



Policy Framework and Initiatives for the Promotion of Renewable Energy in Sri Lanka

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Sri Lanka

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A brief history of SHP initiatives



- Plantation industry has benefited from Small Hydro Power (SHP) in either electrical or mechanical form from late 1880's
- Capacity of these captive power plants reached almost 10MW by late 1950's
- The industry was dominated by Gilbert Gilkes & Co. of the United Kingdom
- With the availability of cheap grid electricity most of these installations went into disuse by 1960's
- Renewed interest from mid 1970's and a new enthusiasm in 1980's, due to oil shocks

Dawn of Small Hydro Power



- Rehabilitation of several estate hydros in late 1980's set-off a new initiative in SHP
 - Flow of IRDP* funds to plantation sector
 - Investigating the ways and means of exporting excess energy produced by captive generation plants to the grid
- First ever grid connected SHP established in Dickoya by a die hard enthusiast
 - Set the stage to the development of a Standardised Power Purchase Agreement (SPPA)
 - A new era of cooperation between the utility and SHP developers dawned

* Integrated Rural Development Project

Steady growth of SHP sector

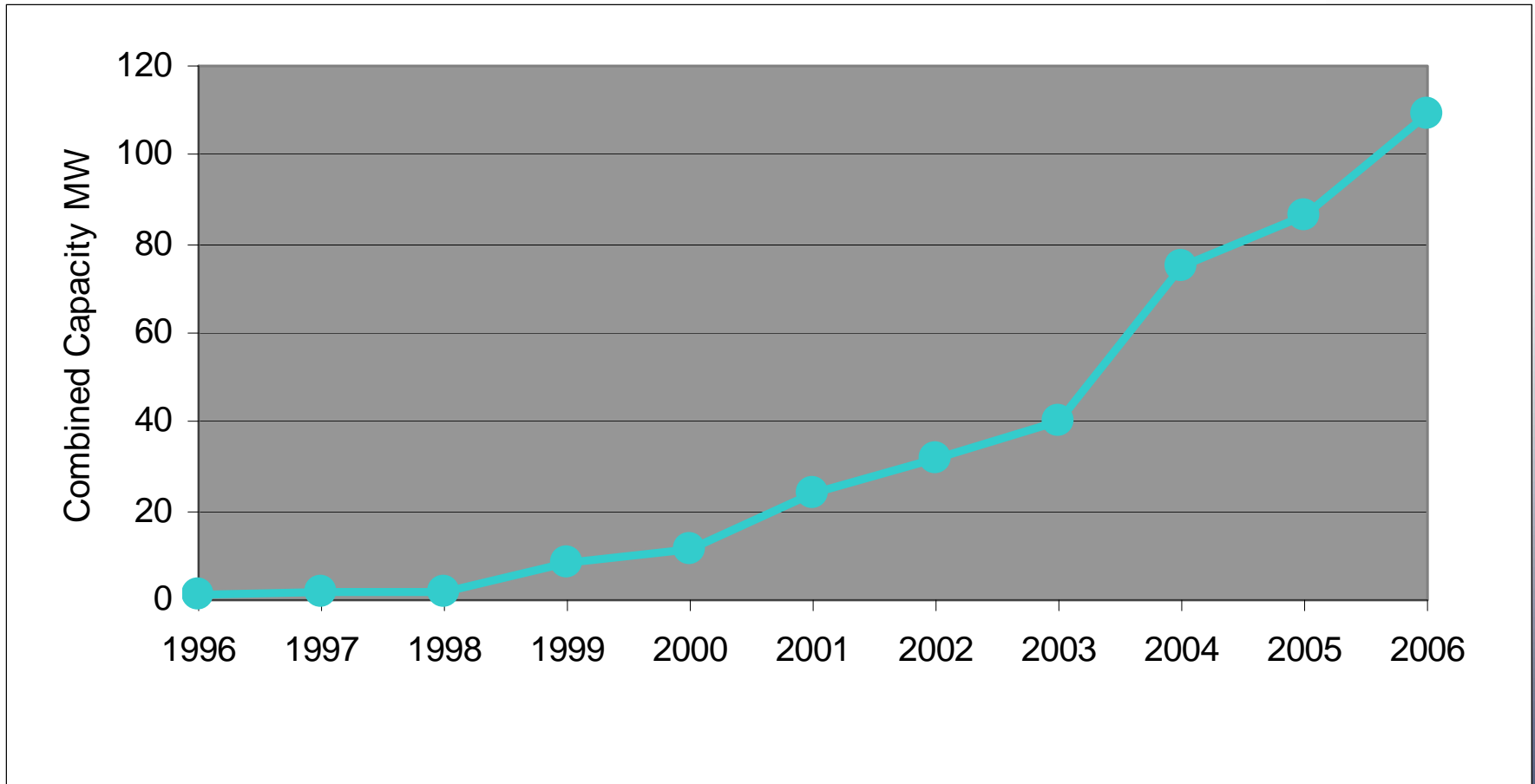


- The SHP sector grew at phenomenal phase due to the conducive environment
 - High cost of generation – high avoided cost
 - Acceptance of industrial norms – SPPA and procedure
 - Availability of attractive funding
 - First from ESDP*
 - Thereafter from REREDP**
 - Requirement of additional generation capacity

*Energy Services Delivery Project

** Renewable Energy for Rural Economic Development

Exponential growth of SHP



Success factors



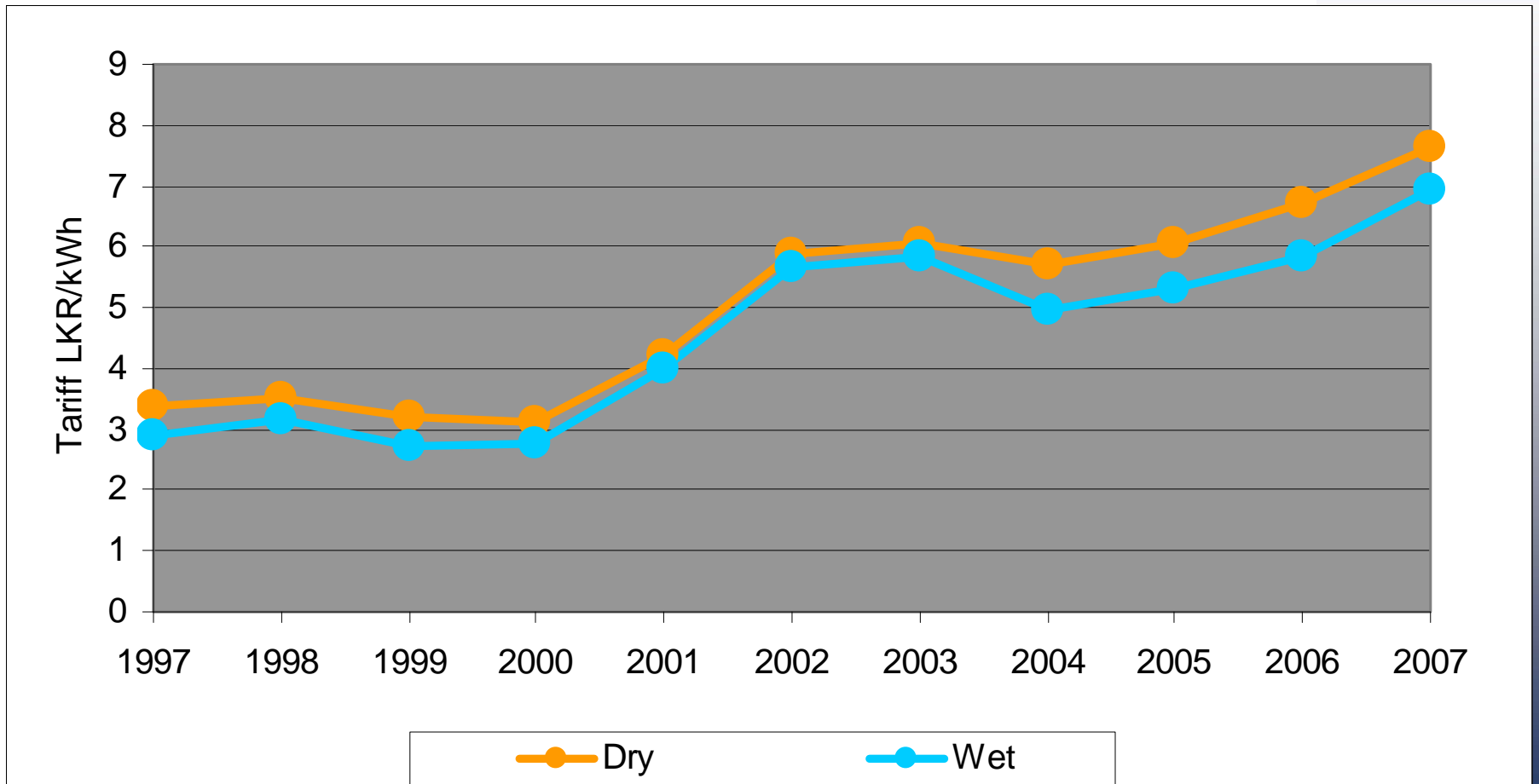
- **Virtually free from market risks**
 - What ever produced will be purchased
 - Guaranteed floor price sans a price ceiling
 - 'Production' free from HR related issues
- **Availability of an SPPA**
 - Simple approach
 - Acceptable to banks
 - Low transaction costs
- **Resource allocation**
 - First come first served basis
 - Devoid of cumbersome competitive processes

