

Preliminary Information Memorandum

475 kW Solar Project
of
Dev Bhumi Cold Chain P Limited
at
Shimla (HP)

July 2022



SN	Head	Page no.
1	Data about the company and the promoters	3
2	Brief Background of the Company / Group & Management	3
3	Scope of the project	6
4	Promoter's experience	5
5	Brief write up on the industry/Sector	11
6	Banking Arrangement and Sharing Pattern	16
7	Proposal for Sanction / Approval / Confirmation	17
8	Performance and Financial Indicators	17
9	Assessment of Fund based Limits - Term Loan	19
10	Sensitivity Analysis	17
11	Overall viability and acceptability of the proposal	18
12	Financial Projections and Assumptions	19
13	Security	19
14	Production Factors / Technical Aspects :	21
15	Risk Factors	24
16	Conclusion	26
#	Annexures	-
1	Annexure 1 - KYC of promoters and Company	-
2	Annexure 2 - DBCC Financials	-
3	Annexure 3 - Associate Concern Financials	-
4	Annexure 4- Promoter ITRs	-
5	Annexure 6- Factory picture, map and SLD	-
6	Annexure 7- PVSyst Report	-
7	Annexure 9- Datasheet for Solar Panels	-
8	Annexure 10- Bank Statements of DBCC /Sanction Letters	-

Data about the company and the promoters¹ :

KYC	Sanjay Aggarwal	Sunila Aggarwal	Shagun Verma	Dev Bhumi Cold Chain P Ltd
PAN Card	AAEPA5774D	AAEPA5775C	AJAPV1705C	
Aadhar	6124-8975-7719	3341-1574-7525	3306-6248-8832	-
Passport	L1556648	M4188629	S1408781	-
Mobile	98101-43326	97177-56667	88947-83985	-
Email	sanjay@devbhumiagri.com	N/A	shagun.verma@devbhumiagri.com	-
DIN	00211962	00212143	08592655	U74999DL2003PTC121616 (CIN)
Address	BN 78, West Shalimar Bagh, Delhi 110088	BN 78, West Shalimar Bagh, Delhi 110088	Bahli (9), Bhutti, Shimla, Himachal Pradesh 172030	Indraprastha Bhavan, Plot 17-18, New Subzi Mandi, Azadpur, New Delhi 110033
Designation	CEO	Director	Director	-
CEO`	Sanjay Aggarwal (98101-43326)			
Main Contact	Bikramjeet S Guram (Mobile 9871119734)			
Registered Address	Plot 17-18, New Subzi Mandi, Azadpur, New Delhi 110033			
Admin Office	Plot 17-18, New Subzi Mandi, Azadpur, New Delhi 110033			
Factory/ Cold Storage	Matiana, Shimla, Himachal Pradesh			

Brief Background of the Company / Group & Management

A term loan of Rs.1.6 crore is requested for Dev Bhumi Cold Chain P. Limited (DBCC). The term loan will be utilised for implementing a 475 kW rooftop project at the company's controlled atmosphere cold storage for apples at Shimla in Hi-

¹ Annexure - KYC of the company and the promoters

machal Pradesh. The projects will be executed by a reputed Delhi based EPC company - Sugs Lloyd. The total project cost will be Rs.2.3 crore and will mainly constitute solar panels of Adani/ Waaree make and inverter of Solis/ Solar make.

The project will be in the nature of a capital expenditure by DBCC and shall be owned by the company. The rooftop solar installation shall generate around 7.13 lakh units (as per P90 forecast of PVsyst²) per annum. The power so generated will be used in-house in the cold storage. The company currently pays around Rs. 5.13/ unit (Rs.4.75/ unit variable rate and Rs.0.38 taxes, surcharges etc). The solar installation will save the client, Rs.36.6 lakh (7.13 lakh units x Rs.5.13/ unit) in electricity bills per annum. The financial assistance from SBI is requested to be spread across a 125 monthly instalments of Rs.1.28 lakh each and a principal repayment moratorium of 6 months (for set up of the project).

