

The multiple benefits from a rational strategy for the electricity sector

Sri Lanka is grappling with the enormous problems of how best to recover from the setbacks created by the Covid-19 pandemic in all social and economic sectors. While all these fall within the mandate and the scope to be addressed by the task force appointed by His Excellency the President, the particular sector of energy has also attracted the attention of many. This note attempts to highlight the many relevant issues particular to this sector, which nevertheless impinges heavily on the entire nation and the economy. This is not a technical evaluation or an attempt to criticize the CEB, but to highlight some undeniable facts and background and an expression of viewpoints and the concerns of the Sri Lankan citizens, who have been misled over the years.

Sri Lanka pays a very intense attention to the issues relating to the electricity sector, although it represents a mere 11% of the total energy demand of the country. However, this is understandable as access to electricity is of very much interest to all Sri Lankan citizens and electricity is the most desired form of energy. In this regard Sri Lanka is grateful to the efforts of the Ceylon Electricity Board which has achieved the enviable goal of providing grid based electricity to nearly 100 % of the country. In addition they have also managed to provide an uninterrupted supply 24/7 throughout the year, even at times of natural calamities, including the present unprecedented disruptions caused by the Covid-19.

But unfortunately these achievements have come at a cost to the country, and its economy which cannot be ignored any more. The fact that the CEB incurs an ever growing loss of mammoth proportions year by year is well known. As such stern and urgent action is needed, particularly at this juncture when the whole economy as well as the foreign exchange earnings are under severe stress. Therefore the time has come for all citizens to contribute and share their views on the rational approach the country and CEB in particular should adopt for the future. It must be stated very firmly that, to consider these issues rationally with basic common sense, does not require a doctoral degree in electrical engineering or years of experience in operating the national electricity system. After all the present dire situation is caused by lack of a holistic approach in a national perspective, unfortunately exacerbated by the status of state monopoly enjoyed by the CEB.

The Declared Official Policy of the President

In this context even before the Covid-19 disaster struck Sri Lanka and the whole world, His Excellency the President did realize the need for a paradigm shift. Therefore, both his election manifesto as well as the policy statement presented at the parliament, very specifically outlined his vision on the future of the electricity sector as a major component of his **National Policy Framework “Vistas of Prosperity and Splendour”**. This vision is quite unambiguous in stating that.

Power and Energy	Assure availability of low-cost energy which is needed for accelerating economic growth	Improving existing energy mix	<ul style="list-style-type: none">• Enhance the contribution of hydro and renewable energy to 80 percent of the overall energy mix by 2030• Assurance of energy security and self-sufficiency• Expedite exploration of natural gas• Modernize Kolonnawa oil refinery• Reconstruct and develop oil storage tanks in Trincomalee
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The window of opportunity behind the calamity

In this background, the present calamity has also provided us a window of opportunity, to strategize and make plans to achieve this most laudable target. There is a considerable drop in demand for electricity and such reduced demand is likely to persist for some time. Therefore this is the best time to review the many renewable projects which have already received the necessary cabinet approvals and passed on to the CEB as far back as 2017 and initiate urgent action to implement them. The dire prediction of imminent power shortages and power cuts which were used, by interested parties to foist expensive emergency power plants on us, are no longer tenable. The daily demand which used to be about 46 GWh per day has come down to about 30-33 GWh per day. In addition the dry months are behind us, ample rains are replenishing our depleted reservoirs. These circumstances need to be recognized and used wisely, and by fast tracking the implementation of the Renewable Energy Projects, so as not to fall in to the same trap next year too. However, the primary requirement at this point of time is to clearly understand the role to be played by the CEB, which as stated above enjoys the status of Monopoly in the sector. As such it is the undeniable prime responsibility of the CEB to develop plans and strategies to achieve the target set by the President most unequivocally. They certainly cannot expect His Excellency also to provide them with the nuts and bolts of the action plan, in addition to the Policy promulgated by him. Nor can the CEB demand such from the exponents of renewable energy who have been clamoring for this change while contributing their little towards a sustainable energy future, as only the CEB has the access and the software for this complex planning process. It is sometimes ludicrous to hear that even the Minister in Charge is making loose statements with different targets of 70 % Green Energy by 2030, as reported in the newspapers recently. No doubt he is being misled by the people who have been talking about Clean Coal technologies. There is no such animal anywhere in the world.

