

SERENDIB SOLAR

SERENDIB SOLAR ENERGY FOR A BRIGHTER FUTURE

www.serendibsolar.lk





SERENDIB SOLAR



WHO WE ARE

We are a renewable energy company dedicated to delivering reliable solar solutions. Our focus is on innovation, sustainability, and customer satisfaction.



SERENDIB SOLAR

OUR COMMITMENT

Mission

Deliver affordable solar technology that reduces environmental impact and drives energy independence.

Vision

To make clean energy accessible to every home and business.

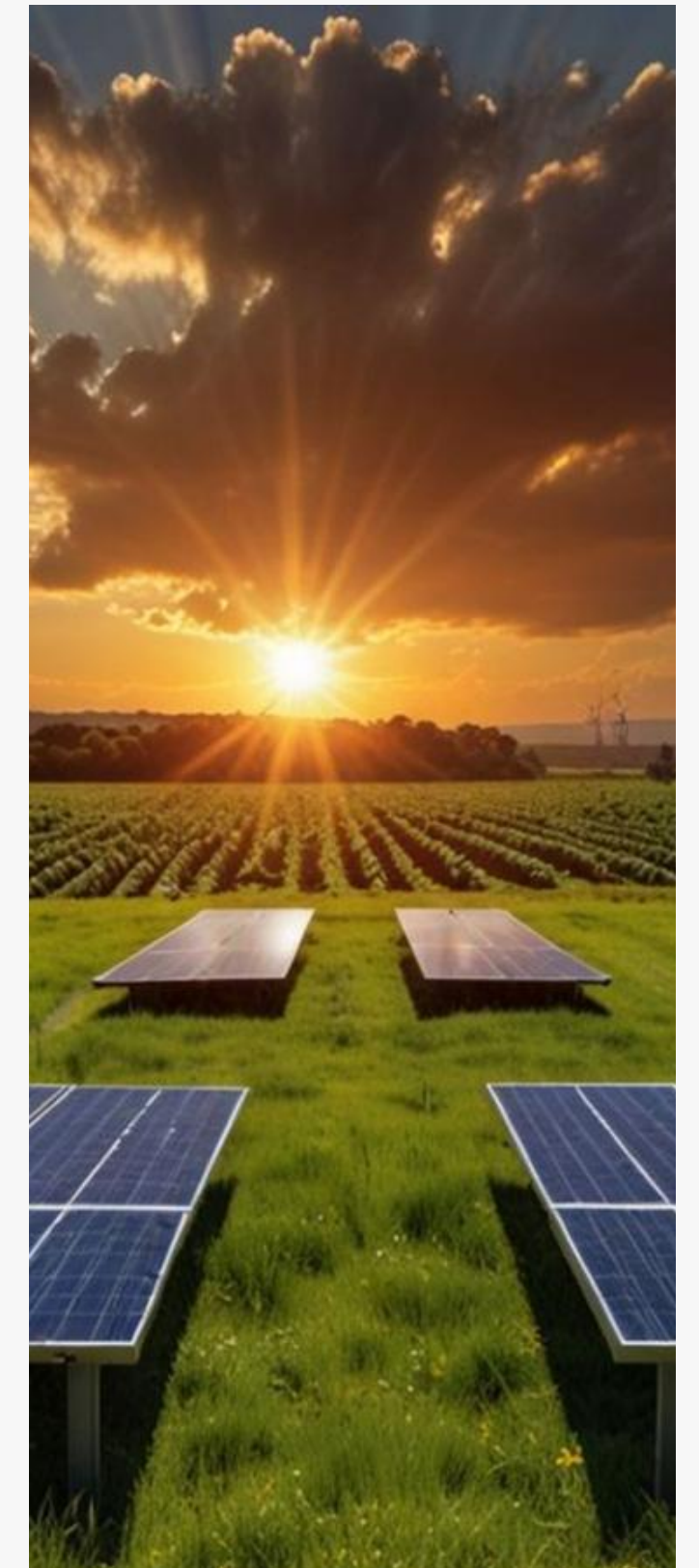
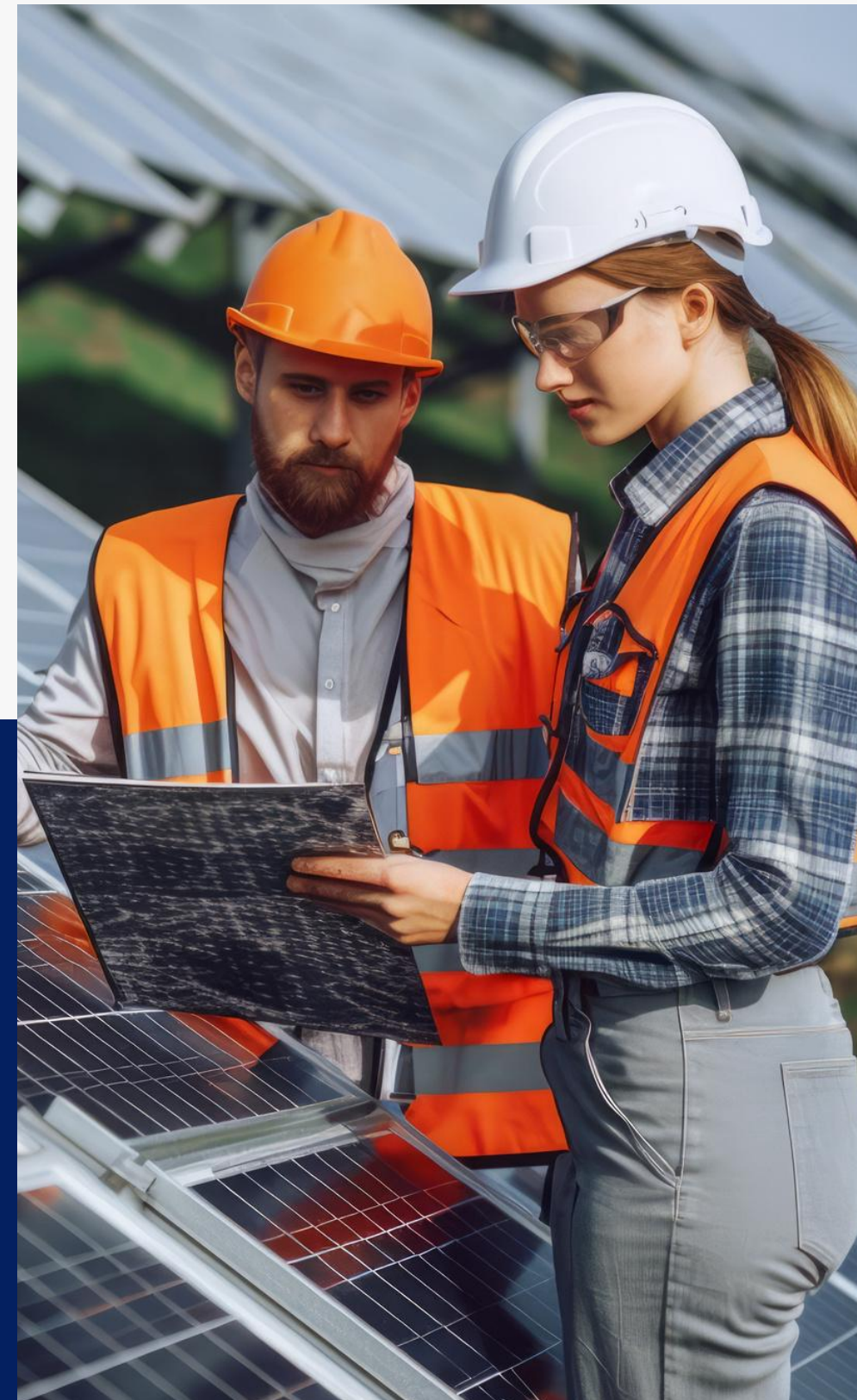


