

Michaelowa, Axel; Michaelowa, Katharina

Working Paper

Climate or development: Is ODA diverted from its original purpose?

HWWI Research Paper, No. 4-2

Provided in Cooperation with:

Hamburg Institute of International Economics (HWWI)

Suggested Citation: Michaelowa, Axel; Michaelowa, Katharina (2005) : Climate or development: Is ODA diverted from its original purpose?, HWWI Research Paper, No. 4-2, Hamburgisches WeltWirtschaftsinstitut (HWWI), Hamburg

This Version is available at:

<https://hdl.handle.net/10419/48194>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Hamburgisches
WeltWirtschafts
Institut

Climate or development: Is ODA diverted from its original purpose?

Axel Michaelowa, Katharina Michaelowa

HWWI Research

Paper No. 2
by the

HWWI Research Programme
International Climate Policy

Axel Michaelowa

Hamburg Institute of International Economics (HWWI)
Neuer Jungfernstieg 21 | 20354 Hamburg | Germany
Tel +49 (0)40 34 05 76 - 60 | Fax +49 (0)40 34 05 76 - 76
a-michaelowa@hwwi.org | www.hwwi.org

Katharina Michaelowa

Hamburg Institute of International Economics (HWWI)
Neuer Jungfernstieg 21 | 20354 Hamburg | Germany
Tel +49 (0)40 34 05 76 - 40 | Fax +49 (0)40 34 05 76 - 76
k-michaelowa@hwwi.org | www.hwwi.org

HWWI Research

Hamburg Institute of International Economics (HWWI)
Neuer Jungfernstieg 21 | 20354 Hamburg | Germany
Tel +49 (0)40 34 05 76 - 0 | Fax +49 (0)40 34 05 76 - 76
info@hwwi.org | www.hwwi.org
ISSN 1861-5058 | ISSN (Internet) 1861-504X

Editorial Board:

Thomas Straubhaar (Chair)
Michael Bräuninger
Tanja El-Cherkeh
Axel Michaelowa
Katharina Michaelowa
Eckhardt Wohlers

© Hamburgisches WeltWirtschaftsinstitut (HWWI) 2005

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) without the prior written permission of the publisher.

Climate or development: Is ODA diverted from its original purpose?

November 2005

Axel Michaelowa, Katharina Michaelowa

Abstract: We analyze the interaction of climate and development policy that has taken place since the early 1990s. Increasing dissatisfaction about the results of traditional development cooperation and the appeal of climate policy as a new policy field led to a rapid reorientation of aid flows. At the turn of the century, over 7% of aid flows were spent on greenhouse gas emissions mitigation. However, the contribution of emissions mitigation projects to the central development objective of poverty reduction as specified in the Millennium Development Goals is limited and other project types are likely to be much more effective. Adaptation to climate change can be expected to have higher synergies with poverty alleviation than mitigation, primarily through its impact on health, the conservation of arable land and the protection against natural disasters. An analysis of the Clean Development Mechanism shows that projects addressing the poor directly are very rare; even small renewable energy projects in rural areas tend to benefit rich farmers and the urban population. Use of development aid for CDM projects and / or their preparation via capacity building is thus clearly not warranted.

We further analyze whether the use of development aid for climate policy could be justified as a countermeasure against the emission increase related to successful development itself. However, countries that are achieving an improvement of human development from a low level are unlikely to increase their energy consumption substantially. Only at a level where middle class expands rapidly, energy consumption and greenhouse gas emissions soar. Thus targeting middle class energy consumption by appliance efficiency standards and public transport-friendly urban planning are the most effective measures to address developing country emissions. Rural renewable energy provision in poor countries has a much higher impact on poverty, but a much lower impact on greenhouse gas emissions.

We conclude that while there are valid reasons for long-term collaboration with emerging economies on greenhouse gas mitigation, there should be a separate budget line for such activities to avoid “obfuscation” of a decline of resources aimed at poverty alleviation. Nevertheless, mitigation will remain attractive for donors because it ensures quick disbursements and relatively simple measures of success. Moreover, mitigation activities in developing countries provide politicians in industrialized countries with a welcome strategy to distract their constituencies from the lack of success in reducing greenhouse gas emissions domestically.

Key words: ODA, climate policy, poverty reduction, MDGs, CDM, mitigation, adaptation

1. Introduction

Development cooperation has been a traditional policy field ever since the 1950s when the vision of propelling poor countries to industrialization and the success of large capital transfers in rebuilding Europe led to the first large-scale financial transfers to the South. The period of large investment projects was followed by an emphasis on social sector development, with a direct focus on the poor, which was enthusiastically embraced by significant parts of the population in industrialized countries, and led to the voluntary commitment of all industrialized countries in 1970 to each spend 0.7% of GDP on development assistance.

However, it became apparent during the 1980s that most of the development funds had generated neither the expected growth nor the improvement of general wealth and social conditions. The development community reacted by developing new paradigms, like the focus on “pro-poor growth” from the mid 1990s onwards, and the definition of the “Millennium Development Goals” (MDGs) to eradicate poverty. Despite all efforts, these reorientations were widely conceived as hardly convincing. Many observers wondered whether they might represent no more than “old wine in new bottles” (Cling, Razafindrakoto and Roubaud 2002), i.e. little truly substantial change (Easterly 2002). From the end of the 1980s onwards, the development literature no longer looked forward, but started acknowledging “the failure of the grand theories” (Menzel 1992). Aid agencies, donor country politicians and international non-governmental organizations (NGOs) started to feel an “aid fatigue”, i.e. growing disinterest among their constituencies. The vast majority of donor countries never reached the 0.7% commitment, but steadily increased their distance from the target.

Parallel to this, since the late 1980s, international climate policy has emerged as a new major area of policy making. Environmental issues in general had become a central issue of public interest in industrialized countries, reflected in the creation of environmental NGOs and even new parties like the German “Greens”. The UN Conference on Environment and Development in Rio (1992) simultaneously addressed both development policy and environmental policy, with a particular emphasis on international climate policy. Ever since Rio, donor countries have used development funds at least partially for climate policy purposes (OECD/DAC 2002a).

In 1997, the Kyoto Protocol defined legally binding greenhouse gas emission commitments for all industrialized countries. The Protocol allows these countries to get emission credits (Certified Emission Reductions, CERs) from projects which reduce greenhouse gases in developing countries via the “Clean Development Mechanism” (CDM). This further increased the linkages between climate and development policy and opened up new fields of activities for aid agencies, e.g. in terms of capacity building. To a certain extent, one may feel that the young and dynamic field of climate policy has taken over (parts of) the old, traditional and somewhat dusty field of development policy. Such developments may be problematic in terms of conflicting objectives or priorities, especially as the central goal of development policy to eradicate poverty (now codified in the MDGs) remains valid and is a central humanitarian challenge for mankind as a whole - despite all drawbacks on implementation..

It is the objective of this paper to trace these developments, and to assess whether climate policy related aid financing is used in conformity with the major development objectives. Can development assistance allotted to climate policy be considered as a genuine part of development aid, and could it possibly help to achieve development objectives unachieved so far by classical development cooperation? Or has it been introduced as a substitute, diverting resources from the core development objectives? Does development assistance allotted to climate policy really promote development, or is it primarily used by industrialized countries to reach their own climate policy objectives? As the Kyoto Protocol only entered into force in 2005, and industrialized countries find it more and more difficult to reach their emission targets, the relevance of the issues discussed here is likely to continue to increase in the near future.

