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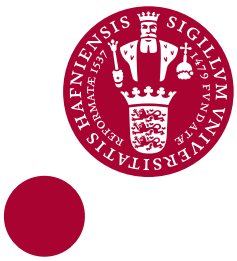

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Financing the Clean Development Mechanism through debt-for-efficiency swaps?

Case study evidence from a Uruguayan wind farm project

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August 2011

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ABSTRACT

As one of Kyoto's three flexibility mechanisms for reducing the cost of compliance, the Clean Development Mechanism (CDM) allows the issuance of Certified Emission Reduction (CER) credits from offset projects in non-Annex I countries. Whilst much attention has focused on the widespread use of the mechanism by China and India, the complex project cycle, and the lack of convincing baselines, little attention has been paid to the financing of CDM projects. In this paper we assess the extent to which CDM projects with public bodies should utilise debt swaps as a form of finance. The paper does this through analysing the use of a debt swap between Uruguay and Spain within a CDM wind farm project in Uruguay. The paper assesses this transaction according to a simple framework by which debt swaps can be evaluated: whether it delivers additional resources to the debtor country and/or debtor government budget; whether it delivers more resources for climate purposes; whether it has a sizeable effect on overall debt burdens (thereby creating 'indirect' benefits); and whether it adheres to the principles of alignment with government policy and systems (key elements within the new aid approach).

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1. INTRODUCTION

In addition to an implicit technology transfer mandate, the original aims of the Clean Development Mechanism (CDM) were threefold: to facilitate mitigation efforts in non-Annex I countries; to promote sustainable development; and to reduce abatement costs for Annex I parties. For example, within the Kyoto Protocol Article 12 states that the 'purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments' (UNFCCC, 1997, p.11). Put simply, through the CDM, project developers, such as private companies, government or non-governmental organisations, are able to sell offset credits to companies and governments in Annex I countries that are committed to reducing their greenhouse gas emissions.[1] To try and ensure their integrity, these offsets are certified by the Executive Board of the CDM (and can also be certified by further accreditation schemes) (see World Bank, 2009). The CDM has particularly encouraged investment in renewable energy and energy efficiency in developing countries (UNFCCC, 2008a; World Bank, 2009).

The impact and process of the CDM has been criticised on a number of grounds (see Kolshus et al., 2001; Olsen, 2007; Olsen and Feenan, 2008; Schneider, 2007; Paulsson, 2009; Boyd et al., 2009; Rahman et al., 2010). First, the issue of supplementarity; in other words, the extent to which countries can reduce emissions through using the CDM without cutting their own emissions. Currently, under the Kyoto Protocol, there is no cap on the use of the mechanism (although domestic reductions are supposed to contribute a 'significant element' of national efforts). Second, the types of projects supported. For example, most CERs have been issued for the reduction of industrial gases (such as potent hydrofluorocarbons or nitrous oxides) due the very low abatement costs. Such projects require heavy industries that need cleaning up, which excludes the vast majority of developing countries (and partly explains why China and India have utilised the mechanism so extensively).

Third, and a further reason for the unequal spatial distribution of CDM projects, has been the CDM's complex eight-stage project cycle (including the involvement of firms - termed Designated Operating Entities (DOEs) - accredited to validate and certify project activities). The complexity of the process has acted as an entry barrier for actors, particularly in Least Developed Countries (LDCs). A related issue has been the uneven performance of DOEs in ensuring the integrity of project proposals (leading to an increasing proportion being rejected by the Executive Board - see Schneider, 2007).

A fourth criticism focuses on the lack of convincing project baselines. A baseline is defined by the UNFCCC as 'the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity' (UNFCCC, 2002, p.36). Thus, baselines are a counterfactual scenario where,

[1] Within the Marrakesh Accord it was agreed that afforestation and reforestation projects could be included as eligible CDM offset schemes (but not avoided deforestation or degradation schemes). This was agreed for the first commitment period (ending in 2012) and with a limit that Annex I countries could only purchase up to 5% of 1990 emission levels (Dessai and Schipper, 2003). Such limits have proved superfluous as very few afforestation and reforestation CDM projects have been credited with CERs. Surprisingly, reduced deforestation and degradation in developing countries was designated as an adaptation activity eligible for funding through the Adaptation Fund (which takes a 2% levy from the CDM).

unless a pipeline approach is utilised, it is difficult to establish the hypothetical emission trend with a great degree of precision. Importantly, as CERs are used to offset emissions in Annex I countries, if CDM project baselines are inflated the CDM could *increase* total emissions. Therefore it is vital that baselines are calculated conservatively. Baselines can be calculated one of three ways: existing/historical emissions; emissions from an economically attractive course of action; or the comparable average emissions from projects undertaken in the previous five years under similar circumstances, whose performance is among the top 20% of their category. As a result, using different methodologies can lead to different baseline levels and thus different CER issuance (see Paulsson, 2009).

A fifth issue concerns the extent to which the CDM project in question is additional to actors' business-as-usual investments (see Schneider, 2007; Paulsson, 2009). In a similar vein to project baselines, this is important to maintain the environmental integrity of the CDM (and often relies on a hypothetical scenario). Projects have to prove investment additionality to ensure that the CDM precipitates new and innovative investments and not just pre-existing investments packaged up as an offset scheme. There are four main ways in which this is achieved: financial additionality (where the revenue from offset credits makes the project financially viable); barrier additionality (where project developers illustrate how the CDM helps to overcome barriers to entry); comparison additionality (where project developers argue that an innovative project is financially less viable than one or more plausible comparators); and, lastly, common practice additionality (where it is demonstrated that the project is a substantial innovation in the sector). When assessing almost a hundred projects, Schneider (2007) argues that the claims of investment additionality by project developers is often not robust enough, citing the submission of weak evidence for projects claiming barrier and comparison additionality.

A sixth criticism focuses on the extent to which the CDM has created sustainable development co-benefits. Whilst this was a key aim of the CDM, the extent to which it has been realised is under considerable debate. For example, Schneider (2007) argues strongly that whilst the CDM has facilitated low-cost mitigation projects, it has not met its mandate to contribute to sustainable development. The extent to which projects *do* contribute is assessed by host country governments, who, according to Schneider (2007), support projects which may only generate limited benefits (such as a modest amount of employment). A further indirect channel through which governments can judge projects to be developmental is through increasing government revenues. For instance, industrial gas offset projects provide very limited direct development benefits, but the taxation of the CERs issued and sold, as practiced by China, can be developmental (especially if ring-fenced for development purposes).

