

Technical Proposal_Industry report on Solar equipment and renewable energy

Review, Outlook and Industry overview

August 2024

For GK Energy Private Limited

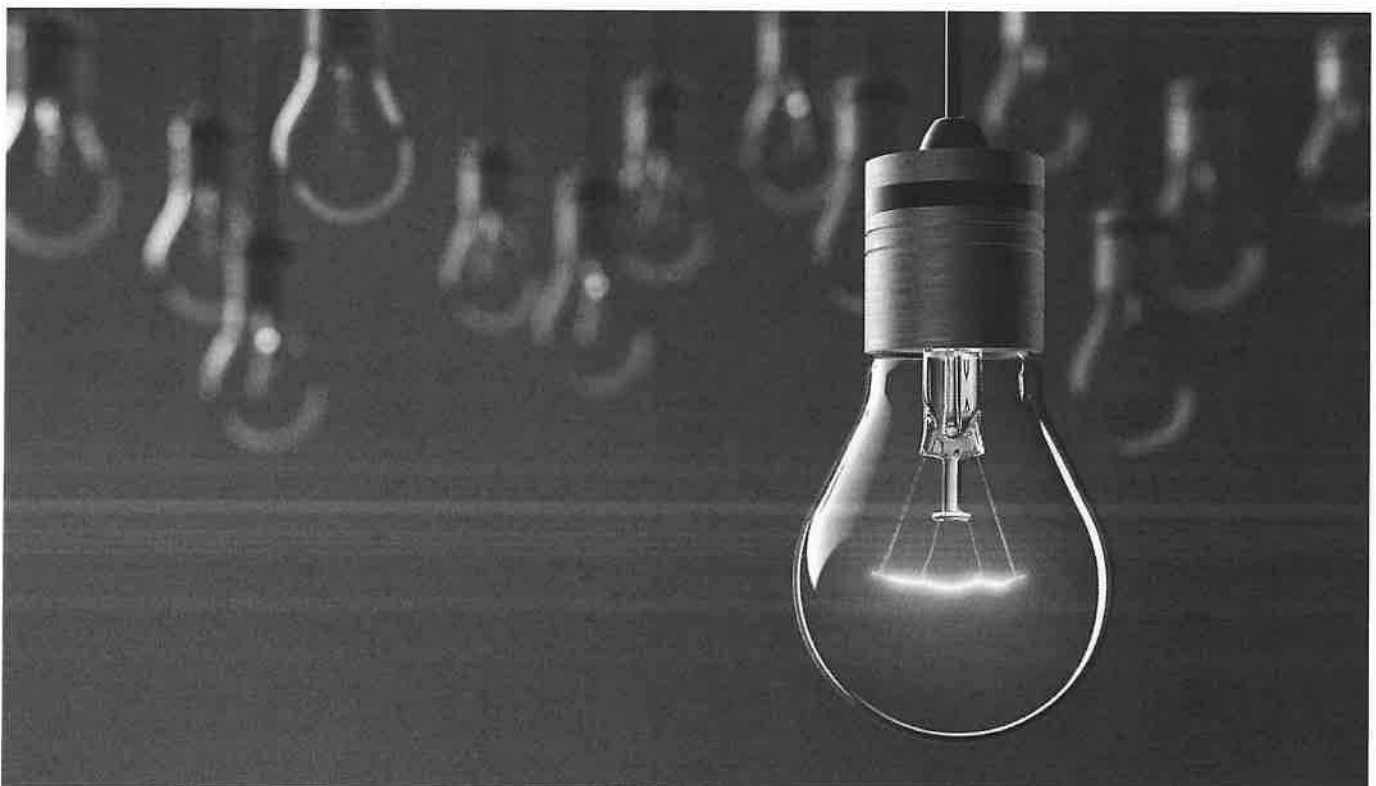


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1. Scope of Work

This document details CRISIL's assessment of scope of work and detailed approach and methodology proposed to be undertaken to develop the industry chapter. The outline for the industry chapter proposed to be developed is provided below:

Module 1: Global macro-economic outlook (Review 2019-2023 and outlook for 2024 and 2025)

- Current state of Global economy & outlook
- Global GDP growth & Inflation outlook
 - GDP details of developed countries/developing economies
- Growth drivers and key issues impacting the growth of the global economy

Module 2: India macro-economic overview (Review FY 2020-23 and estimates for FY 2024 & 25)

- India GDP trends and composition by sectors
- Performance of key macro-economic indicators such as inflation, interest rates etc.
- GDP growth outlook
- Gross value added (GVA) trends
 - Details on agricultural activity
- Demographic overview
- Per capita income trends of the economy
 - Income related challenges faced by farmers
- Climate related challenges globally and need for energy transition
 - COP 26 and India's NDC declarations
 - CEA plan on generation mix till 2032, mainly on clean energy penetration

Module 3: Domestic solar pump market

- Growth drivers for global solar pump market (GHI for key developing/developed economies)
- Need and demand for solar pump market in India
- Standard procurement process
- Market size of agricultural solar pumps in India (FY10-20)
- Pricing trends of key raw materials (steel, copper and photovoltaic modules)
- Key scheme details:
 - PM KUSUM (State and player level installation status)
 - Maharashtra Solar Pumps Scheme
 - Chhattisgarh's Saur Sujala Yojana

- PM Kisan Yojana
- PM Fasal Bima Yojana
- Challenges – Initial challenges in cost and financing, rise in raw material prices
- Quality management system – certifications
- Peer comparison

