Sources of Long-term Climate Change Finance

A review of the possible sources of international climate change finance considered by the UNFCCC, the High-level Advisory Group on Climate Change Financing (AGF), and the G20

Erik Haites¹ and Carol Mwape²

¹ Margaree Consultants Inc
² Ministry of Tourism, Environment and Natural Resources, Zambia, and member of the UNFCCC Transitional Committee for the Design of the Green Climate Fund.
Acknowledgements

This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. However, the views expressed and the information contained in it are not necessarily those of or endorsed by DFID, which can accept no responsibility for such views or information or for any reliance placed on them.

It is written by Oxford Climate Policy, as a partner institution of the European Capacity Building Initiative (ecbi)
1. Introduction

This paper reviews possible sources of finance for climate change adaptation and mitigation activities in developing countries – particularly the sources under consideration by the United Nations Framework Convention on Climate Change (UNFCCC),\(^3\) the High-level Advisory Group on Climate Change Financing (AGF),\(^4\) and the G20 finance ministers.\(^5\)

These sources of climate change finance can be divided into the following five categories:

1. Funds provided by developed country governments from national budgets.
2. Sources that contribute to national budgets, dependent on national decisions.
3. Sources that contribute to national budgets, dependent on international agreements.
4. Funds collected internationally pursuant to an international agreement.
5. Leveraged private sector funds.

Table 1 lists the sources in each of these categories, estimates of the amount each source could generate, whether the funds would be directed to adaptation or mitigation, consistency of the source with the principle of common but differentiated responsibility (CBDR) and its political acceptability.\(^6\)

The rest of the paper discusses each of these categories in turn.

2. Funds Provided by Developed Country Governments from National Budgets

Developing countries argue that developed country governments should be the main source of international climate change finance because those governments committed, in Article 4 of the Convention, to provide new and additional financial resources for adaptation, mitigation and other actions by developing countries.

These funds flow through developed country national budgets and hence usually depend on the annual budgetary process of each country. Once the budget has been approved, the funds are disbursed through bilateral (typically the country’s aid agency) and multilateral (climate funds under the Convention, such as the Least Developed Countries Fund and, when operational, the Green Climate Fund, and outside the Convention, such as the Climate Investment Funds) channels.

---

\(^3\) UNFCCC, 2007. *Investment and Financial Flows to Address Climate Change*. UNFCCC, Bonn. Table IX-66 (p. 186) and Annex IV.


\(^6\) The authors wish to express their thanks to Tim Gore for helpful comments and the summary table.
Table 1: An overview of long-term sources of climate finance

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (US$ bn/yr)</th>
<th>Mitigation or Adaptation</th>
<th>Consistent with CBDR</th>
<th>Political Acceptability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Funds provided by developed country governments from national budgets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessed contributions</td>
<td>Could be needs-based (eg 1.5% of GDP)</td>
<td>A requirement for thematic balance could be set</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>Voluntary contributions</td>
<td>Likely to be well below 0.7% of GDP</td>
<td>Likely to tend towards mitigation</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>2. Sources that contribute to developed country budgets, dependent on national decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic carbon taxes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase out of fossil fuel subsidies</td>
<td>AGF: $30 G20: $25</td>
<td>Depends on whether contributions are mandatory or voluntary (see 1 above)</td>
<td>Depends on whether contributions are mandatory or voluntary (see 1 above)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Share of fossil fuel royalties</td>
<td>AGF: $8 G20: $10</td>
<td></td>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td>Wires charge on electricity generation</td>
<td>AGF: $5</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>3. Sources that contribute to national budgets, dependent on international agreements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial transactions tax</td>
<td>UNFCCC: $15-20 AGF: $7-16 Gates: $9-48 EC: €57</td>
<td>Depends on whether contributions are mandatory or voluntary (see 1 above)</td>
<td>Depends on whether contributions are mandatory or voluntary (see 1 above)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Border carbon cost levelling</td>
<td></td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Carbon exports optimization tax</td>
<td>AGF: $9-31</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>4. Funds collected internationally pursuant to an international agreement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension of the “share of proceeds”</td>
<td>AGF: $1-3</td>
<td>Either</td>
<td>Weak</td>
<td>Low</td>
</tr>
<tr>
<td>Auctioning a portion of AAUs</td>
<td>AGF: $5-12</td>
<td>Either</td>
<td>Strong</td>
<td>Low</td>
</tr>
<tr>
<td>Carbon pricing for international aviation</td>
<td>UNFCCC: $10-25 AGF: $1-3 G20: $13</td>
<td>Either</td>
<td>Strong (with a compensation mechanism)</td>
<td>High</td>
</tr>
<tr>
<td>Carbon pricing for international shipping</td>
<td>UNFCCC: $10-15 AGF: $3-9 G20: $15</td>
<td>Either</td>
<td>Strong (with a compensation mechanism)</td>
<td>High</td>
</tr>
<tr>
<td>5. Leveraged private sector funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDB capital increases</td>
<td>G20: $30 - 40 for every extra $10 of paid-in capital</td>
<td>Mitigation</td>
<td>Weak</td>
<td>High</td>
</tr>
<tr>
<td>Private flows leveraged by public policies and instruments</td>
<td>AGF: $100 - 200 G20: $150</td>
<td>Mitigation</td>
<td>Mixed (depends on instrument)</td>
<td>High</td>
</tr>
<tr>
<td>Carbon market finance</td>
<td>G20: $5 - 40</td>
<td>Mitigation</td>
<td>Weak</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
Provision of funds by national governments often is subject to explicit or implicit burden sharing criteria.