A seventh concern focuses on the lack of project finance for CDM projects in LDCs (in addition to a lack of human and institutional capacity). For example, as there is a considerable lag between the revenue stream from projects, and planning and construction costs, considerable project finance is required in the form of equity, loans or grants (see UNEP, 2007). As investments in LDCs carry an additional risk premium compared to developed and emerging economies (due not least to weak governance and fragmented capital markets), there has been a large financing gap which has stymied LDC participation in the CDM. A number of initiatives have been put in place to help overcome this financing gap. For example, a programmatic approach to CDM has been developed since the eleventh Conference of Parties in Montreal. Here, a number of identical projects within a certain geographical area are bundled

together for assessment and crediting (reducing transaction costs, improving economies of scale and the scope of project types) (see Chassard, 2008). Moreover, there have been changes in regulation. For example, the EU will only purchase CERs from projects registered from 2013 onwards if those projects are in LDCs.

This paper focuses on these last two concerns by gauging the extent to which development co-benefits and access to project finance can be improved for (partly) publically-financed CDM projects through the use of debt-for-efficiency swaps (in other words, the exchange of outstanding foreign debt for a commitment by the debtor government to invest in clean energy projects). The paper does this through analysing the use of a recent debt swap between Uruguay and Spain to finance a CDM wind farm project in Uruguay.

The structure of the paper is as follows. Section 2 offers a concise history of debt-for-development swaps, discusses Spain's role as an important proponent of swaps, and introduces the details of the Spanish-Uruguayan swap analysed here. The third section assesses the swap in terms of a simple framework proposed by Cassimon et al. (2011a): whether they deliver additional resources to the debtor country and/or debtor government budget; whether they deliver more resources for climate purposes; whether they have a sizeable effect on overall debt burdens; and whether they adhere to the principles of alignment with government policy and systems. Section 4 discusses whether the use of debt swaps supports the development co-benefit aims of the CDM, and improves access to project finance, before broadening out to discuss the extent to which debt swaps could play a meaningful role within climate finance.

2. TO SWAP OR NOT TO SWAP - DEBT'S THE QUESTION

2.1. A cursory history of debt-for-development swaps[2]

Restructuring and relieving the debt of developing countries goes back a long way, at least to the early years of post-war history.[3] In the beginning, debt restructuring was very much dominated by short-term consolidations of debt titles owed by developing countries to their official bilateral creditors. To ensure the smooth working of such debt renegotiations, in 1956 the Paris Club was set up, an informal and voluntary grouping of bilateral creditor nations that continues to play a key role in today's decision-making on debt relief issues (see Cosio-Pascal, 2008).

Debt crises engulfing a swathe of developing countries (mostly Latin American) in the 1970s and 1980s also spawned the restructuring of commercial debt, sometimes through bank advisory committees (such as the so-called 'London Club'). Especially after 1982, the year of Mexico's default, the secondary market for discounted debt expanded rapidly (see Buckley, 1997). The abundance of bad loans traded on such markets led in 1985 to the birth of debt-for-equity conversions, a practice whereby investors redeem external debt titles (bought at a discount) with the debtor country in exchange for local currency to be used for equity investment in national companies. The great attraction of the debt-for-equity concept was that debtor countries would see part of their debt cancelled, whereas foreign investors could obtain stock holdings at advantageous exchange rates (Buckley, 2009a). Debt-for-equity swaps experienced a boom in the late-1980s, a time where privatisation was widely seen as a solution for inefficient state-owned enterprises. In 1990, in the course of the Brady Plan, the combined swap volume (including debt buybacks and other exchanges) peaked at US$ 27 billion (Kaiser and Lambert, 1996).[4]

Conservationists borrowed these debt-for-equity principles to lobby for debt-for-nature exchanges from the mid-1980s onwards.[5] Environmental NGOs were encouraged to acquire discounted debt titles on the secondary market and swap them for local currency counterpart funds supporting in-country environmental projects (or for debtor country commitments to continuously protect designated areas). This would bring about a double dividend: a reduction of developing countries' hard currency needs for debt servicing (often financed by environmentally-degrading natural resource extraction) at the same time as mobilising additional funds for conservation purposes (Jha and Schatan, 2001; Sheikh, 2010). The first debt-for-nature agreement, a deal between Conservation International and Bolivia on forest conservation and biosphere management, was signed in July 1987. It is estimated that

[2] For the purpose of this paper we restrict ourselves here to a discussion of debt-for-development swaps, i.e. the practice of exchanging debt claims with the debtor country for development-related domestic spending (including on conservation and climate goals). Many other forms of debt swaps exist, some of which are touched upon in the text.

[3] For a concise and lucid overview of debt relief history, see Gamarra et al. (2009).

[4] The Brady Plan, launched in 1989 and named after then US Secretary of the Treasury Nicholas Brady, offered commercial banks with claims on (mostly Latin American) developing countries a menu of options to swap these debt titles for new bonds with lower nominal value (below par) and/or reduced interest rates ('exit options'); alternatively banks could choose to retain their exposure but provide additional credit to compensate for any capital gains due to the reduced indebtedness of creditor countries ('new money options'). The Brady plan resulted in deals typically involving several hundreds of millions of US$ per country (see Claessens and Diwan, 1994; Vásquez, 1996).

[5] The idea of transplanting the debt-for-equity philosophy to environmental protection is generally ascribed to Dr. Thomas Lovejoy, a former vice-president of the World Wildlife Fund (see Lovejoy, 1984).

from 1987 to 1997 about US$ 134 million worth of commercial developing country debt (purchased at an average discount of 78%) was channelled through the debt-for-nature mechanism, generating US$ 126 million in local currency counterpart funds (Development Finance International, 2009).

The decision of the Paris Club in 1990 to allow its creditor members to convert all of their official concessional claims (and part of their non-concessional titles) into counterpart funds with social or environmental objectives added further to the popularity of debt-for-nature swaps. Next to other early swap proponents such as Canada, Germany and Switzerland (see Moye, 2003), the US has played a key role, first through the 1990 Enterprise for the Americas Initiative (EAI) and, later, the 1998 Tropical Forest Conservation Act (TFCA), a programme for bilateral debt restructuring where freed-up resources are directed toward tropical forest conservation in eligible debtor countries (see Sheikh, 2010 for details).

