Panel 1 Discussion

Panelists:

Amit Kumar (TERI)

Dr. Christine Wörlen (DENA)

Sebastian Trimpl (IBC Solar)

Question: How does the feed-in cost compare between renewable and non-renewable power, in India and Germany, and how do the two countries compare?

Dr. Christine Wörlen: The feed-in tariff is only for renewable electricity. So these rates are the only ones we know. We don't have the same type of information on conventional power. For an approximation, one could use those from the EEX in Leipzig. As a rough guess, tariffs are as low as 2 and as high as 16 cents.

Sebastian Trimpl: The question aims at the cost of electricity. This is 1.7 rupees for conventional power. You expect 15, so that is a factor of 10.

Sebastian Trimpl: We also have to look at it from a consumer's POV. We have to compare what the consumer pays and what it costs to install PV. PV is going to be competitive maybe in 2012, 2013 in Germany.

Prof. Dr. Martin Jänicke (FU Berlin): PV has a privilege in that it only has to compete with the consumer price.

Question: Do you have any data you could elaborate on, in terms of which technology is the most efficient, also in terms of reducing GHG emissions?

Amit Kumar: In the next 10 years there are many competing technologies, right now either biofuels or solar thermal.

Question: Two weeks ago the chiefs of the large photovoltaics companies said that there will be 40% growth. In 2020 grid parity will be reached, with 90%. But the upfront costs are very high. We have seen cuts in the feed in tariffs in Spain due to high costs. We may also get a discussion in Germany, as the costs may be coming down more rapidly than we expected. This will be settled in a political arena

Audience statement: The trading market has just started. The price you can get for renewable energies is 6-7 rupees as opposed to 2-3. This point needs to be kept in mind. My question is about the rooftop systems in Bangalore. If you were to implement a solar rooftop system, how would the economics compare if you don't have a battery?

Dr. Christine Wörlen: Grid-connected wind is rewarded at lower rates in some areas.

Question: In wind you have a more policy driven price?

Dr. Christine Wörlen: It is set by the policy, but by displacing power from the EEX (German energy exchange), overall power prices go down. The marginal rate for conventional power on average goes down.

Sebastian Trimpl: On houses (installing a rooftop system on houses, editor's remark), at the moment it is not possible to connect small scale systems to the grid. This is the most important point. Once you can connect it to the grid you don't need battery storage, which is still one of the most expensive elements. The Germany system gives renewable energy a priority and makes it clear that the system has to be connected to the grid, and all of the technical problems have been solved. At current, the electricity costs at least 16 eurocents, without a battery.

Question: I'm wondering that we are talking so much about photovoltaic, and that has to do with the price. Looking at India, energy demand increases. We have done a comparison for the EU. When we compare the cost of PV, it is 40 to 60 eurocent. When we talk about CSP, we have a price of 6 to 10 eurocent. Why not use the more large-scale technology in India? This is better than photovoltaics. When you install renewable energy technologies, we have what you call energy cannibalism. Solar pholtovoltaic is very energy consuming. Did you consider this in your calculations or research?

Sebastian Trimpl: I agree that there is more than photovoltaics, I am with a company that is only working with solar photovoltaic. Solar thermal is going to be more cost-efficient now and in the near future. In the long run solar photovoltaic is more interesting in terms of potential. The question of solar photovoltaic energy cannibalism is no longer current. Solar energy returns the energy invested. For thinfilm this is only 2 years, for crystalline 4 years. The panels are guaranteed for 20 years. Biomass installations are interesting, but I've heard that there are also problems.

Question: Where are the specialists and engineers going to be trained?

Amit Kumar: We do have master-level programmes for energy in general, but not for renewable energy. I'm going to have to look into that. We (TERI) are starting a training programme with the open university of England. Most training in India has been on the job. On the second question, looking at different policy frameworks, they have been designed from the point of view that the growth has to come not at the expense of the environment. There are boundary conditions with which we have to work.

Dr. Christine Wörlen: I think India is a very exciting country; they started with a consistent policy around the same time we did. This is not about a unidirectional exchange. It has larger potential in a lot of areas.

