>		
Mexico	World Climate Change Fund (WCCF) with burden sharing based on GDP, Greenhouse Gas (GHG), population, and auctioning permits in developing countries	10
<b>Contributions from Increasing the Scale of Existing Mechanisms</b>		
Pakistan	3~5% levy on Share of Proceeds (SOP) from CDM	0.375~6.25
EU	2% levy on SOP from CDM	0.25~2.5
<b>Contributions from Market-based Mechanisms, Taxations, and Other Sources</b>		
–	Funds to invest Foreign Exchange Reserves (5% contributions)	197
Observer organizations	Auctioning Allowances from International Aviation and Marine Emissions	20~40
Norway	Auctioning Assigned Amount Units (AAUs)	15~25
Switzerland	Uniform global carbon tax of \$2/t-CO <sub>2</sub>	18.4
–	Tobin Tax (0.01% of currency transaction)	15~20
Least Developed Countries (LDCs)	Levy on International Air Travel (IATAL)	4~10
LDCs	Levy on Bunker Fuel (IMERS)	4~15
Columbia	Extension of 2% levy on Sop from Joint Implementation (JI) and Emission Trading (ET)	0.03~2.25
Korea	Crediting Nationally Appropriate Mitigation Actions (NAMAs)	–

*Source: Data compiled from UNFCCC Workshop on Financial Flows and Investments*



gramme (UNDP) provides another estimated value of \$86 billion per annum by 2015 for adaptation. (UNDP 2008)

Comparing these figures with the existing resources depicted in Table 1 and Table 5, it is clear that the sum total of existing financial resources within and outside the UNFCCC framework are not sufficient to meet future financing needs. Finding viable options and mechanisms to scale-up finance are therefore essential.

Table 2 summarises the options, tools and mechanisms to scale up finance proposed by various countries. Regarding the scale-up issue, a Danish participant (UNFCCC 2008b) made an insightful comment that from a sustainability point of view, the Parties should explore market-based, self-generating sources of income which do not depend on developed countries' commitment nor multilateral and bilateral funds. Proposals based on market based mechanisms are exemplified by the Norwegian proposal of auctioning AAUs, levies to air travel (IATAL) and maritime activities (IMERS) by Least Developed Countries (LDCs), as well as utilisation and extension of Clean Development Mechanism (CDM) levies by the European Union (EU), Pakistan and Columbia.

In its proposal, Group of 77 and China (G-77/China) asks for 0.5~1% of Gross Domestic Product (GDP) contribution from developed countries. According to the assessment conducted by Muller(2008) based on the five criteria of new and additional, predictable, appropriate, equitable and adequate, source of funding Muller inferred that China's proposal does not meet the criteria, particularly in the criterion of predictability, therefore the proposal is less likely to be implemented. In contrast, Muller interpreted that proposals foreseeing fund generation through international markets satisfy more of the criteria except adequacy, and found Norwegian proposals as well as levies on air travel and maritime activities particularly interesting.

### Stakeholder perspectives

Different perspectives are observed with regard to who should bear the cost of the new and additional finance. Based upon historic responsibility, G-77/China proposed that the financial resource should come from contributions from developed countries (G-77 and China 2008). On the other hand, Mexico proposed the creation of a Global Climate Change Fund (GCCF), which seeks financial contributions from all Parties, with differentiated burden sharing

based on criteria such as GDP, GHG and population (Mexico 2008). With regard to the burden sharing concept, an American participant at a UNFCCC workshop argued that the "common but differentiated responsibilities" principle should be applied to the financing issue as well. He further argued that so far the negotiations and discussions had focused on differentiation alone, and urged the Parties to explore "common responsibilities" in the financing context (UNFCCC 2008).