Prior research on these issues is rather scarce. In a game theoretical model, Caparrós and Perea (2005) assess the interaction between mitigation and development assistance. They find that increasing mitigation reduces the ODA level in the long run, while short run dynamics might lead to a transitional increase in both mitigation and ODA, for an initial time period. Our own approach is purely empirical. We attempt to take stock of the current situation using existing data for development aid and emission reduction activities, and to confront them with donor deliberations on the objectives and achievements of their policies.

In section 2, we assess to what extent climate policy has already been reflected in aid flows until now. In section 3, we investigate the role of climate policy in attaining core development objectives, as reflected in the MDGs. In this context, we consider both the effect of climate policy on MDGs and the impact which the pursuit of MDGs may have on greenhouse gas emissions, thereby calling for countervailing measures. Finally, section 4 explores other reasons such as problems of absorptive capacity in recipient countries and genuine donor interests, which may also explain the use of development resources for climate policy measures.

2. The relevance of climate change activities in current development cooperation

Between 1998 and 2000, the members of the OECD Development Assistance Committee (DAC) spent 2.7 billion USD or 7.2% of total bilateral Official Development Assistance (ODA) for climate change related activities (OECD/DAC 2002b)¹. In the three countries Finland, Germany and Japan, this share exceeded 10%. In addition, around 320 million USD were spent as multilateral ODA for the Global Environmental Facility (GEF), which uses about one third of its funds for climate change related projects. Overall, from 1991-2005, the GEF has spent approximately 2 billion USD on projects related to climate change (GEF 2005a).

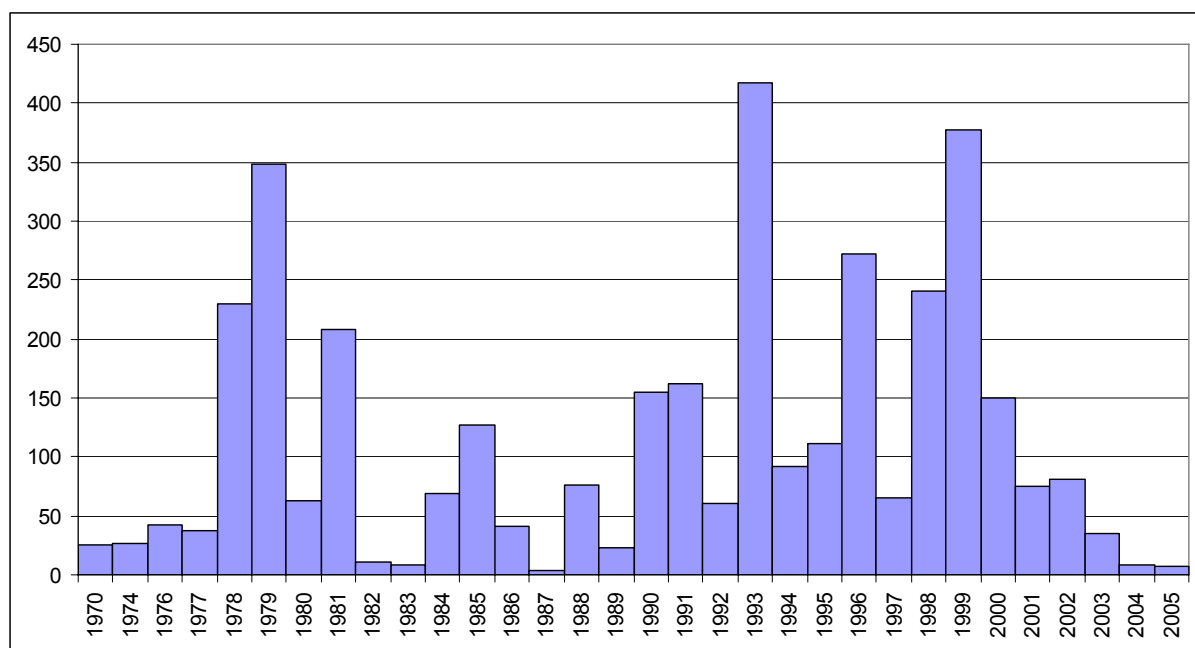
According to the World Bank (2005, p. 7), renewable energy and energy efficiency projects financed by development assistance have been significant, but with high inter-annual variation, ever since the early 1990s. For earlier years, such data is generally not available. This may in itself be a reflection of the low interest in the topic before the Rio Conference. For World Bank data, for example, the potentially relevant categories “energy and mining”, “environment” and “rural development” do not make it possible to determine whether the project was promoting renewable energy. The project could also not have any energy component or relate to fossil fuels.

However, there are several specific project categories that have clearly been relevant for several decades: Hydro-power projects have been relevant ever since colonization, simply as a cost-efficient source of energy. As hydro-power projects have often led to (heavily criticized) adverse development effects induced by resettlements, irregular flooding or inadequate technical maintenance capacity, their importance decreased over time. At the same time, small renewable energy projects became fashionable after the second oil shock in the late 1970s (Müller-Pelzer and Michaelowa 2005). As hydro-power projects have typically been very large, the thematic focus on climate change policy from the 1990s onward has not necessarily led to higher expenditures for renewable energy as a whole. However, the variety of projects and their direct focus on greenhouse gas emission reduction has risen considerably.

¹ Data refer to all members except European Commission, Italy and Luxemburg who did not report.

Figures 1 and 2 provide an overview of the corresponding developments in German ODA projects for which this information was available. Figure 1 shows the development of the aid volume spent on projects reducing greenhouse gas emissions. It reflects the large year-by-year variation already mentioned above, and, possibly, a slight upward trend on average. When looking at this overall trend, the extremely low values for the most recent years should be interpreted with caution, since not all project information was available at the time this paper was prepared. High figures for the late 1970s / early 1980s reflect the reaction to the second oil crisis. If these special considerations are taken into account, the data reveals that the Rio Conference in 1992 was followed by a significant increase in funding for climate related activities – at least as compared to an ordinary non-oil shock scenario, and in the case of German ODA.

Figure 1: Projects reducing greenhouse gases in the German ODA portfolio (million €)

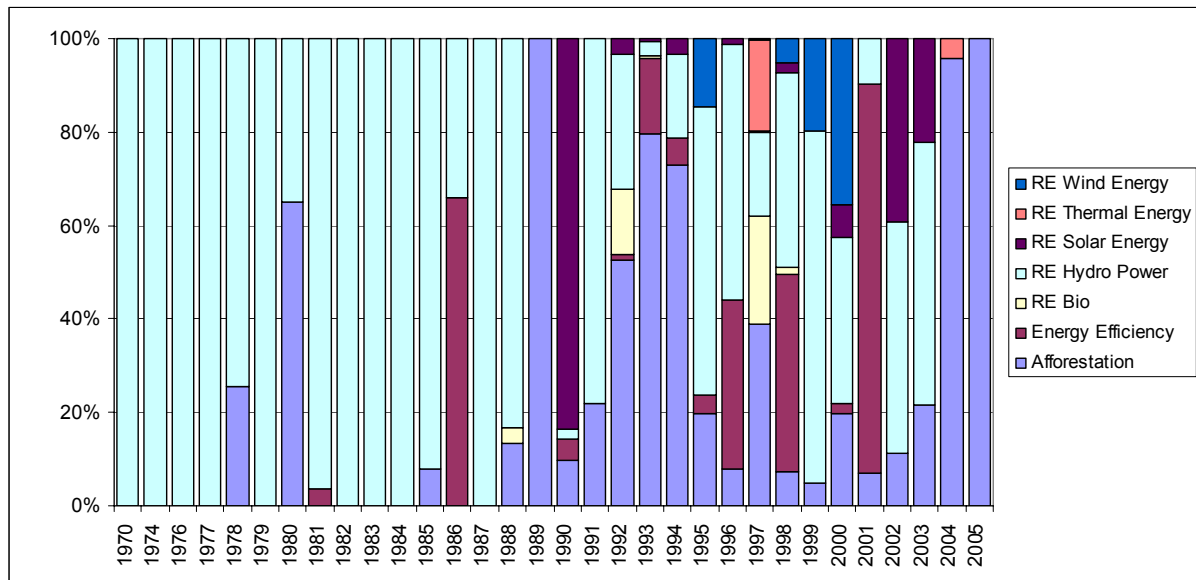


Source: Hamburg Institute of International Economics. For details see Müller-Pelzer and Michaelowa (2005).

