Sri Lanka

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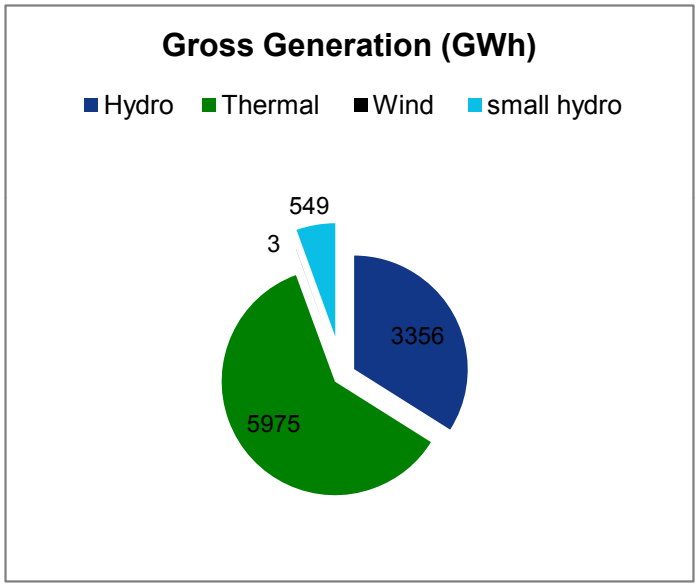
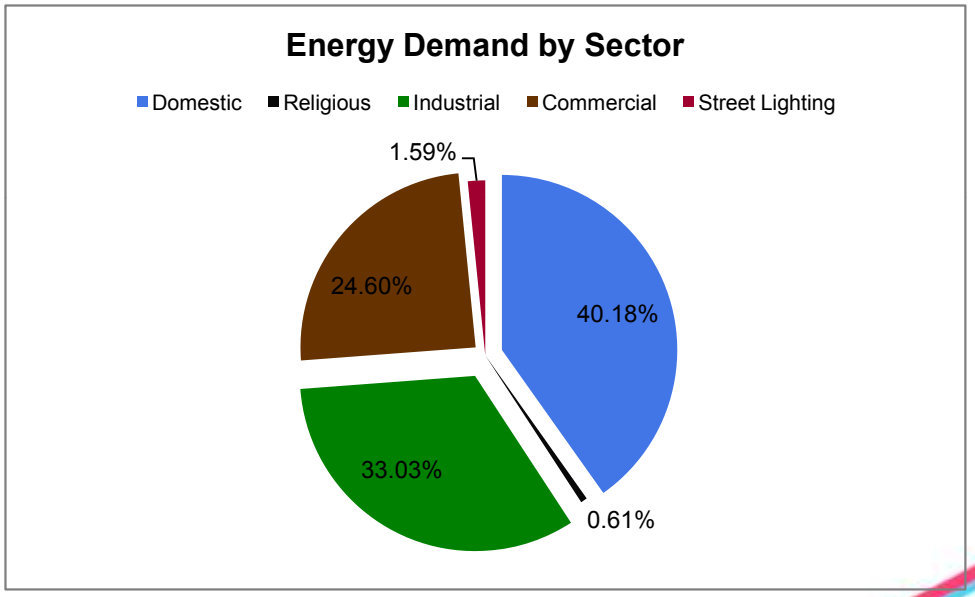
Energy Sector Overview

- Population: 20.65 million
- Electrification Rate: 89%
- Population Connected to Grid: 87%
- Energy Stakeholders: Ceylon Electricity Board and Private Power Producers