- Assessed contributions are a form of explicit burden sharing. The core budget of United Nations Environment Programme (UNEP) and replenishment of the Multilateral Fund of the Montreal Protocol are funded through assessed contributions.\(^7\) Both of these processes include assessed contributions for developing countries. The United States objects to the principle of assessed contributions and is not formally part of either process.\(^8\)

- The amount that parties pledge for replenishment of the Global Environment Facility (GEF) depends, in part, on the amounts other parties commit. In short, the burden sharing formula is implicit; each party contributes what it considers its fair share given the pledges by other parties. The fifth replenishment of the GEF includes pledges by almost all Annex II Parties plus a number of other Annex I and non-Annex I Parties.

- Contributions to other multilateral climate funds under the Convention – the Least Developed Countries Fund, Special Climate Change Fund and Adaptation Fund – and outside the Convention – the Climate Investment Funds, Congo Basin Forest Fund, and UN REDD Programme for example – are voluntary. Each country decides whether and how much to contribute.

In practice the options are assessed contributions or voluntary contributions where the latter may involve implicit burden sharing.

The assessed amount could be a country’s total contribution to international climate finance or only its contribution to a specified fund or funds. Allocation of the contribution among adaptation, mitigation and other purposes (technology and capacity building) could be specified. Developing countries have proposed that each Annex I country contribute the percentage of its GDP needed to meet developing country needs.\(^9\) The AGF estimated that contributions of 0.5 to 1 percent of Annex I GDP would generate $200 to $400 billion by 2020.

At present developed country contributions to international climate finance are voluntary. Each country chooses how much to contribute and how the funds are disbursed. Most funds are disbursed bilaterally. Contributions to multilateral funds are spread among many funds under and outside the Convention. Most of the funds target mitigation. Government contributions currently amount to at least $21 billion per year.\(^{10}\) Development assistance is a useful indicator of the maximum amount that might be generated by voluntary contributions. In 2010 Annex II parties

---

\(^7\) The total amount needed for a two or three-year period is agreed by the relevant body of parties. The assessed contribution specifies the percentage of the total, and hence the amount, to be paid by each party.

\(^8\) The United States often makes bilateral and multilateral contributions roughly equal to the amount it would contribute under the formula used to calculate the assessed contributions.

\(^9\) If the amount needed by developing countries is equal to 0.83% of the total GDP of Annex I Parties, the contribution expected of each Annex I Party would be 0.83% of its GDP.

committed almost $128 billion of official development assistance (ODA) to developing countries; about 0.32% of their gross national income (GNI). The contributions ranged from 0.15% of GNI (Italy) to 1.10% of GNI (Norway).

