Q & A for Network Evolution - Energy

Question by Mr. S. Dua, Industrial Cables (India) Ltd.
The Indian Government is not maintaining the proper balance between allocation of resources for power generation, power transmission, and power distribution. I am not sure whether the author on this aspect of the program has done some sort of study.
Let us suppose to have some balance of the possible resources for these three segments. Because otherwise, it is running into low loading factor of utilization of the power plants, transmission losses which are very heavy at least in India, and then, non availability of the power in the area which is required to be used. I would rather suggest that some sort of study or recommendations can be made by ICF, which can be utilized by the government authorities. Thank you.

Answer by Ing. G. Manzoni
Very interesting suggestion that the share or the resources will be allocated to high voltage transmission and to medium and low voltage distribution. Also a suggestion that may have different answer in developed countries or in newly industrialized countries like India. Yes it is very important to develop such transmission and distribution, otherwise the load will increase, I agree.
As regard to your suggestion on a possible study, international and important organizations like CIGRE based in Paris has decided to create a new study committee, especially devoted to the distribution and disperse of the generation.
So I believe, there will be important studies in this area within a couple of years.
More in general, on one side, the competition in the electrical sector now has been introduced, that is some way against rural electrification, because it is more expensive. But, in the case of India where the government is still playing important role in the development of the network, they are surely taking into account of the importance of the electrification into rural area.

Question by Mr. F. Gonzalez, Senior V.P. Pirelli Cavi e Sistemi S.p.A.
We have been suffering quite a lot of from competition of the overhead lines. It seems now there is some weakness there and we can perhaps have a little bit more business. But we are beginning to see new competitors, in the form of the pipeline for gas. It is quite interesting to know if a system of a gas pipeline plus say 10 smaller electricity producers is really cheaper than one big power station plus underground cables. Both systems avoid overhead lines. If its difference is not so big, perhaps, ICF can deliver a message to utilities in order to change their mentalities.

Answer by Ing. G. Manzoni
The competition between electric transmission lines and alternative supply of gas to a power plant located close to the demand place is one of the new things that have been introduced by a very efficient technology now available in generation. May be my presentation was little bit too pessimistic. I take this opportunity to explain more. I have had the chance to be the chairman of Eurelectric Group that does a study of the interconnection of Mediterranean electrical network. In this study, there are some

proposals of D.C. link between North Africa and South Europe. Namely, one practically decided between Algeria and Spain of 1200 MW. And other study which is underway now, not decided yet, between Algeria and South of Italy, and between Libya and South of Italy (Tunis). In principle, we should say that transmission of gas to Europe and power plant located inside of Europe should be cheaper than building power plant in North Africa and having a DC link to Europe. But this is based on the assumption that the cost of gas is roughly the same in North Africa and in Europe, this is usual assumption for common customers. The difference is made by policy of the country, namely, Libya and Algeria, where they have lot of gas. They may expect to have contracts with a manufacturer to build a power plant in their country with lower gas price. In this case the economy may shift to favor to a DC Link. So, in general, we can say that a big power plant is cheaper if installed closer to the demand place. But this is a general statement and in reality, there are lots of exceptions and cable link can be still used.

Question by Mr. John Mollet, Vice President, International Copper Association
On the EU commission's Green Paper, you understandably mentioned on the energy efficiency focus on transport and buildings.
But, yet this meeting is mainly focusing on electrical energy and in that aspect, the industrial manufacturers are large consumers and I was wondering if there is comments made on your opinion gathering about your Green Paper for more energy efficiency of the industry that could be added to the focus of the Green Paper.

Answer by Dr. Knut Kübler
Thank you very much for your question, because I think it is really important to understand that I just highlighted these two areas of particular attention in the Green Paper. Of course, there are particular chapters, also, on energy efficiency of electrical appliances and energy efficiency of industry, and these are huge areas. But, policy can not deal with same priority with all areas. Famous German General Gneisenau once said that " It's not wise on battle fields to ride it all directions at the same time" and I think this is true to politics. We have to concentrate to the specific areas and we have the feeling that in the industry, a lot of energy efficiency has been taken place and there is lot of incentives by itself to take care of energy efficiency within the industry. But leaders have to say there is a room for improvement.
We have direct examples of the more energy efficiency in the electrical appliances in the USA. There is harmonized standard, increasing step by step according to technological improvements and there are some games that we can make.

Question by Mr. Robert Venter, Chairman, Abedare Cables
Dr.Kübler, you mentioned, in your presentation, the downscaling of the nuclear side and possible uptake picked up by renewables.
You mentioned the target of doubling that, something like to 12%. Do you think this is achievable target?

