

# The Significance of CDM Climate Protection Projects to Qualitative Growth and Employment

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Climate protection is one of the biggest challenges we will face in the next few decades. According to the Stern Report, published a few years ago and named after the former chief economist of the World Bank, Nicholas Stern, climate protection has considerable economic effects. The consequences of a lack of climate protection or insufficient protection are especially notable. When climate protection does take place, it can invigorate the economy, give it new impetus and create additional jobs – or at least this is the assumption. CDM projects provide important indications as to whether this connection really does exist and what specific effects can be achieved, especially in emerging and developing countries.

Part of the Kyoto Protocol's international climate protection regime, the Clean Development Mechanism (CDM), dates back to 1997. It is one of the Protocol's "flexible mechanisms", allowing industrial nations with an obligation to protect the environment to achieve their reduction targets by supporting appropriate projects in developing countries, amongst other things. These CDM projects generate emission certificates which help purchasers in industrialised nations to meet their reduction plans. In addition – and this is the exceptional thing about this instrument – their proceeds promote development in the host countries.

This dual purpose is already set out in the Kyoto Protocol, where the CDM is described as a climate protection instrument, which simultaneously aims to support sustainable development in the project countries and to bring about a range of direct and indirect economic and social effects. The KfW Climate Protection Fund acts as a marketing platform for such project-based emission credits and thus makes an important contribution to the

realisation of CDM projects. These projects would be impossible without the additional income from the sale of certificates. The KfW's portfolio covers almost one hundred CDM projects which together avoid the emission of more than 40 million tons of CO<sub>2</sub>e.

As shown by the activities of the KfW Climate Protection Fund alone, CDM projects certainly contribute to climate protection. But do they also contribute to development, growth and employment, which is their second intended effect?

## Results to date

Since it was launched (the first project was registered in 2005), the instrument has been repeatedly re-evaluated even though a standard and internationally binding system for measuring sustainable development does not actually exist. Nevertheless, various bodies including the United Nations Framework Convention on Climate Change (UNFCCC) and the World Bank along with consultants, local populations and other parties involved in the projects have confirmed that the CDM makes a notable contribution to sustainable development in the host countries.

Most analyses of the effects to date have been based on project design documents (PDDs) or constitute evaluations of individual projects during their execution. Up to now, there have not been many ex-post analyses directly concerned with the effect of CDM projects on employment in developing and emerging countries. Despite these limitations, initial findings can be gleaned from the available studies since the results are similar to those of a whole range of research on key points.

The major 2011 UNFCCC study ("Benefits of the Clean Development Mechanism 2011" – UNFCCC) is particularly noteworthy. It was based on more than 3,200 CDM projects which have jointly saved more than 2 billion tons of CO<sub>2</sub>e emissions. The investigation



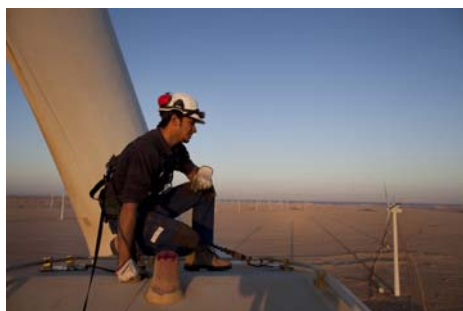
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concentrated on three core points: sustainable development (climate, environmental and development policy), the transfer of modern technologies and investment flows. According to the results, a positive effect on sustainable development can be demonstrated in the case of the majority of the CDM projects. The effects most frequently mentioned include new jobs (23% of all projects) and less noise, smell, dust or other airborne pollutants (17% of all projects). These results coincide with various earlier studies, which also demonstrated an impact on employment followed by economic growth and improved air quality.

In addition, more general investigations into the benefits of a sustainable, low-carbon economy ("green economy") in industrial and emerging countries prove that the number of jobs rises in comparison with "business as usual" scenarios. More precise analyses take qualitative aspects relating to the workplace into account as well as the number of new jobs. These studies also demonstrate positive results overall.

## Special standards

Effects on employment primarily result from projects which meet high standards for environmental and development objectives in the host country. This applies, for example, to projects which meet the requirements of the Gold Standard (GS) and are certified accordingly. The Gold Standard, conceived by the WWF amongst others, defines specific CDM project categories to ensure that projects are sensible and in line with the objectives of the Kyoto Protocol. Approved categories include renewable energy projects and projects which reduce the demand for energy.



Source: KfW Photo Archive / photothek.net

With regard to employment, Gold Standard projects must also create measurable added value in at least two of the following areas:

#### **Job creation:**

New employment opportunities are generated by the projects at various quality levels; workers, skilled employees, contractors and local management are involved in the project design and implementation phases.

#### **Improvement of working conditions:**

New jobs are subject to fair conditions, which are geared to the standards of industrialised nations.

#### **Developing local capacities:**

Employees and stakeholders must be educated and trained as part of the projects; their expertise should increase steadily.

