Overcoming energy poverty in the long run –

No development funding for coal power

Germany has committed itself internationally to increase its ODA (Official Development Assistance) rate to 0.7 percent by 2015. The ODA rate specifies the share of a country's gross domestic product spent on development cooperation.
At 0.38 percent (total expenditure: 14.05 billion euro), Germany was still far from this goal in 2013. That said, development cooperation should not only be about the amounts involved, but also about the way the money is actually spent. Resources which are already scarce are currently invested, among other things, in coal power stations and coal mining which strongly impacts on climate.

MISEREOR and Bread for the World believe that the funding of coal-power projects is not sustainable because:

- Coal is one of the most climate-disrupting energy sources and drives dangerous climate change, which can turn into a poverty trap for millions of people if not contained.
- The use of fossil fuels such as coal impedes the development of local, renewable structures which can provide energy access to poorer demographic groups in particular.
- The mining of raw materials in developing countries often brings grave human rights violations, violent conflicts, expulsions, exploitative working conditions and ecological destruction.

Scope of ODA coal funding

The German Government handles the funding of coal-power projects implemented as part of development cooperation via the Kreditanstalt für Wiederaufbau (KfW) agency. The entire KfW Banking Group committed a total of 2.8 billion euros for coal power stations between 2006 and 2013.[1] According to the funding agency, this coal funding only accounts for less than one percent of the total funding volume. However, when you look exclusively at the funding amounts abroad and specifically the volume of newly committed funds in the area of energy production, you get a somewhat different picture: Coal-power projects there accounted for up to 25 percent per year in the period from 2007 to 2013[2].

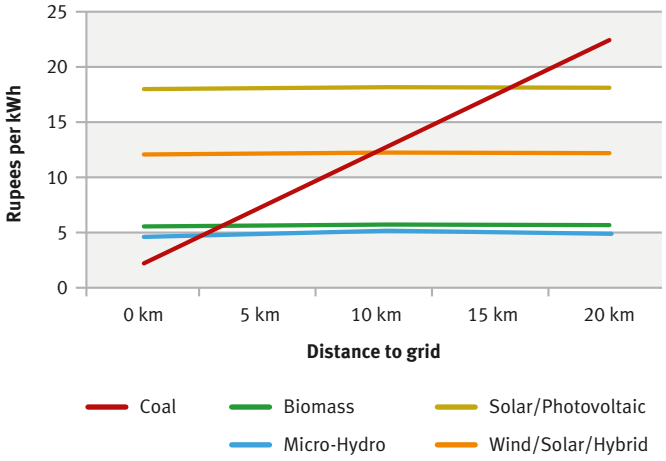
Coal-power projects are mainly financed via the IPEX Bank (International Project and Export Financing), a KfW subsidiary that does not use any ODA funds. But other internationally operating entities of the Banking Group, including the KfW Development Bank and Deutsche Investitions- und Entwicklungsgesellschaft (DEG), also fund coal-power projects on a smaller scale – by using resources from international development funding.

Examples can be found around the globe. The KfW Development Bank, for instance, granted an 8.5 million euro loan to the operator of a coal power plant in Mongolia for modernisation measures, along with a 6.1 million euro allowance from budgetary resources. The goal was to reduce carbon emissions and enhance security of supply.[3] In addition, the KfW Development Bank on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) provided loans totalling 150 million euro to the Indian energy group NTPC in order to modernise several of its coal power plants.[4 / 5]

Coal power stations are not a bridge technology

The KfW Banking Group argues that it will not be possible in the near future to cover developing countries' energy needs solely on the basis of renewables.[6] Its strategy is to first ensure supply using coal power in order to then expand the scope of renewable energies "successively". This means that coal power plants are given the role of being a bridge technology. However, the funding agency is ignoring the fact that the provision of power using renewable energies requires a closed system of power generation and distribution, which is not compatible with conventional power plants. The latter are not sufficiently flexible to quickly adjust to fluctuations in solar and wind-based power production as they either have long ramp-up times following complete shutdowns or need to run at a minimum capacity of 50 percent, regardless of actual electricity demand (minimum load).[7] A much better alternative is gas power stations (or biogas plants) in combination with state-of-the-art storage technologies. Consequently, a more sensible use of development cooperation funds would be to finance the higher start-up costs associated with such measures. While the modernisation of coal power plants can improve the plants' carbon footprint in the short term, their extended operating lives eventually mean that the road towards a clean energy future with renewables is blocked.

