

## CRISIL SME Ratings Indowind Energy Limited

### CRISIL-IREDA GRADE 1

*Indicates 'Excellent ability to repay IREDA debt as per terms' to IEL with 9.00 MW wind power project in Elakurnahalli, Chitradurga district, Karnataka*



---

Report Date: March 28, 2018  
Valid till: March 27, 2019

---

## **Important Notice**

The grading is a one-time exercise and the grading will not be kept under surveillance. This grading is valid for one year from the report date, subject to no significant changes/events occurring during this period that could materially affect the business or financial parameters of the organisation as mentioned in the report. CRISIL, however, recommends that the user of the grading seeks a review of the grading if the graded organisation experiences significant changes/events during this period which could impact the graded organisation/its grading.

The grading and this report are based on the information provided to CRISIL by the organisation and/or obtained by CRISIL from sources it considers reliable including published annual reports, management meetings, and industry data. CRISIL does not guarantee the accuracy, adequacy or completeness of any information on which the grading and the report are based and is not responsible for any errors or omissions for the results/opinions obtained from the use of the grading or the grading report. The grading does not constitute an audit of the organisation by CRISIL. The grading is also not a recommendation to enter into or not enter into any transaction with the organisation. CRISIL reserves the right to disclose the organisation's grading and the grading report to Government and/or Regulatory Authorities/Courts of Law if required to do so.

It is especially stated that CRISIL, its Directors, Grading Committee members, employees and others associated with the grading assignment do not have any financial liability whatsoever including but not limited to attorney's or consultant's fees to the users of this grading or this grading report. No part of this report may be reproduced by any means without CRISIL's prior written approval.

## INDEX

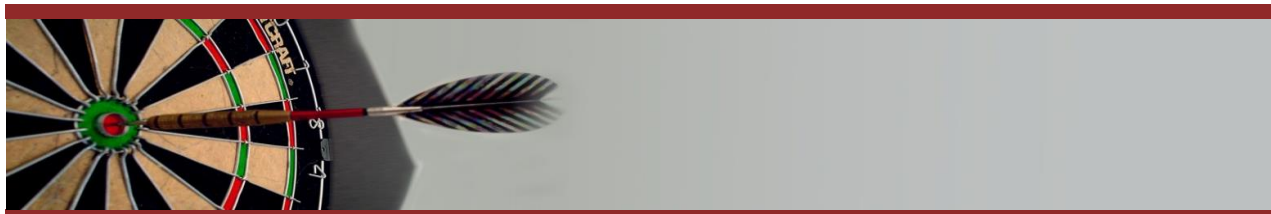
<b>1. CRISIL-IREDA GRADING</b> .....	<b>4</b>
<b>2. EXECUTIVE SUMMARY</b> .....	<b>5</b>
RATIONALE .....	6
<b>3. FACT SHEET</b> .....	<b>12</b>
<b>4. COMPANY PROFILE</b> .....	<b>14</b>
4.1 BACKGROUND AND PROJECT OVERVIEW .....	14
4.2 PROJECT OVERVIEW .....	17
4.3 OWNERSHIP PATTERN.....	20
<b>5. GROUP DETAILS</b> .....	<b>21</b>
<b>6. ORGANISATIONAL STRUCTURE, CONTROLS AND SYSTEMS-</b> .....	<b>22</b>
6.1 PROMOTER PROFILE .....	22
6.2 SENIOR MANAGEMENT PROFILE .....	24
<b>7. PROJECT DETAILS AND ARRANGEMENT</b> .....	<b>25</b>
7.1 SALIENT FEATURES OF THE PROJECT.....	25
7.2 LOCATION .....	26
7.3 WTG SUPPLY CONTRACTOR .....	26
7.4 OPERATION AND MAINTENANCE CONTRACTOR .....	27
7.5 TRANSMISSION LINES CONTRACTOR.....	29
7.6 CAPACITY UTILISATION OR PLANT LOAD FACTOR (PLF) .....	29
7.7 OFF-TAKE ARRANGEMENT .....	29
7.8 QUALITY OF COUNTERPARTY .....	30
7.9 APPROVAL AND CLEARANCES.....	31
7.10 FINANCIAL CLOSURE.....	32
PROJECT INVESTMENT.....	33
8.1 COST OF THE PROJECT - MANAGEMENT ESTIMATES .....	33
<b>9 FINANCIAL PROFILE (MANAGEMENT PROJECTIONS)</b> .....	<b>34</b>
<b>10 KEY FINANCIAL ASSUMPTIONS</b> .....	<b>36</b>
10.1 ANNUAL GENERATION PLAN .....	36
10.2 TARIFF PRICE .....	36
10.3 OPERATION AND MAINTENANCE (O&M).....	36
10.4 DEPRECIATION.....	36
10.5 INTEREST ON TERM LOAN REPAYMENT.....	36
10.6 TAX.....	37
<b>11 SENSITIVITY ANALYSIS</b> .....	<b>38</b>
11.1 ANNUAL GENERATION PLAN .....	38
11.2 TARIFF PRICE .....	38
SCENARIO ANALYSIS .....	40
<b>12 FINANCIAL RISK ASSESSMENT OF IEL</b> .....	<b>41</b>
<b>13 BANKING FACILITIES - IEL</b> .....	<b>43</b>

