

**Input to the European
Commission's stakeholder
consultation: Towards a
comprehensive and ambitious
post-2012 climate change
agreement**

Submission

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1. Background

To provide stakeholders with the opportunity to provide inputs on the negotiations for a post-2012 climate agreement, the European Commission launched a stakeholder consultation that ran during September and October 2008. The following is the input by the Wuppertal Institute into the consultation.

The Commission's background text and questions are in italics.

2. The climate change challenge - a shared vision for the 21st century development

The Bali Action Plan agreed on a shared vision for long-term cooperative action, including a long-term global goal for emission reductions, to achieve the ultimate objective of the Convention, stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The EU determined already in 1996 its long term goal of limiting the global average temperature increase to no more than 2°C above pre-industrial levels. To achieve this, in 2050 global greenhouse gas emissions should be reduced by at least 50% compared to 1990 levels.

2.1 Would this aspirational long term goal be appropriate in the light of the 2007 IPCC reports and latest scientific knowledge?

The Wuppertal institute finds that 2 C° target adopted by the Council of the European Union is very progressive if compared to other countries. We have to draw attention, however, that 2C° is by no means “safe”. The latest scientific knowledge highlights that a warming of 2° will already have significant negative impacts in various world regions and may already be enough to trigger non-linear feedback mechanisms and thus runaway climate change. The proper ecological objective is therefore rather to limit the global average temperature increase as far below 2°C as possible.

Moreover, recent information by the Global Carbon Project on CO₂ concentrations have confirmed that the growth of carbon emissions is intensifying: Growth rates of on average 3.3 percent in the years 2000 to 2006 have outgrown even the worst-case scenarios of the IPCC. Therefore the already limited space for accumulated emissions of GHGs in the atmosphere is becoming ever more restricted. This has consequences for developing countries, which will have to start reducing their emission much earlier and faster than previously thought. And it has consequences for developed countries, which will have to enter onto much more radically declining emission pathways.

Considering the latest scientific knowledge, the Wuppertal Institute finds the long term reduction target for developed countries adopted by the EU council (50% in 2050) insufficient. Based on the IPCC Fourth Assessment Report, it must be more ambitious, at least 60% in 2050 globally. This long-term target does not have to be legally binding, but it must be framed in a clear and unambiguous language in order to provide certainty for the global carbon markets.

A shared vision must include, first of all, a range of medium and long-term mitigation targets for developed countries (Annex I and perhaps some advanced non-Annex I). This is indispensable for reasons of fact but also for reasons of confidence building. According to the IPCC fourth assessment report, these targets should be at the upper end of the range of minus 25-40 percent in 2020 compared to 1990 provided in order to keep a reasonable probability of staying below 2°C and to keep some limited space for non-Annex I – country development.

A shared vision at present can probably not include any quantitative commitments for developing countries (although the long-term target globally does imply ambitious efforts by them). It could, however, make an attempt at specifying different obligations for countries in various stages of development, as further explained in question 4.1 (see also www.south-north-dialogue.net).

2.2. Is there a need for other elements to be part of the shared vision in order to ensure the transition to a sustainable low carbon economy?

The challenge of climate change to human civilization in the 21st century is unparalleled. The strategies to fight it will affect our societies at every level of activity – and it will affect international relations in almost every aspect.

This is why a shared vision must include more than just targets for mitigation. A shared vision must take considerations of all other actors into account. Above all, it must be viewed as outlining a fair and promising future for every society on planet Earth.

A shared vision therefore must be based on equality and respect. This is required by purely rational considerations: Since half of all emissions stem from the South and the ultimate goal is a reduction between 80 and 95 percent by 2050 globally, neither industrialised countries alone nor developing countries alone can solve the problem. Climate change thus represents a typical non-zero-sum game, where the partners win or loose together. This paradigm runs counter the traditional diplomatic instincts, but the acceptance of this fact is unavoidable if the EU is aiming at true and effective cooperation with developing countries and emerging economies.

A shared vision for post-2012 must therefore include adaptation, and it must include an offer for a truly equal partnership for sustainable, low- or no-carbon development.