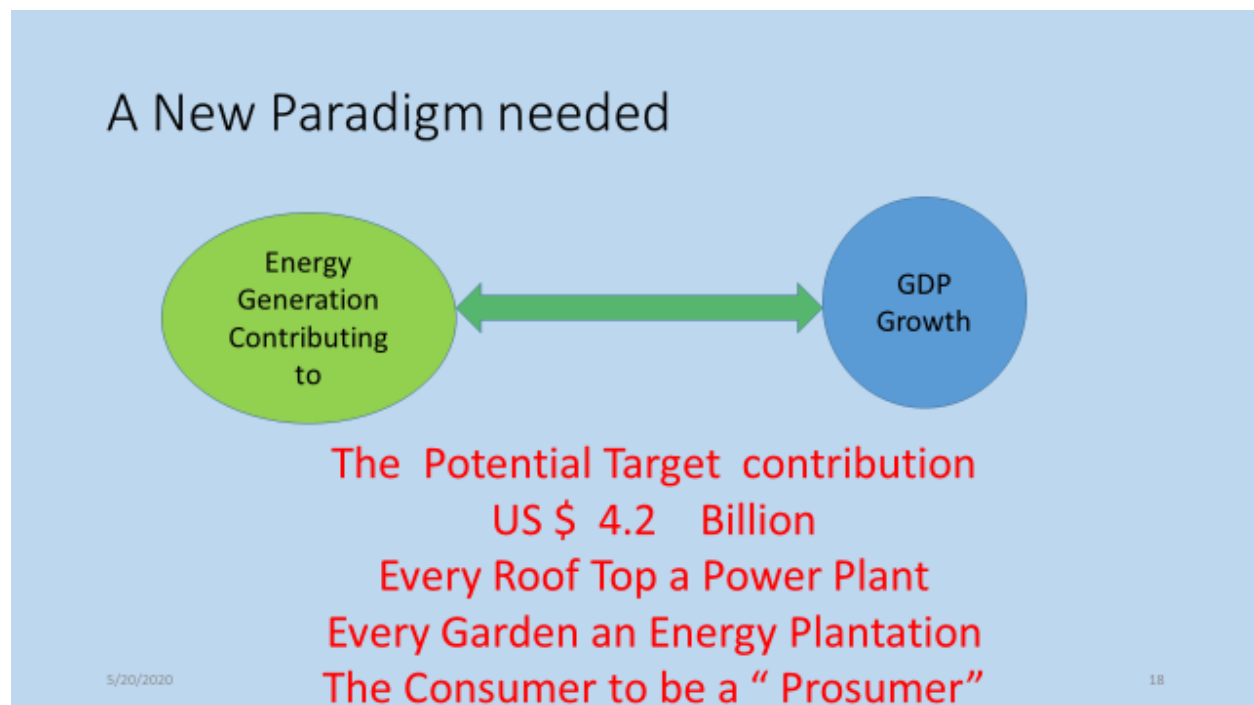
Therefore, if the CEB is to buckle down to the task ahead, for which they have all the expertise and the data, but only requires a change of attitude, which we are pleased to note emanating from the new Chairman. We are also pleased to note that he has invited many eminent persons from outside the energy sector to the WhatsApp Group which is conducting vibrant discussions on this issue. CEB must realize that they need the support of many, both inside and outside the formal energy sector. In this context the views of the main stake holder, the Electricity Consumer is of paramount importance. It must be recognized that the public have been called upon to bear the burden of the billions of rupees lost every year by the CEB, even though such sums are not added to the monthly electricity bill. In fact the reported Rs 100 billion loss in 2019 means the addition of Rs. 6.90 per unit ($\text{Rs. } 100 \times 10^9 / 14.5 \times 10^9 \text{ Units}$) to be passed on to every citizen of Sri Lanka, including the smallest consumer with less than 60 units of consumption per month. Thus, while achieving the 2030 target is the way forward for an energy secure Sri Lanka, none dependent on imported fossil fuels, with the attendant saving in foreign exchange, it also has the advantage of paving the way to reduce and eventually eliminate this enormous loss every year.

Multiple benefits from achieving the 80% RE Target

There are much more benefits to be gained for the country by successfully archiving this objective. The energy sector should, in addition to the mere task of proving electricity:

- Be a Sri Lankan Industry contributing to the GDP growth by itself, in addition to serving the other sectors of the economy, means of high level employment creation , technical innovation and reversal of funds presently sent abroad, back to the internal economy
- Sri Lanka is fortunate that all indigenous sources are also renewable. Therefore this goal also should ensure the maximum utilization of indigenous resources
- Contribute immensely to easing the pressure on balance of payments and thereby the parity rate
- Ensure the future energy security by none dependence on imported resources and price volatility
- Immeasurable benefit of avoidance of the environmental pollution and health hazards
(*quantification of these benefits are available with the author*)

If the value of these benefits are taken in to account, then the mere financial considerations used by the CEB in their arguments must be viewed in a broader national economic perspective. Doubtless that His Excellency was very cognizant of these attributes when he decided on the goal of 80% R E.