Power Generation

- Total Power Generation: 10,714 GWh in 2010
- Power Generation Mix



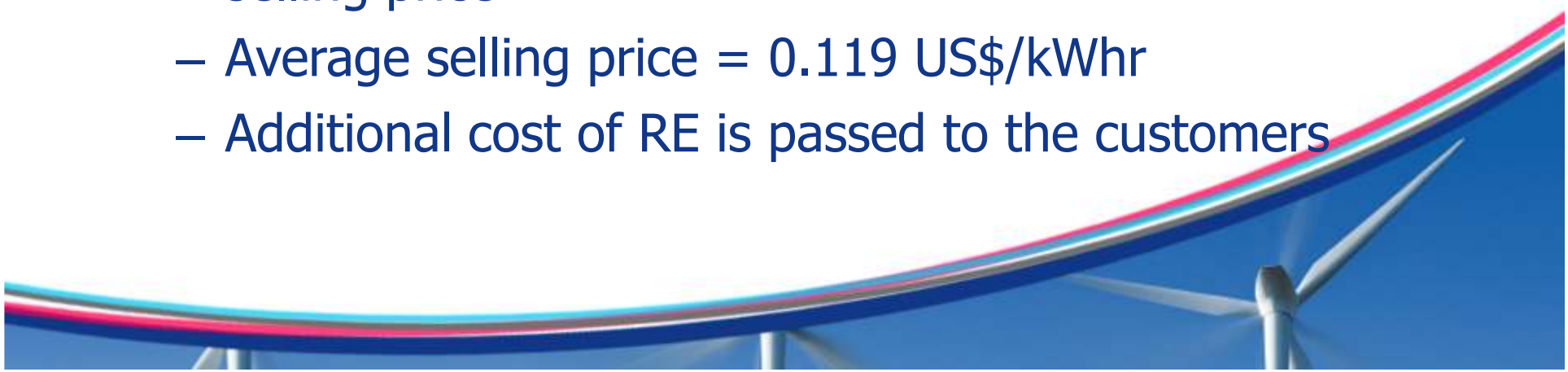


Renewable Energy

- RE Policy highlights:
  - The Government has set clear policy targets to develop NCRE resources.
  - The Government envisions increasing the share of NCRE by 10% in grid electricity by 2015 and further increasing the target to 20% by 2020.
- Wind Target:
  - 85 MW by 2015
  - 300 MW by 2020

Electricity Cost: Subsidies and Incentives

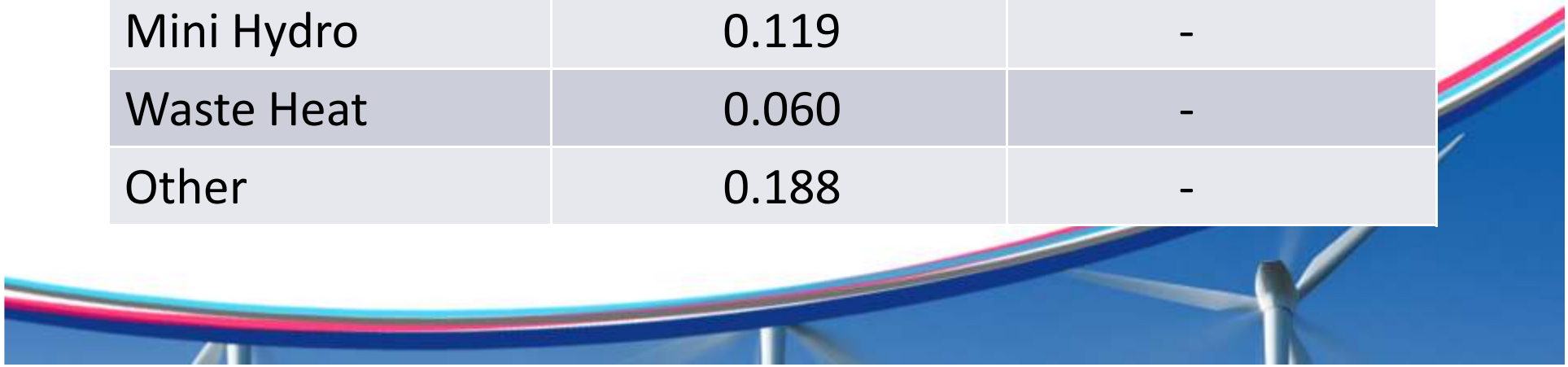
- Fossil Fuel Subsidies
  - Furnace oil for power generation is given to CEB with a subsidy of about 0.18 US$/liter
  - The fossil fuel subsidy then becomes 0.04 US$/kWh
- RE Subsidies
  - Cost reflective tariff, which is higher than the average selling price
  - Average selling price = 0.119 US$/kWhr
  - Additional cost of RE is passed to the customers