Figure 1: **Comparison of electricity costs in relation to grid distance in India** (Source: ActionAid 2011)



Fighting climate change – overcoming energy poverty

The international community has agreed to limit the increase in average global temperatures to a maximum of 2°C over pre-industrial levels. Otherwise the damage to man and the environment will no longer be controllable. All scientific studies are pointing to the fact that climate change constitutes a serious problem, especially for developing countries, and that it hampers the fight against hunger and poverty or, worse still, even exacerbates the situation. The prospects are gloomy: According to the World Bank report "Turn Down the Heat: Why a 4°C Warmer World Must be Avoided", the atmosphere threatens to heat up by more than four degrees centigrade by the end of the century, even if states comply with their committed climate protection targets.[8] The follow-up report "Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience" confirms that unabated climate change would become a poverty trap for millions of people.[9] Working Group II of the Intergovernmental Panel on Climate Change (IPCC) in its Fifth Assessment Report from March 2014 warned of an exacerbation of poverty as a result of droughts and floods in poor countries, which also increases the risk of armed conflicts over resources.[10] But there is also reason for hope: Working Group III of the IPCC emphasised in its April 2014 Sub-Report on Climate Mitigation that global warming can be limited to a level below two degrees centigrade – subject to a profound revolution of the energy sector.[11] 57% of global greenhouse gas emissions, the main driver behind the rise in temperatures, are attributable to the use of fossil fuels. The logical consequence: The world must learn to get along without coal and other fuels that damage the environment!

The scenario could look like this: The industrialised countries must phase out the use of such fuels by the middle of the century and emerging markets and developing countries have to follow quickly in subsequent decades. The earlier the transformation of the energy sector will be realised, the lower the costsf or climate protection. At the same time, the 1.4 billion people living without any electricity at all and the combined 2.7 billions who mainly use wood, dung or kerosine for cooking, heating and also as a light source, must be given access to modern energy forms from renewable sources that comply with relevant social and environmental standards.[12]

Coal-fired power/electricity does not reach those living in poverty

The KfW Banking Group assumes that "coal power plants represent an important option for enhanced energy access in the longer term."[13] The people mentioned before do not benefit from the construction of new, large power plants, however. According to a study conducted by Oil Change International, none of the coal power plants funded by the World Bank in the period 2008 to 2010 has led to sustainably improved energy access for the local poor.[14] The highest number of people without electricity can be found in Asia (approx. 615 million) and Sub-Saharan Africa (600 million), with the majority of them (80 to 85%) living in rural areas.[15] To them, it is probably more or less irrelevant

Figure 2: **Ratio between number of thermal power plants and proportion of households with access to electricity in India** (Source: ActionAid 2011)

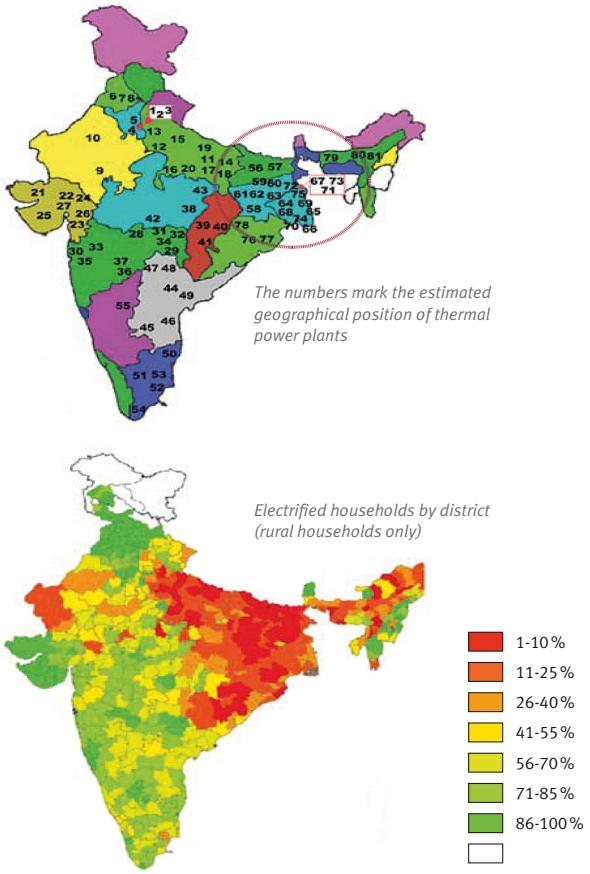
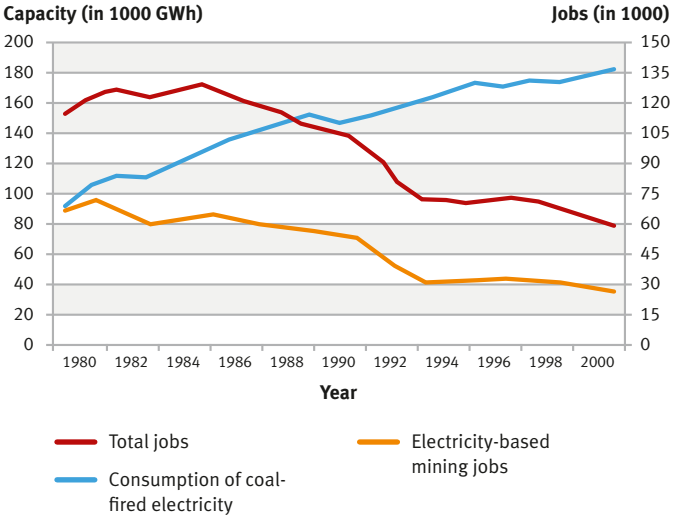