Divergent views are also observed on the potential impact of the current financial crisis. Referring to the 700 billion bale-out plan currently considered in the US, some participants at the IGES consultations felt that it is possible to extract the level of finance required to address climate change by 2030, as indicated by the UNFCCC report, if the Parties shared the same level of urgency for climate change and made commitments. On the contrary, a Danish participant warned that the Parties should view the financial crisis as resources foregone.

### The way forward

In order to reconcile divergent views and move the discussion of "scale-up" issues forward, the following points should be considered.

- Seeking options for market-based, self-generating sources of finance with less dependence on the voluntary commitment of developed countries as well as bilateral/multilateral funds in times of financial crisis;
- Establishing and expanding basic carbon market infrastructure to realise the full cost of carbon;
- Applying a "common but differentiated responsibilities" principle to financing, along with the analysis of common responsibilities and burden sharing criteria such as historic responsibilities and future emissions;
- Exploring efficient and effective options for managing and disbursing new and additional financial resources;
- Establishing methodology and criteria to assess various country proposals which enables relative comparison, as current proposals are submitted on an ad hoc basis;



## 2. Mobilising private and public investment for future climate regime

### Private finance: Issues and stakeholder perspectives

Private investment is as an integral part of the finance and needed to address climate change, particularly for implementing mitigation measures. As shown in the following table, private investment is the major source of financing for both renewable energy and energy efficiency. Out of 29.3 billion USD of investment, private investment constituted 28.3 billion USD in 2005 (UNFCCC 2007a).

**Table 3. Overview of Funding Sources in 2005 (\$ million)**

	Renewable Energy		Energy Efficiency		Total	
	OECD	Developing	OECD	Developing	Total	% Total
<i>Total Investment Debt</i>						
Private Sector	9,089	656	41	6	9,791	33.4
Multilateral	—	386	—	—	386	1.3
Total Debt	9,089	1,041.5	40.8	6	10,177	—
<i>Equity</i>						
Total Equity (Private)	—	2,908	1,342	96	17,451	63
<i>Grants</i>						
Multilateral(GEF)	—	42	—	30	71	0.2
Bilateral	—	601	—	—	601	2.1
Total Grants	—	642	—	30	672	—
<i>Total investment</i>	23,496	4,590	1,383	132	29,300	—
<b>Private</b>	<b>23,496</b>	<b>3,562</b>	<b>1,383</b>	<b>102</b>	<b>28,252</b>	<b>96.4</b>
Multi/Bilateral	—	1,028	—	30	1,058	3.6

Source: *Investment and Financial Flows To Address Climate Change*. UNFCCC. Table IV-8, pp.43. 2007

From an investment point of view, markets in climate change have a high potential for growth but at the same time contain relatively high risks, and for this reason most of the private finance so far flows into investment opportunities in developed countries instead of developing countries. Major barriers for private investment and financial flows in the climate change markets are identified through a series of UNFCCC consultations (UNFCCC 2008b):

- High volatility of carbon price. The recent financial crisis has also contributed to fluctuations in the price of carbon. The instability of the carbon price does not provide a consistent enough signal for investors to increase investment, with difficulties in securing the right returns from investment risks.
- Long term uncertainty; Uncertainty over demand for carbon credit beyond 2012 prevents investors from making long term investment decisions.
- Institutional and procedural bottlenecks; Institutional hurdles make it difficult to acquire carbon credit through

existing market mechanisms. These hurdles also reduced incentives from high transaction cost and delay carbon credit acquisition.

### The way forward

As mentioned earlier, private financial flows and investments are essential sources of finance for addressing climate change, particularly in the mitigation sector. In order to attract more financial flows and investment, the following improvements should be made:

- Incentivisation through policies and regulations; Supporting low carbon, clean technologies through implementing policy tools such as feed-in-tariffs.
- Setting mandates, such as establishing energy efficiency standards at country and regional levels.
- Provision of investment infrastructure; Carbon pricing alone is insufficient to mobilise private investment. As R&D is mainly invested by venture capital, private equity and asset finance, climate proofing infrastructure is essential for commercialisation of such technologies (Deutsche Bank Group 2008, Maclean et al 2008).
- Provision of risk hedge tools; Exploring various tools including climate insurance.
- Long term certainty; this certainty is needed to visualise demand for carbon credit beyond 2012.

