

Cameroon: National Energy Efficiency Policy, Strategy and Action Plan in the electricity sector

Background

For over ten years, Cameroon has experienced strong economic growth, which has been accompanied by equally strong growth in electricity consumption. The electricity supplier AES-SONEL, which is responsible for the overall management of the electricity system, is struggling to meet this demand and is not always capable of satisfying all needs, particularly during peak periods, either in terms of the quantity of electricity delivered or in the quality of the electric current supplied. Plans have been drawn up to increase the production capacity in the future, but the necessarily lengthy delays in implementing these investment programmes will certainly not provide rapid solutions for the current imbalance between electricity supply and demand.

Energy efficiency therefore appears to be a vital instrument to address consumer demand in the short and medium term, but also as a long-term objective enabling a reduction in energy consumption and limiting investment in electricity production. Energy efficiency does not mean rationing electricity; rather, it is the rational use of this energy form by increasing the efficiency of its production, transmission, distribution and final consumption. The country will thus benefit from greater energy security and make significant savings in terms of fossil fuel imports leading to reinforced economic growth. Finally, the pressure on the electricity system will be reduced, allowing more time for the rational planning of the commissioning of new production capacities.

The Ministry of Water Resources and Energy of Cameroon (MINEE) therefore requested the support of EUEI PDF to formulate a National Policy, Strategy and Action Plan for the development of energy efficiency in the country to undertake a study to set out relevant proposals to initiate the implementation of a national energy efficiency policy.

Project goals

The main goal of the project was to rapidly put in place an action plan aiming to significantly increase the efficiency of electricity use in Cameroon to reduce the pressure on demand and the imbalance between electricity supply and demand in the country. More specifically the anticipated results of a national energy efficiency policy are:

- ▶ Reduced energy bills in public buildings,
- ▶ Increased energy efficiency in the industrial sector,
- ▶ Increased energy efficiency in the household sector, particularly with regard to the management of peak periods, and
- ▶ The creation of an institutional and regulatory framework for the promotion of energy efficiency and energy saving measures in the electricity sector.

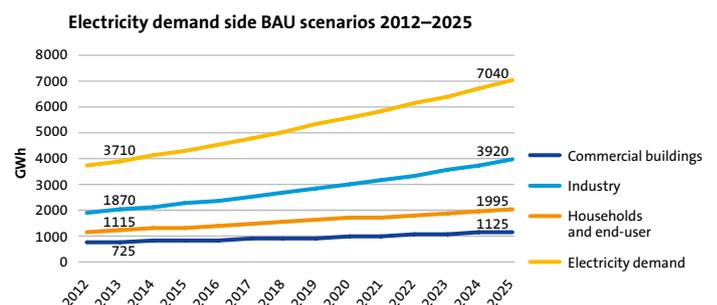
Country	Cameroon
Project Partners	ARSEL, Ministry of Water Resources and Energy (MINEE)
Project Manager	David Otieno
Term	December 2012 – December 2013

Activities

The study was organised into three phases, with a process of consultation with all concerned parties: 1) launch and inception, 2) scenario development, and 3) national policy and strategy development. The launch and assimilation phase was based on the collection of data, mainly through targeted visits to industrial companies, public buildings and households, and on the review of existing studies.

The scenario development phase was undertaken by first establishing a reference situation calculated by extrapolating the trends revealed during the first phase of work. Hypotheses were then made with regard to the possible levels of energy efficiency to be achieved, in order to prepare corresponding scenarios to compare with the reference situation, so as to determine the measures to put into place within the framework of a national energy efficiency policy.

The final phase, involving the formulation of an appropriate policy, strategy and action plan, incorporated a series of both technical and non-technical aspects (institutional, promotional, legal, financial, regulatory, etc.), to enable the investment of energy savings and maximise the impact across all targeted sectors. The final goal was the development of a concrete action plan outlining the activities specific to each sector, complete with a work timetable, an estimation of necessary resources and a monitoring and assessment framework including carefully identified indicators of success.





Project stakeholders

MINEE and ARSEL (the Electricity Sector Regulatory Agency) were the appointed public bodies. The study has also been monitored by other public bodies such as the Ministry of Finance (MINFI), the Ministry of the Environment, Nature Protection and Sustainable Development (MINEPDED), the Ministry of Mines, Industry and Technological Development (MINMINDT), and AES-SONEL, which is the company responsible for electricity generation, transmission and distribution in Cameroon. Other stakeholders were GICAM (an association of large industrial companies), technical and financial partners, local and international financial institutions, and bilateral donors.

Results

The study offered a review of the institutional, legal, regulatory, fiscal and financial aspects related to energy efficiency, along with an analysis of existing energy efficiency programmes and institutional responsibilities. At the same time, assessments were conducted (as well as pilot energy audits) to estimate the potential energy savings in the three main consumption sectors: industry, public buildings and households. In public buildings, the concept of energy efficiency takes into account subscriptions to electricity supply contracts, billing and payment conditions, etc. in order to achieve not only a physical optimisation of consumption, but also an administrative optimisation of the energy management of these buildings and a stabilisation of their electricity expenses. Where households are concerned, consumption levels and the potential for savings in terms of power demand, energy used and total expenses were analysed.

The results of these assessments made it possible to establish the measures to be taken in order to increase energy efficiency in the different sectors targeted. These

technical, economic or financial measures must of course be complemented by specific management programmes when it comes to implementation.

On this basis, possible energy efficiency scenarios in line with the project's overall goal have been established for each of the sectors of activity under consideration. The National Energy Efficiency Action Plan (NEEAP) proposed in this report is therefore a result of the analysis of potential energy savings as well as measures to be taken or incentives to set out, by showing the resulting benefits obtained by energy consumers in the different sectors. Finally, a NEEAP has been developed, incorporating the selected priority actions.

The Way Forward

The NEEAP must establish the means to be implemented in order to achieve the ambitious yet realistic energy efficiency targets in each different sector of activity, as well as the institutional and regulatory framework necessary to enable the achievement of the expected results. In addition to the creation of an appropriate institutional and legal framework it is important to consider:

- ▶ The necessity of putting in place well-designed data collection procedures and macro- and microeconomic studies and appropriate data analysis structures to permanently monitor and check results and impacts of the actions carried out;
- ▶ The development of programmes to inform, train and educate, as well as others to raise awareness of energy efficiency issues and methods;
- ▶ The development of appropriate and innovative financing mechanisms which would encourage investment and the mobilization of private finance.

Comparison of BAU scenario and energy efficiency scenarios

Scenarios	2012	2025	% savings in 2025	Amount of annual savings in 2025	Annual value of savings for consumers
	GWh	GWh	%	GWh	Billion FCFA ¹
BAU (Reference)	3,710	7,040	-	-	-
Low hanging fruit	3,710	5,630	20	1,410	180
Ambitious	3,710	4,920	30	2,120	271

¹ Based on an average price of 84 FCFA/kWh (ARSEL)

Project Partners:



Pictures: EUEI PDF

For more information, please contact:

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