Photo: MISEREOR

Reservoir of a small hydroelectric power station in Andhra Pradesh, India

Figure 3: **Employment in coal-based electricity generation in South Africa 1980 – 2000** (Source: Agama Energy 2003:7)



whether electricity is generated from coal or other centralised production facilities, such as nuclear power plants or reservoir dams – after all, the energy produced does not even make it to the most distant corners due to the simple lack of power lines. This is so because many governments have neglected infrastructure for decades. Providing these regions with electricity generated from coal would therefore be subject to large-scale network expansion. Even if the governments concerned had the necessary political will to support such a move, however, it would not be economically viable in many cases, particularly given the alternatives available (Figure 1). Starting from a distance of just 17 kilometers from the grid, photovoltaic power supply is more economically sound, as prices for PV modules have significantly dropped again since 2011 (the year the calculation was made).[16] It is particularly paradoxical that many people do not have access to energy in the very places where electricity is produced by gas or coal powerplants.[17] Figure 2 illustrates this with India as an example. In percentage terms, the regions with the highest number of coal power plants show the smallest number of people with a power connection.

Bobby Peek from the Non-Governmental Organisation "groundWork" sees very similar problems in South Africa: "Coal accounts for 90 percent of the electricity produced in South Africa. That said, four million households cook without electricity, and two million use paraffin. [...] We found out that the low-cost power generated from coal covers the needs of the big conglomerates, but not those of the small village communities and households."[18]

Human rights and mega energy projects

What is more, coal mining often goes hand in hand with the expulsion or forced displacement of the local population, without consultation – something which they are actually entitled to. In some cases, those affected by such displacements wait in vain for years for compensation. All of this leads to the following conclusion: A decentralised, sustainable energy supply is the only way for all people, especially those living in rural areas, to benefit. Developing countries with an already large carbon footprint must be supported in this transformation. And the poorest countries, which have a minor influence on climate change, should embark on a development path that is based on sustainable, renewable energy sources and geared to the needs of the poorest.

Being connected to the grid does not mean you actually have electricity

There are villages which are connected to a coal power grid and as such are registered as "electrified", even though this does not mean that the locals actually have access to electricity. The problem became known as "the last mile paradox". The reasons are manifold: In many cases, people need to cover the connection fees themselves, which is only affordable for a tiny minority. Many people also do not have the necessary documents and forms. This also applies to urban slum inhabitants. These people consequently need to get along without electricity even though the power grid is close by. To make things worse, providing energy in either rural areas or urban slums is not a profitable business for energy suppliers as they have to bear high infrastructure costs while poor people normally use little electricity and hence do not generate major revenue. According to estimates from the year 2006, the maintenance and further development of existing power grids would cost more than 3.7 trillion dollars in emerging markets and developing countries alone.[19] As a result, power poles and power lines are falling into disrepair over time or are even stolen because of high copper prices.

The coal sector does not create sustainable jobs

One important argument which is often used by politicians is jobs. At this point it becomes evident that, as far as job creation is concerned, coal power plants have a negligible effect, especially when compared to renewable energies. As shown in Figure 3, the volume of electricity produced in South-African coal power plants doubled between 1980 and 2000, while more than 60 percent of the jobs in this sector were cut in the same period[20]. What is more, people in coal mines are working under extremely dangerous conditions, as exemplified by the recent accident in Turkey. On 13 May 2014, an explosion in the Soma coal shaft killed almost 300 miners. An average of 171 people per year died in South-Africa's officially registered mines alone in the period from 2007 to 2010.[21] The number of accidents in the illegal mines of South Africa, India and China is not likely to be any lower, but these accidents are not recorded. The miners' strikes, which occur at regular intervals, are also an indication of the workers' major discontent with the prevailing working conditions[22]. The disastrous consequences of coal mining for workers' health, but also for the environment, are particularly well documented in South Africa.[23]

On the other hand, IRENA, the International Renewable Energy Agency, estimates that up to four million new jobs can be created worldwide in the local sphere of the renewable energy sector alone by 2030, provided that the industry continues to receive relevant support.[24] A lot of these jobs would emerge in rural areas and stimulate local development.

Conclusions

Experience shows quite clearly that fossil energy sources, especially coal, are not a solution but rather a problem that leaves millions of people in the poorer countries of this world without electricity. At the same time it is not justifiable that human rights are breached daily in mining areas and that serious industrial accidents involving injury and death happen.

This is why the role of coal-power projects for future energy supply should be viewed critically. Locally adjusted and decentralised systems should be given priority for enhanced access to energy, which can create new jobs in small businesses as an additional positive side effect. Renewable energies specifically open up this opportunity and are proof of the fact that human development and climate protection are not mutually opposed.

Public resources for development cooperation are scarce. The funding of climate protection measures in developing countries also counts towards the ODA rate. These funds should be used in a future-oriented and sustainable way and create as many synergies as possible – from climate protection to fighting poverty. By phasing out financial support for the coal industry, Germany can set a global signal way beyond the scope of actual emission savings. The private-sector branch of the KfW Banking Group-should also set a signal along these lines.

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