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1mw Solar Power Project

Evaluation & Feasibility Overview for Sri Lanka

Comprehensive Site Footprint, Financial Projections, Regulatory Lifecycle & Implementation Roadmap for Sri Lanka





Executive Summary

1 MW

Target capacity

5 acres

Land requirement

USD 1 M

Estimated CAPEX

9.76 years

Base payback

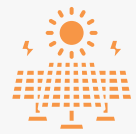
- ❖ A utility-scale solar generation project designed for Sri Lanka for Sri Lankans
- ❖ The project combines long-term renewable electricity generation with a structured CEB PPA revenue model.
- ❖ Successful implementation depends on suitable land, grid capacity, regulatory approvals, financing and EPC execution.



Land Allocation & Technical Specifications

- ❖ Target capacity: 1 mw AC utility-scale solar generation.
- ❖ Required footprint: approximately 5 acres Fixed-tilt configuration
- ❖ Single-axis tracker configuration: approximately 6 acres due to additional row spacing.
- ❖ Preferred site: relatively flat land with less than 5° slope, outside protected environmental/wildlife areas.
- ❖ Close proximity to a CEB grid substation capable of absorbing the 1mw injection is critical.





Capex Budget Breakdown (Excludes Solar panel and installation)

1MW Solar + 1MW BESS Cost Grid (Land Excluded)				
Category / Phase	Responsible DEPT / Entity	Estimated Cost (USD)	Estimated Cost (LKR)	Notes & Frequency
1. Accredited Consulting Fees		\$15,000 – \$30,000	4.5M – 9.0M	Total Lifecycle Costs
Phase 1: Pre-Feasibility (F1)	SLSEA Registered Consultant	\$3,000 – \$5,000	900,000 – 1.5M	Required for primary processing.
Phase 2: Interconnection Study	Electrical Engineering Firm	\$5,000 – \$8,000	1.5M – 2.4M	BESS simulation & harmonics.
Phase 3: IEE & Environmental Liaison	Environmental Consultant	\$3,000 – \$5,000	900,000 – 1.5M	CEA & local department log.
Phase 4: BOI Cargo & Grid Compliance	Owner's Engineer	\$4,000 – \$12,000	1.2M – 3.6M	Single lines, BOI, PPA filing.
2. Government Approvals & Licenses		\$1,300 – \$2350	390,000 – 705,000	Official Statutory Fees
SLSEA Application & Registration	SLSEA	\$350	105,000	Statutory fee per MW.
CEB Interconnection & System Study	CEB Northern Province Office	\$500 – \$1,000	150,000 – 300,000	Testing and grid mapping.
PUCSL Generation License	PUCSL	\$50 – \$100	15,000 – 30,000	Registration + initial gazette.
Local Pradeshiya Sabha Dev Permit	Local Authority (Jaffna)	\$200 – \$500	60,000 – 150,000	Zoning and building approval.
Line Agencies (Archaeology/Aviation)	Central Departments	\$200 – \$400	60,000 – 120,000	Logistics, field inspections.
3. Logistical & Port Logistics (BESS)		\$4,000 – \$9,000	1.2M – 2.7M	Direct Import Handling
BOI Processing & Processing Charges	Board of Investment (BOI)	\$1,500	450,000	Registration under Section 16/17.
SLPA Port Dangerous Goods (DG) Clearance	Sri Lanka Ports Authority	\$1,000 – \$2,500	300,000 – 750,000	Special handling for Lithium batteries.
Direct Escorted Trucking (Colombo to Jaffna)	Freight Contractor	\$1,500 – \$5,000	450,000 – 1.5M	Dangerous Goods immediate haulage.
4. Grid Evacuation Infrastructure		\$15,000 – \$40,000	4.5M – 12.0M	Physical Grid Link
Step-up Transformer & Switchgear	Procurement Contractor	\$10,000 – \$25,000	3.0M – 7.5M	Needed to match the 33kV line.
Service Drop / Pole Evacuation Line	CEB Engineering	\$5,000 – \$15,000	1.5M – 4.5M	Depends on distance to the closest line.
TOTAL SOFT COSTS & SOFT MATERIEL		\$35,300 – \$81,350	10.6M – 24.6M	Total Project Launch Cost

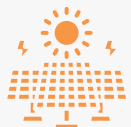


Hardware Capex Breakdown (USD)

Component / Layer	Estimated Cost Range (USD)	Notes & Specifications
Solar PV Modules	\$110,000 – \$140,000	~1,700 high-efficiency Tier 1 Monocrystalline/ TOPCon panels (~580W+ each).
Battery Energy Storage (BESS)	\$220,000 – \$300,000	A containerized 1MW/2MWh Lithium Iron Phosphate (LFP) system including integrated liquid cooling and fire protection.
Power Conversion & Inverters	\$90,000 – \$130,000	Utility-scale bidirectional storage inverters (PCS) and smart Energy Management Systems (EMS).
Balance of System (BoS)	\$80,000 – \$120,000	Structural ground-mounting racks, pile foundations, combiner boxes, and DC/AC cabling.
High-Voltage Grid Evacuation	\$35,000 – \$60,000	33kV outdoor step-up transformer, circuit breakers, and protection switchgear to match the CEB line.
Civil, Marine Freight & Soft Costs	\$415,000 – \$600,000	International ocean freight, Class 9 Dangerous Goods handling [4.3], civil site prep, engineering consultants, and CEB grid connection fees.
TOTAL INITIAL CAPEX BUDGET	\$950,000 – \$1,350,000	Estimated all-in launch capital.