Assessed contributions are likely to be much more difficult to agree than voluntary contributions. But a fair arrangement for funding the international climate change finance needs of developing countries is likely to be important for contributions by developed country governments. Then each country’s budget request can be presented as its fair share of the total need.

The contributions – assessed or voluntary – would come from developed country budgets and be funded from general revenue. Every developed country government currently has a budget deficit and is attempting to reduce expenditures. Hence, commitments to provide substantial new and additional funding to developing countries to address climate change are likely to be difficult to agree. The next two sections review sources that could generate additional revenue for developed country governments to fund their climate finance contributions.

3. Sources that Contribute to Developed Country National Budgets, Dependent on National Decisions

The AGF and G20 reports assessed several sources that developed country governments could implement to generate additional revenue. Some or all of this additional revenue could then be used to finance climate change actions in developing countries. The sources reviewed by those reports are:

- **Revenue from a domestic carbon tax or sale of allowances for a domestic emissions trading scheme**
  With a carbon price of $20-$25 per ton of CO₂ equivalent, the AGF estimates that auctions of emission allowances or carbon taxes in developed countries could generate about US$300 billion annually in 2020. Allocating 10 per cent of the revenue for international climate action could mobilize around US$30 billion annually. The G20 report estimates that a carbon price of $25 per ton of CO₂ equivalent in Annex I economies could raise around $250 billion in 2020. Allocating 10 per cent for climate finance could yield $25 billion per year.

- **Phase out of fossil fuel subsidies in Annex II countries**
  The G20 report states that fossil fuel subsidies in Annex II countries currently amount to $40-60 billion per year. Reducing the subsidies and allocating 20 per cent of the current amount to finance climate change action in developing countries could generate up to $10 billion per year.

---

11 OECD development assistance committee (DAC). Korea has been excluded. Available at: http://www.oecd.org/dataoecd/54/41/47515917.pdf
12 Administrative issues may limit the use of these potential sources of revenue. In some countries a source – a carbon tax, fossil fuel subsidies, fossil fuel royalties, a wires charge – might be implemented by a sub-national government so it may not be available to the national government as a revenue source.
13 All monetary values are US dollars.
14 The cost of fossil fuel subsidies in developing countries is estimated to be much higher. Whether fossil fuel subsidies will affect the level of financial support for mitigation actions in developing countries has not yet been decided.
billion per year. The AGF estimated the potential revenue from this source at up to $8 billion per year.

- **A share of fossil fuel royalties**  
  The AGF report identified fossil fuel royalties as a possible source of funds for developed country contributions to international climate finance. The report did not estimate the amount that might be raised. To generate additional revenue for developed countries the royalties would need to be increased. Only 5 Annex II countries collect royalties from fossil fuel production.

- **A “wires charge” on electricity generated or CO₂ emissions due to electricity generation**  
  A charge of $1 per ton of CO₂ on electricity emissions in OECD countries would raise about $5 billion per year according to the AGF report. A country may hesitate to implement such a charge if it has a carbon tax or emissions trading scheme that also covers emissions by electricity generators.

The assumed share of each source that might be used for international climate finance – 10% of the tax/auction revenue and 20% of the reduced subsidy payments – is unlikely to be accurate for each country. It is much more likely that Annex II governments agree on a burden sharing approach, such as assessed contributions or pledges by country, and that each country then raises its share of the funds in the manner it chooses. The potential sources identified by the AGF and G20 reports indicate that developed countries can raise substantial additional revenue to meet their commitment to fund the climate change finance needs of developing countries.

4. **Sources that Contribute to National Budgets, Dependent on International Agreements**

The AGF and G20 reports also identified potential sources whose implementation is best coordinated internationally, but which have no international bodies with an appropriate mandate. Thus, they would be implemented by national governments in accordance with international agreements. The revenue would be collected by each developed country national government and be used to help meet its commitment to fund the climate change finance needs of developing countries.

Two possible sources fall into this category – an international financial transactions tax (FTT) and border levies on GHG-intensive products imported by Annex I Parties.