DBCC is a well known trader of fruits and vegetables based out of Azadpur Mandi in Delhi. DBCC is a fully integrated cold chain company ensuring supply from farm to retail. In FY 2021-22³, the company recorded total income of Rs.204.67 crore (prev year : Rs.247.76 crore), EBIDTA of Rs.18.65 crore (PY Rs.13.66 crore) and profit after tax of Rs.5.93 crore (PY Rs.2.84 crore). As on end of last financial year (FY 2021-22), the company's total debt stood at Rs.92.03 crore and its networth stood at Rs.80.54 crore (including Rs.6.45 crore of revaluation reserves and Rs.32.41 crore of unsecured loans from promoters).

² Annexure - PV Syst Report

³ Annexure - Financial Statements

Besides DBCC, the group's other main concern is Indraprastha Ice and Cold Storage P Ltd (IICS). IICS, in FY 2021-22, recorded total income of Rs.17.73 crore (prev year : Rs.11.28 crore), EBIDTA of Rs.1.86 crore (PY Rs.1.64 crore) and profit after tax of Rs.29 lakh (PY Rs.14 lakh). As on end of last financial year (FY 2021-22), the IICS' total debt stood at Rs.18.27 crore and its networth stood at Rs.13.88 crore (including Rs.7.79 crore of revaluation reserves). The market valuation of IICS' cold storage as on date is around Rs.100 crore on account of its advantageous location on the main GT road inside the Azadpur Mandi.

The proposed loan will be secured by :

1. Charge on all project assets of the company,
2. Personal guarantees of Shri Sanjay Aggarwal (MD of the DBCC), Smt Sunila Aggarwal (wife of Shri Sanjay Aggarwal) and Shri Kumar Dhruva Aggarwal (son of Shri Sanjay Aggarwal)
3. Debt service coverage reserve of 1 quarter's interest and principle

Scope of Project

Shimla Project (475 kW)

The 475 kW solar project will be located on the rooftop of DBCC's Matiana facility at Shimla in Himachal Pradesh. The total project cost is estimated to be Rs.2.30 crore. The main components of the project cost are :

Item	Make	Amount (INR)	GST (%)	GST (INR)	Total (INR)
Solar Panel (Mono-crystalline)	Adani Power or Waaree	1,31,80,000	12%	15,81,600	1,47,61,600
Inverter	Solis or Solar	4,75,000	12%	57,000	5,32,000
Structure	Reputed Make	22,56,000	18%	4,06,080	26,62,080

Balance of System (includes HT Panel, cables, acdb , Installlation etc.)	Reputed Make	23,75,000	18%	4,27,500	28,02,500
Installation & Commisioning	-	19,00,000	18%	3,42,000	22,42,000
				Project cost	2,30,00,180

The Major components⁴ of the project cost are as under :

1) Solar Panels (Rs.1.48 crore)

- The solar panels will be of Adani or Waaree make.

Adani Solar Panel

- The selected Adani module is the Elan Shine Mono PERC Bifacial PV modules. The module has a capacity of 520-545 Wp peak power and has 144 cells.
- The Bifaciality gain is expected to be around 10-25% of the total power produced. The gain will be due to the bifaciality factor and the ground reflection.
- The Solar PV module provides a warranty for 98% + power output in the first year, thereafter, from year 2 to 30, the maximum decrease in power output shall be 0.55% from module's nominal power output per year, ending with around 82% in the 30th year after the defined warranty start date.
- The product warranty shall be 12 years.
- The performance warranty shall be for 30 year

Waaree Solar Panel

- The selected Waaree module is the WSMD Arka series Mono PERC PV modules. The module has a capacity of 515–545 Wp peak power and has 144 cells.
- The Solar PV module provides a warranty for 98% + power output in the first year, thereafter, from year 2 to 27, the maximum decrease in power output shall

⁴ Annexure - Datasheets of the modules / inverters

be 0.55% from module's nominal power output per year, ending with around 81.9% in the 27th year after the defined warranty start date.

- The product warranty shall be 12 years.
- The performance warranty shall be for 27 year

Both the solar modules are made in India and have the relevant govt certifications and approvals.

2) Inverters (Rs.0.05 crore)

Solis Inverter

- Solis is one of the top 3 inverter manufacturers in Asia. The company has opted for 80K PV Solar Inverter - 80K-5G-DC make inverters. The main features of the inverter are as under :
- Max. 13A per string, support 1.5 DC overloading capability
- 10 individual MPPT, lower mismatch loss
- Efficient logic algorithm, over 99% max. Efficiency
- String monitoring, shorter O&M time
- Remote & local intelligent IV scan function
- Leakage current repression technology
- Volt-watt work mode integrated
- DC input reverse alarm
- Optional anti-PID function integrated
- Reactive power compensation function

The model has a 5 year warranty which is extendable to 20 years on purchase of extended warranty packages.