Answer by Dr. K. Kübler
You bring me to a very difficult position. Officially, I have to say "Yes". But if you ask me

as a private person, I think it will be very difficult. Let me add that I, myself, on the roof of my house, have not only a thermal solar device but photo voltaic production capacity. It has a capacity of 1KWH at peak and I can produce by that device 700KW/Hrs per year in Europe. We have a special regulation in Germany, which brings it to very close to a competitive solution. With this installation, I produce electricity with the sun and I use it in my own house. But if I have a higher capacity, I supply back into the grid, which is normally the case in summer during lunch break time. For every kWh, which I sell to the grid, I get approximately half-dollar by the utility paid. So, it is quite an interesting option in Europe, photovoltaic is really taking up according to this heavily subsidized thing. But, more important than this technical electricity production aspect is change of consumer habits. I ask my wife to do the ironing and cleaning of my shirts during the time of sunshine.
As soon as you have these devices, you start to think about "what is a kWh, how I can save kWhs?" Really interesting to know is that I have discovered lots of energy saving measures without deteriorate my living standards. Now, I brought my consumption of electricity down to 5KWH per day. We get rid of cooking facilities, switched to natural gas. I do not have any deep freezer, I eat fresh fruits. We skipped all stand-by facilities. We changed to efficient light bulbs. So, I think you will find additional benefits or values when you start to work with such renewables. Concerning your question, I am scared to say yes, because not everybody follows this way.

Question by Mr. Asger Bundgaard-Jensen, CEO NKT Cables, Germany
Dr. Kübler, give us your personal opinion, I have three interlinked questions.
Is it likely that EU will be able to meet Kyoto target?
And, if you think it is likely, will it and can it be down in a way where will be the sustainability both in terms of supply security, and also of commercial competitiveness within the community?
And last question is, out of that, what primary energy portfolio regional do you see is the outcome of this? The last question is particularly important for us as cable makers because Mr. Manzoni demonstrated that there is a linkage between the compositions of that regional primary energy portfolio and way that the infrastructure will evolve.

Answer by Dr. K. Kübler
I am in a comfortable position because I can link my personal views with that of the commission. The Kyoto protocol is not so far away, it's 2008 to 2012. So one can really say something serious about whether it's possible to achieve the target or not.
As you know, everything depends on the political will and wisdom. Now, the Community has articulated its political will to achieve the Kyoto target. So the question is wisdom.
I think, if we follow a wisdom approach, it is possible. Because, you have really to look at details of Kyoto Protocol. First of all, in Kyoto Protocol, you do not deal only with insulated CO2two emissions, you deal with a basket of 6 different gases that is CO2, N2O, Methane, and three industrial gases: CFC, PFC and SF6. And it is possible to reduce outside the energy sector, a large proportion of CO2 emissions without deteriorating and destroying European competitiveness. For example, methane from landfills which we should do anyway, because we should get energy from that. It is very cost effective. Also, we can reduce industrial gases, which have quite high substantial

global warming potential.
The second thing is, we have so-called flexible instruments. We are able to reduce emissions not only in Europe but also outside Europe. And the Bonn this agreement gives us much wider room to do this. So, we can reduce emissions in countries like Poland, Czech and others where it is much cheaper to reduce emissions than current European Union countries. Further we can use a clean development mechanism. We can reduce the emissions in China and other developing world. So, if you add these things together, it is indeed possible, in my view, to fulfil the Kyoto target. The real problem will come beyond Kyoto. Then, we have to reduce the emissions further. This depends in my view, very much on international developments, because, as you saw in my slides, Europe is only a small reflection of the world.
I can highlight this in the following illustration. If the European Union would really fulfil its Kyoto objectives, the reduction of minus 8% until the year 2012, and if the rest of the world would continue business as usual to emit their green house gases, our efforts in EU would be off-set within 6 to 8months. So should Europe invest in this strategy while the others do not join, to make a difference?
The climate catastrophe does not take place in January 2050, but in August 2050.This is the real challenge we are facing. Kyoto is not so difficult for us.
Now, on the last question concerning future fuel mix, I think it is important for us to have very good mix of different fuels, because we really do not know what is going on in the energy sector. What will be outcome of liberalization? What kind of technology improvement will we have? What are the real impacts of the enlargement?
The ultimate object, from the Commission points of view, is to have a framework that allows us a flexible position. I mean, on one side, we must give a proper framework that industry can invest, for the other side, we must give some room for this flexibility. This is a part of the last picture I manage to keep a balance. Thank you very much.

Question by Dr. Rudolf Wiedenmann, Director, Hellenic Cables Greece
Dr. Kübler, what are the likely impacts of the enlargement on the European electricity network systems?

Answer by Dr. K. Kübler
I think that you will get profits from that, because we have the program of Trans-European Networks and we think it is the benefits for the European citizens and consumers if we increase the network not only for security reason but also for economic reasons. Because we have different cost options to produce electricity in different regions and it will be beneficial to all of us. If we increase the networks of electricity and of natural gas, flows are always possible either this direction or the other direction.

Chairman Aldo Bolza thanks the speakers on behalf of the audience and closes the session.