

# Engineer's Role in Renewable Energy Utilization in Sri Lanka



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## Presenter:

He is a Ph.D. in Environmental Science from University of East Anglia, UK is currently the Secretary of the Ministry of Power and Renewable Energy. He is a Fulbright scholar as well as a Commonwealth scholar. He holds a MSc degree in Natural Resources Management from Michigan State University, USA. He is also an Attorney-at-Law of the Supreme Court of Sri Lanka.

He has held many senior managerial positions including the post of Deputy Secretary, Ministry of Finance and Planning, the Director General of the Department of Public Enterprises, the Director General of the Department of National Planning and several senior positions in the Ministry of Public Administration, Ministry of Plantation Industries, Ministry of Environment and Natural Resources (Director-Climate Change and Global Affairs) He has also served as an Assistant Secretary to his Excellency the President of Sri Lanka. Further, he has served as a Board member of many public enterprises and as a member of Fulbright Commission.

During his career he pioneered with other stakeholders in initiating and creating many innovative institutions and programmes such as Carbon Trading in Sri Lanka, the Sri Lanka Climate Fund Ltd., Climate Change Secretariat, Air Resource Management Centre, Vehicle Emission Testing Programme, Environmental Economics and Global Affairs Division, Project Management Bureau. A team lead by him has been able to influence the government to remove Lead in Petrol and improve quality of Diesel to improve air quality management.

He has been awarded *the Kong Ha International Award for Excellence in Air Quality Management in Asia* in 2014 for his contribution towards the improvement of air quality.

He has authored and coauthored several books including State of the Environment in Sri Lanka, Urban Air Quality Management in Sri Lanka, Theoretical Manual for Environmental Valuation in Sri Lanka and Fiscal Policies on Fuels and Vehicles in Sri Lanka, Environmental Economics; A Guide to Training of Policy Makers, Institutional Design of the Clean Development Mechanism of the Kyoto Protocol etc.

## Abstract:

The origin of energy used by the world is solar. The pre-historic human being used solar, the very original form of energy, to meet the energy needs. With the development of technology, he changed the mode of energy, where instead of using the energy received by him from the sun right at the time of use, he had to wait millions of years to use it as petroleum resources explored from the earth core. This involved a series of nasty activities including exploring petroleum resources, shifting solid or liquid petroleum fuels right across the world, petroleum combustion, war between countries, etc. and these have been the major international transactions for the last two centuries. In brief, there have been

long times, long processes and all complexities involved due to the fact that the man shifted from the on-time sunrays to the explored energy resources, which is again the sunrays in absolute sense.

The “Technology Man” has now changed to a “Smart Man” and he can use the on-time sunrays to energy with advanced technology. It is Renewable Energy, Nothing else. The on-time solar is available mainly in hydro (solar energy embedded in evaporation), wind (solar energy embedded in air molecule movement), biomass (solar energy embedded in photosynthesis) or solar as it is. So, now a paradigm shift is happening to go back to the on-time solar energy use like the pre-historic human being, but with advanced sophisticated technologies. With these technology advancements, world energy use is being shifted from petroleum to renewable. Oil ship transportation is going to be replaced with global HVDC interconnection whereby the renewable energy-rich countries (like Sri Lanka!) are becoming “Energy Suppliers”. One hour’s global solar irradiation energy of 440 EJ can provide the annual energy consumption of the entire world. So, obviously there won’t be an energy crisis, but there is an “Energy Opportunity” for Sri Lanka, if we are Smart. This smartness does not mean any innovation or creation of novelty, but follow suit the countries that are already in the right track. Technological advancements in energy storage, smart grid, climatic forecasting, etc. are at a rapid phase of development in many parts of the world. Those provide pragmatic solutions to the technological constraints in absorbing electricity generated using the so called fluctuating energy sources to utility electricity grids.

So, Engineers, please be on the look-out on what is happening in the world. This is “the Chance” for all of us, and you are the group that should take the lead!!!

Your commitment and fullest cooperation towards country’s renewable energy development agenda will be beneficial to the generations to come. So, please take it as a very important point to ponder. Engineers’ role is just to be with the world without being left out from the vast stream of new knowledge coming up in global renewable energy arena.

We will have to change ourselves, if we are to change the country.

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