

CONTENTS

- ✘ About Sri Lanka
- ✘ Total Energy Scenario
- ✘ Energy Demand
- ✘ Energy supply
- ✘ Bottlenecks to develop Energy Policy

SRI LANKA MAP



GEOGRAPHY

- ✘ Sri Lanka is an island in the Indian Ocean
- ✘ Official name is Democratic Socialist Republic of Sri Lanka
- ✘ Extent is 65,610 sq.km. (maximum length-435km. Maximum width -225km.)
- ✘ Tropical and two major rainy seasons.
- ✘ Highest point is Piduruthalagala
- ✘ Lowest point is sea level

GEOGRAPHY CONTINUE

- × Natural resources limestone, Graphite, mineral sands, gems, phosphates and clay
- × Land use percentages
- × Water - 870sq.km
- × land area - 6474 sqkm.
- × Coast line - 1,340km.
- × Arable land - 13.43%
- × permanent crops - 15.78%
- × Irrigated land - 6,510 sq..km.

PEOPLE

- ✘ Population - 19.04 million
 - ✘ Language- Sinhala
 - ✘ Religion - Primacy to Buddhism
 - ✘ Christians
 - ✘ Literacy rate- 92.3%
 - ✘ Life expectancy;- male- 70 and female- 75
 - ✘ Density is highest in South west where Colombo (capital)
- ✘ Ethnicity-
 - ✘ Sinhalese- 74%
 - ✘ Tamil- 18%
 - ✘ Muslims- 7%
 - ✘ others - 1%

ECONOMY

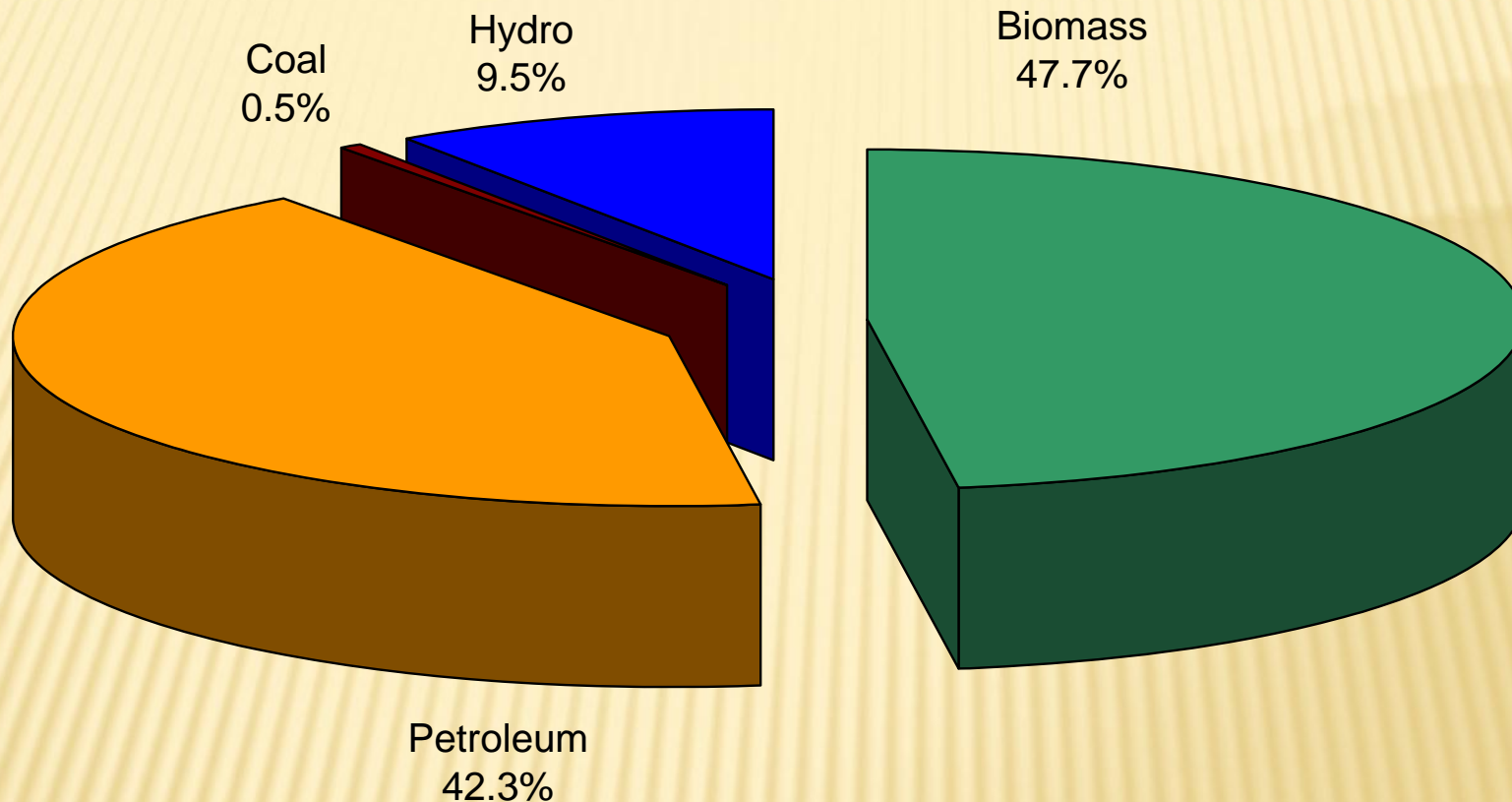
- ✘ GDP - 158\$ billion
- ✘ Annual Growth Rate - 8.3%
- ✘ Composition of GDP:-
 - ⌘ Agriculture – 12.8% (major products are rice, tea rubber coconut and spices)
 - ⌘ Industrial :- 29.2% (major industries are garments, leather goods, tea coconut, cement , chemicals, tobacco. Petrolium refining)
 - ⌘ Services – 58%

