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## Energy – The Achilles heel for Ghana’s development

*Richard Gerster\**

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*Ghana’s rural electrification stands at the beginning, but is being pushed by the government.*

I am sitting in an office of the University of Ghana. Suddenly the air conditioning stops working and the lights go out. For some time, we talk in the dark. A power failure is nothing unusual in Accra, the capital of Ghana. It is thus no coincidence that improving the power supply enjoys high priority on Ghana’s reform agenda. Because while a power failure is simply a nuisance for a discussion in an office, it reduces the industry’s productivity and causes additional costs. In 2006 and 2007 the industry association conducted surveys which aimed at identifying the biggest challenges faced by enterprises. In both years the problematic power supply was identified as the key problematic factor – even before cheap Chinese competition or costs of credits. Without a sufficient and reliable power supply Ghana can not position itself as an attractive business location in West Africa – something which it aspires to do. A

qualitatively satisfying power supply is a precondition for Ghana to reach the Millennium Development Goals by 2015 and to become a middle income country.

### ***Answers to the energy crisis***

For years, Ghana had a cheap and clean energy supply from hydroelectric power produced at the Volta dam. Economic growth lead to an increased demand for energy. When in 2005/06 the rain did not fall as usual, the water line in the Volta lake fell and the energy production collapsed. The government answered on several levels to the ensuing energy crisis:

- With a rotating scheme, the electricity supply was interrupted every two days for 12 hours (“load shedding programme”). These rationing restrictions could be lifted in October 2007, when

the water line in the lake returned to its usual level.

- Under the government's supervision mining companies and independent investors contributed and continue to contribute to increase the capacities for energy production by a total of 550 MW through thermic power plants. With Chinese support the preparation of a hydroelectric power plant is underway. Additional capacity is expected from turbines run with Nigerian gas.
- Since 2007 the aluminium smelter VALCO is temporarily suspended, in order to reduce the energy demand. The plant used more than a tenth of the country's kilowatt hours and only paid a fraction of the production costs.
- The government took the energy crisis as a reason for giving away 6 million energy saving lamps in order to save up to 200 MW electricity during peak hours. In the meantime home made energy saving lamps have established themselves. In poor households light is the most important devourer of electricity and savings in this area pay off.

Ghana's need for energy at peak times is estimated to be 1200 MW – with an annual growth of 5 to 10 percent. In 2006 60 percent were met with hydropower, 30 percent with thermic power and 10 percent were imported. The thermic part which is expensive and has a high CO<sub>2</sub> output, is increasing. While the acute energy crisis from 2006 and 2007 lies in the past, the energy supply remains at the top of the political agenda – not least of all due to the financial implications.

### **Bone of contention: tariff structures**

The higher the oil prices on the world market rise, the more expensive the fuel for thermic power plants gets and the more one has to pay for the average kilowatt hour of electricity. In the mixed calculation of cheap hydropower and expensive thermic power the total costs of production and distribution of one kWh are estimated to be 0.20 US dollars. The average consumer tariff, however, is 0.12 dollars which leaves a deficit of 0.08 dollars. This puts an enormous strain on the state budget. In 2008

the para-state Volta River Authority received 120 million dollars in the form of subsidies to buy diesel and to run thermic power plants. Obviously these resources are no longer available for poverty reduction. The losses endanger the macroeconomic stability which is why the government decided already in 2006 to introduce cost-covering tariffs.



*Retail dealers provide the necessary equipment to newly electrified villages.*

Cost-covering tariffs are an effective incentive to save energy and they relieve public finances. A full cost tariff was introduced mid-2008 for industrial companies like the mines. Daniel Boakye, a World Bank economist, appreciates the raise in tariffs which were introduced by the government so far as bold steps. Concurrently with the introduction of cost covering tariffs, packages for the protection of poorer parts of the population are prepared. Since November 2007 small customers, so called lifeline-customers which use up to 50 kWh per month, profit from a preferential tariff of 0.095 dollars per kWh instead of 0.12 – 0.195 dollars (depending on the tariff). 50 kWh are enough for lights and radio and possibly a small television, but not for a fridge. In December 2007 the government therefore increased the upper limit for this preferential tariff from 50 to 150 kWh. In this manner it pays subsidies amounting to tens of millions of dollars to the Electricity Company of Ghana (ECG) and Northern Electricity Distribution (NED) for the poorer lifeline-customers.

### **Budget support as platform for dialogue**

Daniel Boakye continues: “In order to promote cost-covering tariffs, donors have no alternative to budget support. In no other context can one have such a meaningful dialogue on energy.” The lead is with the energy sector group reinforced by the budget support’s plenary dialogue. Dialogue relating to energy issues has been controversial from the beginning. Massive external pressure has led to ending fuel subsidies in 2005 (see also separate text on dialogue). But current discussions regarding cost-covering electricity tariffs are also delicate for reasons of domestic policy.