Adaptation to the impacts of climate change has received more attention and finance in the last years. But compared with the required €20-30 billion estimated by Nicholas Stern, all efforts so far are clearly insufficient.

The shared vision thus must include

- firm and binding commitments by the EU and other Annex II – countries to support the adaptation efforts in developing countries with adequate financing and with technology / know-how;
- an extension of the adaptation levy on the other mechanisms, joint implementation and emissions trading;
- a firm commitment for climate mainstreaming into all development cooperation including institutions to check and monitor these commitments; and
- a clear and unambiguous commitment for disaster relief that is built up systematically in order to be ready at any time.

A shared vision must furthermore include an offer for a truly equal partnership for sustainable, low- or no-carbon development. Climate protection drastically limits the development options of developing countries. In a situation where billions of people suffer from acute poverty, malnutrition, lack of access to sanitary facilities etc., the climate regime must include a clear roadmap for alternative, non-fossil development pathways to be acceptable to developing countries.

Developing countries in the Bali Action Plan have a clearly stated reference, in harmony with the articles 4.3 and 4.5 UNFCCC, that every commitment on their part must be balanced with clearly identifiable and transparent assistance by the industrialized countries. The strife for state-of-the-art technologies opens a door for real North-South-Cooperation and the gradual involvement of the emerging economies into reduction efforts.

The challenge and opportunity is to develop a comprehensive system for the promotion of innovative technologies, which blends high effectiveness to promote these technologies with the ability for development: such a system should be able to adapt to a gradually increasing involvement of the developing countries. Such an offer could take the form of a North-South Technology Alliance, which includes information sharing, common research and development, and financial offers for the assistance in spreading new technologies and the adoption of common standards to accelerate market penetration.

The inclusion of a true partnership in a shared vision would not only greatly enhance the chances for a successful outcome of the Copenhagen conference, but would at the same time increase the standing of the EU (soft power) vis-à-vis developing countries – in the climate regime and in all other policy fields.

3. Mitigation commitments by developed countries

The EU is of the view that developed countries should continue to take the lead by committing to collectively reducing their emissions of greenhouse gases by 30 % by 2020 compared to 1990. They should do so also with a view to collectively reducing their emissions by 60 - 80 % by 2050 compared to 1990.

3.1 What should be the criteria for allocating emission reduction efforts among developed countries, considering also the need to ensure the "comparability of efforts" as agreed in Bali?

The Wuppertal Institute shares the view presented by the EU that developed countries should continue to take the lead in the international climate negotiations, considering that they have had economic benefits through their past GHG emissions. According to the IPCC fourth assessment report, Annex I countries should reduce their GHG emissions at the upper end of the range of minus 25-40 percent in 2020 compared to 1990 in order to keep a reasonable probability of staying below 2°C and to keep some limited space for non-Annex I country development. Based on the scientific evidence, we find that the EU must commit to at least 30% reduction in 2020 in order to take the lead in the international negotiations.

Considering that international law does not hold the power to force sovereign states to ratify international agreements or implement the obligations set out in these agreements, the success of international agreements in terms of ratification and implementation ultimately depends on the willingness of sovereign countries but also on a clear and fair criteria-based agreement that politically prevents sovereign countries from excusing non implementation and ratification.

In the South-North dialogue project (www.south-north-dialogue.net), the Wuppertal Institute and 14 partner organisations (mainly in the South) proposed such criteria to differentiate among developing countries (see question 4.1). The criteria are also applicable to differentiating industrialised countries.