Electricity Cost: Subsidies and Incentives

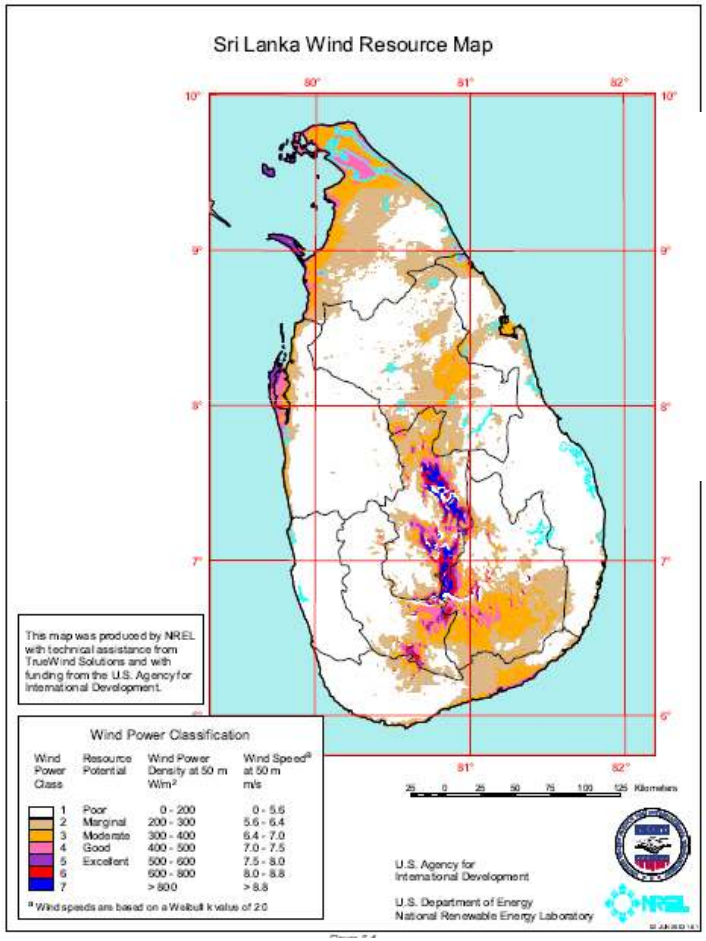
- RE Subsidies

RE Source	Base Rate ($/kWh)	Subsidy ($/kWh)
Wind	0.177	-
Solar	0.188	-
Biomass (Dendro)	0.188	-
Biomass (Residues)	0.132	-
MSW	0.200	-
Mini Hydro	0.119	-
Waste Heat	0.060	-
Other	0.188	-