Sofar Inverter

- Solis is one of the reputed inverter manufacturers in Asia. The company has opted for 80K PV Solar Inverter. The main features of the inverter are as under :

- 99% max. Efficiency
- String monitoring
- Remote & local intelligent IV scan function

The model has a 5 year warranty which is extendable to 10 years on purchase of extended warranty packages.

Promoters Experience

The company is managed by a Board of Directors and Board consists of the following directors:

- Shri Sanjay Aggarwal
- Smt Sunila Aggarwal
- Shri Shagun Verma

At present, the day to day management of the company is being looked after by Shri Sanjay Aggarwal (Managing Director), Smt Sunila Aggarwal (Director), Shri Kumar Dhruva Aggarwal, Shri Shagun Verma and Shri Gaurang Goyal. Brief profiles of the directors and the key personnel are as under :

Mr. Sanjay Aggarwal - Chairman & Managing Director

Shri Sanjay Aggarwal, aged 58 years, is the principal promoter of DBCC. He has long standing experience in the cold chain and fruit & vegetable industry, having started his professional career at the age of thirteen years. He joined Indraprastha Ice & Cold Storage Ltd. as director in 1977, and planned, constructed and com-

missioned Indraprastha's Retail Distribution facilities at Azadpur in 1980. He modernized the same in the year 2001, which led to a prize-winning Case Study on the company by Cornell University, NY, USA.

Mr. Aggarwal is a Diploma holder in Agri Business Management from Cornell University, New York, USA and has also done Diploma in Management from USA. He has decades of experience and is considered a leader in the field. Shri Aggarwal is a multi-disciplinary techno-commercial person having equal hold in the field of project financing to project engineering including identification and installation of most modern state of the art machinery for cold chain.

The Company has the largest marketing platform and facilities in the Azadpur Mandi at Delhi, which is the most important wholesale distribution center of India, giving them the widest possible marketing reach.

Mr. Aggarwal has served on many Govt. and Industry panels and Boards to forward the cause of Supply Chain efficiency. He has been invited to deliver lectures at the Cornell University and Syracuse University in USA, Indian Institute of Management in Ahmedabad, National Institute of Agricultural Management of the Government of India, etc.

Smt Sunila Aggarwal - Director

Smt Sunila Aggarwal, wife of Shri Sanjay Aggarwal aged about 50 years, is a graduate and has 15 years of experience in the field of cold chain provider, trader and exporter of food products. She has vast knowledge of Indian and overseas market. Her wide vision and regular monitoring of domestic & international market, gives a synergy to the company.

Kumar Dhruv Aggarwal - Group President (Procurement and Marketing)

Shri Kumar Dhruva Aggarwal is an agriculture graduate from Indiana University, Bloomington, USA. He joined the company in the year 2008. In a decade, the

company has benefited a lot with his experience. Mr. Dhruv is presently working as President Procurement and Marketing in the organization.

Smt Sanyogita Tanti - Group Vice President

Smt Sanyogita Tanti is the daughter of Shri Sanjay Aggarwal. She is 5th generation in the family business of cold chain. She completed her B.Sc. from Cornell University, New York, USA in 2007 and MBA from Harvard Business School, Boston, USA in 2010. At both institutes, she took courses specialised in Agri-Business, Strategy, and Business Development.

She has been Vice President, Business Development at the group since May 2010. She is starting discussions of Joint Ventures with leading global companies in the sphere of pre and post-harvest activities (Nurseries, Greenhouses, Water-Conservation, Drip Irrigation, Establishing & Running Pack-houses & Cold Chain in India, Distribution of Foods Pan-India through Cold Chain, etc.).

In addition, she is designing a sustainable CSR initiative in the rural areas of India to work hand in hand with the farmers to introduce higher yielding fruit varieties and better pre- and post-harvest management technologies.

Starting in 2011, she added a new vertical of Dried Fruits & Nuts to the company's product portfolio, and in a very short span, has established a name for the company in terms of quality, customer service, and reliability in this segment.