Despite initiatives such as the TFCA, the use of debt swaps for environmental purposes declined from the mid-1990s. One reason has been the appreciation of the secondary market value of commercial debt titles, induced, at least partially, by improvements in the overall solvency of debtor economies (partly a result of previous debt relief efforts) (Ruiz, 2007). This made it harder for environmental NGOs to strike a financially attractive agreement. Second, and more important for the purpose of the current article, the debt swap mechanism became subject to numerous critiques regarding its failure to generate additional resources for the debtor country or sectoral/public good goals, its insufficient scale and the inappropriateness of conditionalities attached to it (see Section 3). In response, debt relief practice (of bilateral, multilateral and, to some extent, commercial creditors) evolved into much more comprehensive, larger-scale schemes such as the Heavily Indebted Poor Country (HIPC) Initiative and its successor, the Multilateral Debt Relief Initiative (MDRI), with greater attention to policy and system alignment under the form of Poverty Reduction Strategy (PRS) conditionality.[6]

Nevertheless, bilateral debt swaps now seem to have re-captured policymakers' attention. Recent years have seen a remarkable surge in the number of new swap initiatives in various sectors, most notably health and education (see Filmus and Serrani, 2009; Global Fund to Fight Aids, Tuberculosis and Malaria, 2007).[7] Debt-for-nature swaps have been no exception to this trend. Following a relatively quiet period, the US has recently concluded deals with Peru, Indonesia and Brazil under the TFCA (see Sheikh, 2010; USAID, 2011). Other bilateral creditors, such as Germany and France have also jumped on the bandwagon (see e.g. Buckley, 2011). Above all, however, Spain has positioned itself as a leading proponent of debt swaps (in

[6] In 1996 the IMF and the World Bank jointly initiated the HIPC Initiative to bring debt burdens of a number of severely-indebted developing countries back to sustainable levels. Bilateral, multilateral and commercial creditors were all requested to contribute in proportion to their debt exposure. The Enhanced HIPC Initiative in 1999 carried this logic further by deepening relief, increasing flexibility of the original initiative, and making debtor country participation conditional upon the preparation and implementation of a Poverty Reduction Strategy Paper (PRSP), a country-owned document describing the debtor's medium-term structural and social policy for poverty reduction. Finally, in 2005, the IMF, World Bank's International Development Association (IDA) and African Development Fund committed themselves to forgive the remaining debt owed to them by post-completion point HIPCs through the MDRI. The Inter-American Development Bank launched a similar initiative in 2007. As of December 2010, HIPC/MDRI debt cancellation packages have been approved for 36 countries (with another 4 countries on the waiting list). These commitments represent approximately US$ 127 billion of debt relief in nominal terms (see IDA and IMF, 2010).

[7] For example cases and a detailed critique of such debt-for-health and debt-for-education swaps, see Cassimon et al. (2008; 2011b).

various sectors). The following subsection therefore provides a short outline of Spanish debt swap policy.

2.2. Spain as a key proponent of debt swaps

Compared with smaller bilateral creditors, such as Switzerland and Belgium, that were debt-for-development swap pioneers in the 1990s but have now discontinued their debt swap programmes[8], Spain's debt swap activities have blossomed rather late. Between January 1999 and January 2011 Spain signed no less than 37 debt swaps with 23 low- and middle-income countries in the area of social development. In nominal terms a total of approximately EUR923 million worth of debt was cancelled, while agreed counterpart payments amounted to about EUR491 million.[9] The majority of these swap agreements, 24 swaps representing EUR695 million in debt claims, were concluded in the latter half of this twelve-year period.

Initially, Spanish debt swaps were conducted primarily with Latin American countries, both countries participating in the HIPC initiative (Honduras, Nicaragua and Bolivia) and non-HIPCs (Costa Rica, El Salvador, Peru and Uruguay), in the areas of infrastructure, health, education and environmental conservation. In 2004, at the UN Summit for Action against Hunger and Poverty, Spanish Prime Minister José Luis Rodrígez Zapatero announced that Spain, beyond its HIPC commitments, envisaged being 'actively involved in debt-for-social-development swap operations, especially in the area of primary education'.[10] Such statements, together with heavy lobbying of Latin American governments, regional intergovernmental organisations and civil society, translated into a series of debt-for-education swaps in 2005-2007 (see Navarro, 2006 and Vera, 2007). Throughout this period, Spain adopted a differentiated debt swap policy, granting a discount of 40% on the counterpart payments due by HIPC debtor countries whilst requesting full payments from non-HIPCs.

At the end of 2006 a new law on external debt management (*Law No. 38/2006 of 7 December*)[11] was approved by the Spanish Congress, making Spain Europe's second nation with legislation linking debt relief to development policy (Italy introduced a similar law in 2000) (Filmus and Serrani, 2009). Article 5 refers specifically to the need to ensure debt swap practice is consistent with the framework agreed upon at the international creditor community level and to target those developing countries with the highest levels of external debt, preferably partner countries of Spain's development policy. From recent practice, it seems that the adoption of Law No. 38/2006 has lead to a strategic repositioning of Spain's policy on debt swaps. From

[8] Switzerland is often credited with being the first donor country to use the debt-for-development swap instrument as an integral part of its overall development cooperation policy. The CHF500 million endowment fund of the Swiss Debt Reduction Facility was set up in 1991 and eventually depleted in 2001. Switzerland decided to channel all remaining debt relief through the regular HIPC framework (see Buckley, 2011).

[9] These figures were calculated from data obtained through the Spanish Ministry of Economy and Finance. The reported EUR923 million excludes a number of debt-for-equity swaps (with Jordan, Morocco, Algeria and Equatorial Guinea) between 2000 and 2006, but includes swaps with Honduras and Nicaragua in 1999 and 2000, respectively, whereby debts were directly cancelled in full (without counterpart commitments) in the wake of Hurricane Mitch.

[10] For a transcript of the full speech, see http://www.segib.org/upload/discursodelpresidentedelgobierno.pdf.

[11] The original text of the *Ley 38/2006, de 7 de diciembre, reguladora de la gestión de la deuda externa* is available at: http://www.boe.es/boe/dias/2006/12/08/pdfs/A43049-43053.pdf. A translated, English version of Article 5 of this law (on debt conversion) can be found in Filmus and Serrani (2009, p.48).

2007 onward, with the exception of a deal with Paraguay, swaps have been concluded with HIPC countries only, many of them in sub-Saharan Africa.