- **International financial transactions tax**  
  A small tax in international financial transactions was proposed by James Tobin in the 1980s as a means to discourage currency speculation. The UNFCCC estimated that such a tax could generate $15 to $20 billion per year. The AGF estimate is $7 to $16 billion per year. The

---

15 Reducing fossil fuel subsidies should help developed countries meet their emission reduction targets.  
16 Depending on the royalty structure, increases in fossil fuel prices might be enough to generate additional royalty revenue. Ambitious climate mitigation policies could reduce fossil fuel prices, which might lower royalty revenue.  
17 Provisions governing the use of the funds could be part of the international agreement.
report of Bill Gates to the G20 is reported to show that between $9 billion and $48 billion per year could be raised if such a tax were applied to major European countries or to the G20 respectively. A legislative proposal by the European Commission for an EU-wide FTT indicates that €57 billion per year could be raised.

A FTT is best implemented through an international agreement because many transactions can easily be moved to a different jurisdiction, so the tax can be avoided by moving transactions to a non-tax jurisdiction. An international agreement is likely to involve only countries with significant financial centres. The revenue is likely to accrue to the national governments and be treated as general revenue. Annex II governments could use the revenue they collect to help meet their assessed contributions or voluntary pledges.

The EU has announced that it proposes to implement such a tax beginning 2014. The United States has steadfastly opposed such a tax since it was first proposed. A possible outcome of the G20 Summit in Cannes is the announcement of a “coalition of pioneers” to implement a coordinated FTT, with a subsequent announcement about the use of some of the revenue for climate finance and development.

When Annex I Parties implement policies to limit greenhouse gas emissions they attempt to minimize production shifts to countries that do not have such policies (“carbon leakage”). Production shifts to countries without emissions limitation policies undermine both the emissions reduction goal and the economic activity of the Annex I Party.

An Annex I Party can minimize carbon leakage through the design of its mitigation policy; for example, implementing an emissions trading scheme, giving free allowances to vulnerable firms, and accepting CERs for compliance. Such policies have a cost; distributing free allowances for example, reduces revenue. Border levies on GHG-intensive imports by an Annex I Party discourage carbon leakage and so permit adoption of more efficient domestic policies.

Developing countries strongly oppose unilateral imposition of border taxes on imports of GHG-intensive products. But an internationally negotiated agreement on border levies could benefit both developing and developed countries. Two options for internationally negotiated border levies have been proposed.

- **Border carbon cost levelling**\(^\text{18}\)

  Developed countries with a carbon tax or emissions trading scheme would collect an internationally agreed levy on imports of GHG-intensive products from countries without such a policy.\(^\text{19}\) Participating developed countries would impose the same levies on the same products regardless of the origin of the product. The levy for each product would be based on the emissions associated with best available production technology, so it does not protect inefficient industries. The levy revenue would be transferred to an international fund, such as the Green Climate Fund.

---


\(^{19}\) Developing countries would not impose the levies, so the cost of their imports is not affected.
•  

_A carbon exports optimization tax_

The AGF evaluated an export fee levied by developing countries on exports of GHG-intensive products to developed countries with a carbon tax or emissions trading scheme. This serves the same purpose as the developed country border levies but is administratively more complex. The AGF estimated that such a tax could raise as much as $9 to $31 billion per year.

Developing countries benefit because additional revenue is generated to finance climate change action in their countries. They benefit further if the reduced risk of carbon leakage induces developed countries to adopt more stringent emission reduction commitments.

Developed countries are able to implement more efficient domestic policies due to the reduced risk of carbon leakage. In particular, they are able to auction more of the allowances thus generating more domestic revenue even though all of the revenue from border levies goes to an international fund.

Such a system of border levies would best implemented through an international agreement, perhaps under the UNFCCC but currently is not under serious consideration.20

5. Funds collected internationally pursuant to an international agreement

Funds also can be raised internationally pursuant to an international agreement. The share of proceeds – the two percent share of certified emission reductions (CERs) issued for most clean development mechanism (CDM) projects that is the main source of funds for the Adaptation Fund is the best example of such a source. To date over $85 million has been raised through the sale of five million CERs.

The CDM is an international market mechanism established by the Kyoto Protocol. The CERs can be used by Annex I Parties to help meet their emissions limitation commitments under the Protocol. So they are purchased by Annex I governments and entities in Annex I countries that can use them for compliance with domestic policies, such as installations subject to the EU emissions trading scheme (EU ETS).21 A 2% share of proceeds is levied on the CERs issued for most CDM projects.22 These CERs are transferred to the Adaptation Fund and are sold to finance the activities of the Fund.