### Mobilising public finance: Issues and stakeholder perspectives

While private investment plays a leading role in mitigation through R&D in low carbon technology and carbon market development (Deutsche Bank Group 2008), public investment can be mobilised in areas where the private sector remains inactive, including mitigation in developing countries and adaptation. Particularly in developing countries, public finance can play a role in supporting early stage market development and project formulation to reduce investment risk for private investment.

Quantitatively, the size of public finance is miniscule when compared to private finance, as displayed by the UNFCCC estimate of 14% of total investment flow, among which Official Development Assistance (ODA) holds only less than 1%. ODA still serves as an integral portion of investment among developing countries, particularly LDCs.

In mobilising public financial flows and investment into the



climate regime, the mainstreaming of climate change into national and sub-national policy is essential, but various barriers exist to such mainstreaming:

- Lack of awareness in focusing climate change in development context
- Difficulty to see the direct benefits of mainstreaming
- Lack of capacity for mainstreaming, particularly at the sub-national level
- Mainstreaming “fatigue”: There are already too many issues being mainstreamed in the development context

Opposing views exist on using ODA as public finance for climate change, particularly for the adaptation area. One side argues that ODA resource should be used for economic development of developing countries, and claims that the use of ODA for climate change could result in the diversion (UNFCCC 2008b). Funding for climate change should thus be additional to the existing available resources. The other side of the argument sees the overlap in development and climate change issues, particularly in the area of adaptation, therefore utilising ODA resources for the climate regime is justifiable.

## The way forward

Given the recent global financial crisis, an additional commitment of ODA from Organisation for Economic Co-operation and Development (OECD) countries is unlikely. In order to mobilise public finance, the following criteria should be considered:

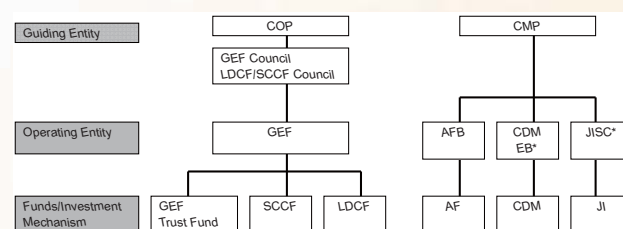
- Reviewing the development programmes and policies (national plan, sectoral development plan, Poverty Reduction Strategy Papers (PRSP), budget planning) to explore potential areas for mainstreaming
- Reviewing the sub-national development programmes and prioritisation of activities to explore potential areas for mainstreaming
- Raising awareness of climate change by stakeholder involvement in review processes
- Stakeholder consultations to explore for LDCs (UNFCCC 2007a). potential areas for partnership with the private sector and potential areas for supplementing private finance to flow into developing countries

## 3. Institutional reforms

### 3.1 GEF: Operating entity for financial resources under the UNFCCC

GEF serves as the operating entity for financial flows under the UNFCCC, and has been providing finance to various mitigation, adaptation and technology cooperation projects. The current institutional arrangement is summarised in the following diagram.

**Diagram 1. Current Institutional Arrangement under the Convention**



Source: Bhandari 2008.

With regards to the operation of the Trust Fund, the Resource Allocation Framework (RAF) was implemented in both climate change and biodiversity focal areas in 2007 for the Fourth Replenishment Period(2006-2010). The RAF was intended to improve the allocation of funds and ensuring transparency. The RAF categorises recipient countries based on their potential to generate global environmental benefits (GBI) and performance (GPI), and allocates financial resources among recipients in accordance with these indices. Those countries demonstrating high GBI and GPI ratings fall into category 1 with resources allocated into individual countries, such as China, India and Russia. The rest of the recipient countries fall into category 2 with resources allocated in groups, including LDCs and Small Island Developing States (SIDS). In the climate change focal area, category I countries (45 countries) take up 75% of total financial resources, and the remaining 15% of the resources are shared among category II countries (115 countries).