2.3. The Spanish-Uruguayan debt-for-efficiency swap[12]

The case we consider here has its origins in the Debt Conversion Programme for Public Investment signed between Spain and Uruguay on the 15th of April 2003. The stated objectives of this conversion programme were to assist Uruguay with its precarious external financial situation, aggravated by Argentina's default at the end of 2001, and, at the same time, promote development-oriented investment in Uruguay. To this end, over the period February 2003 - December 2004, Spain agreed to forgive US$9,324,769 worth of principal and interest owed by Uruguay to the *Fondo de Ayuda al Desarollo* (FAD) (Spain's main concessional loan institution for export promotion), in exchange for a guarantee from the Uruguayan government to deposit an equivalent sum (in US$) into a newly created counterpart fund held in a bank account in Uruguay (at the pace of the original debt service becoming due). It was decided that, from this fund, Uruguay would finance a number of previously identified infrastructure projects, i.e. the construction of three liquid waste treatment plants in the Uruguayan departments of Canelones, San José and Cerro Largo.

On the 18th March of 2005, the newly elected Uruguayan Minister of Economics and Finance Danilo Astori wrote to his Spanish counterpart - Pedro Solbes Mira - with a request to renew the 2003 debt conversion programme, thereby evoking a clause in the original contract that foresaw the possibility of extending the programme with a second phase of two more biannual periods.

In a letter on the 10th of May, Mr. Solbes Mira replied favourably to the Uruguayan request and proposed a second debt swap on the following terms. First, the new conversion would involve the transfer of US$10,800,571.99 of FAD debt service owed by Uruguay over the period July 2005 - June 2007 into the same counterpart fund (again in US$ and following the original debt schedule).[13] Second, the structure, management and the workings of the counterpart fund would proceed as stipulated in the original 2003 agreement. This means that a bi-national Spanish-Uruguayan committee, consisting of representatives designated by the Ministries of Economics of both countries, would oversee the fund and have the final word on the selection of projects financed by it. The committee would also have the possibility to appoint other observers that could assist in technical matters. Once a project was selected, a technical team from the Uruguayan Ministry of Economics and Finance would write out the necessary specifications and launch a call for proposals. The bidding itself would be limited to Spanish companies or ventures employing equipment and/or services supplied by Spanish companies. The final decision on the assignment of projects and supervision of their execution would rest with the bi-national committee. Third, Mr. Solbes Mira suggested to build on the first leg of the debt conversion and direct the resources released by the swap towards a sustainable development investment in Uruguay, conforming to the Kyoto Protocol (which entered into force

[12] This section draws on the information we have been able to extract from original project documents, including the debt swap agreement, the CDM project design document and formal letters, as well as from correspondence with some of the officials involved. All documents (most of them in Spanish) are available from the authors upon request.

[13] These FAD credits were concessional loans granted to Uruguay in the years 1990 to 1994.

in February 2005). Importantly, any CER credits generated by such sustainable development projects would be offered to Spain first. Mr. Astori formally accepted these terms on the 31st of May 2005.

A meeting in Montevideo in November 2005 of the bi-national committee approved the project that would ultimately benefit from the debt swap: the implementation of a 10 MW grid-connected wind power farm in Sierra de los Caracoles, a gently undulating area in the department of Maldonado, Southern Uruguay (about 300 metres above sea level).[14]

The project was conceived as a CDM project with a total estimated cost of just over US$30 million. The debt swap under scrutiny thus accounts for approximately one third of this (the aforementioned US$10.8 million). The *Administración Nacional de Usinas y Trasmisiones Eléctricas* (UTE), Uruguay's state-owned national electricity company managing the wind farm, shoulders the largest part of the costs involved, US$18.9 million, and the Spanish Carbon Fund[15] contributes another EUR730,000.

In mid-2007 an evaluation of offers responding to a public tender resulted in *Eduinter*, a Spanish infrastructure and service company specialised in renewable energy, being awarded the Sierra de los Caracoles project. *Eduinter* committed to supply five wind turbine generators with a capacity of 2MW each from *Vestas* (a Danish manufacturer).[16] The first V-80 wind turbine went into operation in November 2008 and by mid-January 2009 all turbines were supplying electricity to the grid.

After UTE and the World Bank signed a letter of intent for the potential purchase of CERs in January 2009, the annual emission reduction was estimated at 25,554 tonnes of carbon dioxide equivalents (tCO_2e). This corresponds to the generation of 178,878 CERs during the first seven-year crediting period (2010-2016).[17]

At first glance, the just-described debt swap instrument appears as a win-win scenario. Uruguay reduces its debt burden and frees up resources for environmental spending while Spain sees an increase in the value of remaining Uruguayan debt claims, improves its environmental credentials, promotes Spanish investment and guarantees a supply of CERs to meet its Kyoto commitments. However, as we will show in the remainder of this paper, it is far from clear that this debt-for-efficiency swap only has beneficial effects.

[14] Technical assistance in developing the project proposal was provided by a committee comprised of the National Directory of Energy and Nuclear Technology of the Uruguayan Ministry of Industry, Energy and Mining (MIEM) and the engineering faculty of the Universidad de la República (UDELAR).

[15] The Spanish Carbon Fund is a public-private partnership managed by the World Bank for the account of the Spanish government. Since 2005 the Fund has been active in purchasing greenhouse gas emission reductions to assist Spain in fulfilling its emission reduction commitments under the Kyoto Protocol. Up to date it has signed 23 Emission Reductions Purchase Agreements (ERPAs) with 13 countries (see http://wbcarbonfinance.org/Router.cfm?Page=SCF&ItemID=9714&FID=9714). Currently, the World Bank also administers Italian, Dutch and Danish carbon funds, together with a number of specialised carbon-related facilities in which various governments, corporations and international organisations participate.

[16] The other contender for the project (who made it to the final round) was *Control Y Montajes Industriales* (CYMI), another Spanish industrial service provider, which proposed to install German *VENSYS* turbines.

[17] Crediting can be renewed for two further seven-year terms subject to DOE and Executive Board approval (see UNFCCC, 2002, p.37).

3. ASSESSMENT OF THE SPANISH-URUGUAYAN DEBT-FOR-EFFICIENCY SWAP

Debt swaps can be assessed according to a simple five-part framework (see Cassimon et al., 2011a): whether they deliver additional resources to the debtor country and/or debtor government budget; whether they deliver more resources for climate purposes; whether they have a sizeable effect on overall debt burdens (thereby creating 'indirect' benefits); and whether they adhere to the principles of alignment with government policy and systems (two key elements within the new aid approach). We now discuss each of these issues in turn, first providing a general description and then applying them to our specific case for illustrative purposes.

