



Joint Cabinet Memorandum
Submitted by
Ministry of Power & Renewable Energy and Ministry of Special Assignments

Deciding the Energy Mix for Electricity Generation in Sri Lanka

01. Background

According to the Sri Lanka Electricity Act, No. 20 of 2009 and Sri Lanka Electricity (Amendment) Act, No. 31 of 2013, all the power plants established to cater to the electricity demand of the country should be included in the Long Term Generation Expansion Plan (LTGEP), which is reviewed in every two years. However, as the LTGEP prepared by the Ceylon Electricity Board (CEB) for the period 2018-2037, has been approved by the Public Utilities Commission of Sri Lanka (PUCSL) modifying almost completely, CEB has refused to accept that. CEB mentions that the LTGEP was prepared by them in accordance with the General Policy Guideline on the Electricity Industry dated 30.06.2009, that has been prepared in line with the 'Sri Lanka National Energy Policy and Strategies' published through the Extraordinary Gazette Notification dated 10.06.2008, which is the current official energy policy, Clause 5 of Electricity Act and Clause 30 of Public Utilities Commission of Sri Lanka Act.

Even though it is required to prepare the Long Term Generation Expansion Plan based on Least Cost Principle according to the Sri Lanka Electricity Act, No. 20 of 2009 and Sri Lanka Electricity (Amendment) Act, No. 31 of 2013, it makes the power system of the country to be more dependent on one imported energy source if only the Least Cost Principle is taken into account. All the countries in the world accept fuel diversity as a policy particularly due to this. In spite of the fact that the CEB has included power plants of various energy sources in the LTGEP going beyond the Least Cost Principle in view of ensuring energy security of the country, the Government has not still provided a specific policy directive for that. Therefore, through this Paper it is objected at providing a policy directive for both the CEB and the PUCSL, as a clear guidance on the energy mix within the current policy frameworks on energy available the country.

02. Description

Cabinet Memorandum on 'Deciding Energy Mix in Electricity Generation in Sri Lanka' dated 23.11.2017 has been submitted in connection to this. Appropriate energy mix for the country has been proposed through this Cabinet Memorandum, and an energy mix for maximum utilization of the indigenous renewable energy resources with high abundance has been proposed therein. It primarily proposes that there should be an energy mix comprising of all the energy sources in order to ensure the energy security.

Accordingly, it has been recommended that all the sources covering renewable energy sources including solar power, wind power, biomass as well as thermal sources such as natural gas, furnace oil, and diesel should be included in the energy mix. It has vividly described the more relevance of including different energy sources in the energy mix to ensure energy security above the Least Cost Principle.

As coal power is still the least cost electricity generation option in the world, it has been stressed that coal power should be there in the energy mix of the country. As environmental conservation is a prime policy objective, it has been proposed to employ clean coal technologies using super critical or ultra-super critical coal. As Liquefied Natural Gas (LNG) technologies are fast developing, 30% of the firm power capacity to be met using LNG has been proposed.

This memorandum has been forwarded for observations of the PUCSL by the Cabinet of Ministers. Those observations need to be submitted to the Cabinet by the Minister of Power & Renewable Energy. PUCSL has informed that it is not possible to recommend all the policies given in the memorandum. Even the important policies included there such as environmental conservation, development of indigenous renewable energy sources have not been recommended. Ministry of Power & Renewable Energy has informed us that most of the facts and figures included in the observations of the PUCSL are based on assumptions. We are of the view that it is not possible to prepare policies on national issues based on such assumptions.

Therefore, Ministry of Power & Renewable Energy has submitted a report on this to the National Economic Council on 10.04.2018. It was stressed through this that the powers for preparing policies for the electricity sector are vested with the relevant Minister and the Cabinet. The council has broadly discussed the necessity of approving the proposals given in the Cabinet Memorandum dated 23.11.2017. Accordingly, Ministry of Power & Renewable Energy has been informed to resubmit the proposals of our Joint Cabinet Paper dated 23.11.2017, to the Cabinet.

03. Proposal

In connection to deciding the energy mix of the country, which is essential for preparing an acceptable Long Term Electricity Generation Expansion Plan, following proposals are submitted for approval of the Cabinet of Ministers.

- 03.1 Giving maximum attention for environmental conservation in deciding the energy mix of the country, and to have an energy mix comprising of different firm energy sources for strengthening the economy and ensuring the energy security of the country
- 03.2 Maintaining the electricity generation cost at minimum possible, as it is required to keep the electricity expenses at minimum levels in order for Sri Lanka to compete with the global economy
- 03.3 As it is required to diversify the energy mix to the maximum feasible level adopting sophisticated technologies in the world, to accept in principle the necessity of strategically developing all the practically developable energy sources, and exploiting the non-conventional alternative renewable energy sources such as solar power, wind power, biomass, geothermal, wave and solid waste and high efficient coal power technologies, LNG, indigenously available natural gas and nuclear power in timely and appropriate manner.
- 03.4 Considering renewable energy development as a prime policy of the Government, meeting 50% of the electricity requirement on the country using major hydro power plants and non-conventional renewable energy sources
- 03.5 Developing the non-conventional renewable energy sources to the maximum feasible level, meeting around 1/3 of the electricity requirement of the country (2,500 MW) using non-conventional renewable energy sources by 2030
- 03.6 As the new technologies like storage of renewable energy are fast developing, planning the future power plants with the goal of realizing self-sufficiency in the electricity sector by 2050
- 03.7 In order to ensure energy security, meeting around 2/3 of the electricity generation using firm power sources such as LNG, coal, fossil fuel and large hydro.
- 03.8 As it is essential to maintain the firm energy capacity using a practical and a balanced energy mix, the firm energy mix to be met by 2030 using 30% LNG or indigenous natural gas, 30% high-efficient coal power, 25% large hydro, 15% furnace oil which is a by-product from the refineries in the country and also non-conventional renewable energy sources which can be used for firm power
- 03.9 Accepting minimizing the Carbon Foot Print of the electricity sector through carbon sequestration using reforestation as an important principle in electricity generation

04. Approval

The policy proposals given in 03 above are submitted for approval of the Cabinet.

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