CDM projects which observe Gold Standard stipulations must measure their impact. This is how we know, for example, that wind power projects – which at 28% of the total number of projects constitute the majority of GS projects – almost always create additional jobs, even if some are only temporary such as jobs involving the construction of the plants or the improvement of the associated infrastructure (e.g. the construction of access roads).

According to the majority of analysts, this type of project has a significant overall impact – both quantitatively and qualitatively – with regard to the creation of jobs. Only around 200 CDM projects follow this standard, but this number is growing.

#### **The project size is not the decisive factor**

Studies show that economic and social effects do not necessarily increase along with the size of the project. On the contrary, a study by the German Federal Environment Agency concludes that in fact small projects – which are often also decentralised – have a particu-

larly favourable effect because, relatively, they create more jobs. Small projects of this kind in the fields of agriculture, food production and domestic energy savings (biogas, energy-saving stoves) do not reduce emissions anywhere near as much as major industrial projects yet frequently exhibit a significant impact on growth and employment.

So far, however, the CDM has been dominated by major industrial projects because, amongst other reasons, the cost of the inspection procedure is virtually the same regardless of the size of the project. This expenditure would be disproportionately high for small, often extremely innovative projects. As a result, it tends to be the larger projects in bigger countries which get a look-in. Smaller or poorer countries, where the conditions for more comprehensive projects do not yet exist, tend to be overlooked. In recent years, this has been counteracted through the promotion of programmes of activities (PoAs). Programmatic projects cut greenhouse gases by stimulating a large number of individual measures, each of which could not absorb the CDM transaction costs on its own. Measures might take the form of a large-scale scheme for the replacement of incandescent bulbs with energy-saving bulbs, for example. On behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), KfW is promoting the development of a portfolio of feasible PoAs and is soliciting programme suggestions with this purpose.

#### **Different project types**

With regard to project type, large industrial gas (HFC-23, N<sub>2</sub>O) and wind power projects make up the largest part of all registered CDM projects. Their contribution to cutting greenhouse gases is undisputed, but studies show that the social and economic significance of industrial gas projects in particular is rather low. Biomass and hydroelectric projects are frequently major undertakings, too, but assessments of their contribution to innovation, technology and finance transfer differ.

#### **Regional distribution**

The regional distribution of CDM projects is still very uneven. Three quarters of these projects are based in just four countries: China, India, Brazil and Mexico. The majority of CERs (certified emission reductions) are achieved in countries which attract a great deal of direct foreign investment anyway. This

leads to a regional imbalance in CDM investment flows between nations and even within a single country. Take India, for example: according to a study, most CDM projects along with investment and economic benefit take place in those Indian states where the per capita income and gross social product are greater than the national average. The poorest Indian states, on the other hand, are home to only a few CDM projects and correspondingly less investment which would be able to boost the economy and create jobs.

#### **Key categories**

According to studies, projects in the fields of renewable energies and energy efficiency exhibit the greatest potential for generating income and creating jobs, especially in rural areas. So far, only isolated results are available for the following sub-sectors: in the case of biomass, for example, the plan to use agricultural plant residues has a much better impact where employment is concerned than projects which process waste products from industrial forestry. In the field of fuel switching, findings to date suggest that few additional jobs or improved environmental conditions are created, although the contribution of such projects to the prevention of emissions is undisputed.

Results for CDM refuse projects are also complicated – on the one hand, the CDM provides a considerable economic incentive for the introduction of better disposal techniques in developing and emerging countries; on the other hand, studies prove that recycling projects create far more employment and generate higher incomes than disposal and waste incineration projects. This is because the people who tend to find employment in the field of recycling (collection, sorting, material processing and actual recycling) are frequently those with few qualifications. However, such jobs are often in the informal sector. Whether CDM projects help to create long-term jobs or have a negative impact due to the elimination of the need for manual rubbish collectors, for example, has been difficult to assess so far due to the limited number of analyses and reliable data.

#### **Summary**

Both non-governmental organisations and economic experts consider the CDM to be a successful tool overall and believe that it contributes to qualitative growth on several levels. Without a doubt, CDM projects have

reduced emissions, developed infrastructure, triggered investment, and kick-started projects. They have intensified technology transfer and brought about economic multiplier effects through greater demand for well-trained workers, for example. In many host countries, CDM projects have also improved awareness of low-carbon technologies and provided leverage for climate-friendly projects. The activities of the KfW Climate Protection Fund have also created incentives for a long-term change of attitude on the part of companies and households (through start-up financing in the case of PoAs, amongst other things). The Fund has also marketed anticipated carbon credits and thus helped sustainable projects to be carried out in developing countries.

Studies also show that the importance of CDM projects for the various local markets cannot be underestimated. Although the volume of available data is still inadequate, various analyses and case studies prove that CDM projects and programmes can contribute to environmental protection and economic growth. Positive effects on employment are primarily generated by CDM projects with specific standards (e.g. the Gold Standard) and by small CDM projects in the fields of household efficiency (cooking stoves, small biogas plants) and solar, water and wind power.

According to research, the concept of dual purpose (combining climate protection and development) as set out in the Kyoto Protocol

is thus upheld. ■

### Further information

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