*Rural electrification creates local trade and business opportunities which in turn provide opportunities to work.*

In 2006, at the same time as the acute energy crisis manifested, the topic of energy made its first appearance in the performance assessment framework (PAF). In the PAF for 2007 the government and donors agreed, among other things, that one of the criteria for disbursement was the government's confirmation of tariffs which are in principle cost-covering and its public announcement of the timeframe for their implementation. Furthermore, a redesign of the electricity bills was also a criteria for payment. Subsidies to the electricity consumers should be openly disclosed. Various other indicators were part of the performance agreement 2007. Out of a total of five criteria in the energy sector the government met all but one. The exception was the formulation of a national energy policy which was delayed and therefore integrated in the performance agreement 2008 – 2010. The budget support donors

consider the progress fairly positive, even though they criticise the still unsolved problems in the energy sector and detect lacking political commitment.

### **Switzerland's active role**

Until 2007 Switzerland held the chair of the donor group dealing with energy issues. The chair was afterwards held by France and since 2008 it is with the World Bank. In addition to the reform processes which are facilitated in the context of budget support Switzerland agreed to:

- Provide consultants who overhaul the ECG's and NED's management, because the best investments are useless without solid management.
- Contribute to the extension of the distribution network into poorer, disadvantaged regions;
- Support the Public Utility Regulatory Commission (PURC) in order to provide inputs for the supervision of the energy sector and the structuring of tariffs with respect to true costs and social sustainability.

Clement G. Abavana from the Ministry of Energy considers the fact that energy issues are included in the PAF and the dialogue to be important: “If the disbursement of budget support depends on meeting deadlines and fulfilling triggers from the energy sector this sends an important message to our top floor suite. Also the position of the person in charge also becomes more relevant within the government.” Switzerland insisted that signing the contract for ECG's management support until February 2007 is included as one of the payment criteria. The World Bank and other donors followed suit. Not the management support as such, but its specific details were an issue of debate so that signing the contract was delayed. Clement G. Abavana therefore does not think highly of this trigger and says outspokenly: “It was unrealistic from the beginning. We could do nothing about it and it is unfair that budget support is now cut because of it.” His resentment reflects the fact that not only Switzerland but also the World Bank reduced a much larger amount for disbursement in 2008. Both ECG and NED would

like to receive management support and will also get it from Switzerland.

### **Electricity replaces candles and kerosene**

In 2007 54 percent of the population on a country level were considered to be connected to the electricity grid. Two years earlier only 45 percent were in the same position. The aim of the government is to have 80 percent connected by 2015. Together ECG and NED have 1,65 million customers all over the country. However, in urban areas more than four of five inhabitants have access to electricity while it is only one of five in Ghana's rural areas. The poorer a person, the more likely (s)he does not have access to electricity.

However, rural electrification is being pushed. If villages are willing to pay themselves for additional costs such as power poles they have access to electricity in 20 km vicinity of transmission lines. This self-help electrification programme has proven to be a huge success. In the context of another promotion programme poor and unconnected households in villages where electricity is available are connected for

free. This should also contribute to a reduced kerosene consumption. "Reading in the light of kerosene lamps or candles is much more expensive and dangerous than electric light", argues Clement G. Abavana, who is in favour of the government's efforts to push rural electrification. More recently these also include unconventional, decentralised sources of energy, such as solar panels.

Shadrach O. Addy manages a small shop in the village of Aikaidoblo which has just been electrified. The poles are put up, various installations completed. He is confident that access to electricity will lead to the opening of new shops in the area. "If someone puts up a printing shop, I can again supply paper and sell books." A young man is joining the conversation and says that he will open a small workshop for cutting and welding plastic. Only a few kilometres away, Joseph Tetteh is already running the Boston Electricals shop. He sells lamps, switches and other electrical equipment. "Right now my shop is the only of its kind in the area. I'm very happy with the way business goes", he says. Access to electricity is not only about light, radio and TV – it also creates employment and income in rural areas.



*There is no shortage of customers and electric light is the basis for longer opening times in shops.*



*A secured provision of energy is decisive for the use of information technology and access to the Internet.*

### **Ghana – an oil producer?**

It has been established that substantial oil reserves are located in front of Ghana's coast. Oil production is planned to start in mid-2010. The authorities are counting on at least 100'000 barrels (160 litres each) per day. Optimists are talking about up to 250'000 barrels. Exploration, production and refinement will be done by private companies of whose association the government owns 10 percent. "The oil production company will pay royalties of five to ten percent from their gross income. And of

course taxes from its net earnings – currently 25 percent. How much this amounts to, depends totally on the world market", says Kwaku Appiah-Adu who is in charge of policy issues at the President's Office. Either way it will be a substantial contribution which will be an important change in the financing of Ghana's public sector. In this area Ghana is being consulted by the Norwegian government which manages its own oil money in a sustainable manner, so that "the oil does not become a curse, but a blessing."

Until now oil imports respectively fuel subsidies were a key area in national politics and therefore also integral to budget support dialogue. Now the cards are dealt anew. In the future, will there be local gas available for the energy production? Will budget support soon be unnecessary? Opinions are divided. Switzerland prepares its exit to start in 2012. Daniel Boakye from the World Bank thinks that "similar to OPEC member Indonesia, poverty is widespread in Ghana and the infrastructure is weak, which means that international co-operation will be necessary in spite of any blessings brought by the oil."

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