The criteria developed are:

- Responsibility as a reflection of a Party's contribution to the climate problem through historic and ongoing GHG emissions, Indicator: Cumulative CO₂-emissions per person since 1990

- Capability as a reflection of a Party's financial and socio-economic strength to help overcome the climate problem, Indicators: GDP per person on a power-purchasing parity basis and Human Development Index rating
- Potential as a reflection of the mitigative opportunities within a Party's economy to reduce or limit GHG emissions, Indicators: Emission intensity (CO₂ / GDP), GHG per capita, and growth of emissions over last decade of the 20th century

Considering that countries recognised the impact of discharging GHGs emissions after the IPCC's first assessment report published in 1990 and the necessity to avoid punishing countries that started the industrialisation process earlier, the Wuppertal Institute finds that the year of 1990 is an appropriate year to be used as a base year for calculating cumulative emissions for responsibility criteria. There are several countries whose commitments significantly differ depending on a base year (e.g. Müller and Höhne 2008), however. The equity should be maintained by allowing these countries to prove the difference and to select another year for a base year.

The categorisation provides a rough indication of the level of commitment rather than specific, quantitative targets for each country. Nevertheless, it could serve to leading a fair agreement by narrowing a range of reduction commitments.

4. Mitigation actions by developing countries

The EU recognises the need for enhanced contribution by developing countries, whereby economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities.

4.1. What type of mitigation actions should developing countries undertake? How should these be measured, reported and verified? What should be the scale and legal nature of these actions? How should differences in responsibility and capability of different developing countries be taken into account?

There are significant differences in responsibility and capability among the current non-Annex I countries. Accordingly, applying the same rules to them under the climate regime does not seem appropriate. A differentiation of rules should be based on a fair process and transparent criteria.

One proposal for such criteria has been developed by the 'South-North Dialogue' (www.south-north-dialogue.net), conducted by the Wuppertal Institute and 14 partners all around the world.

Based on the criteria explained in question 3.1, an index was developed that ranks all countries according to their aggregate score for all indicators. The Non-Annex I countries were then classified into four groups:

- NICs: Newly Industrialised Countries, those with the highest aggregate score index value
- RIDCs: Rapidly Industrialising DCs, medium index value; relatively rapid industrial growth in the last decade and relatively high income
- LDCs: Least Developed Countries, UN-defined group of countries with low potential, low capability and low responsibility
- ODCs: Other developing countries, at a very early stage of industrialisation but not as poor as those countries defined as ‘least developed’

Such a classification of countries could then be matched with a continuum of ever more large-scale and stringent emission reduction contributions. Among the many proposals that have been made for framing developing countries’ contributions, the Wuppertal Institute considers the following to be the most promising:

- Absolute binding national emissions targets for the newly industrialised countries (NICs) since these provide a maximum degree of environmental certainty.
- Non-binding sectoral and national emissions targets for RIDCs. These ‘no lose’ targets provide for specific economic sectors or entire countries to commit to emissions reduction targets and receive emissions allowances if their emissions remain below target, although they would not be subject to sanctions if they failed to meet that target. Voluntary targets combine the exact quantification of emissions with the provision of flexibility for countries which have less responsibility to act than (newly) industrialised countries.
- An obligation to implement sustainable development policies and measures (SD PAMs), as proposed by South Africa, for ODCs and those sectors in RIDCs not covered by voluntary targets. SD PAMs are policy measures that largely focus on sustainable development but which are also of benefit in climate change terms. As such, SD PAMs focus specifically on the equity aspect of the need for economic development. Activities of this kind would not generate emissions allowances.
- No mitigation obligations for LDCs.

By their very nature, target-based approaches lend themselves relatively easily to monitoring, reporting and verification. It bears noticing, however, that target-based approaches require the existence of robust emission inventories in the respective countries/sectors. Establishing these inventories will probably require substantial amounts of time and capacity-building. They may therefore be a feasible option for the newly industrialised countries but not for the other three groups for the immediate post-2012 future. Instead, it may be necessary and feasible to start with an SD PAMs-type approach for the developing countries classified into the other three groups and define a process for moving to more stringent types of contributions.

4.2 To what extent and how should those actions be supported by technology and financial assistance from the developed countries? What kind of supporting tools could be developed at the international level to support domestic action and should there be respective roles for the public and private sector, including the carbon market?

The Bali action plan clearly stipulates that technological and financial assistance is a precondition for Non-Annex I countries to take on reduction commitments.

We propose to use the above classification of developing countries in determining their eligibility to receive technology and financial assistance.