3.1. Delivering additional resources to the debtor country and/or debtor government budget

As with any other form of debt relief, debt swaps are supposed to increase net external financial transfers to the recipient country. As the contractual external debt service, typically in foreign currency, does no longer have to be made, it frees up foreign currency for alternative use, and increases net international purchasing power of the recipient country (as such creating 'external space'). Moreover, to the extent that swaps deal with public debt, they also allow the recipient country *government* to divert part of its budgetary resources, otherwise spent on debt service, to other means such as increased spending, say on environmental issues, either domestically or abroad (i.e. in foreign currency), or just to reduce the fiscal deficit; as such, debt swaps are also said to create 'fiscal space' (Heller, 2005). However, at least four important qualifications apply here, of which three pertain both to the external as well as the fiscal dimension (the last one usually applies to fiscal space only).

First, debt relief savings are only realised gradually, typically over many years or even decades, depending on the contractual repayment terms and schedule of the underlying debt. The reported nominal value of the cancelled debt in a swap is therefore not necessarily a good measure of the increase in available resources at the level of the debtor country. The present value (PV) of future debt service payments that are forgiven (discounted at the interest rate at which the debtor country can raise this amount of money on international markets) is arguably a better proxy. In particular, when debt is highly concessional, with long maturity and repayment periods and below-market interest rates, as is the case with claims accounted for as Official Development Assistance (ODA), PV gains in international purchasing power for the debt relief recipient will be appreciably lower than nominal figures suggest.

Second, only that share of debt service that would have been paid to the creditor in the absence of any debt relief will generate genuinely new resources for the debtor country. To take for granted that all debt would have been fully serviced without the swap arrangement (in other words, assuming the probability of default to be zero) could be far too optimistic, especially when a country is experiencing debt service problems. At the extreme, contractual

debt service savings could be entirely fictitious, not creating any external nor fiscal space whatsoever (as debt would not have been paid at all).[18]

Third, one can assume debt swaps to be entirely additional to other forms of donor support. However, debt swaps may well crowd out other, possibly more appropriate, forms of aid since current accounting rules allow donors to treat debt relief operations as substitutes for new aid.[19] Donors could hence see debt swaps as an attractive option to boost their ODA figures, leading to reduced expenditures on other categories of ODA. Moreover, since the nominal value of debt swap operations is typically an overestimation of both the debtor's benefit and the creditor's cost, a swap may provide fewer resources than other aid interventions, say, direct budget support. Empirical studies on the first generation of swaps indicate, if anything, that they have *not* been additional to other sources of donor support (see e.g. Ndikumana, 2004).

The fourth qualification is particular for debt relief offered through the swap modality. As explained earlier, in a debt swap, and in exchange for the cancelled debt service, the debtor is required to make counterpart payments, typically (but not necessarily) in local currency, typically (but again not necessarily) at a discount (relative to the nominal amount of debt cancelled). In principle the discount, if applied, should reflect the first and second qualifications raised, i.e. it should reflect the potential discrepancy between the nominal and the market value of the debt relieved. If not, no additional budgetary room will be freed up to the benefit of the recipient country government; on the contrary, fiscal space will be destroyed. Moreover, there may be a conflict between the *timing* of annual debt savings and that of domestic counterpart obligations. In contrast to the typically slowly maturing debt service payments, domestic counterpart payments are sometimes frontloaded, becoming due within a much shorter period of time. A poorly structured debt swap where annual domestic counterpart payments occur prior to the realisation of debt relief savings may therefore increase fiscal pressures for the government rather than relaxing them, at least in these first years. All depends on how the PVs of debt service payments and domestic counterpart payments compare. This potential problem can easily be avoided by perfectly matching the timing of contractual debt service cancelled with the schedule of counterpart payments.[20] If counterpart payments are due in local currency, as typically is the case, this fourth qualification applies to fiscal space only. But in practice we sometimes witness swaps that require debtors to make counterpart payments in hard currency; in this case the argument also applies to the foreign exchange component (external space).

[18] These two first qualifications give rise to the concept of the 'economic value' of debt (relief), i.e. the PV of the debt that would have been effectively serviced in the absence of the debt relief (debt swap) intervention, as the most appropriate indicator to measure the value of debt, and the value of debt relief (to the recipient country). For a more formal explanation of this economic value concept, see Cassimon and Vaessen (2007).

[19] The Development Assistance Committee (DAC) of the OECD, the most important body for measuring and publishing donor aid efforts, allows the full nominal value of debt relief to be counted for as ODA. Of course, to avoid double counting, for loans that already previously qualified as ODA and are later subject to debt swaps only the redirection of the interest component (and not the principal) is recorded as new ODA.

[20] On the other hand, from the perspective of the counterpart fund management, who typically wants to make a noticeable impact by spending sizeable amounts at once, the issue becomes to bring forward as much of the available resources as possible. One way of resolving this inherent tension is for the government to issue bonds whose repayment is backed by the stream of future counterpart payments.

Given this basic reasoning and qualifications, how can we assess the concrete case under consideration here, from the perspective of freeing up resources at the recipient country and government budget level? Applying the different qualifications, we cannot but conclude that, although the swap scores well on a number of characteristics, overall, it made no dent in creating additional space, neither external nor fiscal. On the positive side, the debt savings are realised over a short period of two years, so that the PV of the debt service relieved closely resembles the nominal value. Also, the timing of counterpart payments perfectly matches the contractual debt service relieved, avoiding potential negative short-term fiscal (and external) space problems. On the other hand, since the counterpart payments are due in US$, the swap does not contribute to relieving potential foreign exchange constraints (providing external space) at the level of the recipient country.[21] Moreover, and more importantly, the swap does *not* include a discount on these counterpart payments; in other words, the country still has to generate the full contractual debt service originally due in US$, the only difference of the swap being the transfer to the counterpart fund, instead of to the original creditor, Spain.