ECONOMY CONTINUE...

- ✘ Currency - Sri Lankan Rupee(LKR)
- ✘ Exchange Rate:- LKR per 129.662\$ (2012)
- ✘ population below poverty - 22% (1997)
- ✘ Inflation rate - 9.6%(2002)
- ✘ Labor force by occupation :-
 - services - 45%
 - agriculture - 38%
 - industry - 17%

TOTAL ENERGY SCENARIO

Sri Lanka Primary Energy Supply:



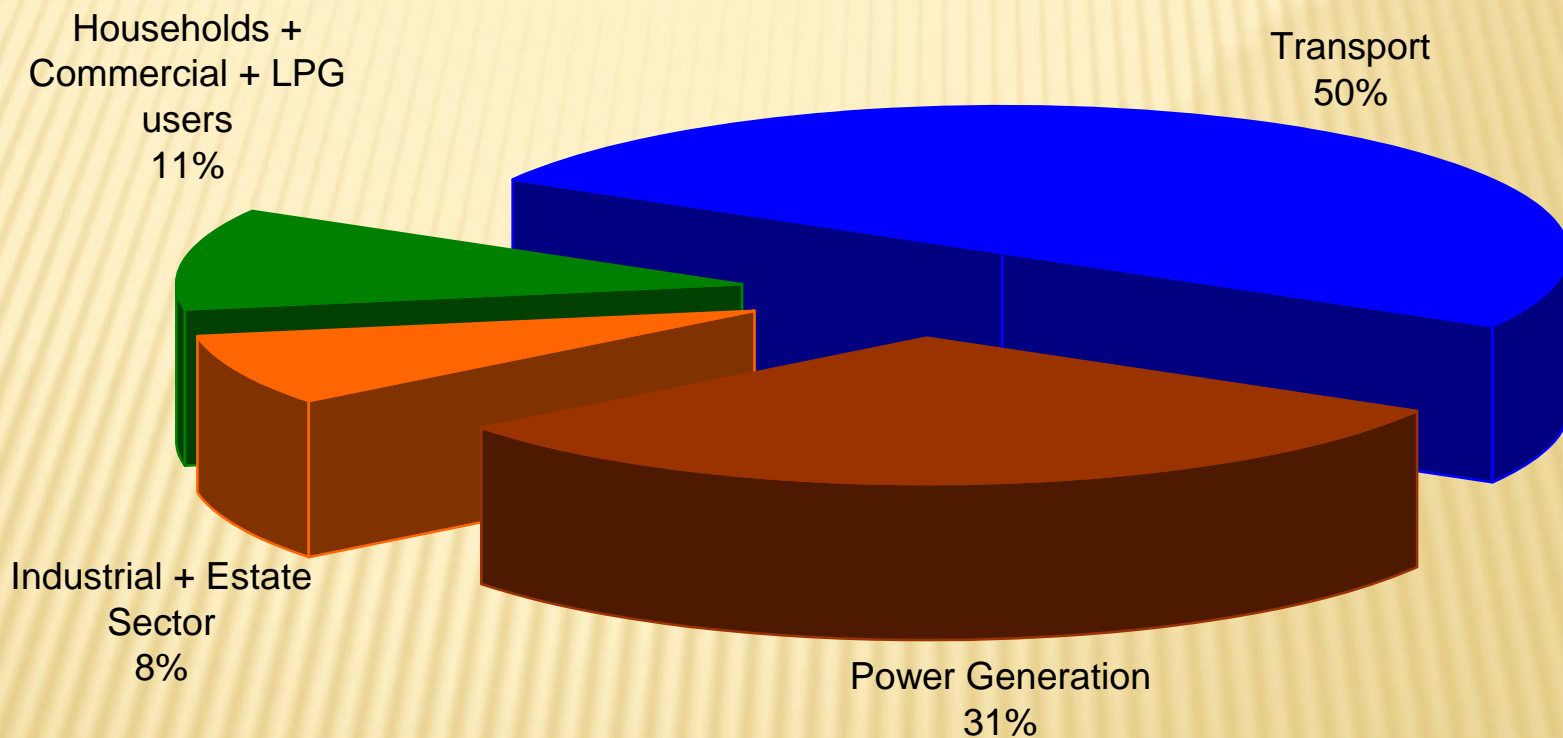
Total primary energy supply: 10 million toe
Per capita supply: 0.5 toe
Share of renewable energy 57.2%

Energy Delivered to End-users

Subsector	Biomass (thousand MT)	Petroleum (thousand MT)	Electricity (GWh)	Coal (MT)
Household, commercial & others	8,376.2	337.9	5,236.6	-
Transport	-	2,103.3	-	-
Industry	3,955.7	300.7	2,956.6	67.8
Agriculture	-	13.7	-	-
Total	12,331.9	2,755.6	8,193.2	67.8

Total in thousand tonne of oil equivalent (ktoe)	4,689.0	2,802.3	704.6	67.8
	56.7%	33.9%	8.5%	0.8%

PETROLEUM SECTOR - DEMAND



Petroleum Sub-sector

- All petroleum is imported either as crude oil or refined products
 - One 50,000 barrel/day refinery in operation, expansion to 125,000 barrel/day planned
 - Country demand equivalent to about 4,1 million MT (approx 70,000 bbl/day)
- Transport sector uses about 75% of petroleum at end-user level (no other forms of energy is used for transport)
- Two retailers, one joint terminal company
- Efforts to use renewable energy for transport at their infancy
 - Development of biofuels at experimental stage
 - More work required

PETROLEUM SECTOR

- Governing Structure
 - + The Ministry of Petroleum and Petroleum Resource Development is in charge of the sector.
- Market Players
 - + State owned Ceylon Petroleum Corporation (CPC) carries out importation of crude oil and finished products as well as refining the imported crude using its 60,000 barrels/day refinery.
 - + CPC and Lanka Indian Oil Company (LIOC) posses storage and distribution networks across the country.
 - + Two LPG suppliers are operational at present.
- Resources
 - + Recent studies have shown positive signs about petroleum resources being available in territorial waters of Sri Lanka.
 - + Currently a bidding process is going on for exploration of petroleum.