As NICs have more capacity than several industrialised countries, they would not be eligible to receive technological and financial assistance.

Countries classified into the other three groups (RIDCs, LDCs, and ODCs) are eligible to receive technological and financial assistance from industrialised countries.

Currently, both private investment and public investment focus on countries belonging to the rapidly industrialising countries (RIDCs). The RIDCs attract investment from the private sector, including the CDM, and sectoral and national emission targets that the RIDCs would according to our proposal commit to are easily linked with carbon markets, i.e. private investment. Hence, support from the public sector, in particular financial mechanisms under the FCCC and the KP must focus on least developed countries (LDCs) and other developing countries (ODCs), and sectors not covered by sectoral targets in the RIDCs. In doing so, we propose to revise the existing resource allocation framework through which the GEF trust fund (financial mechanisms under the FCCC and the KP) allocates a large part of its resources to RIDCs.

Besides policies and measures that realise reduction potentials in developing countries, preparation for inventories and national communications in RIDCs, ODCs, and LDCs

must be supported by the financial mechanisms under the FCCC and the KP. Ensuring submission of inventories is a precondition for any country to take reduction commitments.

Please also see technology cooperation, question 9.

5. Carbon market

5.1 How should the existing Clean Development Mechanism and Joint Implementation be improved in order to increase their environmental integrity and effectiveness?

Most importantly, it is imperative to assess the compatibility of offsetting mechanisms like CDM and JI with the below 2° target. While JI does not affect the aggregate Annex I target, the CDM creates new trading units and thus increases the amount of emissions allowed in Annex I countries.

However, the lowest stabilization scenarios so far assessed by the IPCC envisage a 25-40% reduction by Annex I countries and in addition a “substantial deviation from baseline” in non-Annex I. This means that reductions in non-Annex I should only be counted towards Annex I targets if these reductions go beyond the required “substantial deviation”. Recent publications have quantified this deviation at 15-30%, which is extremely ambitious. It is therefore not at all clear where and how “surplus reductions”, which could then be used to offset higher Annex I emissions, are supposed to be generated in non-Annex I.

In addition, the additionality of many CDM projects has recently been called into question. The problem is a fundamental one. The baseline-and-credit approach of CDM and JI measures projects is based on assumptions about what would have happened in the future under “business as usual” conditions, which is by definition hypothetical. In essence, it is not logically possible to prove a negative, i.e. that something would not have happened without the CDM or JI. Moreover, external validators are always at an information disadvantage against project developers, and indicators used to determine additionality such as the internal rate of return can be easily manipulated by modifying project assumptions such as the discount rate and capacity factor.

To at least contain the problem, the methodologies for baseline development and additionality testing should be shifted where this is possible from bottom-up to top-down approaches based on objective criteria such as technology penetration rates or benchmarks, e.g. in terms of emissions per tonne of product produced. The criteria should be set below BAU levels to cancel out non-additional reductions from activities that would have taken place anyway, with or without CDM/JI.

At the moment, CDM methodology development is a bottom-up process where the EB cannot develop such methodologies by itself but only react to methodology proposals submitted by project participants. In the future, the EB and its panels should therefore be enabled to develop methodologies on their own initiative. Defining appropriate thresholds for benchmarks and penetration rates would be a complex challenge since it would need to take into account the specific circumstances of a technology, country and sector. This shift in approach would therefore probably necessitate a further strengthening of the technical capacity at the EB.

In addition, the debate on best approaches to ensuring a project's contribution to sustainable development should be reopened. Southern countries have in the past resisted the introduction of mechanisms to assess a projects' contribution to sustainable development at the international level. At the same time Southern countries often complain about the lack of sustainable development benefits of the current CDM project portfolio. Southern countries should therefore be asked to make proposals on how the CDM's contribution to sustainable development could be enhanced.

Moreover, the debate has so far been characterised by a false dichotomy of either full or no regulation at all at international level. Creativity could be invested to find a middle way, which could raise sustainability standards while safeguarding Southern countries' sovereignty. One idea could be to develop a kind of template for sustainability testing internationally, which Southern countries would then be free to adopt or not, or to adapt to their national circumstances.