For the case under consideration, i.e. Uruguay in the period 2003-2007, this last element is crucial in our assessment. It is important to note that during this period, the country experienced severe economic troubles as a result of the fall-out of the 2001 Argentinean economic crisis. Uruguay's banking system, highly dollarized due to its role as an offshore dollar deposit centre for the region, was, at that time, weakly regulated and supervised. Since corporate and household sectors of the economy were heavily exposed to large and unhedged foreign currency liabilities, the withdrawal of non-resident deposits (started by Argentinean nationals as a result of the crisis), followed by a generalized bank run, cascaded into a full-blown banking, currency and debt crisis. Real GDP declined by 11% in 2002; foreign exchange reserves dwindled, causing the exchange rate to lose 60% of its value against the dollar; and public debt escalated to about 100% of GDP (see e.g. IMF, 2008a, Box 1). With considerable debt service obligations falling due in 2003-04, the authorities succeeded in launching a 'voluntary' sovereign bond debt exchange with their private bondholder creditors in April-May 2003, that lengthened maturities and reduced gross financing requirements on these bonds over the 2003-2007 period, in order to alleviate the most pressing short-term external debt pressures.[22] Aided by an IMF programme, the country was successful in overcoming the financial crisis and regaining economic stability around 2005, with further IMF programme-led economic adjustments until 2008.

As a result of all this, serious doubts were raised about the capacity and willingness of the country to service its sovereign debt.[23] As such, the bilateral official claims that were swapped here incorporated the possibility of default, reflected in a below par

[21] In normal times, for Uruguay this may not be such a big issue relative to other countries, due to the country's status as an offshore financial centre for the region and the resulting high level of financial dollarization of its economy.

[22] As a result of the exchange, total public debt remained high in nominal terms, as nominal principal reduction involved was very small, but debt service was reduced considerably, especially in the first years after the debt exchange. Overall, external private creditors on average took a loss (a so-called 'haircut') of about 13% to 26% of exposure, according to the standard definition used (see Sturzenegger and Zettelmeyer, 2005). Also note that this debt 'reprofiling' for Uruguay is now often referred to in the context of a (potential) debt restructuring operation for Greece (see e.g. Buchheit and Gulati, 2011).

[23] As witnessed by the increase of the sovereign spread of Uruguayan bonds, moving from about 500 basis points before the crisis to more than 2000 basis points in the 2002-2003 period, and the downgrading of these bonds to below investment grade (IMF, 2008b, p.30-40). After the successful completion of the sovereign bond exchange, spreads and credit ratings eventually returned to pre-crisis levels.

economic value. In fact, the assumption that Uruguay would not have serviced these claims in the absence of the swap during the two swap periods under consideration cannot easily be discarded. Under this assumption, no external or fiscal space was created by the swap; indeed, the required counterpart payments would then have forced the Uruguayan government to use resources that were not 'saved' from debt service, necessitating it to cut back on other spending, or increase deficits (again both from an external and fiscal space perspective).

3.2. Delivering more resources for climate purposes

Even if swapping debt does not necessarily lead to more resources available to the recipient country (government) overall, it is often asserted that these swaps do increase resources available for development, or in the case of this debt-for-efficiency swap, for climate purposes in general, and for investments in emission reduction technologies more particularly. Clearly, the embedded 'earmarking' of the counterpart payments for this specific purpose would suggest so. However, the alleged increase critically depends on additionality in both donor support and government expenditure in this area. These are now discussed in turn.

First of all, and related to the third argument of section 3.1, at the donor level, debt-for-efficiency swaps may well substitute for other donor interventions *aimed at climate purposes*, and as such they may not be additional. Second, and in a similar vein, debt-for-efficiency swaps do not automatically result in additional resources spent on these purposes *within* recipient countries (Hansen, 1989). When confronted with a schedule of counterpart payments, governments may decide to cut back on their own efforts and reduce projected budget allocations for climate spending. A certain degree of so-called 'fungibility' is inherent to most aid instruments, but is often thought to be more pronounced in the case of specifically targeted support such as debt swaps (see e.g. Feyzioglu et al., 1998).

A significant degree of additionality in a double sense, with freed-up resources coming on top of other donor interventions as well as budget lines already reserved by the recipient for clean energy investment and emission reduction, should be a necessary condition for the enactment of these swaps. So, how does our case perform against these two additionality requirements? As is often the case, it is difficult to gauge the degree of additionality with the information available. Only some qualified guesses can be made. From the perspective of the Spanish donor, it is plausible to assume that engaging in the swap has not reduced efforts elsewhere. In other words, it seems that Spain has exploited the opportunity to increase its engagement (and credentials) in the renewable energy sector. On the other hand, it seems less plausible to assume additionality from the perspective of the recipient country government, as the investment in clean energy technologies was already planned before. For Uruguay it is more likely that the swap helped the country to realise the necessary cuts in spending on other budget lines.

3.3. The effect on overall debt burdens

Compared to other aid interventions, debt swaps may possess characteristics that yield effects beyond possible direct increases in resources at the country or government budget level. According to the so-called 'debt overhang' theory (see Krugman, 1988), an excessive

debt burden, demanding high debt service payments, may induce the government to impose punitive taxes on those sectors in the economy that are most productive. Such suboptimal behaviour could reduce investment, depress economic growth and lower government revenues, in turn making debt service all the more painful. Debt relief, and debt swaps for that matter, could break such a vicious cycle and turn it into a virtuous one. The resulting process should lead to greater domestic resource mobilisation, benefiting clean energy and other investment. Again some cautionary remarks are however in order.

First, not all macro-economists fully subscribe to the simple negative relation between debt size and investment/growth depicted here. The theory of debt overhang has been said to be more relevant for middle- than for low-income countries and not valid at very high or low levels of debt burden (See Chauvin and Kraay, 2005; Cordella et al., 2005). Other critics have argued that an excessive debt burden and low growth are in itself manifestations of some deeper, systemic problems, whether economic, institutional or political in nature.

Even if one takes the debt overhang hypothesis at face value, debt relief needs to reach a critical mass and be delivered in a harmonised manner to make a dent in freeing a country from a high debt-low growth trap. Larger-scale initiatives such as the Brady deals and the HIPC initiative were implemented exactly because the need for a 'discrete shock' of debt relief was acknowledged (Bulow and Rogoff, 1991). Piecemeal operations, as debt-for-development swaps typically are, cannot possibly be expected to reshuffle a country's economic situation.[24]

For our Uruguayan case the issue of 'debt overhang' is clearly pertinent (as already highlighted in Section 3.1), with public debt that was unsustainable, and necessitated a major adjustment process. But it remains doubtful whether this particular swap, representing in total (combined over the two phases) just over US$20 million in nominal debt service relief over a four-year period, was an efficient way of curing debt overhang. It should be evident that the private bond exchange operation of April-May 2003 was a far more efficient (and effective) way of debt service relief, and tackling debt overhang at that time. At best, the swap contributed only marginally to the overall effort.