Figure 2 presents the share of different project categories within the overall aid volume devoted to these activities. It highlights the predominance of hydro-power until the late 1980s and the important diversification thereafter, with afforestation playing a particularly important role. Most of the other project categories are financially less voluminous. Given this new project mix, it is remarkable that

overall German ODA funding of projects which reduce greenhouse gases increased in the 1990s.

Figure 2: Share of different projects categories within the total volume of projects reducing greenhouse gases in the German ODA portfolio



Source: Hamburg Institute of International Economics. For details see Müller-Pelzer and Michaelowa (2005).

Climate change related activities have therefore become not only a highly relevant, but also a highly diversified part of development cooperation during the last decade. In addition to the above mentioned projects, with a clear focus on the reduction of greenhouse gas emissions, development cooperation activities encompass adaptation measures to climate change, in particular to sea-level rise and desertification. Unfortunately, no reliable data is available to quantify the development of these activities over time.

It should be noted that almost all climate change related activities in developing countries can be financed with development assistance. While there was a lively debate about “additionality” of resources before the ratification of the Kyoto Protocol, the practical definition adopted in April 2004 by the OECD Development Assistance Committee (DAC) only excludes those CDM activities which governments directly use to purchase CERs (OECD/DAC 2004). This implies that alternative interpretations of additionality, in particular a quantitative minimum requirement for traditional development assistance, oriented either at the baseline of current spending or at the 0.7% target, has effectively been ruled out (Dutschke

and Michaelowa 2006). The consequence is that there is no limitation to the use of ODA funds for climate related activities.

3. The role of climate policy in attaining core development objectives

As climate related activities are a significant, increasing and potentially unrestricted part of ODA, they should be geared towards the same objectives. Development objectives have been clearly defined and codified in the MDGs, which were derived from the United Nations Millennium Declaration, and endorsed by 189 industrialized and developing countries in 2000. While they represent a major objective for all fields of international policy, and for national policy making within developing countries, development cooperation is supposed to be most clearly geared towards these objectives. Therefore, when considering the role of climate policy within ODA, the most obvious test it has to pass is whether it contributes to the achievement of the MDGs.

3.1 Millennium Development Goals

The MDGs have been developed in order to obtain measurable targets for poverty reduction. They represent a multi-faceted framework, allowing for a multi-dimensional definition of poverty, although the reduction of income poverty has the predominant position of goal no. 1, and is an expected indirect outcome of the achievement of most other goals. As the overarching concern is poverty eradication, all individual objectives, targets and indicators have to be interpreted from this perspective. It should be kept in mind that the use of quantifiable targets might stress some facets of poverty more than others, so that generally, a somewhat wider interpretation is considered as adequate. Nevertheless, formulations are clear, and the overall success in meeting the development challenge encoded in the MDGs will ultimately have to be measured in terms of the pre-defined quantitative indicators. In detail, the eight MDGs are (UN 2005):

Goal 1: Eradicate extreme poverty and hunger

Targets: (i) Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day
(ii) Halve, between 1990 and 2015, the proportion of people who suffer from hunger

Goal 2: Achieve universal primary education

Target: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

Goal 3: Promote gender equality and empower women

Target: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015

Goal 4: Reduce Child Mortality

Target: Reduce by two thirds, between 1990 and 2015, the under-five mortality rate

Goal 5: Improve maternal health

Target: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio

Goal 6: Combat HIV/AIDS, malaria and other diseases

Targets: (i) Have halted by 2015 and begun to reverse the spread of HIV/AIDS
(ii) Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

Goal 7: Ensure environmental sustainability

Targets: (i) Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources
(ii) Halve, by 2015, the proportion of the people without sustainable access to safe drinking water and basic sanitation
(iii) By 2020, to have achieved a significant improvement in the lives of at least 100 million slum-dwellers

Goal 8: Develop a global partnership for development

Targets: (i) Address the special needs of the least developed countries, landlocked countries and small island developing states
(ii) Develop further an open, rule-based, predictable, non-discriminatory trading and financial system
(iii) Deal comprehensively with developing countries' debt
(iv) In cooperation with developing countries, develop and implement strategies for decent and productive work for youth
(v) In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
(vi) In cooperation with the private sector, make available the benefits of new technologies, especially information and communications

Looking at this long list of goals and targets, the link to climate policies is obvious at first glance only for goal 7, target 1, but not so much for any other objective. However, donor documents highlight many more linkages between climate policy and these core development objectives.

3.2 Climate policy as an instrument to reach the MDGs

Considering each of the MDGs carefully, one does indeed discover many ways in which climate policy related activities may help to reach the goals listed above. A group of multilateral and bilateral donor agencies produced a joint study to highlight these linkages, specifically with respect to adaptation measures (AfDB et al. 2003). As mentioned above, the relationship with goal 7 is obvious because climate change directly damages the ecosystems and many natural resources, whose stability would be a prerequisite for economic development. With respect to other goals, it can be noted that the risk of sea level rise, desertification and irregular rainfall induced by climate change is particularly strong for many poor countries, especially coastal countries, small island states and the countries in the Sahel zone. This will reduce food security and destroy productive assets such as arable land, infrastructure, housing, etc. Helping countries to adapt to projected changes through, for instance, the construction of dams, the use of new irrigation methods or the introduction of adapted crops will therefore clearly be beneficial to goal 1. Moreover, adaptation may reduce the threat of civil and cross-border conflict over increasingly scarce resources such as land and water.

The relevance of adaptation for health related goals 4-6 becomes clear if one considers the projected impact of climate change on vector born diseases, e.g. dengue fever or malaria, which is particularly dangerous for pregnant women and young children. Moreover, climate change will reduce the availability of clean drinking water and thus increase the cases of diarrhea with often fatal consequences especially for children. Consequences for women are often worse than for men: Mothers' burden is increased; they have to care for the ill children and go longer distances to fetch fresh water for their household activities. In case of sickness, girls are often sent to the doctor at a later stage than boys, sometimes too late. This creates a link to goal 3. Moreover, the empirical literature shows a negative indirect link between ill health and education, as well as between poverty and education in general (see e.g. Michaelowa 2001a and 2001b). Thus, indirectly, even goal 2 is concerned. And finally, global partnerships, as called for by goal 8, encompass the cooperation between developed and developing countries to help

the latter to adjust to the adverse effects of climate change. Cooperation with small island states is specifically mentioned under target 1.

Similar to the donor agencies' report on adaptation, the GEF recently produced a study demonstrating the impact of all of its activities (including climate change) on the MDGs (GEF 2005a). First and foremost, it is underscored that through the channels already mentioned above, climate change will strongly increase the vulnerability of the poor. While adaptation to this change may mitigate the adverse effects, any direct measures to stop or reduce climate change will, by the same token, be directly beneficial to those who would otherwise be under threat. Moreover, many of the activities introduced to substitute for the use of fossil energy specifically benefit the poor. First, renewable energy can be more easily introduced in remote areas than conventional energy. The related access to electricity enhances agricultural productivity, improves the quality of health care, facilitates learning (in school and at home) and eases women's tasks at home. Second, clean energy will save millions of women and children from indoor air pollution, which is known to cause serious, often life threatening, respiratory infections. This creates linkages of GEF activities to goals 1 to 6. The same applies when similar projects are carried out by bilateral donor agencies under the CDM.