While the implementation of the RAF brought improvement in transparency of resource allocation and strengthened ownership in portfolio project to a certain extent, it also caused access issues. In the mid-term review of the RAF, various perspectives on issues and existing barriers



**Table 4. Top 10 Recipients of GEF Assistance under RAF for Climate Change (GEF-3)**

	Top 10 RAF allocated recipients	Total Amount (USD million)
1	China	150.0
2	India	74.9
3	Russia	72.5
4	Brazil	38.1
5	Poland	38.1
6	Mexico	28.3
7	South Africa	23.9
8	Ukraine	18.9
9	Turkey	17.5
10	Iran	16.5

Source: Mid-term Review on the GEF Resource Allocation Framework, GEF.

were identified, and divergent views exist on resource allocation between category I and category II countries became apparent (GEF 2008).

- RAF allocation and access issues; The fundamental issue underlying the RAF is that two indexes are applied uniformly to recipient countries regardless of different stages of development. Consequently, a large portion of the resources are allocated to emerging economies demonstrating relatively high performance (Category I) instead of those vulnerable countries with much greater needs for financing (Category II). Reflecting the difficulty of access to resources felt by category II countries, the mid-term review depicts that 71% of the stakeholders are hesitant to prepare project proposals. No such opinions were expressed by Category I countries.
- Co-financing requirement; With the exception of cases where operational focal points are located in the domestic Ministry of Finance, many recipients find it difficult to attract co-financing, particularly for smaller countries with smaller projects.
- Procedural delays due to institutional changes; During the 4th Replenishment Period, there were various administrative problems and changes due to the implementation of RAF, including a temporary stoppage of project pipelines, changes in project cycle, and changes in the validation template. Those changes added more complexity and confusion partly due to a lack of information dissemination.

## The way forward

While GEF has been strengthening its functions as an operating entity through various review processes and policy

recommendations, the negotiations should encourage further improvements in GEF operations some specific recommendations include the following:

- Improving the capacity of the GEF to respond to the diverse needs of developing countries. The adaptation fund Board and its operating principles should serve as the model for the governance of GEF;
- Granting preferential access to financial resources to vulnerable countries including LDCs and SIDS, as universal application of GBI and GPI does not meet the needs of category II countries;
- Reconsidering fund modality. While the main modality of GEF funds is on a grant basis (UNFCCC 2007b), emerging economies should lessen their dependence on grants. This will require exploring the possibility of changing the GEF modality to increase loans for emerging economies equipped with more debt repayment capacity. In this regard, coordination with financial mechanisms outside the UNFCCC is required;
- Abolishing group allocation of resources and granting country allocation to all recipients. This will enable each country to strengthen their project portfolio because they will have greater portfolio project certainty over the budget.

## 3.2 Financial institutional arrangements outside the UNFCCC framework

### Issues and stakeholder perspectives

Aside from the existing financial mechanisms under the UNFCCC framework, various financial toolboxes are currently available outside the framework, based on bilateral and multilateral commitment of various governments. Table 5 summarises such toolboxes.

While these channels provide opportunities for developed countries to secure finance for addressing domestic climate change issues, the current funding structure causes issues of incoherence among funds (linkage and coordination issue), fragmentation of financial resources (Klein 2008, IGES 2008), and increased transaction cost due to different sets of conditionalities imposed on fund acquisition. Under such circumstances, potential reforms to institutional arrangements outside the UNFCCC framework, and use of ODA resources by International Financial Institutions (IFI) for climate change are fiercely debated.