Success factors... contd.



- Financing mechanism in place
 - Two consecutive World Bank projects (ESDP and REREDP) with a sound disbursement procedure
- Technology development keeping pace
 - Local Engineering know how developed to commendable levels
 - Capacity of construction companies developed
- Escalating tariffs
 - Thermal share of generation increasing
 - World oil prices sky rocketing
 - Avoided cost paid to SPPs also keeping pace

Avoided cost tariffs



Constraints



- Explosive growth has resulted in several constraints
 - Reaching the full capacity of most grid substations
 - Exceeding transmission capacities
 - Reaching the permissible levels of non-dispatchable generation in the system
- Entry of pseudo developers
 - Freezing up lot of sites, capitalising on the first come first served policy
 - Lucrative secondary market for such pre-allocated resources
- Cyclic approval processes
 - Vested interests of resource custodians
 - Unnecessary delays in approval processes

New policy and targets



NATIONAL ENERGY POLICY AND STRATEGIES OF SRI LANKA

MINISTRY OF POWER AND ENERGY
GOVERNMENT OF SRI LANKA



Challenges faced by Sri Lanka's Energy Sector are many. While ensuring a continuous supply of electricity and petroleum products, the growing economy has to manage a strategic balance between indigenous energy resources and imported fossil fuels. Electricity supply to household needs is yet to reach a quarter of Sri Lanka's population. Commercial energy utilities are required to be further strengthened to improve their financial viability and service quality. The involvement of the country's population in the investment, operation, regulation, and delivery of energy services needs to be increased.

This document declares the National Energy Policy of Sri Lanka, and spells out the implementing strategies, specific targets and milestones through which the Government of Sri Lanka and its people would endeavour to develop and manage the energy sector in the coming years in order to facilitate achieving its millennium development goals. Specific new initiatives are included in this policy to expand the delivery of affordable energy services to a larger share of the population, to improve energy sector planning, management and regulation, and to revitalise biomass as a significant resource of commercial energy.

Institutional responsibilities to implement each policy element and associated strategies to reach the specified targets are also stated in this document. Ministry of Power and Energy has discussed the draft document with a wide group of stakeholders and made the necessary amendments before publishing it as the National Energy Policy and Strategies of Sri Lanka.

New policy and targets



National Energy Policy Declaration – 9 elements

1. Providing Basic Energy Needs
2. Ensuring Energy Security
3. Promoting Energy Efficiency and Conservation
4. Promoting Indigenous Resources
5. Adopting an Appropriate Pricing Policy
6. Enhancing Energy Sector Management Capacity
7. Consumer Protection and Ensuring a Level Playing Field
8. Enhancing the Quality of Supply
9. Protection from Adverse Environmental Impacts of Energy Facilities

Ensuring energy security



- Fuel diversity in electricity generation (diversifying into non-oil resources)
 - The Government will endeavour to reach a level of 10% of grid electricity using NRE by 2015 (it is 4% -346GWh at the end 2007).
 - The Government recognises that certain NRE technologies would require incentives to ensure their capacity build-up to reach the national NRE target.
 - Creation of an Energy Fund.