6. Sectoral approaches

6.1 What type of sectoral approaches could effectively contribute to global emission reductions?

In principle, sectoral approaches should only be considered as an option for developing countries. For industrialised countries absolute binding national targets should be retained since they provide a maximum degree of environmental certainty.

As regards developing countries, the environmental integrity of sectoral approaches is far from sufficiently assessed. Various definitions of sectoral approaches for developing countries have been proposed, but the two basic forms are a policy-based approach and an approach based on sectoral baselines or targets where the performance of a sector as a whole would be assessed.

Sectoral/target-based and policy-based crediting implies to establish the baseline and additionality at an aggregate level instead of for specific activities. They would thus have the advantage of removing the necessity to determine project-by-project additionality of individual investment decisions, which is in the final analysis not

logically possible for most cases. However, sectoral approaches also pose new challenges for baseline setting and additionality testing. Most importantly, the quantification of emissions and reductions would have to rely on modelling and projections, which always possess a degree of uncertainty. It is therefore imperative to assess the reliability of quantifying developing country reductions at the sectoral level before scaling up uncapped trading.

In any case, establishing a robust baseline at the sectoral level would necessitate having detailed and reliable emission inventories and projections for the host countries or at least for the sectors covered. The reliability of the emissions monitoring would also need to be ensured. At the moment, probably only a few, if any, Southern countries dispose of the necessary technical capacity. The introduction of the EU emissions trading system has highlighted the significant challenges connected to obtaining reliable data. Sectoral approaches would therefore require significant capacity building.

Given these uncertainties, it is recommended to start a pilot phase similar to the Activities Implemented Jointly (AIJ) phase that preceded the introduction of CDM and JI to test sectoral approaches in practice. In particular the following aspects need further examination in practice:

- The viability of adequately quantifying emissions and reductions at the sectoral level based on projections.
- The viability of adequately demonstrating the additionality of policies and of differentiating the impacts of policies from other factors
- Which countries and sectors are appropriate for sectoral approaches.

Such a pilot phase would also contribute to the establishment of national emission inventories, which will in any case be necessary for future more stringent emission control commitments from Southern countries.

7. Emissions from deforestation and forest degradation

7.1 What should be sources of financing emission reductions from deforestation and degradation?

Two basic approaches for financing emission reductions from deforestation and degradation (REDD) are currently being discussed: integration into the carbon market or a fund-based approach.

Integration into the carbon market is highly risky. First, the carbon market needs certainty that one tonne is one tonne, no matter where it comes from. However, the

methodological problems of quantifying avoided deforestation, which led to the exclusion of this project type from the CDM, are still not satisfactorily resolved.

Second and even more importantly, the potential supply of deforestation credits is massive. Halving current deforestation rates by 2020 is equivalent to an Annex I reduction target of 20%. Integrating REDD into the carbon market therefore creates the risk that the market will be flooded with REDD credits, which would drive down prices and probably extinguish any domestic efforts in Annex I.

A fund would not create this problem. However, funds have their own problems, especially that the financial mechanisms so far created under the climate regime have been far from reliable.

The Wuppertal Institute therefore proposes a “market-connected” rather than a market-based approach: REDD activities should be financed through a fund, with the funding coming from auctioning of Assigned Amount Units or auctioning in domestic emission trading systems such as the EU ETS. The European Commission has estimated that auctioning in the EU ETS alone could raise 50 billion euros in 2020. Auctioning in potential trading systems in other Annex I countries or auctioning of AAUs would create correspondingly higher amounts of resources. Part of these revenues should be used to fund REDD activities.

8. Adaptation needs and support for most vulnerable countries

8.1 What mechanism should be used to finance cost-efficient adaptation action in the most vulnerable countries, in particular LDCs, SIDS and African countries?