3.4. Alignment with government policy and with government systems

Debt relief is intuitively very similar to budget support, to the extent that both modalities free up additional room in the recipient country's budget (or at least are meant to do so). Donors that want to ensure that these extra funds are put to good use, such as for sustainable development purposes, have come up with different ways of keeping control over how and on what resources will be spent by the recipient. Over time, control mechanisms and conditionality sets attached to aid modalities have undergone significant transformations. In fact, debt relief has been at the very forefront of this progression in donor-recipient relations.

Debt-for-nature swaps implemented in the 1980s and 1990s often practised what in donor jargon is called 'micro-earmarking', with donors dictating priority projects and

[24] Of course, to the extent that debt swaps are framed in terms of providing additional resources rather than improving the overall debt situation of a country (as they typically are today), this argument is of less importance.

programmes and trying to follow as closely as possible the flow of resources freed-up by debt service cancellation. To make oversight easier, counterpart funds were established outside regular budget outlays of the recipient government, together with new management structures and externally imposed procedures for planning, implementation, and monitoring and evaluation, all circumventing the recipient's established systems.

Whilst micro-earmarking allowed donors to enhance accountability towards their domestic constituencies and tax base, such close surveillance made them myopic, increasing chances that recipient country resources were displaced to other budget priorities (in other words 'fungibility'). The creation of parallel systems also suffers from high transaction costs, prevents long-term capacity building, and reduces country ownership.

This is why most debt relief, taking place within the HIPC/MDRI framework, has evolved to what one could call 'debt-to-PRSP swaps' (Cassimon and Vaessen, 2007: 24), swapping debt obligations for the debtor country's commitment to use the realised savings for national development priorities as described in its PRSP (or similar national development policy documents).[25] Donors now seek to use their influence more indirectly, through a broader policy dialogue with their developing country 'partners', and to leave tasks of funds allocation, planning, budgeting, implementation of projects and programmes, and monitoring and evaluation to partner country systems. This 'New Aid Approach' (NAA) (see Molenaers and Renard, 2009), which was further consolidated in the 2005 Paris Declaration and the 2008 Accra Agenda for Action[26], promises to bring more 'policy alignment' and 'system alignment' to development cooperation. The former refers to focusing donor support on partner countries' national development strategies, whereas the latter means the use of countries' own institutions and public systems for financial management, implementation, monitoring and evaluation where these are deemed effective, accountable and transparent. We now check the Uruguayan case against these two alignment principles.

On policy alignment, it is useful to differentiate between, first, issues of control and ownership over the project measures and, second, coherence with Uruguay's environmental (and broader developmental) policy agenda.

The bi-national committee acts as the most powerful body in the Spanish-Uruguayan debt swap set-up; it holds executive power and oversees the whole process (see Section 2.3). As said before, the committee is composed of two representatives each of both the Uruguayan and Spanish Economics Ministry (a set up which is common practice in other swaps brokered by Spain). At the least, this means that the debtor country in question has the opportunity to have high-level government officials present when important decisions regarding the swap are made.[27] The fact that the Uruguayan Minister of Economics and Finance proposed to extend the original agreement with a second swap suggests a degree of control and ownership. Further evidence comes from the Technical Assistance Committee in which

[25] See footnote 6. Since 1999, the preparation of a PRSP or similar policy document is, besides a qualification criterion for debt relief under the Enhanced HIPC Initiative, a necessary condition for obtaining access to new concessional IMF/World Bank loans.

[26] More information and full-text versions of the Paris Declaration and Accra Agenda for Action can be found at http://www.oecd.org/document/19/0,3746,en_2649_3236398_43554003_1_1_1_1,00.html.

[27] When looking at swaps by other creditors, this seems less self-evident than one would perhaps expect. In a recent US-Indonesian case, for example, Indonesian government officials were largely under-represented in the swap's dominant oversight committee, because they had to make way for (international) NGOs (see Cassimon et al., 2011a).

both the National Directory of Energy and Nuclear Technology of the Uruguayan Ministry of Industry, Energy and Mining and the engineering faculty of UDELAR, two important Uruguayan actors, participated. This committee was, among other things, responsible for examining the economic and technical feasibility of the wind farm project (including finding a suitable location).

Turning to policy coherence, it should be noted that the Sierra de los Caracoles wind farm was the first wind power investment by the state-owned utility company UTE (and, as such, the first in Uruguay overall).[28] This is not to say, however, that wind power generation or, more generally, renewable energy was not on the Uruguayan agenda. Indeed, according to official documents dating from around the time the second swap was signed, the government's strategic priorities in the energy sector included the diversification of energy sources (and providers) to reduce costs, emissions and to increase energy security (see e.g. MIEM, 2006 for a summary). For its energy consumption Uruguay relies heavily on oil imports. However, most electricity generated in the country itself comes from hydropower plants. To diversify its renewable energy mix, Uruguay initially planned to install 200-300 MW of wind power by 2015 (alongside investments in biomass and solar energy). These goals were recently revised upwards, to 500 MW of installed wind farm capacity by 2015. The swap-financed project at Sierra de los Carcacoles can thus, in retrospect, be seen as a first step (albeit small) towards achieving these ambitions.

Leaving aside the close integration of the swap with Uruguay's energy policy, alignment with the broader development agenda of the government is far less clear. When the new left-of-centre administration of Tabaré Vásquez took office in March 2005, the country was still recovering from severe economic crisis (see Section 3.1). The administration's development plan, under the name of *El Gobierno de Cambio - La Transición Responsable*, covered six main areas: democracy, social programmes, production, innovation, integration and culture.[29] It remains debatable whether, at least at the time the second phase of the debt swap agreement was signed, investing in energy efficiency and security was truly a development priority for Uruguay.

With respect to system alignment of the swap, things look less favourable still. As in previous debt-for-nature swaps, the ring-fencing arrangements made for the use of Spanish-Uruguayan debt swap proceeds, such as the establishment of a separate, extra-budgetary Spanish-Uruguayan counterpart fund managed by a bi-national committee, could be seen as creating a parallel 'Project Implementation Unit' (PIU).[30] While clearly involving Uruguayan government officials, these arrangements largely bypass *existing* government institutions and public systems. The extra administrative burden on Uruguayan (and Spanish) actors this implies is arguably not in proportion to the small size of the debt-for-efficiency swap.