From the above discussion it is obvious that some examples of climate related activities can be found for virtually all of the MDGs. However, a justification of ODA financed climate policy requires more than these examples. In fact, doing justice to the MDGs is a matter of setting priorities for those policies that will most efficiently achieve these goals. For instance, when it comes to the objective of universal primary education (goal 2), obviously we can construct an impact chain from electrification of a community, which results in improved learning, lower drop out rates, and finally in higher enrolment. But the most efficient way to achieve universal primary education is certainly not via electrification of rural school and households. Other measures, such as an increased supply of teachers, a reduction of repetition rates or the provision of school meals will be far more effective (see e.g. Glewwe and Kremer 2006, Bourdon, Frölich and Michaelowa 2006; Bernard, Simon and Vianou 2005). Similarly, for all other goals except goal 7, climate change related activities would not usually be considered as having the highest potential impact on poverty.

This becomes most evident if one looks at the development literature about progress towards the MDGs. In this literature, the priorities mentioned to reach these goals only show very little overlap with climate policy related activities. In the UN (2005) report, the focus with respect to goal 1 is on growth, particularly via increased agricultural productivity, and with a strong regional emphasis on sub-Saharan Africa. With respect to both goal 1 and 2, it also becomes clear that reducing population growth would have a strongly positive effect. Suggested measures to promote gender equality (goal 3) range from quotas for seats in parliaments to safe transportation, separate toilets for boys and girls and removing gender stereotypes from the classroom, in order to ensure female enrolment and retention in school. More than 50% of child mortality (goal 4) is caused by malnutrition, which refers back to agricultural productivity. Otherwise, goal 4 calls for better health services, safe water and better sanitation. Half of all deaths of children under 5 are caused by pneumonia, diarrhea, malaria, measles and AIDS, and most of them could be avoided by low cost measures such as exclusive breastfeeding for infants, antibiotics for acute respiratory infections, oral rehydration for diarrhea, immunization or the use of insecticide-treated mosquito-nets and appropriate drugs for malaria (UN 2005, p. 19). Similar measures are called for in the context of general health care (goal 6) while for maternal health (goal 5), the successful strategy of ensuring skilled birth attendants is emphasized. The regional emphasis is again on sub-Saharan Africa, but also on Southern Asia.

The discussion of progress towards goal 7, on environmental sustainability, explicitly considers the reduction of greenhouse gas emissions, efforts to combat deforestation through sustainable forest management and an increase in energy efficiency, but also issues such as biodiversity, the use of ozone-depleting substances, access to safe drinking water and sanitation and the living conditions of slum dwellers. With respect to greenhouse gas emission reduction, the presentation underscores that the greatest effort is required within industrialized countries. Finally, with respect to strengthening international cooperation (goal 8), the UN document stresses development aid and debt relief as well as international trade policies, in particular the still unsettled problems of agricultural subsidies in industrialized countries and the remaining high tariffs on clothing, agricultural products and textiles. Moreover it highlights the necessity of further cooperation between public authorities and private firms to enhance the availability of essential drugs against diseases such as AIDS, malaria and tuberculosis and /or the availability of necessary ingredients to prepare these drugs. Other issues are the

spread of information technologies and the attempt to fight youth unemployment, in order to reduce the risk of social unrest. Overall, climate policy related activities appear to play a minor and rather insignificant role in this report.

The situation is similar if one examines other publications. The economic literature on poverty reduction and pro-poor growth typically focuses on a mix of macroeconomic and governance issues, while pointing out labor intensive agricultural productivity and employment strategies when it comes to the definition of sectoral priorities (Klasen 2004, Mosley and Suleiman 2006). And even in the GEF's (2005a) MDG progress report which covers only environmental policies, climate change related projects are cited less frequently than other GEF activities, especially activities against land degradation - a focus which is well in line with the priorities highlighted in the other studies mentioned above.

All in all, the available evidence shows that only few areas exist in which climate and development priorities truly overlap. Examining these areas in somewhat more detail suggests the following conclusions:

- Goal 7, target 1 directly includes climate change activities, but it is one of those targets in which industrialized rather than developing countries are called to improve their own national policies. The effect of international agreements to reduce greenhouse gas emissions is relevant only in a long-term perspective and requires substantial financial investments from the countries concerned. For all these reasons, goal 7 cannot provide any justification for ODA financing of climate policy activities.
- Apart from goal 7, obvious linkages between measures of climate policy and poverty eradication can be seen in the fight against malaria and other vector-borne diseases, and in protective measures against sea-level rise, floods, droughts, storms and agricultural crop failures caused by climate change. All of these measures would fall into the category of "adaptation". There is an obvious case for financing these policies with ODA, and in fact, development agencies have put an increasing emphasis on integrating adaptation activities into their project portfolio (AfDB et al. 2005). However, except for some technical measures, such as building sea-walls or dedicated early warning systems for new types of meteorological extremes, it appears impossible to distinguish these activities from similar (or identical) development policies that are unrelated to climate change.

- The only measure directly reducing greenhouse gas emissions in developing countries and simultaneously constituting a priority for poverty alleviation is the reduction of indoor pollution via the introduction of clean energy. This would reduce the occurrence of respiratory diseases and could clearly be financed through ODA. Moreover, these policies would be suitable candidates for small-scale CDM projects.

It has been argued that all the measures discussed above are climate change related activities which simultaneously fulfill the criterion to be high priority measures for development. It remains to be determined, however, what their priority is within overall climate change activities. If climate change related policies in developing countries are to be financed with ODA, not only the objectives of some marginal activities, but the overall direction must converge.

With respect to adaptation, this may in fact be true. However, with respect to CDM, the provision of clean energy to rural households is rare. Of 402 projects available on the CDM Executive Board's website on Nov 3, 2005, only 8 projects explicitly address rural energy provision. Another 50 biomass power projects with capacities of 3-10 MW, using agricultural wastes such as rice husk, generate indirect benefits for the rural population. Due to the demand for the agricultural wastes, farmers can now sell them to power plant operators and increase their income. In India, prices for rice husk have quadrupled over the last three years. However, it is likely that the major share of agricultural wastes will come from wealthy farmers (being proportional to production levels) and that the poor, landless rural population will only marginally benefit. 46 small hydro plants of a few MW are built in rural areas and thus could provide intermittent benefits through job creation and electricity provision for the surrounding villages. However, in most cases, the power will be delivered to the cities and migrant labor employed for the construction work, which in turn will lead to conflicts about water use. So the development impact for the direct vicinity of the plant may on average be negative.