So far, funding for adaptation has been completely inadequate. Based on optimistic assumptions that all pledged amounts in major adaptation funds will be spent between now and 2012, apx. US \$ 1 billion is available annually for developing countries (Wuppertal Institute 2008, forthcoming). Even this optimistic calculation falls extremely short of the estimated annual adaptation needs in developing countries in the future, ranging between US\$ 28 billion (low-end UNFCCC estimate) and US\$ 86 billion (UNDP estimate). Significant scaling-up of adaptation finance is indispensable. This is particularly important for LDCs, SIDS and many African countries, which are most vulnerable to climate change, but have the least resources and capacities to adapt.

As OECD data on ODA finance shows, the leveraged amount of private finance through public finance is very low in LDCs (10-15% of ODA) and low in other low-income countries. Consequently, adaptation finance cannot be expected to leverage large amounts of private finance in those countries. Nor can the local private sector be expected to shoulder the majority of the additional adaptation costs in LDCs due to very limited access to capital. This increases the need for mechanisms that make additional

public (or private) finance for adaptation mandatory. Experience with ODA shows that voluntary contributions by developed countries are not adhered to (by almost all countries) and cannot be trusted as adequate finance source. The Wuppertal Institute therefore proposes that based on the polluter pays principle, finance for adaptation to climate change should be provided to LDCs, SIDS and most African countries as compensation, i.e. without repayment.

New sources will be needed to scale-up finance for adaptation. Earmarking revenues from emission trading (AAUs, ERUs, aviation and marine allowances), for instance, will generate tens of billions of US\$ annually, following the polluter pays principle. In general, it will be important to raise money at the international level to avoid domestic revenue problems and increase political feasibility. This would furthermore strengthen international institutions and the global architecture – a key demand of the European Union.

The existing structures of the Adaptation Fund should be used by new mechanisms, instead of creating parallel structures. This could help to decrease transaction costs for developing countries and to simplify access to funds. Moreover, the AF, by including both donors and recipient countries in its Board, is the first fund to guarantee developing country ownership of adaptation finance.

In general, funding mechanisms for adaptation must be:

- Additional to ODA
- Transparent
- Adequate; financially and technically (guaranteeing equitable distribution that takes local needs and knowledge into account and participatory, fair and efficient processes)
- Predictable
- Prioritizing the most vulnerable in society

It has been recognized that less developed countries often lack absorptive capacity, i.e. the capacity to carry out necessary adaptation measures. Consequently, funds must be coupled with institutional capacity building to guarantee efficient and effective use of the finance provided (mainstreaming adaptation). Similarly, development projects sensitive to climate change have to be climate proofed by taking adaptation needs into account to avoid (mal)adaptation. In such cases, a clear distinction between adaptation benefits and development benefits may not always be possible and ODA may contribute to adaptation without diverting development assistance. In this sense (and only in this sense), ODA can also be used as a finance mechanism for adaptation.

Apart from ODA and multilateral funds, possibilities of climate insurance should also be further explored. Social protection schemes should be developed to avoid ad-hoc (mal)adaptive measures (e.g. selling farm animals), which increase mid-term vulnerability and undermine long-term resilience.

9. Technology cooperation

9.1 Is there a need for specific support schemes for the development, demonstration or deployment of certain technologies? If so, for which ones and how should these be structured?

The Bali Action Plan stipulates that mitigation activities in developing countries must be “supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner.” Developing countries now have a clearly stated reference, in harmony with Art. 4.3 and 4.5 UNFCCC, that every commitment on their part must be balanced with clearly identifiable and transparent assistance by the industrialized countries. The strife for state-of-the-art technologies opens a door for real North-South-Cooperation and the gradual involvement of the emerging economies into reduction efforts.

The Copenhagen conference provides the opportunity to make the first step for a Technology Alliance. It would serve the EU’s interests to involve emerging economies and secure substantial contributions to climate protection through the sharing and development of climate-friendly technology, and it would at the same time satisfy emerging economies’ need for new, innovative and clean technologies. Such a technology alliance should include a range of proposals and concepts for countries in different stages of development, merged with developed countries’ contributions to a comprehensive package that should include information sharing systems, common research and development, substantial finance for the assistance in spreading new technologies and the adoption of common standards to accelerate market penetration.

