

## Policy Framework and Initiatives for the Promotion of Renewable Energy

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Sri Lanka had a vibrant small hydro power (SHP) sector serving the plantation sector from late 1880's to 1960's, with a peak combined capacity of around 10MW. The growth of the plantation industry, demand for motive power and absence of a central electricity grid and ideal conditions for the occurrence of hydropower resources all contributed towards the rapid development of the SHP sector during this seven decade period. However, there was no rigid policy governing this sector at the time.

With the expansion of the national grid and development of major hydro resources provided a hassle free and cheap source of motive power to the plantation industry, a virtual outsourcing opportunity was available to the plantation sector, to move away from having a captive power plant and associated ills which included the perennial maintenance issues and employment of an influential class of employees better known as 'mill wrights' and embrace the hassle free grid electricity.

Subsequently, the first and second oil shocks of 1970's and 1980's provided a new lease of life to the SHP sector, and saw many of the disused hydropower plants being re-commissioned by the respective plantation authorities under various project financing that came their way. However, all such plants remained captive generation plants, supplementing grid power mainly providing electricity to an isolated area of the process, usually the withering troughs or the rolling room of tea factories.

In 1990's a lone enthusiast began an uphill battle to use a small hydropower plant to export energy to the national grid and succeeded after many years, commissioning the first grid connected power plant in 1996. This heralded a new era of SHP development in Sri Lanka.

This breakthrough paved the way for the development of a relatively streamlined process of selling electricity to the operator of the national grid the Ceylon Electricity Board (CEB). The central pillar of the successful development of SHP sector in Sri Lanka was the Standardised Power Purchase Agreement (SPPA). The salient features of the SPPA are as follows.

- (i) A complete avoidance of market risk : the CEB assures the purchase of all what is produced by an SHP project

- (ii) A floor price of 90% of the tariff : ensuring a steady and predictable cash-flow
- (iii) A long term commitment : The SPPA lasts 15 years and is based on sound legal provisions

In addition, the process of resource development was largely unregulated and was based on the 'first come - first served' principle, allowing the developers a free hand to choose the best sites and work on them. Further, attractive funding was coming into the SHP sector through two consecutive World Bank lending projects ; Energy Services Delivery Project (ESDP) and Renewable Energy for Rural Economic Development (REREDP). Further comfort was coming into the sector due to the ever increasing share of petroleum in the power generation and sharp increase of international oil prices combining to push the avoided cost based tariffs to very high levels. This conducive environment saw the growth of the SHP sector from humble fractional megawatt plants to a formidable 114MW generating 346GWh of electricity a 4% of the annual generation. The industry and associated consultants too made rapid progress into technology development bringing down capital cost of a project to commendable level. It is important to note that these developments took place without a clearly spelt out policy and yet in an environment where a full package of measures was in place inducing growth through a synergetic thrust.

The absence of a clear policy contributed towards the many constraints faced by the renewable energy industry today. These include the non-availability of finances to undertake grid augmentation necessary to take up more small power, simmering conflicts between developers and resource custodians, proliferation of a secondary market of renewable energy resource ownership and an entangled bureaucracy in project approval processes.

Weighing the pros and cons of small power, the government has given a prominent place for development of non-conventional renewable energy (NCRE) in the new policy document 'Sri Lanka Energy Policy and Strategies'. Two out of nine policy elements refer to the NCRE as a means of ensuring energy security and energy diversity, striving to retain the indigenous share of energy in Sri Lanka. The policy aims at reaching a 10% share of electricity generated from NCRE resources by 2015.

Converting the broad policy of reaching 10% share to workable strategies, the Government proposed a three tier, technology specific, cost based tariff to the NCRE developers. It is envisaged that this will allow parallel development of wind and biomass resources, which was found to be unviable at the avoided cost tariff regime. Accordingly, the 10% share will be generated by 300MW of hydro, 100MW of biomass and wind capacity by 2015. To realise this

ambitious target, the Government established a new agency ' Sri Lanka Sustainable Energy Authority' on 1<sup>st</sup> October 2007, and hope to remove all administrative barriers in project implementation through a powerful project approving committee comprising of all resource custodians and stakeholders. The acceleration of the project implementation will be done by reducing the gestation period of projects to less than six months.

The new tariff regime requires a tripartite agreement to operate, between the power producer, purchaser and the operator of the Sri Lanka Energy Fund, an instrument created by the same act, to provide incentives to power producers.

The new tariff will be offered to seven genres of technology, namely ; biomass (grown fuelwood), hydro, wind, municipal waste, agro waste, waste heat recovery and wave energy. The front loaded tariff is expected to take off a lot of burden from the new entrants to the sector, as the cash-flows would be positive even during the initial period of heavy commitments on bank loan servicing.

This policy initiative was designed to ensure best economic value to the country, where initial comfort is offered to developers to expeditiously develop projects and share the economic benefit of renewable energy during the later part of the SPPA with the society for whom the resources belong.

A transparent resource allocation mechanism was designed, where all developers are placed on a level playing field. This mechanism will include renewable energy resource maps, inventories, energy development zones, resource development guidelines and approval cycles minimising room for exceptions. The mechanism will be further strengthened with a land acquisition process and a robust legal framework including an appeal process.

Mobilisation of financial resource by way of credit enhancement and improved tariffs too are functions of the new authority and will provide a growth friendly investment climate for the renewable energy sector. In this regard, concepts ranging from credit enhancement mechanisms to renewable energy bonds and debentures are contemplated at present.

The vision for the renewable energy industry can be to become a force to reckon with in the international arena of consulting, professional services and even project implementation. The new authority will fully support the industry's efforts to broaden its horizons by venturing outside Sri Lanka. The renewable energy industry will become a thrust industry, given the

package of measures available, embracing and nurturing the newer technologies such as biofuels and Hydrogen as energy carriers in a new economic paradigm.