Project Finance

Project Finance Modelling and Evaluation

Case Study

This case study is about a renewable energy company “Kaira Cleantech” looking to set up a ground mounted solar power plant. This is a hypothetical situation.

Case: Kaira Cleantech Project Modelling

• Kaira Cleantech has won a bid from Rajasthan State Government to set up a 100 MW ground mounted solar power plant and supply electricity generate through solar power.

• The company has entered into a Power Purchase Agreement (PPA) of 25 years and will sell electricity at agreed rates. We may ignore the partial year and prepare model for approximate completed year rounded downwards.

• The details inputs and assumptions for the project finance model are already Inputs & Assumptions mentioned in Excel file.

Assignment

• Create P&L, CF, and BS

• Find out the Project IRR

• Conduct Sensitivity Analysis on Project IRR by changing key input variables

Project Finance:

The financing of any project where the bulk of such financing is provided by way of debt and is repaid principally out of the cash flows generated by project being financed.

Integrated Project Model

Steps to create Integrated Project Finance model:

1. Identifying right dates and date structure
2. Evaluating project cost
3. Incorporating contingency element as part of project cost
4. Operating revenue and cost
5. Fixed asset schedule
6. Project Financing (Debt and Equity)
7. P&L
8. B/S
9. Cash Flow
10. Project evaluation (Project IRR)

Inputs & Assumptions:

Project Dates		
Company Name		Kaira Cleantech
Project Start Date		30-Nov-20
Construction period	Months	7
Project Completion Date		30-Jun-21
Project Cost	**INR mn**	**2,700.0**
EPC Cost	INR mn	2,350.0
Transmission Line & Bay Extension	INR mn	70.0
Land Cost	INR mn	200.0
Interest during constuction	INR mn	30.0
Other expenses	INR mn	35.0
Contingency	INR mn	15.0
Escalation / (Reduction)	INR mn	0.0
Plant & Machinery		
Depreciation method		SLM
Useful economic life	Years	25
Working Capital Assumptions		
Receivables Days	Days	45
O&M Cost Payable Days	Days	30

Project Parameters		
Plant Capacity	MW	100
Plant load factor	%	20.00%
Tariff in first year of operation	INR/Unit	2.50
Annual escalation in Tariff	%	As per agreement
Operating Cost		
a) Operation & Maintenance Cost	INR/MW	250,000
(subject to annual increment)		
b) Insurance charges	% of Project Cost	0.25%
(subject to periodic increment)		
c) Inverter replacement cost	INR/MW	1,000,000
(incurred over 15 years)		
Capital Structure		
Equity	%	40.0%
Debt	%	60.0%
Interest on debt	%	10.0%
Debt Covenants		
Average DSCR	Times	1.25 x
Min. DSCR	Times	1.00x