

## Updates on Power Planning

The Ministry of Electricity and Energy is implementing to fulfill the electricity and energy needs for the state own enterprises and also local and foreign investors. In such implementation, the Ministry of Electricity and Energy is drawing up the *short term, long term and medium term* plans.

According the statistical data of May 2016, **3.8 million households** access the electricity out of the **10.8 million households** in Myanmar and the rest of 7 million households are still waiting to be electrified. Since a **35.2 percent** households in the country are utilizing the electricity, the rest of 64.8 percent households is needed to be generated the electricity and the electricity demand for the lighting use will be more than 2100 MW based on 300 Watt/ household.

*The National Electricity Master Plan* is drawn up by taking account of forecasting the GDP growth rate with social, economic and industrial development and the power demand forecast is estimated in total for the entire country.

Sr. No	Year	Power Demand MW, Low Case (GDP growth 6.4%)	Power Demand MW, High Case (GDP growth 6.4%)
1	2016	2617	2840
2	2020	3862	4531
3	2025	5930	8121
4	2030	9100	14542

The cities and few villages where the National Grid passed through are electrified. If the power generation of the nation is analyzed, it is found that the main power generation is only the generation plants is the Hydro and Gas fired power plant.

**In 2016**, the total installed capacity of **46 power plants is about 5125 MW**. Although 4760 MW of those power plants are connected to the national grid, the peak demand reached only 2743 MW.

In order to meet the power demand is coming 2017 , 300 MW power plant project will be implemented in Yangon Region by the private investment for the short term plan and the Ministry of Electricity and Energy will purchase and distribute the electricity generated by this power plant.

Since it is forecasted that the peak demand to be consumed in 2020 may be 4531 MW, it is needed to be increased the power generation about 1548 MW apart from 300 MW power generation to be fulfilled by 2017. The Ministry of Electricity and Energy can access the 1371 MW of electricity generation by constructing the transmission facilities to connect to the grid in order to transmit the generated power from Chipwenge and Dapein (1) Hydropower plants and implementing the thermal power plant projects, hydropower projects, solar and wind power projects. For the further 200 MW power requirement, it can be fulfilled the electricity by importing of LNG and implementing the Gas fired power project . Therefore, power demand during the period from 2016 to 2020 can be fulfilled the electricity by the implement of aforesaid projects.

At the same time, the power requirement for Special Economic Zones (SEZs) will be fulfilled not only the project plan developed by previous SEZ committees but also the permission of the Barge Generation near these SEZs. SEZ committees need to inform and coordinate with MOEE the annual power demand and the construction of commercial building such that hotel, motel, hospital, super market and plaza.

It is found that the power consumption of Yangon city is about the 50 percent of the whole country. The reduction of the power interruption and power losses are carried out by replacing and upgrading the old facilities, the full load transformers and substation equipment because of so long time utilization of distribution equipment in Yangon Distribution System.

Since it is forecasted that the peak power demand may be 14542 MW in 2030 for the long term plan the Ministry of Electricity and Energy will implement not only the hydro power projects which are completed the feasibility study and the least social and environmental impact but also the Combined Cycle Gas Turbine Project by utilizing the Natural Gas from New Gas Fields like that AD-7.

In order to deliver the power generated by the power plants to country, the transmission lines, substations and distribution system will be extended. At the same

time, the Ministry of Electricity and Energy will carry out the 99 percent electrification by the on-grid extension and appropriate pre-electrification technology such as Mini-grid used by Renewable System and Solar Home System based on the National Electrification Plan drawn by the assistance of the world bank.

The Ministry of Electricity and Energy will gradually carry out to participate in private investment and to collect the cost effective tariff rate for the sustainable development of the power sector. The awareness programs in relation to energy conservation and security will be developed.

Regarding the long term forecast up to 2030, the maximum demand would become 14542 MW. And it would be satisfied by implementing the least social and environmental impacted hydropower projects and also implementing the CCGT projects by using the natural gas from new gas fields such as (AD-7).

The extension of transmission lines, substations and distribution facilities can meet the power delivery to the whole country. Simultaneously, based on the NEP and extension of the distribution grid, up to 99% of the people would be electrified by 2020. Before this stage, endeavoring, the pre-electrification such as mini-grid system by using Renewable Energy and Solar home system as an initial stage.

The gradually facilitation of the involvement of the public investment and cost effective tariff rate need for the sustainable development of the power sector.

In conclusion, the awareness programs for energy conservation and energy security are the alternative solutions for sustainable power development.