The Wuppertal institute suggests that a central element of such a technology alliance should be a fund modeled after the Multilateral Fund of the Montreal Protocol (MLF), regardless of whether or not the fund would be situated within the World Bank / GEF or not. It would thus have a composition and rules based on the principles of parity and double majorities. As a second best solution, the design of the Adaptation Fund Board points into the right direction. However, the AF model would have to be adapted because it is geared towards the special needs of the fund, which is financed to a large extent by a two percent levy on the proceeds of the CDM. This provided a strong argument for a stronger influence of the developing country parties. This leads back to the preferred option above towards a solution based on the principle of parity.

This also leads to the pressing need to resolve the issue of funding sources. Financial resources can be partially drawn from private sources, but will largely depend on direct funding by developed countries. This can be generated by new fiscal regulation, the pricing of greenhouse gas emissions and emissions trading. By implementing ET systems in all large states and the auctioning of the certificates, earnings of a whole new dimension could be generated in the longer term. The levy on the CDM is the first of its kind and could also provide a model for other mechanisms.

Additionally, another valuable concept of the Montreal Protocol should be taken into account – the Technology and Economic Assessment Panels (TEAPs). They offer technical information on the most innovative technologies. Especially experts with practical knowledge take part in the panels. TEAPs were successful in bringing about a spirit of competition among the engineers of the companies and using this productively.

Finally it will be important to put the Technology Alliance in the framework of the emerging carbon markets. These markets, however imperfect, will provide the backdrop for all future activities in climate protection. This is not only true for the CDM, but also more and more for the linking emissions trading systems. The CDM is not able to substitute special mechanisms of technology transfer, but it can, with the right design, drastically improve conditions for technological leaps in the host states. This will be improved if a “programmatic” or sectoral CDM is implemented.

10. Finance and investment

10.1 How should additional public support be organised and which should be the three top priority areas for financial support in developing countries?

There are three types of public support, providing financial resources with public money - the financial mechanisms under the UNFCCC and the KP, other multilateral funds provided by the World Bank or regional development banks, and bi-lateral funds. As explained in question 4.2, resources currently provided by the financial mechanisms under the FCCC and the KP are too small compared to the UNFCCC secretariat's estimate of 200-210 billion USD in 2030 for mitigation alone.

Currently a number of different funds are being established under the initiative of the World Bank and the regional development banks. Considering that resources for the funds are provided by Annex I countries (which also provide resources for the financial mechanisms under the FCCC and the KP, and whose budgets are determined in advance), the Wuppertal Institute proposes to streamline all funds under the FCCC and the KP. Of course, it is necessary to establish different funds to provide resources for different objectives. This could be done through establishing several specific funds under the financial mechanisms of the FCCC and the KP as the LDCF, the AF, and the SCCF.

Moreover, in order to scale-up the resources provided through the financial mechanisms under the FCCC and the KP, we propose to expand the idea of the Adaptation Fund to the transaction of ERUs and AAUs, i.e. taking a certain percentage of ERUs and AAUs traded among parties and putting the resources acquired by selling the corresponding AAUs/ERUs into financial mechanisms under the FCCC and the KP.

As the power sector has the largest reduction potential in most of developing countries, it needs to be given priority in finance. Feed-in tariffs have proven to be the most successful instrument to promote renewable energy. Annex II countries could pay the difference between the market price and the long-run marginal production costs of fossil fuel power plants that would be the alternative in the grid area that is served. This would avoid funding national energy subsidies and checking compliance would be easy, since only the electricity fed into the grid would actually receive support.

Priority must be also given to the building and household sectors that have large reduction potentials through improved insulation and efficient use of energy. Another very important area is the development of inventories and national communications. As explained in question 4.2, the power sector has more opportunities to mobilise financial resources from private investment, including the CDM. By contrast, it is difficult to mobilise private financial resources for improving energy efficiency in the building and household sectors and for developing inventories and national communications. These two areas must therefore be supported by public funds.