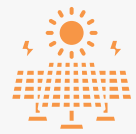
Please note

- ❖ This is high end pricing for budgeting purpose only
- ❖ Non negotiated
- ❖ Other cheaper solutions from Australia and Europe (with Subsidy)
- ❖ Have to explore EU and AUS support for developing countries G2G
- ❖ India also has new innovative solutions
- ❖ India is a friendly country and has subsidised a few renewable energy projects in Sri Lanka



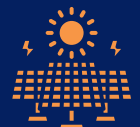
Project Timeline

Approximate timeline can be adjusted as per the resouces and Skill of the consultants						
Task ID	Task Name	Days	Predecessors	Resources / Departments Involved	Key Milestone / Output	Months
1	PRE-DEVELOPMENT PHASE	60				2
1.1	Onboard Accredited Solar Consultant & Land Survey	15		Solar Consultant, Licensed Surveyor	Signed Consulting Contract & Topo Plan	0.5
1.2	Compile Solar Resource Data & Design Civil Layout	15	1.1	Solar Consultant	1MW Solar + BESS Preliminary Layout	0.5
1.3	Draft & Submit SLSEA Format F1 Pre-Feasibility Study	15	1.2	Solar Consultant	Completed F1 Submission Dossier	0.5
1.4	Review Process & Secure SLSEA Provisional Approval (PA)	15	1.3	SLSEA	Milestone: Provisional Approval Granted	0.5
2	REGULATORY & GRID CLEARANCES	120				4
2.1	File System Impact Assessment & Harmonics Request	15	1.4	CEB Northern Province Office	Technical Dossier Acknowledged by CEB	1
2.2	Conduct Grid Interconnection & Battery Simulation Studies	30	2.1	Electrical Engineer Consultant, CEB	Validated Grid Integration Model	1
2.3	Draft Initial Environmental Examination (IEE)	30	1.4	Environmental Consultant, CEA	IEE Report Submitted to CEA	1
2.4	Field Inspections: Archaeology, Aviation & Local Authorities	30	2.3	Sabha	Certificates	1
2.5	Issuance of Final Grid Interconnection Clearance Certificate	15	2.2, 2.4	CEB Transmission Division	Milestone: Grid Connection Approved	0
3	COMMERCIAL & TAX LEGALIZATION	75				2.5
3.1	File BOI Section 17 Application & Submit Master Cargo List	30	2.5	Board of Investment (BOI)	Master Cargo List Approved	1
3.2	Apply for Public Utilities Commission Generation License	30	2.5	PUCSL	Gazette Notification Published	1
3.3	Obtain BOI Customs Duty & VAT Waiver Authorization Letters	15	3.1	BOI, Sri Lanka Customs	Active	0.5
4	GLOBAL PROCUREMENT & HAZARDOUS LOGISTICS	60				2
4.1	Procurement Order Placement: Solar Modules, Inverters & BES	15	3.3	Procurement Engineer, Global Factory	Factory Production Initiated	1
4.2	International Shipping Transit (Freight to Colombo Port)	30	4.1	Shipping Line, Freight Forwarder	Bill of Lading Issued	1
4.3	Process SLPA Class 9 Dangerous Goods (DG) Port Clearance	7	4.2	Sri Lanka Ports Authority, SLSI	Customs Release Note	0
4.4	Direct Escorted Container Trucking (Colombo Port to Jaffna)	8	4.3	Hazardous Freight Contractor	Milestone: Hardware On-Site in Jaffna	0
5	PHYSICAL SITE CONSTRUCTION	90				3
5.1	Site Clearing, Perimeter Fencing & Piling Operations	30	4.4	Civil Construction Contractor	Foundation Pads Poured	1
5.2	Install Mounting Structures & Secure Solar PV Modules	30	5.1	Electrical / Mechanical Crew	PV Arrays Anchored & Wired	1
5.3	Install BESS Enclosure, Inverters & 33kV Step-Up Transformer	15	5.2	Owner's Engineer, BESS Vendor		1
5.4	Erect Transmission Interconnection to CEB Service Drop Pole	15	5.3	CEB Regional Engineers, Contractor	Complete	0
6	COMMISSIONING & COMMERCIAL OPERATION	30				1
6.1	Internal Cold Commissioning & BESS Islanding Safety Tests	10	5.4	Solar Consultant, BESS Commissioning Engineer	Internal Safety Log Signed	0
6.2	CEB Grid Synchronization, Harmonization & Hot Inspections	10	6.1	CEB Transmission Engineers, PUCSL Inspector	Successful Hot Energization	0
6.3	Formal Execution of 20-Year Power Purchase Agreement (PPA)	10	6.2	CEB Commercial Division, Developer	Milestone: Commercial Operation Date	0
	TOTAL	435				15