Brief write up on the industry/Sector and the Company's Standing

A snapshot of the Indian power sector from 2014-15 to 2020-21 is shared below -

FY (Apr to Mar)	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Source
Installed Capacity (MW)	2,80,330	3,26,840	3,35,000	3,56,100	3,70,048	3,82,151	4,01,010	CEA
Total Generation (BU)	1,174	1,242	1,309	1,387	1,252.6	1,234	1,321	CEA
Solar Capacity (MW)	9,418	17,644	22,500	28,180	34,812	40,085	53,996	CEA

FY (Apr to Mar)	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Source
Capacity Growth rate	82%	87%	28%	25%	23.5%	15.1%	34.7%	-
Solar Generation (BU)	9.0	20.0	26.0	39.0	50.1	60.4	73.5	CEA
Generation Growth rate	78%	112%	29%	52%	28%	20.6%	21.7%	-
% of solar generation	0.8%	1.6%	2.0%	2.8%	4.0%	4.9%	5.6%	-
Avg Solar Cap Addition/ Month (MW)	-	686	405	473	553	439	1,159	-
Avg Solar Gen Increase/ Month (BU)	-	0.9	0.5	1.1	0.9	0.9	1.1	-
Avg Total Cap Increase/ Month (MW)	-	686	405	473	553	439	1,159	-
Percentage Increase from Solar Capacity	-	54.3%	17.7%	59.5%	26.9%	47.5%	43.6%	-

Some of the key takeaways from the table above are as under :

- India is the world's third largest producer and third largest consumer of electricity. The national electric grid in India has an installed capacity of 401 GW as of 31 March 2022.
- Renewable power plants, excluding large hydroelectric plants, constitute 27.2% of India's total installed capacity and solar contributes to around 13.5% of the total installed capacity.
- India's power consumption is rising rapidly except for the covid related shocks. During the 2021-22 fiscal year, the gross electricity generated in India was 1,321 BU (Billion kWh), of which solar contributed to around 73.5 BU (billion units) or around 5.6% of the total supply.
- Solar base is expanding very rapidly and is displacing other forms. Despite the pandemic, solar's generation numbers are rising rapidly and shall continue to rise rapidly in the near future (as the tendered capacities take shape).

- On an average, 1.16 GW of solar capacity is being added each month for the past 5-6 years.
- On an average, each month, around 1.1 billion units of additional power is being generated from solar in India
- The gross electricity consumption in 2020-21 was around 914 kWh per capita (assuming population of 1.35 billion). The annual per capita electricity consumption is very low compared to most other countries (USA 13098 kWh/ person, China 4906 kWh/ person) despite India having a low electricity tariff.
- While India now has a surplus power generation capacity but still lacks in adequate distribution infrastructure. To address this, the Government of India launched a program called "Power for All" in 2016. The program was accomplished by December 2018 in providing the necessary infrastructure to ensure uninterrupted electricity supply to all households, industries, and commercial establishments.
- While, India's electricity sector is still dominated by fossil fuels, in particular coal, which during the 2018-19 fiscal year produced about 70-75% of the country's electricity; the government is making efforts to increase investment in renewable energy.
- The government's National Electricity Plan of 2018 states that the country does not need more non-renewable power plants in the utility sector until 2027, with the commissioning of around 50,025 MW coal-based power plants under construction and addition of 275,000 MW total renewable power capacity after the retirement of nearly 48,000 MW old coal-fired plants. It is expected that non-fossil fuels generation contribution is likely to be around 44.7% of the total gross electricity generation by the year 2029-30.

Snapshot of Renewable Energy Industry Analysis in India:

India was ranked fourth in wind power, fifth in solar power and fifth in renewable power installed capacity as of 2018. India ranked third in EY Renewable Energy Country Attractive Index 2019. Installed renewable power generation capacity has increased at a fast pace over the past few years, posting a CAGR of 35% between FY14-FY22. Power generation from renewable energy sources in India reached 171 billion units (BU) in FY22. The renewable energy will account for 55% of the total installed power capacity by 2030.