What contributes to the annual loss of the CEB

It is often stated by the CEB officials and repeated by the Ministers that the Renewable Energy is expensive and the usual numbers quoted are, the current income per unit of electricity at Rs 16.50 Vs the cost of generation presently at Rs 23.00 But no one mentions the very high tariff paid to the oil based power plants which is double the level of income per unit. Further it is never stated that even at present the RE sector contributes only about 5% of the energy fed to the grid, whereas the oil based plants contributes over 35%. Even the cost per unit coal power plant, which presently contributes nearly 40% of the energy,

if properly calculated based on data submitted by the CEB itself, costs more than the stated income per unit.

It is an axiom not limited to the RE sector, that for every doubling of the capacity there is a cost reduction indicated by the learning curve. This has been most convincingly apparent in the price trend of Solar and Wind and now also seen in the battery cost. However, Sri Lanka is yet to experience this benefit as our solar and wind penetration is moving at a snail's pace. The visionary interventions by the other countries, to give a kick start to enter the learning curve is already paying dividends. It is the responsibility of the Ministry and the CEB to recognize this and to create the environment for Sri Lanka too to benefit instead of complaining that our RE prices are high.

As the same time it is never mentioned that the present tariff levels have been set by the committees appointed by the Cabinet and the Ministry of power with wide stake holder consultation. The CEB was a major participant of all these tariff determination discussions and they have been published by the CEB. It must be recognized that the CEB did not pose such unfair criticisms and did contribute to the development of the renewable energy projects up to year 2015, along with the Sustainable Energy Authority. It is interesting to find out what promoted this change of attitude since that date.

However, the arguments about the rest of the world achieving much lower levels of RE tariff for Solar and Wind power, are also made without taking the trouble to accept the level of subsidies and major policy and administrative facilitation provided by these countries, as well as the scale of projects. It is also forgotten that these countries provided even higher subsidies and facilitation when the technologies were being developed. These facts are easily ascertained by anyone interested.

Lower tariff levels would certainly be feasible with the correct policies and certainly the CEB adopting a different stance of a facilitator, with a clear desire to develop the sector. The challenge given by the President is the best opportunity to make this change. CEB must recognize that in spite of their often repeated assertion that it is a commercial organization, they would have been declared bankrupt years ago, without the treasury picking up the bills for all development projects, as well as even the debts due to the oil suppliers. As such the above challenge can be met only with the support of private sector investors, as no bank would lend any money to the CEB looking at the state of their Balance Sheet.

The logical way forward

Nevertheless Sri Lanka do need the services of the CEB as the apex body, with the wealth of accumulated knowledge base and expertise, to both continue services that they provide by way of the manager and administrator of the national grid as well as to act as the planner and coordinator and regulator of all new capacity additions and other development works. What is needed is for them to accept the reality and be ready to give His Excellency the President the assurance that they are willing and committed to deliver the targets set. Sri Lanka would also look forward to the undoubted technical expertise of the CEB engineers to provide innovative answers to the many problems they are fond of trotting out against the RE technologies, citing their none firm nature. However, the world has overcome all these problems and such data is easily accessed by anyone interested. They must realize that continuation of this argument is tantamount to an admission of incompetence, which I am sure is not the case. In this regard it is regrettable that there is no attempt to promote the use of the Dendro Power which provides firm power and is a boon to the rural economy and the environment in addition to meeting the attributes mentioned above.

If this desired change in attitude to a “Can Do” stance is seen, all those who have highly appreciated the most visionary goal set by the President, would be more than willing to lend their unstinted support for achieving a common goal for a better Sri Lanka. The developers of RE still struggling to remain active, such as Mini Hydro, Roof Top Solar and Wind power and the very few Dendro power have already demonstrated their ability to make significant contributions to meet the national energy demand and are willing and waiting to expand their contribution. The people of Sri Lanka who are the real owners of the CEB will demand this change.

Let us hope that it would not be necessary for His Excellency to repeat the warning he recently gave to the officials of the plantation sector, to those in the electricity sector as well.

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