Current Major Projects in Sri Lanka

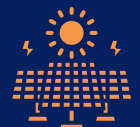
Project Name	Location (District)	Installed Capacity (MW)	Current Status	Developers / Operators
Gonnoruwa Solar Energy Park	Hambantota	150	Under Construction	Joint Venture (DH Energy Singapore & Greentech Capital)
Sampur Solar Power Project	Trincomalee	120	Under Development / Tendering	Trincomalee Power Company Ltd (CEB & India's NTPC Ltd JV)
Siyambalanduwa Rividanavi Solar Park	Moneragala	100	Under Construction	Consortium: Lakdhanavi Ltd, WindForce PLC, & The Blue Circle
Laugfs Solar Power Station	Hambantota	20	Operational	Laugfs Power PLC
Vavunathivu / Solar Universe Project	Batticaloa	10	Operational	Joint Venture: WindForce PLC, Vidullanka PLC, & HiEnergy
Welikande Solar Power Plant	Polonnaruwa	10	Operational	Hayleys Group & WindForce PLC
Vidul Madampe Solar Plant	Ratnapura	6	Operational	Vidullanka PLC
Vidul Matara Solar Plant	Matara	3	Operational	Vidullanka PLC
Horana II Solar Plant	Kalutara	2	Operational	Vidullanka PLC
Chandrika Wewa & Kiriibban Wewa Pilot	Ratnapura / Moneragala	1	Commissioned	SLSEA (Korean Grant Support)
Soorya Bala Sangramaya Framework	National Array	900	Active / Ongoing	Jointly managed by CEB & SLSEA



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Registered Energy Services Companies & Engineering Firms

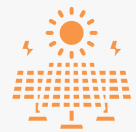
NO	Companies	Website	Address	Contact Numbers
1	EML Consultants PLC	EML Consultants PLC – Together We Thrive	No. 6/10, Rajamaha Vihara Road, Pita Kotte	+94 11 285 4762 +94 11 553 5880 +94 71 490 5101
2	Vibhawa Consultants	Vibhawa Electrical Testing & Consultancy Services	No. 4/45, 3rd Lane, Thalakotuwa Gardens, Colombo 05	+94 76 657 0000 +94 77 295 7002 +94 11 219 9239
3	Industrial Services Bureau (ISB)	isb.lk	No. 141, Kandy Road, Kurunegala	+94 37 222 3721 +94 37 222 3722 +94 37 222 3723
4	Alpha Solar Energy / Solar Therm	Sri Lanka's Trusted Solar Panel & Solar Hot Water Experts Since 1982	No. 121, Castle Street, Borella, Colombo 08	+94 77 307 0969 +94 11 267 9944
5	First Energy SL (Pvt) Ltd	Solar Panels & Solar Power Systems Sri Lanka First Energy	No. 55/5, Nikape, Dehiwala	+94 76 963 1773 +94 11 265 1133
6	Green Lanka Solar Solutions (Pvt) Ltd	Green Lanka - Home	No. 1175, Palaiyootu, Trincomalee	+94 77 209 0722 +94 26 222 6351



Comprehensive Revenue Grid

This is calculated at base rate of LKR 22.00. Peak rate fluctuates at LKR 40

Financial Metric	Breakdown Per 1 MW Capacity
Annual Energy Yield	1.50 Million kWh (1.50 GWh)
Gross Monthly Revenue	LKR 2,750,000.00 USD 8,371.00
Gross Annual Revenue	LKR 33,000,000.00 USD 100,457.00
20-Year Lifetime PPA Revenue	LKR 660,000,000.00 USD 2.01 Million