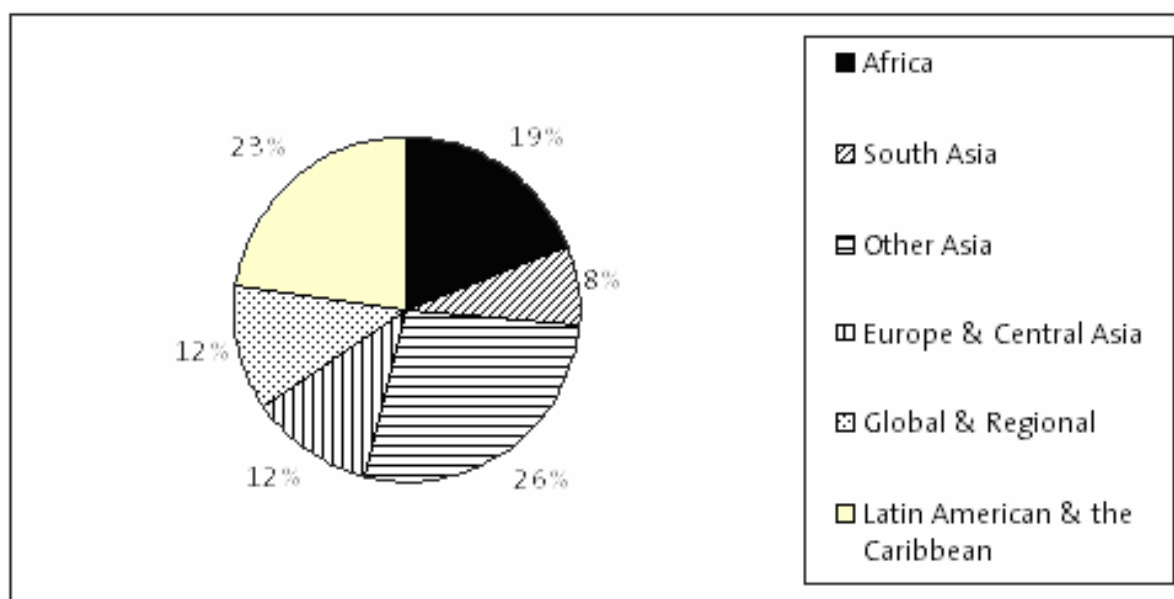
Greenhouse gas emission reduction projects, unlike rural renewable electricity generation, are by far more efficient. First, rural households often do not have much energy consumption anyway, at least as long as they do not benefit from electricity. Second, large scale projects can typically be carried out at a lower cost for the same level of outcome in terms of emission reduction (scale effects). And third,

cooperation with large private sector firms or energy providers may bring about relevant contacts and other forms of indirect benefits for the investor.

With respect to regional priorities, these aspects can be expected to be relevant, too. While poverty reduction requires a regional focus on sub-Saharan Africa and South Asia, more developed middle income countries in other regions of the world (particularly in East Asia, but also in Latin America or Europe and Central Asia) might well be more attractive investment locations. In addition, the poorest countries have the least capacity to even create their Designated National Authority (DNA) which is a precondition for the implementation of CDM activities. For the time being, these agencies do not exist for large parts of sub-Saharan Africa. While over 35 million € have been spent on CDM capacity and institution building, only a small part flowed to sub-Saharan African countries or LDCs. Most funds focused on the large emerging economies (Michaelowa 2004).

Figure 3 presents an overview of GEF funding for climate policy projects by region. As the GEF is a multilateral agency, the regional spread can be assumed to reflect environmental priorities without too much distortion from direct bilateral country or business interest. Nevertheless, the figure clearly shows that GEF financing priorities are not identical with those formulated for the fight against poverty. The bulk of GEF investment (i.e. a total of 34%) flows to Asian countries, whereby South Asia only receives about one fourth of the overall resources for the continent. Data for individual recipient countries reveals that China alone receives about half of all resources spent on the continent. Latin America and the Caribbean receive 23%, while Africa (including North Africa) receives only 19% of GEF climate policy funding.

Figure 3: Regional shares of GEF climate policy funding (1991-2005)

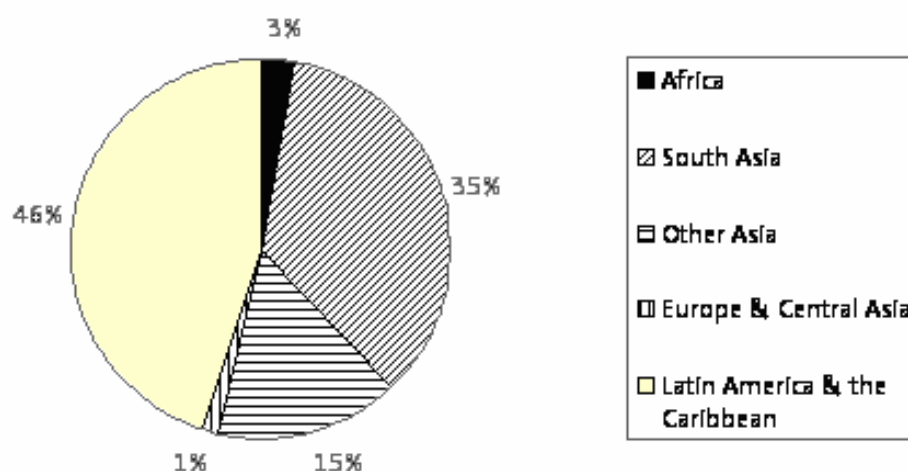


Data source: GEF (2005b).

The geographical distribution of flows reflects the existing differences in priorities of climate change policies and poverty reduction and also the lack of technical capacity in Africa. A region with few industrial activities, little transport infrastructure and circulation and even low electrification, as in major parts of sub-Saharan Africa, simply offers less investment opportunities for large-scale emission reduction activities. It is interesting to see that in terms of GEF project numbers, Africa is in fact the continent where the most activities take place. But about two thirds are only capacity building measures which do not absorb much financial resources and do not necessarily imply any concrete policy action.

The distribution of the 402 CDM projects publicly available on the UNFCCC website on November 3, 2005, is even more skewed against Africa. However, the share of South Asia is higher than the distribution of GEF projects (see Figure 4).

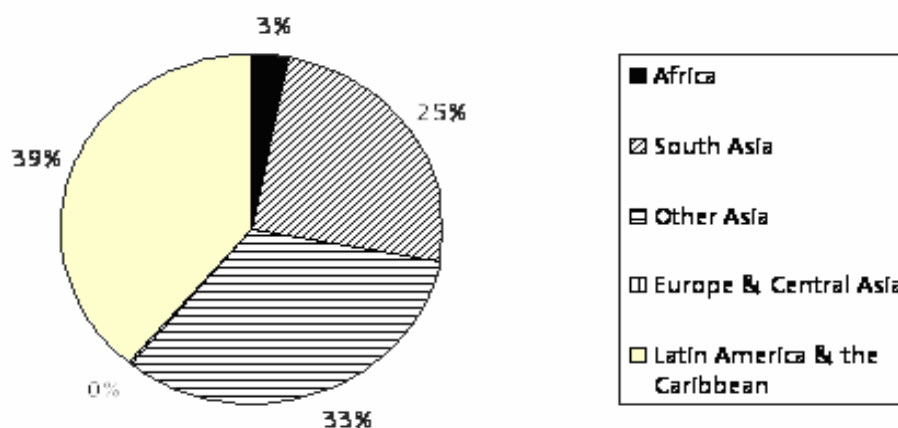
Figure 4: Regional shares of CDM projects (numbers of projects)



Data source: UNFCCC (2005).

When one looks at the estimated amount of CERs, Africa's share is minuscule (see Figure 5). While South Asia is well-represented on both counts, the majority of projects will not have significant direct benefits for the poor, as discussed above.

Figure 5: Regional shares of CDM projects (CERs estimated until 2012)



Data source: UNFCCC (2005).

Overall, the available evidence suggests that within climate change activities, those mentioned above as having a particularly strong poverty impact do not play a major role. Those measures most efficient for global emission reduction will not

usually be simultaneously most efficient with respect to poverty reduction. Given budget restrictions, it is important to be aware of this conflict and to define policy priorities.