As of Mar 31, 2022, the installed renewable energy capacity stood at 111.4 GW (Source : www.cea.nic.in), the break up of which is as follows:

Renewable Source	Capacity MW	% Share
Solar	55,338	50%
Wind	40,528	36%
Biomass/ Co-gen (Sugar)	10,206	9%
Small Hydro	4,851	4%
Waste to Energy	477	0%
TOTAL	1,11,400	100%

The Ministry of New and Renewable Energy, under the supervision of the Government of India, has outlined an action plan to achieve a total capacity of 60 GW from hydro power and 227 GW from other Renewable Energy Sources (RES) by March 2025; this includes 114 GW from solar power, 67 GW from wind power, 10 GW from biomass power and 5 GW from small hydro power. The Government plans to establish renewable energy capacity of 500 GW by 2030. This is proving to be the major thrust for the sector as the market players have enough incentive

to move to clean source. The Government is aiming to achieve 225 GW of renewable energy capacity by 2025, much ahead of its target of 175 GW as per the Paris Agreement. Under Union Budget 2019-20, the Government allocated Rs. 4,272.16 crore (US\$ 611.26 million) for grid-interactive renewable energy schemes and projects, and Rs. 3,004.90 crore (US\$ 416.48 million) for the development of solar power projects, including grid interactive, off-grid and decentralised categories.

As India looks to meet its energy demand on its own, which is expected to reach 15,820 TWH by 2040, renewable energy is set to play an important role. By 2030, renewable sources are expected to help meet 40% of India's power needs. India has been building a solar power plant in Rajasthan since 2019, which will be the world's largest with a capacity of 2,255 MW. India plans to add 30 GW of renewable energy capacity along deserts on its western border of Gujarat and Rajasthan. India's renewable energy space has become very attractive from investors' perspective as it received FDI inflow of US\$11.20 billion between April 2000 and Dec 2021.

Solar Power

The solar energy sector in India offers potentially enormous capacity, though little of this potential has so far been exploited. Solar radiation of about 5,000 trillion kWh per year is incident over India's land mass, with average daily solar power potential of 0.25 kWh/m² of used land area with available commercially proven technologies.

Solar power plants require nearly 3-4 acres land per MW capacity, which is lesser than coal-fired power plants when life cycle coal mining, consumptive water storage and ash disposal areas are taken into account, and hydropower plants when the submergence area of the water reservoir is included. Building solar power

plants on marginally productive lands offers the potential for solar electricity to replace all of India's fossil fuel energy requirements (natural gas, coal, lignite, nuclear fuels, and crude oil).

Road Ahead

The Government is committed to increased use of clean energy sources and is already undertaking various large-scale sustainable power projects and promoting green energy heavily. In addition, renewable energy has the potential to create many employment opportunities at all levels, especially in rural areas. The Ministry of New and Renewable Energy (MNRE) has set an ambitious target to set up renewable energy capacities to the tune of 225 GW by 2022, of which about 114 GW is planned for solar, 67 GW for wind and other for hydro and bio among other. India's renewable energy sector is expected to attract investment worth US\$ 80 billion in the next four years.

Banking Arrangement and Sharing Pattern ⁵

- The company has formal debt arrangement with Axis Bank and Indusind Bank.

DBCC has the following credit limits :

Limit	Indusind (INR crore)	Axis (INR crore)	Total
Cash Credit	60.00	12.50	72.50
WCTL under EGLGS 2.0	0.00	16.70	16.70
WC Demand loan	(60.00)	0.00	(60.00)
LC (ILC/ FLC)	(16.55)	(3.45)	(20.00)
Bank Guarantee	(1.65)	(2.00)	(3.65)

⁵ Annexure - Sanction letters of Axis Bank and Indusind Bank

SBLC for Buyers Credit	0.00	(3.45)	(3.45)
Total	60.00	29.20	89.20

- The main terms and conditions of the Indusind & Axis facility (which are a takeover of facilities from BoB together with Axis) are as under :

Primary Security	<ul style="list-style-type: none"> a. First PP charge by way of hypothecation of all current and movable assets b. PG of Sanjay Aggarwal, Sunila Aggarwal and KD Aggarwal c. Corporate Guarantee of Indraprastha Ice and Cold Storage P Limited
Collateral Security	<ul style="list-style-type: none"> a. First PP charge by way of mortgage of property located at 17-18, Indraprastha Bhawan, New Sabzi Mandi, Azadpur, Delhi (excluding an area of 4500 sq ft given on lease) b. First PP charge by way of mortgage of property located at Matiana, Shimla, HP

Proposal for Sanction / Approval / Confirmation

Proposal for Sanction

- Sanction of Term loan of Rs.1.6 crore for setting up solar power plant with a door to door tenor of 125 monthly instalments of Rs.1.28 lakh each with additional 6 months moratorium.