Year	Conventional Hydroelectric	Maximum from Oil	Coal	Minimum from NRE	Comments
1995	94%	6%	0%		Actual
2000	45%	54%	0%	1%	Actual
2005	36%	61%	0%	3%	Moratorium on power plants burning oil or similarly priced oil/gas products
2010	42%	31%	20%	7%	Progressive diversification into coal and NRE
2015	28%	8%	54%	10%	Moratorium on power plants burning oil or similarly priced oil/gas products may be lifted

Promoting indigenous resources



- Use of economically viable, environmentally friendly, non-conventional renewable energy sources will be promoted.
- Concessionary financing for large hydroelectric projects
- Incentives to develop other renewable non-conventional energy resources.
- Facilitation agency dedicated to the systematic planning and promotion of non-conventional renewable energy sources.
- Oil and natural gas resources will be explored and commercially exploited.
- Biomass-based energy projects will be developed.
- Initiatives of other institutions to convert biomass and other waste to energy will be encouraged and supported.

New cost based tariff policy



- A front loaded three tiered tariff
 - Easing out cash flow problems in first few years
 - Returning the benefits to society in the last tier
- Technology specific, 7 genres
 - Small hydro power
 - Biomass (grown fuelwood)
 - Wind
 - Municipal solid waste
 - Agricultural waste
 - Waste heat recovery
 - Wave energy
- New SPPA, 20 years and tripartite
 - Utility to pay 90% of the avoided cost
 - Sustainable Energy Authority to pay / retain the difference
 - Developers to get the full cost of the technology