More importantly, the swap puts into practice a pure form of 'tied aid' by restricting the use of freed-up funds to projects implicating Spanish companies or the import of Spanish

[28] Around the same time of the swap-financed Sierra de los Caracoles wind farm project proposal, another private project, the Nuevo Manantial 4 MW wind farm in Rocha, was developed by UTE.

[29] Under the social pillar of this plan, for example, the *Plan de Atención Nacional a la Emergencia Social* (PANES) was initiated, a temporary programme including conditional cash transfers, food assistance and public works.

[30] A PIU is defined by the OECD as a 'dedicated management unit designed to support the implementation and administration of projects or programmes' (see glossary: http://www.oecd.org/document/19/0,3746,en_21571361_39494699_39503763_1_1_1_1,00.html#P). It is now widely accepted that too many parallel PIUs lead to a fragmentation of aid.

goods and/or services only.[31] True, the novelty of wind energy generation in Uruguay limited the extent to which domestic companies could be involved. This is however not to say that the bidding process for the wind farm project could not have been made more competitive, giving other non-Spanish manufacturing/construction companies, including those hailing from neighbouring countries (such as upcoming wind power giant Brazil), a fair chance of competing.

[31] It should be noted that such tying was less obvious in more recent Spanish debt swaps.

4. DISCUSSION

Our analysis suggests that the Spanish-Uruguayan swap performs unevenly across the five different criteria we have considered. Although well-aligned with Uruguay's energy policy, the swap creates limited additional fiscal space, is too small to create indirect benefits, and binds Uruguay to purchase goods and services solely from Spanish companies. Even though such case study evidence is, of course, extremely partial, it adds weight to the suggestion that debt-for-efficiency swaps may not be learning from the experience of debt swaps in other sectors.

Thus, over and above conventional forms of donor finance, this kind of debt swap does little to foster substantial development co-benefits. For example, such co-benefits could be increased if the swap was structured such that greater external or fiscal space is created (through, for example, making sure there is a positive difference between the debt service payments forgiven under the swap and the replacement counterpart payments). Moreover, co-benefits could be enhanced through ensuring that, if competitive, goods and services could be purchased regionally or globally.

However, these shortcomings need to be placed in perspective. From our communication with officials it appears that the use of a debt swap in this case acted as a 'sweetener' to clinch the project deal. Without it the wind farm project may not have proceeded. In this respect, this debt swap does appear to have improved access to project finance - a key criticism of the CDM. This brings us to the wider issue of the kind of role debt swaps could play within the climate finance landscape (both mitigation and adaptation).

Article 4.3 of the UNFCCC (1992), to which all negotiating parties are signatories, states that the 'agreed full incremental' costs of mitigation in developing countries need to be met by finance and technology from developed countries. In this respect, the cost burden of mitigation measures falls progressively on Annex I countries, pursuant with their 'responsibility' and 'capability'. On the adaptation side, the Bali Action Plan of December 2007 stated that developed countries agreed to 'adequate, predictable, and sustainable financial resources and the provision of new and additional resources, including official and concessional funding for developing country parties' (UNFCCC, 2008b).[32] Importantly, a subset of Annex I countries, known as Annex II countries (which corresponds to OECD and European Union member states)[33], have a particular obligation to provide financial resources and facilitate technology transfer to developing countries.

Early estimates of the costs of mitigation in developing countries ranged from between US$75 billion a year to around US$400 billion a year (see, for example, UNFCCC, 2007; UNFCCC, 2008c; World Bank, 2010). The early cost estimates for adaptation in developing countries also varied widely, from US$4 billion a year to US$109 billion (see World Bank, 2006; Stern, 2007; UNDP, 2007).

[32] The interpretation of what constitutes 'new and additional' has been the subject of much debate.
[33] Annex II countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States of America.

Putting these estimates together, the World Bank (2010), in its World Development Report, suggests a figure of between US$139 and US$175 billion per year for mitigation and between US$28 billion and US$100 billion for adaptation by 2030 (in constant 2005 US$). The report further estimates *current* levels of climate finance for mitigation and adaptation as being in the region of US$9 billion a year (around US$8 billion for mitigation and U$1 billion for adaptation). So, total current funding is only 5% of the lower-bound estimate, or 3% of the upper-bound estimate, for 2030.

Finance for mitigation is spread across private and public sources involving both market-based mechanisms and innovative instruments (see UNEP, 2009). The World Bank (2010) argues that private flows, including foreign direct investment and flows stimulated by cap-and-trade schemes, may be able to provide enough investment in the long term, but probably not in the short term. Therefore, from this perspective, there is a role for public finance to establish the regulatory framework necessary to attract (international) private finance, and to provide the right incentives for mitigation and adaptation innovations, pilots and scaling-up activities. Whilst domestic public revenues could provide some resources (to enable targeted expenditure or subsidies, and tax benefits on investments), the limited fiscal resources of many non Annex I countries (and the standpoint of the Framework Convention and Bali Action Plan) indicates a substantial role for external public flows in the form of grants or concessional finance.

If we use the World Bank's (2010) estimates that 15% of mitigation funding in developing countries and *all* adaptation funding is from public sources, a ballpark figure for external public finance for developing countries in 2030 could be between US$49 and US$126 billion per year (in constant 2005 US$). This is less than recent levels of total official development assistance (ODA) which in 2010 reached an historic high of about US$129 billion (OECD-DAC, 2011). To what extent could debt swaps play a role in meeting this financing gap on both mitigation and adaptation sides?

Our position on this is outlined in Cassimon et al. (2011a) and runs as follows. On the mitigation side, as the HIPC process has ensured that most bilateral and multilateral debt owed by many low-income countries should be cancelled in due course, it appears the greatest potential for utilising debt swaps for mitigation purposes (such a debt-for-nature or debt-for-efficiency swaps) will mainly be within lower middle-income countries (where there is less of a convincing case for financing mitigation, and less of a finance gap for CDM projects). Moreover, we also find numerous actors, including vertical funds, interested in sector-specific swaps such that there may be a limited number of appropriate and available titles to be utilised for debt swaps for mitigation.

On the adaptation side, one possible approach might be to integrate climate concerns into the current HIPC/MDRI framework, thus increasing policymakers' awareness and raising the likelihood that developing countries could include climate concerns when completing national development strategies.

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