Performance and Financial Indicators

Name of the auditor : Saurabh Singhal & Associates, Chartered Accountants,
52/1, Wright Ganj, Ghantaghar, Ghaziabad 201001

Comments on major financial parameters : The brief financials of the company are as under :

- **Net Sales :** The company is a reputed fruit and vegetable trader in the Azadpur Mandi. The company achieved sales of Rs.204.67 crore in FY 2021-22 (PY 2020-21 : Rs.247.76 crore). The income was wholly derived from trading in fruits & dry fruits. In FY 2020-21, the trading details were as under -

	FY 2020-21		FY 2019-20	
	Quantity (MT)	Amt (Rs. crore)	Quantity (MT)	Amt (Rs. crore)
Purchase	30,680	172.96	20,071	151.99
Sale	33,248	247.76	19,897	203.14
Opening Stock	11,220	80.38	11,046	78.78
Closing Stock	8,652	59.75	11,220	80.38

- **Profitability :** The company recorded EBIDTA of Rs.18.65 crore in FY 2021-22 (PY : 10.47 crore). The EBIDTA margin stood at of around 9.11% in FY 2021-22 (up from PY : 4.23%). The net profit margins stood at 2.90% (PY- 1.15%). The cash profit margin stood at 4.47% for FY 2021-22 (PY- 2.5%).
- **Tangible Networth (TNW) :** The Networth of the company has been increasing steadily and rose to Rs.48.13 crore (PY - Rs.43.52 crore) in FY 2021-22 (including revaluation reserve of Rs.6.45 crore). If we include unsecured loans from promoters of Rs.32.41 crore, the FY 2021-22 TNW increases to Rs.80.54 crore.
- **TOL/ TNW :** TOL as on FY 2022 stood at Rs.131.25 crore (PY - Rs.110.25 crore) and comprised unsecured loans from promoter, friends & relatives (Rs. 32.41 crore), short term loans from banks (Rs.66.85 crore), term loans from Banks (Rs.25.18 crore) and misc liabilities (Rs.6.71 crore). TOL/ TNW stood at 2.73 times (with unsecured loans) and 1.23 times (with USL as part of TNW).
- **TOL/ Adjusted TNW :** The company has not made any investment in its subsidiaries/ group companies.

- Current Ratio : The current ratio as on 31-Mar-22 stood at 1.63. The current assets of Rs.119.72 crore are primarily in form of inventory (Rs.60.27 crore), short term advance to raw material suppliers (Rs.49.5 crore) and receivables (Rs.5.47 crore). The current liabilities of Rs.73.56 crore mostly constitute short loans from banks (Rs.66.85 crore).
- Net Working Capital - The same stood at Rs.46.16 crore as on 31-Mar-22.
- Details of any significant Non-Operating Income/Expenditure that materially alters the PAT - The company did not have any material non operating income or expense.
- Comments on Long Term Loans / EBIDTA - The company has Rs.25.18 crore long term loan outstanding as on 31.03.2022. The loans are primarily in form of emergency credit line guarantee scheme from Axis Bank. The EBIDTA for FY 2021-22 stood at Rs.18.45 crore.
- Movements of Unsecured Loans (quasi equity) - As on Mar 31, 2022, the USL from promoters stood at Rs.32.41 crore. The unsecured loans from promoters have ranged between Rs. 31-35 crore during the last 4 years.
- Change in investments in Group companies / others - The company has no investment in group companies.
- Comments on Sundry Debtors beyond 6 months - The company has Rs.4.13 crore as receivables beyond 6 month. The company has a history of recovering such dues through settlements or court initiated recoveries. During the last 4 years, the dues have remained in the range of Rs.1.7-5.25 crore.

Solar Power Arrangement

DBCC shall be installing the solar power plant at its Matiana⁶ facility at Shimla in Himachal Pradesh where it has a controlled atmosphere cold storage. The solar power plant shall help the company to reduce its electricity expenses. The Shimla cold storage on an average consumes 1.5 lakh units per month. The 475 kW solar plant will produce around 7.13 lakh units per annum, which shall easily be consumed by the company. The company shall also be eligible for net metering for the Shimla plant (capacity being less than 500 kW).