Electricity Sub-sector

- About 40% of electricity generation is from renewable sources (both conventional and non-conventional)
 - Renewable share is declining as growth in demand requires rapid development of new generating plant
- No supply demand gap; last load shedding was in 2002
 - However, growing demand required thermal generation
 - All thermal generation is oil-fired; new coal-fired power plants under construction
- About 93% of households now served by the grid, 2% serve by off-grid services
 - All off-grid services are from renewable sources
- Electricity prices are high compared with other countries
 - Provides life-line rates
 - Cost of non-conventional renewables is an issue

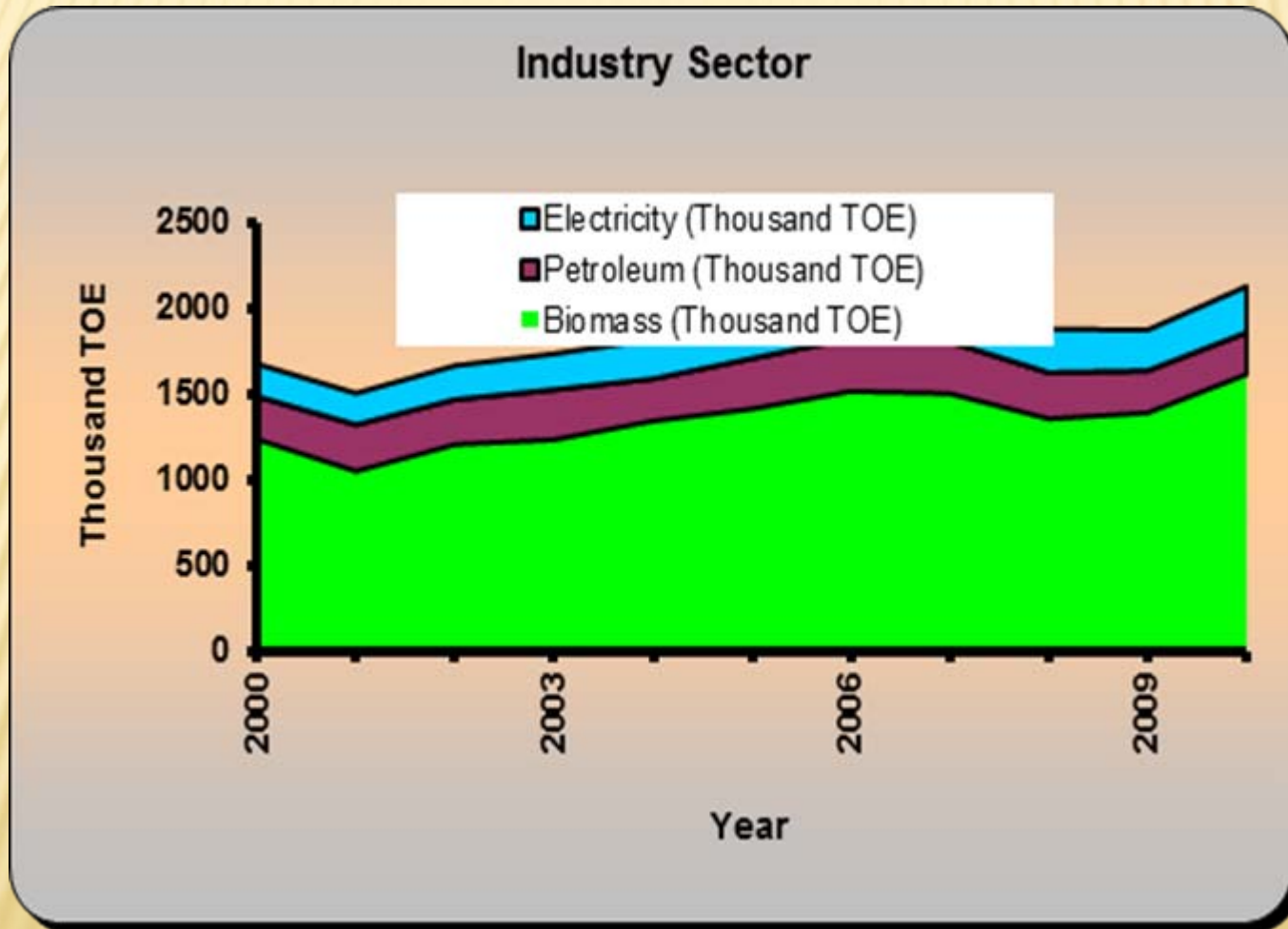
ELECTRICITY SECTOR

- ✘ Governing Structure
