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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.
Natural resources: limestone, Graphite, mineral sands, gems, phosphates and clay.

Land use percentages:
- Water - 870 sq.km
- Arable land - 13.43%
- Permanent crops - 15.78%
- Irrigated land - 6,510 sq.km
- Coast line - 1,340 km
- Land area - 6,474 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, petroleum 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

<table>
<thead>
<tr>
<th>Subsector</th>
<th>Biomass (thousand MT)</th>
<th>Petroleum (thousand MT)</th>
<th>Electricity (GWh)</th>
<th>Coal (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household, commercial &amp; others</td>
<td>8,376.2</td>
<td>337.9</td>
<td>5,236.6</td>
<td>-</td>
</tr>
<tr>
<td>Transport</td>
<td>-</td>
<td>2,103.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Industry</td>
<td>3,955.7</td>
<td>300.7</td>
<td>2,956.6</td>
<td>67.8</td>
</tr>
<tr>
<td>Agriculture</td>
<td>-</td>
<td>13.7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12,331.9</strong></td>
<td><strong>2,755.6</strong></td>
<td><strong>8,193.2</strong></td>
<td><strong>67.8</strong></td>
</tr>
</tbody>
</table>

Total in thousand tonne of oil equivalent (ktoe):

- Biomass: 4,689.0
- Petroleum: 2,802.3
- Electricity: 704.6
- Coal: 67.8

- Biomass: 56.7%
- Petroleum: 33.9%
- Electricity: 8.5%
- Coal: 0.8%
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 Boar (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 sells 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 utilize 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

Industry Sector

Year

Electricity (Thousand TOE)
Petroleum (Thousand TOE)
Biomass (Thousand TOE)

Thousand TOE

2500
2000
1500
1000
500
0

2000
2003
2006
2009
ENERGY SUPPLY FOR TRANSPORT SECTOR

Transport Sector

Petroleum (Thousand TOE)

Year

Thousand TOE

**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.
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.
Opportunities

- Petroleum exploration has being 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.
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.
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!

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