The company shall save around Rs.5.13 / kWh. Annually the company shall save Rs.36.6 lakh in cost savings after the installation of the Shimla solar rooftop power plant.

DBCC shall also be a solar power plant at its new controlled atmosphere Shimla unit. The company shall install a 475 kW solar power plant there. The variable energy tariff in Himachal is Rs.4.75/ unit. Over and above, the consumers have to pay 8% electricity duty. Thus the total variable rate is Rs.5.13/ unit. The 475 kW solar power plant will produce around 7.13 lakh kWh per annum. The company will therefore save Rs.5.13 x 7.13 lakh kwh or around Rs.36.6 lakh per annum.

Project Implementation & Disbursement Schedule

Location	Shimla, HP
Land	Not required. Rooftop/ Within premises project.
Production factors / Technical Aspects	Conventional rooftop project
Lender's Independent Engineer / Insurance Consultant / Legal Consultant	Shah Jindal Associates LIE report enclosed

⁶ Annexure - Power Bill for Shimla unit

Marketing & Selling Arrangements	Not required. Rooftop solar project supplying power to the cold storage.
Any Other Factors	-
Utilities	Power is provided by HPSEBL
Approvals and Clearances	CIE and Net metering approval to be obtained post COD
Industrial License	Not Required
Technical Collaboration Agreement	Not Required
Import License for P&M	Not Required
Approval from SEBI for Capital Issues	Not applicable
Clearances from PCB: Not Required	Not Required
Clearances from Municipalities: Not Required	Not Required
Clearances from Forest Department: Not Required	Not Required
Clearances from Local Bodies: Not Required	Not Required
Environmental Clearance: Not Required	Not Required
Implementation Schedule and Disbursement Schedule	
Disbursement schedule	Within 4 months from sanction

Sensitivity Analysis

The sensitivity analysis of the cash flows based on certain set events is as under :

Sensitivity Scenario event	Projected Avg DSCR	Projected Min DSCR	Post Sensitivity Avg DSCR	Post Sensitivity Min DSCR
5% fall in PPA price	1.45	1.16	NA	NA
5% increase in O&M expenses	1.45	1.16	1.44	1.16
2% increase in Interest rate	1.45	1.16	1.35	1.05

The project is estimated to generate positive cashflows (on account of savings) even with variation in O&M by 5% or an increase in rate of interest by 2%. As the project will use all the power in house, the stream of income is expected to be constant.

The above are estimates based on the savings that the company shall generate from moving over to solar.

Overall viability and acceptability of the proposal

DBCC shall be installing a solar power plant at its controlled atmosphere Shimla unit. The viability of the proposed project is explained in the table below :

Location	Solar Capacity	Expected Production pa in kWh	Existing per unit Elec price	Savings/ kWh	Total Savings per year
Shimla	475 kW	7,12,500	5.13	5.13	36,55,125

The company shall save Rs.0.37 crore per annum on electricity cost, thereby ensuring timely repayments of the proposed term loan of Rs.1.6 crore.

Over and above the savings from electricity costs, the company has robust cash flows from other activities which shall provide additional comfort w.r.t. the repayments of the term loan

Financial Projections and Assumptions

The following assumptions have been made in the projections :

Parameter	Value	Remarks
Generation PLF	PLF has been assumed to be 17.12% for the Shimla unit	Based on the location and the irradiation levels, PLF is calculated as per the PVSyst report (P90 level).
Annual Degradation	1%	Based on conservative estimate an annual reduction is expected of 1%
Loan Repayment period	10 years	120 monthly instalments
Rate of Interest	8.5%	-
Moratorium	6 months	Thats the time taken for the project to start generating returns
DC to AC ratio	1:1	-
Transmission & Auxiliary losses	Nil	Given that the facility is behind the meter and all generation will be consumed by the company for its own operations
O&M Expenses	Rs.5 lakh + GST	The operation and maintenance expenses will take care of regular upkeep, cleaning, security and repairs
Rate of Depreciation	11.29%	WDV method taken as per Income tax rates (basic rates + surcharges etc)

Security

- The loan will be secured by a first charge on all project assets valued at around Rs.2.3 crore
- Personal guarantee of the main promoters, Shri Sanjay Aggarwal, Smt Sunila Aggarwal and Shri KD Aggarwal.
- Further, a debt service reserve account covering principal & interest repayment for 3 months shall be maintained to ensure repayment of obligations to SBI.