Wind Resource Potential

- Country Wind Potential: NREL Study

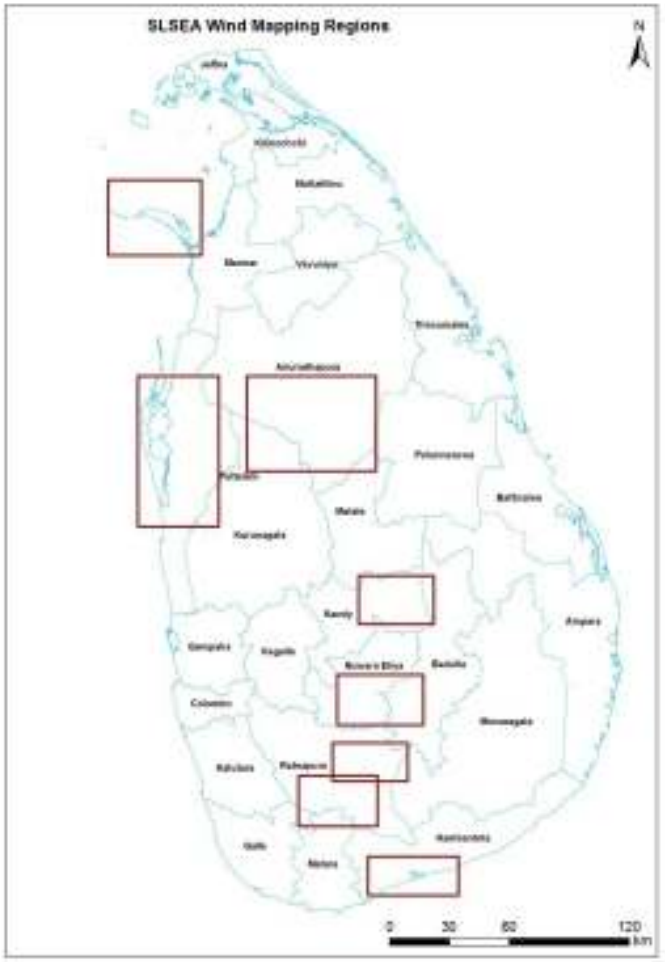


Good-to-Excellent Wind Resource at 50 m

Wind Resource Utility Scale	Wind Class	Wind Power at 50 m W/m^2	Wind Speed at 50 m m/s*	Land Area km^2	Lagoon Area km^2	Total Area km^2	Percent Windy Land	Total Capacity Installed MW
Good	4	400 - 500	7.0 – 7.5	2,341	664	3,005	3.6	15,000
Excellent	5	500 - 600	7.5 – 8.0	788	41	829	1.2	4,150
Excellent	6	600 - 800	8.0 – 8.8	517	0	517	0.8	2,600
Excellent	7	> 800	> 8.8	501	0	501	0.8	2,500
Total				4,147	705	4,852	6.4	24,250

Wind Resource Potential

- Country Wind Potential: Measurements by SEA



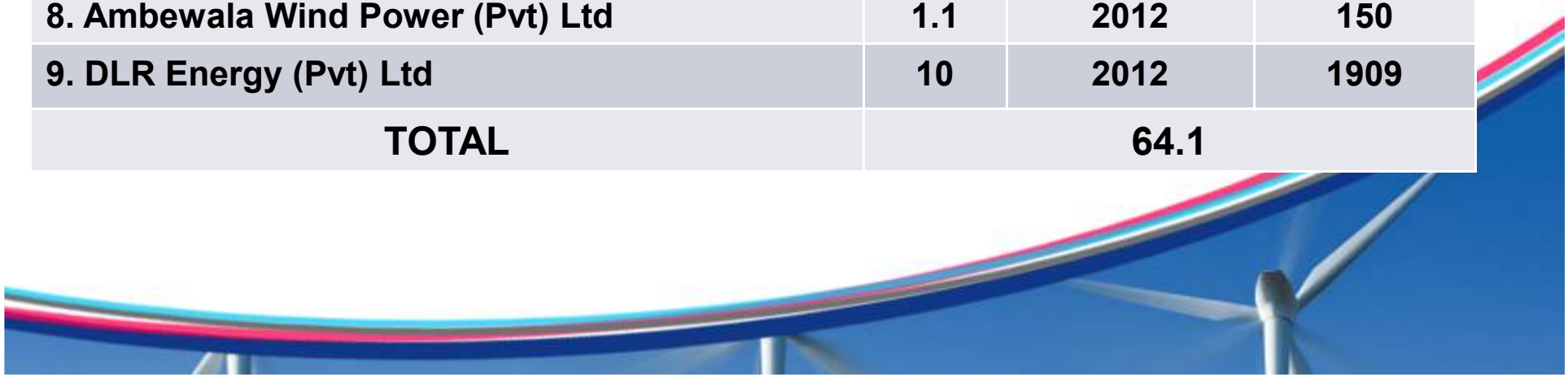
Total Installed Wind Capacity

as of December 2010

Operational Wind Projects	MW	Year
Mampuri WPP - Senok Wind Power (Pvt) Ltd	10	2010
Seguwantivu WPP - Seguwantivu Wind Power (Pvt) Ltd	10	2010
Vidatamunai WPP - Vidatamunai Wind Power (Pvt) Ltd	10	2010
Willpita WPP - Willwind (Pvt) Ltd	0.15	2010
TOTAL	**30.15**	