 - + Ministry of Power and Energy is the governing body of the sector

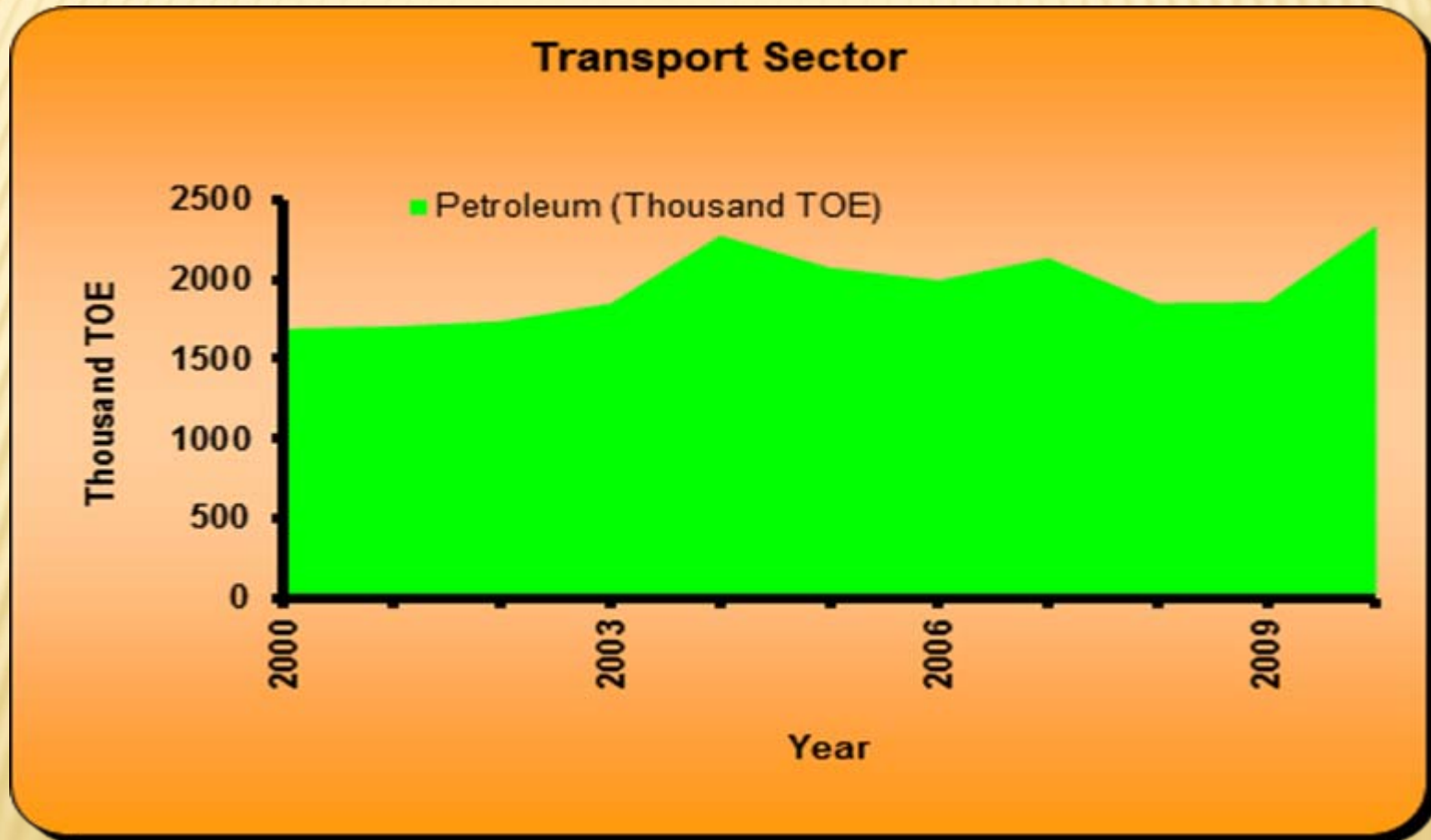
- ✘ Market Players
 - + Ceylon Electricity Board (CEB) is the owner and the operator of the national grid and the majority of power generation facilities including all major hydro power plants.
 - + A specialized electricity distribution company is involved in distributing electricity to about 20% of the total electricity consumers of the country.
 - + 8 independent power producers operate thermal power plants and sell the generation to CEB in accordance to long term Power Purchase Agreements.
 - + More than 50 small scale power producers are in operation under a separate scheme specifically established to develop the renewable based power generation in the country.

