

Is Solar Power Economical for Sri Lanka ([pdf file here](#))

Abstract:

To generate 25% of Sri Lankas current power generating capacity USD 1 billion is needed for just the Solar Panels. 6% interest on 1 billion is 60 million.

The cost of oil (at USD100/barrel) for 25% of power generation is USD 17 billion. Paying USD 60 million in interest to save USD 17 million is not economical.

Power Generation Costs

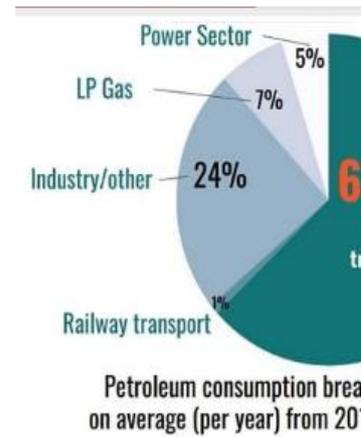
1,842 (000 Metric Ton MT)¹ is the total crude oil Import in 2019
Thats 13,501,860 Barrels (approx 7.33 barrels per MT of crude)
Cost USD 1,350,186,000 at USD 100/barrel

Note: 5% of fuel imports used for power generation.

USD 67,509,300 for 5% Fuel imports used for Power Generation

So to replace 25% Power generation.

USD 17 million (16,877,325) saved by 25% power generated by solar



Solar Panel costs to replace 25% Power Generated by oil.

4,083 Megawatt (MW) power generation capacity²

1,000 MW is 25% of Capacity

365 W for 1.83 sq m2 panel (see link for solar panel data³)

So to get 25% capacity

2,739,726 Solar Panels needed (1,000,000,000 W / 365W)

Cost USD 890 million (2,739,726 * USD 325)

So approx USD 1 billion for just the Solar Panels to get 25% capacity.

I am not even going to bother about battery and other installations costs.

Established that approx USD 1 billion needed to generate 25% power.

Say funded at 6% interest rate, Thats USD 60 million (60,000,000) in interest payments.

So Sri Lanka pays USD 60million/year interest payments to save USD 17million for 25% power generation by oil.

So whichever way you cut that cake, it is not economically viable.

That said I am sure it will be done with politicians palms being greased and businessmen salivating over the gormous profits.

If Sri Lanka has that kind of money, they should invest industry that does value addition and brings in foreign exchange

eg1 Refining ilmenite into titanium

eg2 refining Powdered Quartz is Rs. 3,600 (~US \$ 32) a ton whereas one kilo gram of the purified product is worth nearly US \$ 50,000.

Value addition brings in Foreign Exchange. This whole solar business is a drain on foreign exchange

¹[Economic and Social Statistics of Sri Lanka\(pg 46, table 1.4\)](#)

²<https://www.trade.gov/country-commercial-guides/sri-lanka-energy>

³<https://sunwatts.com/365-watt-phono-solar-mono-all-black-solar-panel/>

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