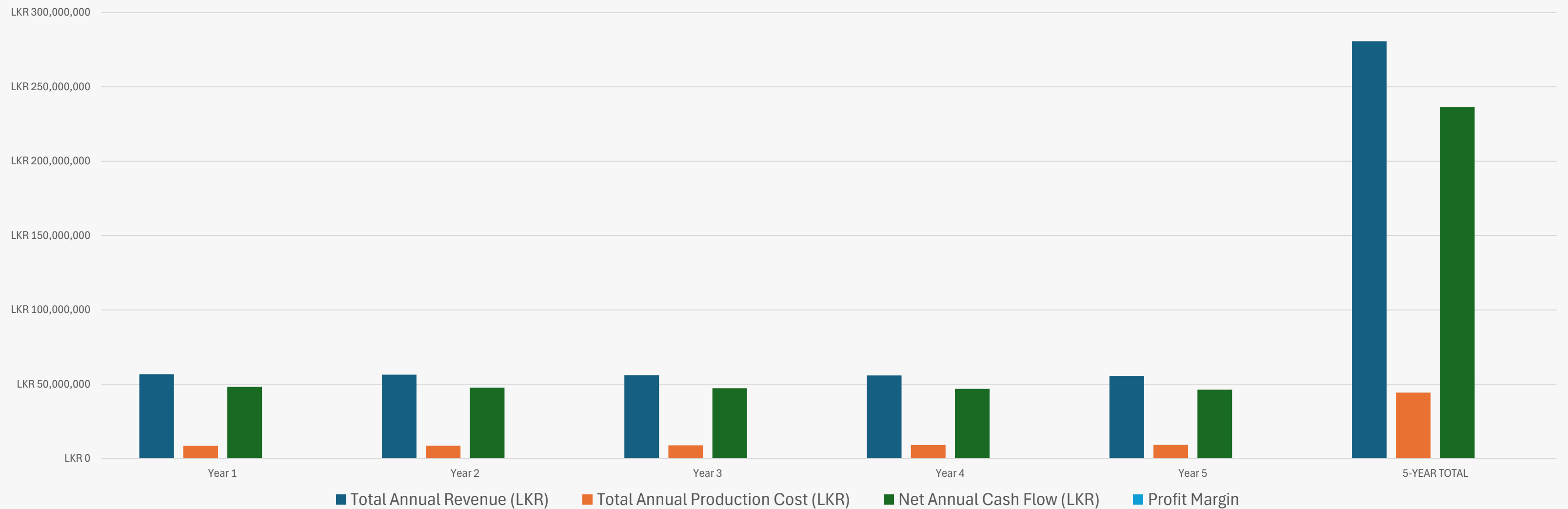
Risk Analysis & Mitigation Matrix

Risk Category	Identified Threat	Strategic Mitigation Strategy
Grid & Interconnection	CEB Grid Curtailment: Grid saturation or transmission line constraints preventing the full 25 MW injection.	❖ Strict pre-selection of sites near underutilized 132kV transmission infrastructure. ❖ Integration of a modular Battery Energy Storage System (BESS) to store excess mid-day generation.
Macroeconomic	Currency Fluctuations: LKR devaluation impacting the procurement cost of imported Tier-1 PV modules and inverters.	❖ Securing international project financing denominated in USD or EUR. ❖ Negotiating a multi-currency tariff or indexation clause in the final PPA with the CEB.
Regulatory & Approvals	Permitting Bottlenecks: Protracted delays in obtaining multi-agency clearances (CEA, Land Commissioner).	❖ Hiring an SLSEA-accredited local developer as a joint-venture partner. ❖ Parallel processing of applications through the Board of Investment (BOI) fast-track window.
Operational & Environmental	Monsoonal Irradiance Drop: Seasonal cloud cover and heavy rainfall during monsoon seasons lowering annual yields.	❖ Utilizing high-efficiency N-type TOP Con bifacial modules that capture diffuse ground-reflected light. ❖ Factoring a conservative P50/P90 probability model into the initial financial projections.



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1MW Solar PV + 1MW BESS Farm (Jaffna) - 5-Year Financial Matrix





Serendib Solar

LET'S POWER Future TOGETHER

Thank you for exploring our vision. Contact us today to discover how solar energy can transform your world.

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TBD