- ✘ Resources
 - + Sri Lanka extensively utilizes Hydro power for electricity generation and almost all large scale hydro sites are already being used.
 - + Good potential of Renewable Energy Resources

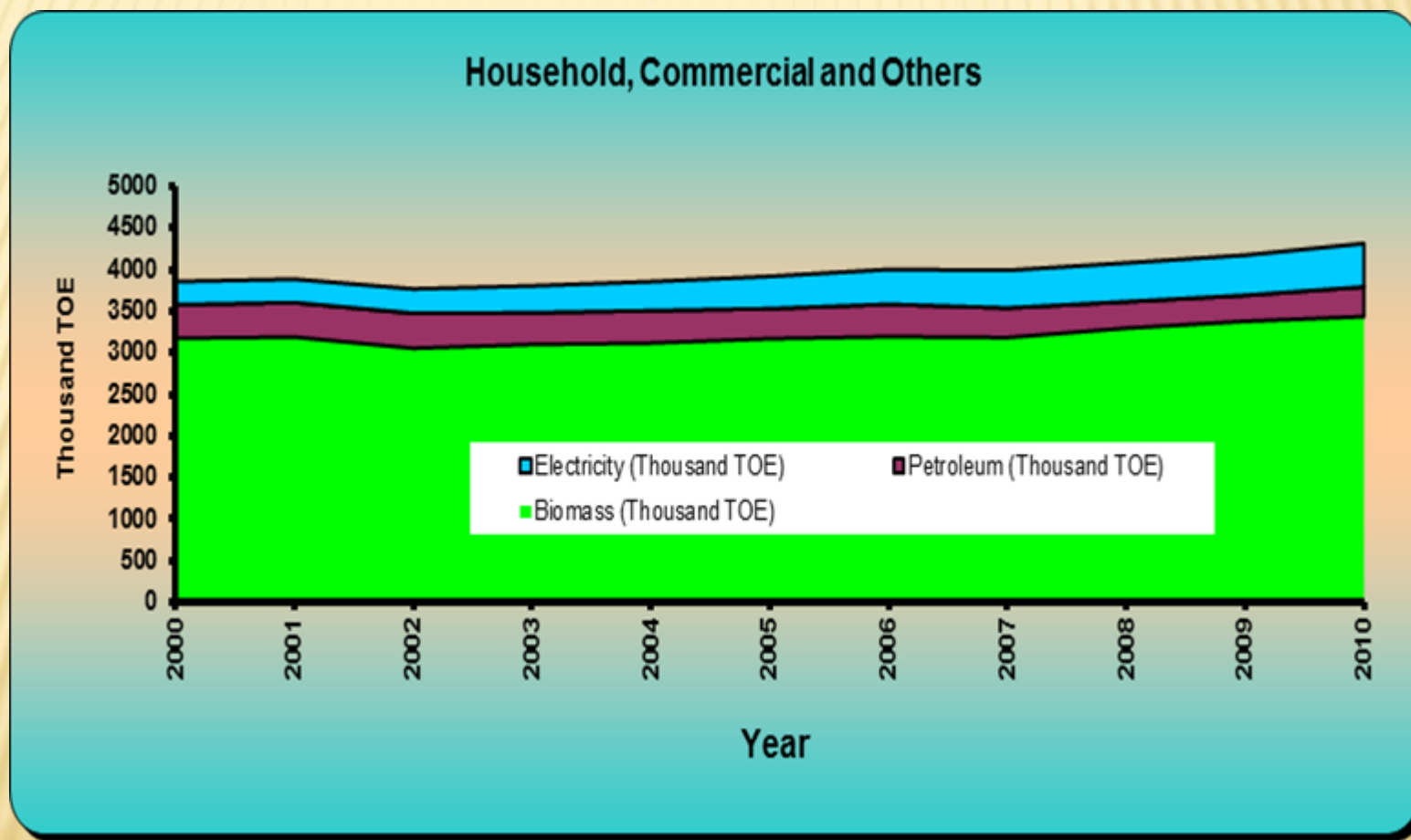
ENERGY SUPPLY FOR INDUSTRY SECTOR



ENERGY SUPPLY FOR TRANSPORT SECTOR



ENERGY SUPPLY FOR HOUSEHOLDS AND COMMERCIAL



ANALYSIS OF SRI LANKA ENERGY SECTOR

✘ Strengths

- + Abundant availability of biomass as an energy source.
- + No cost biomass provides almost 50% of country energy demand.
- + High portion of electricity is generated through low cost hydro.
- + No seasonality effects on energy consumption.
- + Almost 93% of households already electrified.

ANALYSIS OF SRI LANKA ENERGY SECTOR

✘ Weaknesses

- + Total petroleum demand has to be imported (almost 1/3 of country foreign earnings).
- + Hydro resources are fully utilized.
- + Thermal power is generated using liquid petroleum and cheaper options are yet to be developed (e.g. Coal & nuclear).
- + Being an island, cross border energy trade is curtailed.

ANALYSIS OF SRI LANKA ENERGY SECTOR

- ✦ Opportunities
 - + Petroleum exploration has been initiated backed by strong indications of either gas or liquid petroleum being available.
 - + A large potential for renewable energy development has been identified (e.g. wind potential estimated to be 20,000 MW).
 - + Vigorous campaigns are on-going to reduce energy wastages.
