



FROM THE EDITOR.....

For the inhabitants of this little planet Earth, only two options for the future are remaining. It is either a “Green Future” or no future at all. With the advent of the industrial revolution of the west, smoke belching chimneys were the icons of development even to the extent of being sung of praise in our own country, until we realized what damage we have been causing to our own living and breathing space. Awareness in all societies about pollution of our environment as a result of our own actions is not a new notion and had been propagating for several decades now. But, what has received scant notice is the fact that, for the benefit of an over-consuming and indulgent fraction of the fast expanding human population, huge amounts of energy is squandered. The alarming fact is that, this minority fraction has managed to continually raise the global per-capita energy demand by their scale of over-consumption, while the majority does not have access to energy, even for their basic needs.

However, economic indicators based on lopsided perceptions and the influential population driven by them, demand more and more energy out of scanty resources of our planet, which are essentially non-renewable. Engineering intervention to alleviate this state is to harness energy coming directly to our planet from outside; thus the solar radiation. Though the primary solar energy conversion we know and feel so well is to thermal energy, PV technology advances have made the conversion to more transmittable and versatile electrical energy. Bottleneck created by non-availability of sustainable large capacity electrical storage, being circumvented by grid connected solar PV systems through high efficiency inverters, has been the key factor for proliferation of solar electricity.

As always, we Engineers can not rest on our laurels on this technology too, as highly variable power output on a time scale generated by solar PV when injected on a large scale to an electrical power grid sustained by thermal and hydro-power, create many technical problems regarding its stability, reliability and the power quality. Apart from the technical problems, over consumption and non-conservatism may result on the consumer side due to near zero running cost solar energy, but only available perhaps for half-day, each day. Together, we will find solutions to these too, as each of these breakthroughs will bring us that much closer to achieving our goal of a “Green Future”.

Eng. (Prof.) T. M. Pallewatta, Int.PEng (SL), C.Eng, FIE(SL), FIAE(SL)
Editor, ‘ENGINEER’, Journal of The Institution of Engineers.