20 The agreement would address the principles – criteria to determine the products affected, how to set the levy for each product, how often levies are adjusted, which countries impose the levies, which fund(s) receive the revenue collected – and create a body to calculate the levies for the affected products.

21 To comply with the domestic policy, the entity transfers CERs to the national government and the government can then use them to meet its Kyoto Protocol commitment.

22 It is claimed that the share of proceeds is a tax on the developing country entities that own CDM projects. No estimates of how the cost of the levy is actually distributed between CER buyers and sellers are available. All of the revenue goes to the Adaptation Fund which benefits developing countries.
Additional funds could be generated from international market mechanisms. Specific proposals include:

- **Extension of share of proceeds**
  While a 2% share of proceeds is levied on the CERs issued for most CDM projects, joint implementation (JI) and international trading of assigned amount units (AAUs) are not subject to a share of proceeds levy. The AGF estimates that a share of proceeds of 2% to 5% applied to all offsets – CDM, JI and any new mechanism – could raise $1 to $3 billion per year.

- **Auction a share of the AAUs**
  Norway proposed that a share of the AAUs corresponding to future commitments of Annex I Parties by auctioned internationally. The balance would be allocated free of charge to the Annex I Parties as in the Kyoto Protocol. The AGF estimates that auctioning 2% to 5% of AAUs could generate $5 to $12 billion per year.

The second option requires that developed country emissions reduction commitments be expressed in AAUs. Commitments that are not part of a second commitment period under the Kyoto Protocol are less likely to be expressed in AAUs. The amount that could be generated also depends on the stringency of the commitments adopted by Annex I Parties.

The first option depends on a continued market for developing country offsets in Annex I countries. That, in turn, depends in part on how the commitments are expressed – in AAUs or not – and the mechanisms that can be used for compliance. Use of developing country offsets for compliance is less likely if Annex I commitments are not expressed in AAUs.

Funds to finance climate change actions in developing countries could also be generated through international regulation of emissions from international aviation and shipping. The high and rising CO₂ emissions by these sources could be regulated by an emissions – or fuel – levy or an emissions trading scheme with auctioned allowances that could generate revenue for climate change actions in developing countries.

- **Regulation of international aviation emissions by the International Civil Aviation Organization (ICAO)**
  The UNFCCC estimated that a levy or allowance price of $23.60 per ton of CO₂ could generate $10 to $25 billion per year. The G20 report estimates that a globally implemented carbon charge of $25 per ton of CO₂ on fuel used for international aviation could raise around $13 billion in 2020. The AGF assumes that part of the revenue is used to compensate developing countries and that 25% to 50% of the remaining revenue is used for measures to reduce emissions from international aviation. That leaves $1 to $3 billion per year for climate change actions in developing countries.

---

23 Another method of raising revenue from international air travel is an international air passenger levy. That option is the subject of a separate concept note.
• **Regulation of international shipping emissions by the International Maritime Organization (IMO)**

The UNFCCC estimated that a levy or allowance price of $23.60 per ton of CO\textsubscript{2} could generate $10 to $15 billion per year. The G20 report estimates that a globally implemented carbon charge of $25 per ton of CO\textsubscript{2} on fuel used for international shipping could raise around $26 billion in 2020. It estimates that 40% of the revenue be used to compensate developing countries, leaving up to $15 billion per year for climate finance. The AGF assumes that part of the revenue is used to compensate developing countries and that 25% to 50% of the remaining revenue is used for measures to reduce emissions from international shipping, leaving $3 to $9 billion per year for climate change actions in developing countries.

Some developing countries oppose regulation of international aviation and shipping emissions by ICAO and IMO because the regulations adopted by those organizations apply to all parties. They argue that developed countries should bear the burden of reducing these emissions in accordance with the principle of common but differentiated responsibility.