 - + Development of cheaper power generating options are underway, which could reduce the country energy costs substantially.



ANALYSIS OF SRI LANKA ENERGY SECTOR

✘ Threats

- + Highly susceptible to international petroleum price variations.
- + Increasing energy demand being met exclusively through imported petroleum fuels could lead to heavy Budget deficits.
- + Emerging environmental concerns could limit exploitation of cheaper energy supply options such as coal.
- + Country energy security is compromised against cost.

ENERGY POLICY STRATEGIES AND TARGETS

- × **The Government recently revised and approved the National Energy Policy and Strategies of Sri Lanka^[1]. The policy document consists of (a) Energy Policy Elements (b) Implementing Strategies and (c) Specific Targets, Milestones and Institutional Responsibilities. The major guiding policy elements are the following:**
- × **(i) Providing Basic Energy Needs**
- × **(ii) Ensuring Energy Security**
- × **(iii) Promoting Energy Efficiency and Conservation**
- × **(iv) Promoting Indigenous Resources**
- × **(v) Adopting an Appropriate Pricing Policy**
- × **(vi) Enhancing Energy Sector Management Capacity**
- × **(vii) Consumer Protection and Ensuring a Level Playing Field**
- × **(viii) Enhancing the Quality of Energy Services**
- × **(ix) Protection from Adverse Environmental Impacts of Energy Facilities**

Thank You!

Contact : report@tky.ieej.or.jp