And things may be worse: So far, the discussion has covered projects with at least some complementary effect for both objectives. However, there may also be projects which have a direct harmful effect on one objective. The construction of huge hydropower plants in densely populated areas could be an example. Emissions could be reduced, but at the same time, resettlements, social unrest and the loss of housing and productive assets would induce negative effects on poverty. Moreover, bilateral donors might select their climate related activities based on the additional objective to reap direct benefits by obtaining CERs. While DAC regulations clearly define that projects which directly lead to CERs will not be counted as ODA (at least retrospectively), there is ample scope for preparatory action. Increasingly, ODA activities to support renewable energy and energy efficiency projects have been used to “graft” CDM programs. A typical example is Danish development assistance. Denmark financed a broad energy program in Malaysia. This was then followed by a CDM capacity building exercise, which then was replicated in Thailand and Indonesia (Danida 2004). A key component of these programs is the development of projects that can generate cheap CERs for Denmark. It states bluntly that “these efforts will lead to synergy between development, global environment and the government’s aim of securing a cost-efficient fulfillment of Denmark’s obligations towards the global climate” (Danida 2004, p. 21). Clearly, the prime objective of such ODA activities is neither poverty reduction, nor emission reduction for its own right.

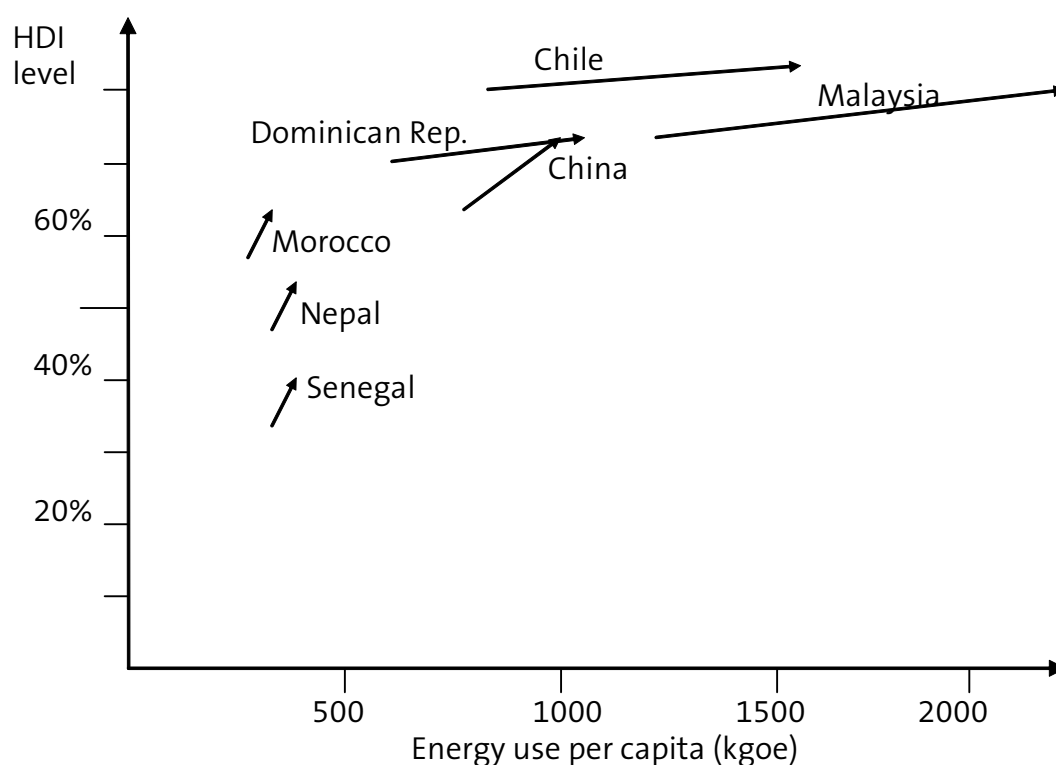
Last but not least, the well-known negative impact which growth and industrial development typically have on greenhouse gas emissions must also not be overlooked. There thus exist multiple complementarities, but also multiple conflicts, between the objectives of climate and development policy.

Admitting that the objectives of emission reduction and development are not always compatible, ODA financing, which should in fact be oriented towards the MDGs, becomes questionable. At the same time, once the issue of at least partially conflicting objectives is recognized, one may ask from the perspective of climate policy, whether another justification of using ODA could not be the mitigation of adverse effects of development policies on greenhouse gas emissions.

3.3 Measures to reduce the greenhouse gas emission impacts of reaching the MDGs

It is a fact that highly developed societies have higher energy consumption – and thus greenhouse gas emissions - than those on a low development level. However, there is no linear correlation between human development and energy use. Generally, development indicators can improve rapidly from low levels with only small increases in per capita energy use. Only when countries reach an intermediate level of development, energy use starts to grow rapidly while improvement in development indicators slows down (see Figure 6).

Figure 6: Changes of Human Development Index and per capita energy use for selected countries, 1990-2000



Source: UNDP (2005), p. 6.

This seems to suggest that reaching the MDGs would not necessarily entail high increases in greenhouse gas emissions as the largest gains could be made in countries that are still on the left-hand side of Figure 6. However, if one looks at the large countries China and India that have made the most substantial progress towards the MDGs during the last decade, one finds that they have increased their energy consumption considerably, which has in turn led to a rapid increase in greenhouse gas emissions. This may be due to the fact that in these countries the

improvement of the poverty and education indicators is due to a trickle-down effect of general economic growth which leads to a rapid increase of middle-income strata in the society. Typically, these middle income strata quickly adopt energy-intensive lifestyles. This is documented by the explosive growth in electricity-consuming household appliances and private cars in China and all over South East Asia. The same phenomenon is now starting in India, too.

The challenge is therefore not that specific measures to reach the MDGs are emissions intensive, but that MDG indicator improvement is often the (indirect) result of a take-off of middle-class lifestyles. To curb emissions growth in countries that achieve the MDGs, it would be sensible to address middle-class energy use by introducing appliance efficiency standards and public transport systems, as well as urban policies that discourage car use. Electrifying rural schools and hospitals, villages or small rural enterprises with renewable energy sources or furnishing them with the latest energy-efficient equipment would be much less efficient in this respect.

It should be noted that the window of opportunity for appliance energy standards stands open only for a short period, because once saturation with appliances has been reached, replacement will take a long time. While for China, the window of opportunity seems to have closed already, in India it should remain open for another decade. With respect to car use, several examples portray the emission reduction potential of preventive policy strategies. The Brazilian city of Curitiba was able to keep car use at 25% of comparable cities by developing an urban master-plan that prevented urban sprawl and a high-capacity public bus system (Rabinovitch and Leitman 1996). In Tokyo, Seoul, Singapore and Hong Kong, early restraint of car ownership and/or use, which began before car ownership reached 100 cars per thousand people, provided a time period in which high quality public transport could be built, and in which a transit-friendly urban structure could develop (Barter and Kenworthy 1997).

These examples show that effective climate policy to reduce the impact of economic development and growth on greenhouse gas emissions typically implies targeting middle income classes, as well as countries in an early take-off situation, rather than the poorest of the poor. If ODA is used for the mitigation of adverse effects of development policies on greenhouse gas emissions, the regional spread as observed

above may therefore be justified. However, it should be kept in mind that this objective is clearly not identical with the prime objective of eradicating poverty.

4. Other political and economic reasons for financing climate policy with development resources

Having examined the impact of climate change related activities on poverty, it might seem appropriate to also examine the actual poverty relevance of aid in general. While poverty eradication has been officially set up as the central objective of aid, this does not necessarily imply that donors act accordingly. In fact, ever since the late 1970s, a large and growing amount of empirical literature on the geographical distribution of aid has clearly established that donors strive for a multitude of different (and partially conflicting) objectives. Aims such as export promotion, political and cultural hegemony, etc. are frequently given priority over recipient needs. The reasons can often be found in the political economy of individual donor countries: bureaucratic procedures which create incentives to spend a maximum amount of money within a restricted budget year, electoral processes which cannot be won with the objective of international poverty reduction, and lobbying by private firms that regard aid as an interesting pool for indirect subsidies (for the political economy of aid, see Lahiri and Michaelowa 2006). It seems, however, that the development focus of aid has improved in recent years (Berthélemy 2006, Berthélemy and Tichit 2004). Looking simply at the regional spread of country allocations as presented in OECD/DAC (2005, Statistical Annex, Table 27) it can be observed that bilateral ODA to sub-Saharan Africa increased from 28.5 % in 1992-93 to 34.5 % in 2002-03. Including multilateral ODA, the share of gross disbursements to sub-Saharan Africa for 2002-03 is 36.8%. All these figures, including those for the early 1990s, are much higher than those observed for climate change related activities. All in all, the regional allocation of overall ODA seems to be much more poverty oriented than the spread of emission reduction activities in developing countries.