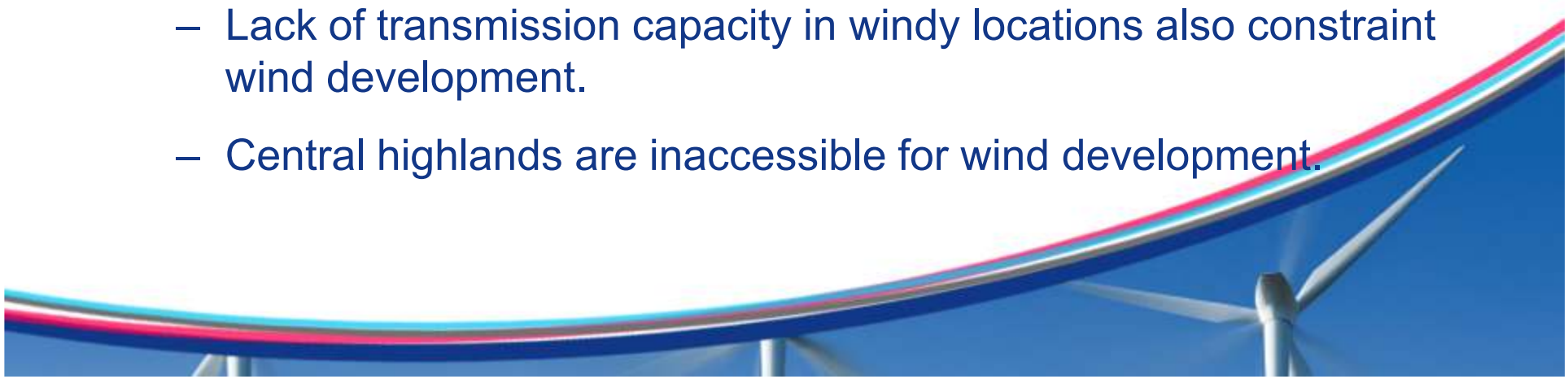
Additional Wind Capacity

Pipeline of Wind Projects	MW	Estimated Year	Estimated Cost (LKR mn)
1. Senok Wind Resources (Pvt) Ltd (Mampuri III)	5.4	2012	2875
2. Senok Wind Energy (Pvt) Ltd (Mampuri II)	10	2012	2875
3. Ace Wind Power (Pvt) Ltd	3	2012	247
4. Nirmalapura Wind Power (Pvt) Ltd	10	2012	2414
5. PowerGen Lanka (Pvt) Ltd	10	2012	1,730 Euro
6. LTL Holdings (Pvt) Ltd	9.8	2012	2859
7. Nala Dhanavi (Pvt) Ltd	4.8	2012	1428
8. Ambewala Wind Power (Pvt) Ltd	1.1	2012	150
9. DLR Energy (Pvt) Ltd	10	2012	1909
TOTAL	64.1		



Issues

- Capacity / Grid limitation is one of the main barriers for further development of wind power
  - Sri Lanka's load profile features a deep off-peak valley and a very sharp evening peak. Operation of wind plants in high wind seasons (coinciding with the high hydro season) during off-peak hours has severely restricted future development.
  - At present, power purchase agreements feature a forced shut down period during off-peak periods.
  - Finding suitable development land is becoming very difficult.
  - Lack of transmission capacity in windy locations also constraint wind development.
  - Central highlands are inaccessible for wind development.



Issues

- Lack of Economic Benefits
  - Modern Wind Technology today is alien to Sri Lanka, with very little room for local value addition.
  - Very few jobs were created in Sri Lanka.

Next Steps

- Future development of wind power
  - A very attractive tariff of around USCts.20/kWh is on offer.
  - Sri Lanka has become a crowded market place for wind energy development !
  - Wind industry require a robust implementation mechanism which in essence should be based on competitive bidding systems - NOT on first come first served basis as at present.
  - Future projects will be on a larger scale, targeting public private partnerships as the basis for investment.
  - Identify what positive outputs will be available from developing wind, such as employment creation, technology transfer & local value addition, foreign exchange saved, etc.