Production Factors / Technical Aspects :

Solar Resource comparison (Month Wise) at **Shimla, HP** :

Month	GlobHor kWh/m ²	DiffHor kWh/m ²	T_Amb °C	GlobInc kWh/m ²	GlobEff kWh/ m ²	EArray MWh	E_ Grid MWh	PR
January	99.0	44.7	14.00	106.8	102.3	24.94	20.56	83.7%
February	128.7	45.4	17.81	138.0	132.4	25.65	21.23	82.0%
March	146.2	60.2	23.79	151.8	145.5	25.76	21.05	82.6%
April	157.8	69.9	29.71	160.3	153.7	26.13	21.60	80.2%
May	159.9	93.3	33.27	160.1	153.4	27.45	20.45	78.9%
June	152.7	104.9	32.60	151.9	145.4	26.30	20.87	79.7%
July	145.4	94.7	31.63	144.3	138.0	26.15	21.10	80.3%
August	134.9	90.3	30.47	135.4	129.6	25.38	20.30	80.5%
Sep-tember	133.9	74.9	29.08	137.2	131.4	25.65	20.40	81.2%
October	133.6	59.8	26.37	140.9	135.1	25.45	20.45	82.3%
November	116.4	46.0	20.42	125.8	120.4	24.34	20.20	80.9%
December	95.0	36.5	15.74	104.5	100.1	24.64	20.15	80.6%
Year	1603.5	820.6	25.44	1657.1	1587.4	307.84	246.27	80.1%

Source : PVSyst report

Risk Factors

Risk Type	Mitigation
Completion Risk	Sugslloyd is a reputed solar EPC company having executed multiple solar projects for prestigious clients.
Financial Risk	The promoters are resourceful and have been in business for quite some time. They run multiple cold storages and are engaged in trading of fruits. The combined sales of the group companies (DBCC and Devbhumi) in FY 2020-21 was around Rs.250 crore with healthy profits.
Market Risk	The company faces market risk in terms of the fluctuation of interest rates. The scenarios related to adverse movement of interest rates have been factored in the sensitivity analysis and the project cashflows are robust enough to withstand such risk.
Technology Risk	The technology for solar is established and the experience of the bank in financing multiple solar power plants has been satisfactory. The generation from the power plant is stable and fluctuates according to the weather in a predictable manner. Further the company has obtained panels, inverters etc from reputed manufacturers.
Operating Risk	DBCC is an old company and has a history of successful management of risk. The solar O&M shall be taken care by Sugslloyd which has ample experience in the power segment.
Political, Legal and Regulatory Risk	The long term experience of the promoters in the sector will enable the company to manage political, legal and regulatory risk.

Risk Type	Mitigation
Refinancing Risk	The project is not financed by any bridge loans which shall require refinancing (besides the proposed one). Since the loan is long term in nature, refinance risk is not expected to rise.
Sector specific Risk	Solar is a breakthrough clean technology. It is expected to replace the fossil fuel use and the expected to increase exponentially in the near future. We do not anticipate any negative impact on the sector in the near future.

Conclusion

The major strengths of the proposal are as under –

- **Project being implemented for a reputed corporate**

Project is proposed to be set up for DBCC which is a reputed trader based out of Azadpur, which is one of Asia's largest mandis.

- **Regular savings on account of solar**

DBCC will be getting regular cash savings from the project which shall be sufficient to service the debt of SBI.

- **Safe long term reliable energy source**

Solar energy does not cause any pollution. The plant has a life of ~ 30 years with predictable supply of energy. The energy generation from PV system is guaranteed for the long term by the manufacturer and is backed by performance warranties. The O&M expenses are quite minimal and are benchmarked across the industry.

- **Government support**

There is a strong government support for the solar industry. India is a lead member of the International Solar Alliance and has globally committed to a net

zero (nil carbon emissions) economy. Policies of procuring grid scale solar power is geared to help the gr and the developer in a smooth flow of the business.

- **Attractive financial returns**

The business has a fairly predictable cashflow and an attractive IRR and pay-back period.