This can be addressed in a way that does not distort competition through compensation to developing countries. Each developing country would receive compensation equal to, for example, its share of global trade multiplied by the revenue collected.\(^{24}\) That would leave net revenue equal to the revenue collected, multiplied by the developed country share of global trade.\(^{25}\) A portion of the net revenue, the AGF assumed 25 to 50 percent, likely would be used to help finance emission reductions by the sector. The remainder could be transferred to a fund, such as the Green Climate Fund, to provide financial assistance for climate change actions in developing countries.

In the case of international aviation emissions it may be possible to exempt some routes or countries without distorting competition in lieu of paying compensation. But exemptions also reduce the funds generated for financial assistance to developing countries. The revenue foregone through exemptions is, in effect, another formula for determining the compensation to each developing country.

Each developing country would receive two financial flows – compensation based on the agreed formula and a share of the revenue generated to provide financial assistance to developing countries.\(^{26}\) Some countries might receive more assistance if no compensation was provided and

---

\(^{24}\) For example, if the total revenue collected during 2020 was $10 billion, a developing country whose share of global trade (measured as total exports, total imports or the average of exports and imports) was 0.45% would receive compensation of $45 million. Other data could be used to calculate the share of each developing country; the revenue ton kilometers of arriving (departing) flights for example.

\(^{25}\) Since all developing countries receive compensation, the amount remaining after compensation would be the developed country share of total trade (about 70%) multiplied by the total revenue collected ($10 billion), about $7 billion.

\(^{26}\) If some traffic is exempted, there would be no visible flow, just revenue not collected.
all of the revenue generated was used to provide financial assistance for climate change actions in developing countries.27

While ICAO has studied options for regulating CO₂ emissions from international aviation, it has taken virtually no action to regulate those emissions. This prompted the European Union to pass legislation that includes the emissions of all flights that arrive at or depart from an EU airport in the EU ETS effective 1 January 2012. Several countries and airlines oppose this initiative.28

The governments of EU member states will collect revenue from the sale of allowances to airlines from around the world for the emissions of flights to and from the EU. The EU has indicated that it is prepared to exempt the emissions of flights covered by equivalent policies implemented by other countries or an international organization. Thus other countries and ICAO have an incentive to implement equivalent policies so they can collect a share of the revenue.

If other countries, rather than ICAO, implement equivalent policies, the revenue will accrue to national governments. The extent to which some of that revenue is available to provide financial support for climate change actions in developing countries would then be a decision of each government, subject to its national budgetary process as discussed in section 2. Only if ICAO implements a levy or emissions trading scheme would revenue be collected internationally to finance climate change actions in developing countries.

More progress has been made in IMO, which implemented a regulatory measure setting minimum energy efficiency standards for the design of new ships in June 2011. It has also studied market-based measures to further reduce emissions and potentially generate finance for climate action in developing countries, including those assessed in the AGF and G20 reports that provide compensation to developing countries to ensure they face no net cost as a result of the measure.29

The EU is committed to studying how to include international shipping emissions in its EU ETS as well, and to taking a regional approach if there is no progress on a global deal. That could lead to a similar choice – implementation of policies and collection of revenue by national governments in the EU or regulation by IMO with revenue generated internationally, and used both to compensate developing countries for their incidence under the scheme and to help finance climate change actions in developing countries.

In summary additional revenue could be generated internationally from international market mechanisms and regulation of international aviation and shipping emissions. The ability to

27 If compensation is based on a developing country’s share of international trade, a developing country with a small share of global trade but substantial adaptation needs might get more money if no compensation were paid and all of the funds were used to support climate change actions in developing countries.

28 Initial indications suggest that the legal challenges to the law will not be successful. An opinion by the Advocate General, which is followed by the court in about 90% of the cases, concludes that the measure is fully compatible with the provisions and principles of public international law.

29 A number of countries are now supporting a global approach with a compensation mechanism for developing countries, including most explicitly France, Germany and South Africa, who have been pushing such an approach in the G20.
generate revenue from the market mechanisms (AAUs, CDM, JI, etc) depends critically on the nature of future developed country commitments and changes to the mechanisms. The ability to generate revenue from regulation of international aviation and shipping emissions depends on whether the emissions are regulated by ICAO and IMO or by national governments. There will be a possibility of compensation for developing countries and a predictable flow of revenue to help finance climate change actions in developing countries only if they are regulated by ICAO and IMO.