Nevertheless, even with respect to general ODA, a high share of resources remains to be spent on less poor regions and for policies with little obvious poverty relevance. Even after controlling for factors like good governance, which are expected to have an impact on aid effectiveness and might therefore make a slightly better-off recipient country preferable to a very poor bad performer, this criticism remains valid for a substantial number of bilateral donors (Berthélemy 2006). ODA financed climate policy activities are thus not the only part of development finance where one might wonder about priorities.

Apart from the political economy motives already mentioned above, a potential reason for ODA financed climate policy seems to be that it is simply extremely difficult to find enough promising projects and programs for large-scale ODA investment in poverty reduction. The mechanisms and incentives relevant for a kick-start to self-sustaining development are often so complicated that easy solutions may cause the opposite of what was initially intended. While aid has to be targeted to poor countries, incentives to remain poor in order to receive more aid (or debt relief) are to be avoided. Moreover, it must be avoided that governments take advantage of the inflows of aid to use their own resources for activities unrelated or even detrimental to development (e.g. military expenditure). In fact, large-scale projects and programs with an unambiguously positive, significant and lasting development impact are relatively rare.

Given the problems with aid disbursements and the low absorptive capacity of the most clearly poverty focused activities, it may be that ODA spent on activities with other prime objectives (such as emission reductions) is simply a way to avoid ODA budget cuts as long as more poverty focused spending options do not exist. Developing new promising ideas is not only a very difficult and time consuming task, but also a task for which success cannot be guaranteed. It is easier to spend resources on activities in middle income countries with established government structures that promise an effective absorption of ODA resources, than to painstakingly develop a poverty alleviation project in a sub-Saharan LDC from scratch. Climate policy activities have been able to provide quick flows of ODA funds, and it was relatively easy to define indicators for success, e.g. for programs supporting CDM institution building. As some good examples can be given for their positive impact on development objectives, few observers will recognize the problem of conflicting priorities. Coming back to a political-economic consideration of aid expenditure, this implies that development agencies and politicians responsible for this field do not need to fear too much criticism from the general public. On the contrary, the dedication of ODA funds to climate policy activities may be doubly rewarding: The “development community” will appreciate the stabilization of the overall aid budget and the “climate community” will appreciate the effort from an environmental perspective. In fact, the outcome can be “sold” in two different policy fields.

Satisfying the “climate community” has in fact otherwise become increasingly difficult. Since the mid 1990s, policymakers in industrialized countries are starting

to recognize that domestic greenhouse gas emission reductions go against the interests of powerful interest groups in key industrial sectors. At the same time, energy efficiency improvements in the household, commercial and transport sector are eaten up by new appliances, larger average flat sizes, more comfortable room temperatures and more powerful car engines. Therefore, the initial hopes of achieving far-reaching emission reduction targets through exploitation of a business-as-usual “dematerialization” trend have been dashed. As policymakers (with the exception of the US administration) recognize that climate change cannot just be ignored and voters do care about the impacts of climate change, three main strategies have evolved:

1. Keep greenhouse gas emissions in developing countries as low as possible (while not stifling their development). This should also boost exports of renewable energy and energy efficiency technologies. The CDM can be the first step of this strategy, but should be expanded considerably after 2012. As any long-term climate policy strategy needs involvement of the emerging economies, financial incentives are necessary to induce them to eventually agree to quantitative emission targets.
2. Hope for the miracle technology that allows deep reductions without impacting energy consumption. Currently, carbon capture and sequestration from fossil power plants is playing this role (Michaelowa 2005). The problem with this strategy is that it is unclear when the targeted technology will actually deliver, if at all.
3. Adapt to climate change, given the increased impacts of meteorological extreme events. Developing countries should be given some visible support in this to achieve continued participation in the international climate negotiations.

As development assistance has no powerful lobby, there is a good case for policymakers to push the first strategy by using development funds. Recently, a discussion among officials of different German ministries was framed in these terms (Altenburg et al. 2005). The strategy aims at the large emerging economies, not the poor countries that should be the focus of a poverty-reducing, MDG-oriented strategy. For least developed countries, the focus would be on adaptation activities. Assistance in emerging economies should focus on the following activities:

- Catalyzing policy reform to abolish policies that favor energy wastage and fossil fuel. A good example is the support of the Bureau for Energy Efficiency (BEE) at the Ministry of Power in India by GTZ. The BEE played a crucial role in the passing of the Energy Efficiency Act that could play a key role in improving the often dismal efficiency of Indian industry.
- Help in implementation of new policies favoring renewables. German assistance supported the recent renewable energy legislation in China.
- Efficiency increases in situations where a huge increase in electricity demand leads to the need to expand generation capacities at the least possible cost. This applies to coal-fired power plants in China and India. Aid could help to upgrade the designs of the “standard” coal plant, for example from subcritical to supercritical.
- Efficiency increases on the demand side, where the new middle-class buys appliances at lowest possible cost, not taking into account the lifetime energy costs. Air conditioners in China illustrate this challenge. US assistance has played a key role in promoting dissemination of compact fluorescent lamp and air conditioner standards in several countries. The most successful example is the energy efficiency program in Thailand during the early 1990s.
- Moving up the energy ladder frees up renewable energy feedstock – e.g. cow dung in India currently being used as domestic solid fuel could generate methane for decentralized rural power plants.
- Technology diffusion from industrialized countries could allow domestic cheap renewable energy generation. This has been achieved concerning wind turbines in India where Danish assistance helped to set up the first domestic turbine producers.

Success in these activities would be crucial in showing developing countries that climate policy is not a ploy to stop them from catching up with the industrialized world. If one sees development in a broader sense as helping the world to tackle difficult long-term challenges, then the use of development assistance would be justified. But pretending that this assistance primarily aims at and yields poverty reduction would be far from the reality. Using ODA to finance these activities while pretending that ODA is focused on progress towards the MDGs will artificially blow up the input side while creating little benefits in terms of the output indicators for the different goals and targets. This will make aid appear even less effective than

today, once the final evaluation of the MDGs is made in 2015. In order to increase transparency and to avoid the risk of further aid fatigue, financing should not come from ODA but from new budget lines.

5. Conclusions

We observe some complementarities, but even more conflicts between the objectives of promoting short- and medium term poverty alleviation and mitigation of climate change. Most climate-change related assistance flows into medium-income, emerging economies, and only addresses poverty alleviation indirectly, if at all. The CDM as a market mechanism will not contribute substantially to poverty alleviation either.

We would urge the development community to openly recognize these potential conflicts. The two objectives must be weighted, and priorities must be defined. In the framework of ODA, the clearly defined priority is on poverty. It should be ensured that only those climate policy related activities can be ODA financed which have a high positive impact on poverty reduction. This is at odds with the current DAC definition which defines diversion of ODA funds only in the context of CERs. While there are valid reasons for long-term collaboration with emerging economies on greenhouse gas mitigation, there should be a separate budget line for such activities to avoid “obfuscation” of a decline of resources aimed at poverty alleviation.