**Table 5. Major Existing Toolbox Available outside the UNFCCC Framework**

Source	Organization / Country	Estimated Amount (\$ million)	Period
<b>Multilateral</b>			
CIF*	WB	6,100 (Sept, 2008)	2008~
FCPF	WB	300	2008~
APCF	ADB	150	2007~2012
Future Carbon Fund	ADB	100	2008~
CCF	ADB	40	2008~
UN REDD Programme Fund	UN	35	2008~
<b>Bilateral</b>			
Cool Earth Partnership	Japan	10,000	2008~2012
ETF	UK	1,770 (1,200 £)	2008~2011
Climate and Forest Initiative	Norway	1,000	2008~
International Climate Initiative	Germany	385	2008~2012
GIFC	Australia	200	2007~2012
Spanish MDG Fund	Spain	143	2008~2011
GCCA of the EC	EC	84	2008~2010

*Note: Climate Investment Fund has two components of Clean Technology Fund (CTF) and Strategic Climate Fund (SCF). To date, Pilot Program for Climate Resilience (PPCR) was recently launched under SCF for which WB pledged to \$640 million during 2009-2012 period.*

*Source: Data compiled from UNFCCC Workshop on Financial Flows and Investment and IGES Consultations.*

## Institutional reforms

While India argues that external funds should remain outside of the UNFCCC framework, countries such as China, Malaysia and Saudi Arabia argue that existing resources (funds) should be brought together under the authority of the UNFCCC. With regard to management methodology of these funds under the UNFCCC, while Saudi Arabia does not specify how these funds should be managed, China claims that new funds based on building block, such as adaptation fund and technology acquisition fund, should be established, while ensuring the equitable and more balanced representation of all Parties in their governance (UNFCCC, 2008).

## Utilisation of ODA resources

Regarding the recent movement for establishing carbon funds by multilateral institutions, recipient countries including India claim that the ODA is designated for economic development, and financing as well as capacity building from IFIs should not be diverted to climate change. Rather many recipient countries believe financial resources for climate change should be new and additional to existing ODA resources. On the other hand, while China welcomes provision of financial resources to the funds available outside the UNFCCC framework, China argues that any pledges

outside the UNFCCC shall not be regarded as fulfilment of a commitment under Article 4 of the UNFCCC (China, 2008).

## The way forward

To some, while it might be efficient to bring external resources together under one umbrella and operate under the UNFCCC's authority, considering barriers for reaching consensus on the design of new financial framework and potential political difficulties, this may not be a realistic option. Instead, full utilisation of existing finances outside the UNFCCC should be explored. To ensure improved efficiency of the future institutional arrangements outside the UNFCCC, the following points need to be considered.

- Ensuring coherence (links and coordination) among various funds. Adoption of declaration which ensures harmonisation with regard to provision of financial resources in climate change, as in the Paris Declaration for ODA (IGES 2008).
- Exploring feasibility of establishing joint funds for each individual blocks (mitigation, adaptation, technology);
- Assuring preferential access to funds and resources for the most vulnerable countries such as LDCs and SIDS.

## 4. Conclusion

In the final analysis, in order to fulfil the mandate of Paragraph 1e) of the Bali Action Plan, the negotiations must address issues on fund generation (scaling up financing), mobilisation of private and public finance, as well as improved access and disbursement through institutional reforms. These efforts will create an enabling environment for fully realising the potential of mitigation, adaptation, and technology cooperation measures toward stabilisation of ambient GHG concentrations at a level that will avert the worst impacts of climate change. While ensuring the self-generating source of revenue to meet the future needs for each building block is vital, all Parties should come to understand that finance is a scarce resource. Effective disbursement of funds on the donor side, as well as utilisation of such resource on the recipient side is key to sustain the future climate regime.



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<sup>1</sup> COP14 adopted "(c) To continue to enhance action on mitigation and, as appropriate, adaptation, in developing country Parties, including to promote, facilitate and finance, as appropriate, transfer of, or access to, environmentally sound technologies and know-how.

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