Panel 2 Discussion

Panelists:

Dr. Heinrich Reitz (BASF)

Andreas Berkhoff (KfW)

Mili Majumdar (TERI)

Question: How is it that you've gone and taken the next step, can you give examples. What are the good sides, and what are the problems?

Andreas Berkhoff: What is very difficult is the lack of trust. Owners are reluctant to invest since there are few model cases and few service providers with a good track record. Service companies are afraid that owners may try to find reasons to reduce payments for not reaching the promised savings. Establishing model contracts and creating successful model cases will help to increase the confidence. Secondly, bankability of the project poses a challenge. Owners, particularly public entities, often lack funds and have limited ability to avail loans while service companies are often young and relatively small, which also limits their credit worthiness. There are a couple of market barriers that still need to be bridged. For example low tariffs for electricity reduce financial viability. The trend towards new construction also reduces demand for energy efficient renovation. Awareness is still low, however increasing due to the work being done by the Bureau of Energy Efficiency. These efforts certainly need to be continued. From the banking side, we will also need to actively support the loans with technical assistance for designing, introducing and managing a specific financial product.

Question: How is composite financing done?

Andreas Berkhoff: Composite loans consist of two tranches, a concessional tranche provided from the German Government and a market tranche from KfWs own funds. Both are combined to a loan with a maturity of up to 25 years. For reducing the risk for KfWs own funds, a special risk facility from the German government is made available. India is a relatively safe country.

Question: You named four project concepts, but they are all about financial products, not about houses.

Andreas Berkhoff: These are loans designed specifically for energy efficiency investments in buildings. For example, a specific scope of works is defined for which customers can avail loan which is refinanced by KfW. There are other specific features, like inbuilding (this is not a word, was the person inteding "inbuilt", or "in building"?) CDM benefits into the financing structure which allow banks to give incentives for reaching certain level of savings, like offsetting the last repayments against future CDM benefits.

Question: Is this information available on internet?

Andreas Berkhoff: This will be done through the banks; they will provide information to the consumer.

Mili Majumdar: Is there a timeline, which banks?

Andreas Berkhoff: I can't give the names of the banks, but the timeline is that we will start next year.

Question: How is the awareness and the attitude of the average citizen in India, and are there incentives for the citizens?

Mili Majumdar: Some of the states have incentives, particularly for solar water heating. For energy efficiency there is not yet. In terms of building energy efficiency, there are labels for AC, and this has a payback period of six months. There is a project in which compact fluorescent lamps would be subsidised. Generally, energy efficiency per se doesn't need incentives to push it forward.

Panel 3 Discussion

Panelists:

Dr. Jörg Jasper (EnBW)

Moritz Schäfer (FU Berlin)

Susanne Hammel (FU Berlin)

Holger Liptow (GTZ)

Question: There is uncertainty with regard to Kyoto. What is happening in the industry, what are the discussions about different scenarios?

Dr. Jörg Jasper: I think we will employ additional carbon market specialists anyway. What would be the alternative? If Kyoto fails, the fall-back position is still quite comfortable. We can still use the additional manpower to manage risk in the European carbon market. If there *is* a post-Kyoto regime in place, we will be happy to make use of that manpower, as the labour market for carbon market specialists is quite tight.

Holger Liptow: Definitely the EU intends to carry on with the ETS irrespectively of the outcome of the negotiations.

Question: Even if the EU goes on with emissions trading, who will do the certification?

Holger Liptow: That needs to be set up. Not only the EU wants to carry on, but also India and China.

Dr. Jörg Jasper: What we witnessed during the discussion about the green package is that the EU threatened to end the CDM market if there is no international agreement in place. Then the market will dry out. Nevertheless, there are preparations being made for post-2012 phase. The reason is that the markets expect that there *will* be an international agreement.

Question: Do you see a lot of potential for making Germany a larger player in India?

Holger Liptow: There is debate ongoing between the German and Indian government on closer cooperation. Both Governments have set up an Indo-German Energy Forum. There are further indications that the cooperation will be intensified.

Dr. Jörg Jasper: The major driver will be the spread between EUAs (EU Allowances under the ETS) and CERs (Certified Emission Reductions under the CDM). If we see a fundamental scarcity post-2012 and the EUA price goes through the roof, then CERs will expand. This parameter lies in the hand of the European Commission.