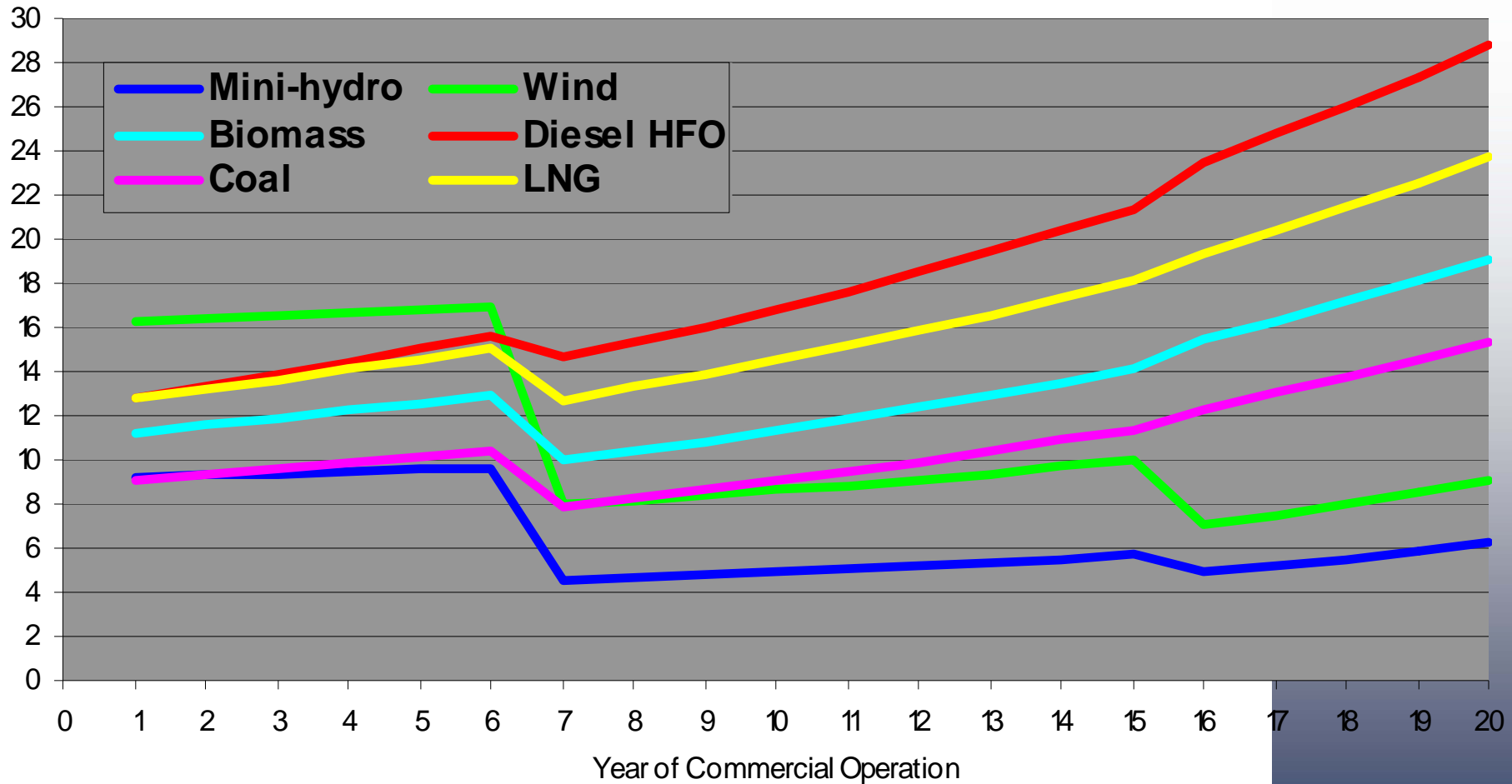


Cost based vs. avoided cost



- The present increase of avoided cost is a result of wrong generation mix
 - It is not sustainable in the long run
 - Illogical to pay fossil fuel prices for hydropower
 - Having a floor price without a price ceiling was a costly mistake
 - Introduced a degree of uncertainty
- Cost based tariff
 - Very low uncertainty
 - Provides room for other renewables as well, making the 10% target a reality
 - Is sustainable through interventions such as Sri Lanka Energy Fund
 - Best economic value to country

A comparison of costs of technologies



Source : Dr. Tilak Siyambalapitiya

Provisions in the draft SEA bill



- Objects of the Authority
 - (a) to identify, assess and develop renewable energy resources with a view to enhancing energy security and thereby derive economic and social benefits to the country;

Powers, duties and Functions



- Assist the Minister in formulating national energy policy
- Identify, conserve, inventorise and manage all renewable energy resources and technologies
 - Assess resource potential and prepare resource maps
 - Declare energy development areas
 - Render professional services in project formulation
- Develop a long term renewable energy plan
 - Interim targets for each resource
 - Prepare development guidelines
- Mobilise financing
 - Grants for pilots, Credit enhancement and concessionary funds
 - Technical services to DNA on CDM projects

Project approval process



- A powerful project approving committee comprising of all stakeholders
 - Formulating guidelines and regulations
 - Entertaining applications
 - Allocating resources
 - Pre and post project monitoring
 - A one stop shop for all approvals
- Resource maps, inventory, energy development areas and a transparent approval process
 - To reduce gestation period
 - Claim to a resource by developers in public domain
 - Land acquisition where necessary and long leases
 - A robust appeal process

Sustainability



- Renewable energy permits
 - To safeguard the protection of environment
 - A key to access commercial funding
- Managing a portfolio of financial resources
 - Sri Lanka Energy Fund to bridge funding gap
 - Levying a cess on fossil fuel imports
 - Retaining additional payments from avoided cost payments
 - Managing the carbon asset / royalty payments
 - Lease of land and resources
 - Shared savings from energy efficiency projects
 - Sustainable Energy Guarantee Fund
 - Premiums on credit guarantees
 - Service charges, penalties and interest

Our vision



- Sri Lanka has become a forerunner in the renewable energy industry
 - Country to tap the maximum possible potential of renewables, gaining from gained capacity
 - A complete resource inventory, an information and data vending centre
 - Networks of agencies for R&D and rural energy services
 - New renewables and new uses for renewables such as biofuels and wave energy
 - Catalyse the growth of renewable related industry
 - Consulting (professional services as an export industry)
 - Local manufacture of conversion equipment

Thank You