6. References

- AfDB et al. (2003): Poverty and climate change: Reducing the vulnerability of the poor through adaptation, Washington
- Altenburg, Tilman, Holger Liptow, Axel Michaelowa and Imme Scholz (2005): Thesenpapier zum DIE-Workshop „Energie- und klimapolitische Kooperation mit Ankerländern“ am 7.7.2005 in Bonn (*Theses for workshop “Cooperation with anchor countries in energy and climate policy”*), German Institute of Development, Bonn, mimeo
- Barter, Paul and Jeffrey Kenworthy (1997): Urban Transport and Land Use Patterns Challenges and Opportunities of High Density Cities in East and Southeast Asia, Working Paper No. 81, Asia Research Centre, Murdoch University, Perth
- Bernard, Jean-Marc, Odile Simon and Katia Vianou (2005): Le redoublement: mirage de l'école africaine?, (*Grade repetition: mirage of the African school?*) Dakar: PASEC / CONFEMEN
- Berthélemy, Jean-Claude (2006): Bilateral Donors' Interest vs. Recipients' Development Motives in Aid Allocation: Do All Donors Behave the Same?, in: Review of Development Economics, forthcoming
- Berthélemy, Jean-Claude and Ariane Tichit (2004): Bilateral Donors' Aid Allocation Decisions: A Three-Dimensional Panel Analysis. International Review of Economics and Finance Vol. 13, No. 3, pp. 253-274
- Bourdon, Jean, Markus Frölich and Katharina Michaelowa (2006): Broadening access to primary education: Contract teacher programs and their impact on education outcomes in Africa – an econometric evaluation for the Republic of Niger, in: Lukas Menckhoff (ed.): Pro-Poor Growth: Issues, policies, and evidence, Berlin: Duncker & Humblot, forthcoming
- Caparrós, Alejandro and J.-C. Pereau (2005): Climate change abatement and development aid in North-South differential games, mimeo, Madrid
- Cling, Razfindrakoto and Roubaud (2002): The PRSP initiative: Old wine in new bottles?, mimeo, DIAL/IRD, Paris, http://www.dial.prd.fr/dial_evenements/conf_scientifique/pdf/abcde2002/razafindrakoto.pdf (accessed on 6/10/05)
- Danida (2004): Environmental strategy, Copenhagen

- Dutschke, Michael and Axel Michaelowa (2006): Development assistance and the CDM – how to interpret “financial additionality”, in: Environment and Development Economics, forthcoming
- Easterly, William (2002): The Cartel of Good Intentions: Markets vs. Bureaucracy in Foreign Aid - Working Paper 4, Center for Global Development, Washington
- GEF (2005a): Achieving the Millennium Development Goals: A GEF progress report, Washington, <http://www.theGRF.org> (accessed on 3/10/05)
- GEF (2005b): GEF data base, <http://www.gefonline.org/projectList.cfm> (accessed on 7/10/05)
- Glewwe and Kremer (2006): Schools, teachers, and education outcomes in developing countries, in Eric Hanushek and Finis Welch (eds): Handbook on the economics of education, Oxford: Elsevier, forthcoming
- Klasen, Stephan (2004): In search of the holy grail: How to achieve pro-poor growth?, in: Michael Krakowski (ed.): Attacking poverty, What makes growth pro-poor?, HWWA Studies No. 75, Baden-Baden: Nomos, pp. 89-119
- Lahiri, Sajal and Katharina Michaelowa (eds) (2006): The political economy of aid, Special edition of the Review of Development Economics, forthcoming
- Menzel, Ulrich (1992): Das Ende der Dritten Welt und das Scheitern der großen Theorie (*The end of the Third World and the failure of the grand theory*), Frankfurt: Suhrkamp
- Michaelowa, Axel (2005): Carbon capture and geological storage research – a capture by fossil fuel interests?, in Sugiyama, Taishi (ed.): Struggles for Global Framework Beyond Kyoto, IISD, Ottawa, forthcoming
- Michaelowa, Axel (2004): CDM incentives in industrialized countries - the long and winding road, in: International Review for Environmental Strategies, 5, 1, p. 217-231
- Michaelowa, Katharina (2001a): Die Bedeutung von Bildung in Niedrigeinkommensländern: Das Beispiel Afrika (*Returns to Education in Low Income Countries: Evidence for Africa*), in: Renate Schubert (ed.): Entwicklungsperspektiven von Niedrigeinkommensländern – zur Bedeutung von Wissen und Institutionen (*Development Perspectives of Low-Income Countries – the Relevance of Knowledge and Institutions*), Berlin: Duncker&Humblot, pp. 127-152

- Michaelowa, Katharina (2001b): Primary education quality in francophone sub-Saharan Africa: Determinants of learning achievement and efficiency considerations, in: *World Development*, Vol. 29, No. 10, pp. 1699-1716
- Mosley, Paul and Abrar Suleiman (2006): Aid, agriculture and poverty in developing countries, in: *Review of Development Economics*, forthcoming
- Müller-Pelzer, Felicia and Axel Michaelowa (2005): Experiences from German ODA-financed greenhouse gas reduction and sequestration projects and lessons for the CDM, in Sugiyama, Taishi (ed.): *Struggles for Global Framework Beyond Kyoto*, IISD, Ottawa, forthcoming
- OECD/DAC (2002a): *The DAC Guidelines: Integrating the Rio Conventions into Development Co-operation*, Paris
- OECD/DAC (2002b): *Aid Targeting the Objectives of the Rio Conventions 1998-2000*, Paris
- OECD/DAC (2004): *ODA Eligibility of Expenditures under the Clean Development Mechanism*, DAC/CHAIR(2004)4/FINAL, Paris
- OECD/DAC (2005): *The DAC Journal Development Co-operation Report 2004 Vol. 6*, No. 1, Paris
- Rabinovitch, Jonas and Josef Leitman (1996): Urban Planning in Curitiba, A Brazilian City Challenges Conventional Wisdom and Relies on Low Technology to Improve the Quality of Urban Life, in: *Scientific American*, March 1996, p. 46-53
- UN (2005): *The Millennium Development Goals Report 2005*, New York, <http://unstats.un.org/unsd/mi/pdf/MDG%20Book.pdf> (accessed on 3/10/05)
- UNDP (2005): *Energizing the Millennium Development Goals*, New York
- UNFCCC (2005): *Clean Development Mechanism (CDM home)*, <http://cdm.unfccc.int/> (accessed on 7/10/05)
- World Bank (2005): *World Bank Group progress on renewable energy and energy efficiency: 1990-2004*, Washington

HWWI Research Papers

1. [Lessons from the submission and approval process of energy-efficiency CDM baseline and monitoring methodologies](#)

Felicia Müller-Pelzer, Axel Michaelowa

Hamburg, September 2005

The **Hamburgisches WeltWirtschaftsinstitut (HWWI)** is an independent economic research institute, based on a non-profit public-private partnership, which was founded in 2005. The University of Hamburg and the Hamburg Chamber of Commerce are shareholders in the Institute .

The HWWI's main goals are to:

- Promote economic sciences in research and teaching;
- Conduct high-quality economic research;
- Transfer and disseminate economic knowledge to policy makers, stakeholders and the general public.

The HWWI carries out interdisciplinary research activities in the context of the following research programmes: Economic Trends and Hamburg, International Trade and Development, Migration Research and International Climate Policy.

Hamburg Institute of International Economics (HWWI)

Neuer Jungfernstieg 21 | 20354 Hamburg | Germany
Tel +49 (0)40 34 05 76 - 0 | Fax +49 (0)40 34 05 76 - 76
info@hwwi.org | www.hwwi.org