Companies to be covered

- Shakti Pumps Limited
- GK Energy Marketers Pvt Limited
- Oswal Pumps Limited
- Rotomag motors
- Ecozen Solutions

Parameters to be covered

- Number of installed pumps*
- Product profile/business presence
- Order book (may be across multiple businesses as per company disclosures)
- Operating income
- Operating margin
- Net margin
- Debt-equity ratio
- ROCE
- ROE

*Note: 1. Data on comparison will be basis company filings in the public domain and where segmental information is not available may be across multiple business segments. 2. * PM KUSUM installation will be indicated where data is unavailable from company disclosure.*

Module 4: Solar rooftop

- Global rooftop market
 - Review of solar rooftop installations (CY 2017-2022)
 - Trends in corporate and residential solar rooftop market
 - Growth drivers
- Solar rooftop market
 - Business Models (capex and opex model)
 - Review of the solar rooftop market (FY19-24)
 - State wise installation trends (FY19-FY24)
 - Outlook of solar rooftop for next five years (C&I and residential)
- Key policies drivers – (PM surya ghar policy, net and gross metering, government building rooftop solarization announcement)

- Financial analysis of peer – (Revenue, EBITDA, EBITDA margin, PAT, ROE, ROCE, working capital days)[^]
 - Amplus Energy
 - Tata Power Solar Systems
 - Fourth Partner
- Financing landscape for rooftop (key multi-lateral partnerships for funding in the space, subsidy support levels)
- Risks and monitorable

Note: ^ The financials of top players in the industry also include data from other segments operating segments as standalone rooftop financials are not publicly available.

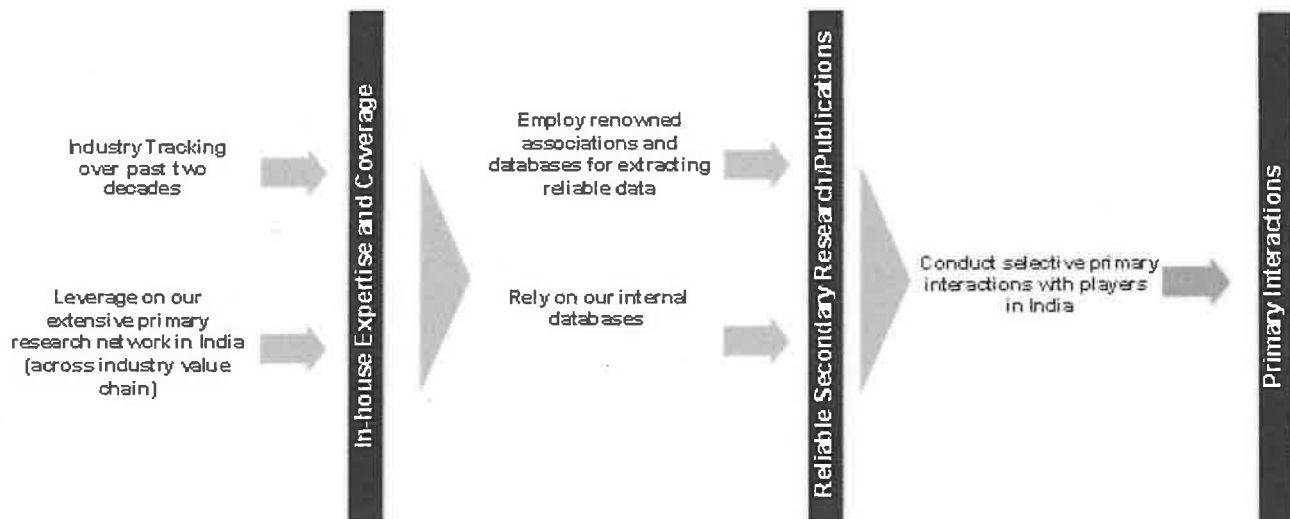
Module 5: Solar photovoltaic segment

- Global solar photovoltaic segment
 - Review of global solar module demand (2018-2023)
 - Review of global module manufacturing capacity till 2023
 - Key geographical presence across value chain (Polysilicon to modules)
 - Shift in technology of cell
 - Growth drivers
- Domestic solar photovoltaic segment
 - Review of domestic solar **module** demand (FY19-24)
 - Review of domestic manufacturing base (**polysilicon to module**)
 - Outlook of solar photovoltaic manufacturing additions (**polysilicon to module**) in the next 5 years till FY29
 - **Cell and Module** Import dynamics and dependency outlook till FY29
 - **Module** export trends and opportunity outlook till FY29
 - Growth drivers – PLI and non PLI announcements, analysis of custom duties, role and impact of ALMM
 - Value chain pricing trends (module and cell, review of past 3 years and outlook of fiscal 2025)
 - Comparison of inhouse pricing with assembled modules (subject to cost of production data shared by client)
 - Risks and monitorable - impact of global supply on India

2. Approach & Methodology

CRISIL will adopt a multi-pronged approach to conduct the study:



- In-house expertise and data coverage
- Reliable secondary research and publications
- Primary research with market participants



Please return to us the enclosed duplicate of this Letter duly signed by you in acceptance hereof.

We agree, accept and confirm

Agreed:

Authorised Signature	CRISIL Limited	GK Energy Private Limited
Signatures		
Name	Mr. Dharmendra Sharma	
Title	Director -Business Development	
Date of Signature	28.08.2024	

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