6. Leveraged Private Sector Funds

Private resources can best be leveraged through a combination of policy reforms that change incentives for private investment and public financial resources from international and domestic sources. International sources include multilateral development banks, bilateral support and carbon market finance.

Multilateral development banks (MDBs) borrow funds from capital markets at lower rates than those available to many developing countries, based on the strength of their paid-in capital and guarantees of their member countries. The AGF and G20 reports note that the MDBs could borrow additional funds based on their existing paid-in capital contributions and guarantees. Further replenishments and paid-in capital contributions would enable them to borrow more money still. The G20 report estimates that $10 billion of additional paid-in capital allows a development bank to raise $30 to 40 billion that could be devoted to climate change actions in developing countries.

The MDBs lend money to developing countries on concessional and non-concessional terms. Since the banks need to repay the money they have borrowed, they provide loans rather than grants. Loans are better suited to mitigation actions than adaptation measures. Since changes to paid-in capital are decided only periodically, neither the AGF nor the G20 report estimates a corresponding annual financial flow.

An International Monetary Fund (IMF) analysis indicates that an initial endowment of $120 billion of assets by developed countries would enable a fund to borrow $1 trillion over 30 years and use that money to fund $100 billion of climate change actions per year in developing countries. To provide grants and highly concessional loans to developing countries would require subsidy resources – donations – from developed countries. The IMF indicated it would not create, finance, or manage the fund.

A World Bank paper finds that a fund with $68 billion of paid-in capital from Annex I countries could borrow at favourable terms while making loans to mitigation projects in developing countries.

---

30 The amount of additional borrowing possible is called “headroom”.
31 The AGF called the amount of the loans the gross contribution and the grant equivalent value of concessional loans the net contribution.
32 Bredenkamp, H. and C. Pattillo, 2010. Financing the Response to Climate Change, International Monetary Fund, Washington, D.C. Assets provided by developing countries could include special drawing rights (SDRs).
countries. Over a decade retained earnings would increase the paid-in capital to $80 billion and loans to developing countries would rise to $100 billion per year generating a portfolio of $1 trillion.

Ultimately financial resources from these institutions depend on contributions by developed countries. The institutions can borrow additional funds commercially. The larger the share of grants and highly concessional loans provided to developing countries, the lower the amount of commercial borrowing that can be supported.

Developing country policies can increase the incentive for domestic and foreign sources to invest in mitigation measures. Such policies include reduction of fossil fuel subsidies, feed-in tariffs for renewables, and energy efficiency regulations. Developed countries, bilaterally and through multilateral institutions, can leverage domestic and foreign private investment using tools such as export credits, risk-sharing, policy and loan guarantees, insurance products, and green bonds.

The AGF estimated that public climate finance from developed countries, MDB finance and carbon offset flow could leverage in the range of $100 – 200 billion of gross private climate finance flows to developing countries. The G20 report estimates that the same mechanisms could yield international private financing for mitigation measures in developing countries of around $150 billion per year.

Offset markets through the Clean Development Mechanism have resulted in financial flows to developing countries of about $5.4 billion through 2010 while stimulating investments of over $100 billion in mitigation projects.

As noted in section 5 above, the future of the international carbon market requires a demand for developing country credits in Annex I countries. That depends in part on how the Annex I commitments are expressed and the mechanisms that can be used for compliance. The G20 estimates that offset market flows could range from $5 - 40 billion per year in 2020.

Foreign direct investment (FDI) in developing country emitting sectors by developed country entities was between $37 and $200 billion in 2008. The G20 report states that investment (public and private, foreign and domestic) in developing countries in low carbon energy, low carbon transport and energy efficiency totalled around $200 billion in 2010, with about 60% in China, Brazil, India, Mexico and Turkey. Current foreign equity investment in mitigation measures in developing countries is estimated at $16 billion. FDI flows vary with economic conditions, so future flows are difficult to predict.

---

34 Buchner, B., J. Brown and J. Corfee-Morlot, 2011. Monitoring and Tracking Long-Term Finance to Support Climate Action, OECD, Paris, Figure 1, p. 15.