## 1. CRISIL-IREDA GRADING



	<b>GRADING</b>	<b>Definition</b>
CRISIL has assigned <b>'GRADE 1'</b> , which indicates <b>'Excellent'</b> ability to repay IREDA debt as per terms	<b>Grade 1</b>	<b>Excellent</b>
	Grade 2	Very good
	Grade 3	Good
	Grade 4	Satisfactory
	Grade 5	Adequate
	Grade 6	Moderate
	Grade 7	Weak
	Grade 8	Very weak

## 2. EXECUTIVE SUMMARY



In 1995, Indowind Energy Limited (IEL) was incorporated with Registrar of Companies, Chennai with an objective of development and generation of energy from wind mills, turbine and other equipment. Currently, the company is operating around 49.87 MW of capacity of wind generators with its operations concentrated mainly in Tamil Nadu and Karnataka.

The project under assessment is 18.00 MW wind power project Elakurnahalli, Chitradurga district, Karnataka which was implemented in two phases; phase I (9.00 MW power project with 6 WTGs of 1.50 MW capacity each) in 2008 and phase II (9.00 MW power project with 6 WTGs of 1.50 MW capacity each) in 2009.

On April 2, 2008 the company has entered a PPA with BESCO for a period of 10 years with a tariff rate of Rs.3.40 per kVA. From 11<sup>th</sup> year of commercial operation date, BESCO shall pay to IEL at a rate determined by the Karnataka Electricity Regulatory Commission (KERC) for the energy delivered at the metering point. In case BESCO is unwilling to purchase per at the rates determined by KERC, the company shall be permitted to sell energy to third party.

The management awarded the EPC contract and operation and maintenance of the evaluated wind project to Suzlon Energy Limited. The company has outsourced complete operations and maintenance of the project including pooling of sub-station at the wind project site and EHV line.

As per agreement entered with Suzlon Energy Limited, the generation prognosis, the estimated generation of 42.00 lakh units per Wind Turbine Generation per annum at 100.00 per cent grid availability and 95.00 per cent machine availability at the controller. Any shortfall in actual generation from estimated generation of 42.00 lakh units shall be compensated by Suzlon Energy Limited at prevailing BESCO tariff. The contract has been entered for seventeen years and four months i.e. from November 28, 2010 to March 27, 2028.

## RATIONALE

CRISIL has assigned **GRADE 1**, which indicates ' **Excellent ability to repay IREDA debt as per terms**' to IEL which has set up 9.00 MW wind power project Elakurnahalli, Chitradurga district, Karnataka.

**CRISIL's grading on IEL is driven by the assessment of the various risk parameters as follows:**

### Low sponsor risk

On July 19, 1995 Indowind Energy Private Limited was incorporated with Registrar of Company, Chennai with the objective of commercialising energy generation through wind mills, wind turbines and other equipment and catering energy needs of State Electricity Board and corporate clients. The management has more than 23 years of experience in the areas of renewable energy project management. Some of the major wind projects undertaken by the company are listed below:

Project	Location	Capacity (MW)	Commercial year of operation
Wind power project	Hanumasagar, Karnataka	1.92	1997
	Nagarcoil, Tamil Nadu	1.48	1997
	Gadag, Karnataka	2.33	1998
	Nagercoil, Tamil Nadu	6.08	2004
	Tenkasi, Tamil Nadu	3.75	2004
	Chitradurga, Karnataka	9.00	2008
	Chitradurga, Karnataka	9.00	2009

As on March 31, 2017 IEL has a strong capital base as reflected by the net worth of Rs.165.92 crore. For the year ended March 31, 2017 IEL earned operating income of Rs.26.02 crore as compared to Rs.16.88 crore last year owing to better grid availability, evacuation and forecasting & scheduling provided by National Institute of Wind energy (NIWE). The management plans to add another 10.00 MW to 15.00 MW of solar project in coming years after considering GST implementation and lower tariff bidding. The company has improved performance and operations of wind energy generation (WEG) ensuring 90.00 per cent machine availability. The management plans to automate the processes in order to reduce costs associated with manual work.

The company has in the past raised capital by issuing foreign currency convertible bonds amounting to Rs.62.16 crore. In the board meeting held on January 5, 2018 the management has decided to raise capital of Rs.30.00 crore by way of Qualified Institutional Placement (QIP) of Rs.20.00 crore and issue of warrants to promoters amounting to Rs.10.00 crore.

Hence, with the successful track record in wind power project execution and a qualified second tier management, IEL is suitably positioned to mitigate any risks pertaining operation of wind power project.

### Low permitting risk

IEL has obtained following statutory approvals as provided in the table below:

Approvals	Current Status / Timeline for getting the approval
Signing of memorandum of understanding (MOU)	All the permissions are procured and the project is in 8 <sup>th</sup> year of operation
Company incorporation	
Techno-economic clearance (TEC)	
Clearance from MoEF (Stage-1)	
Clearance from MoEF (Stage-2)	
Forest land acquisition	
NOC from gram panchayats	
NOC from water resources department	
Certificate from Pollution Control Board (PCB)	
Signing of Power Purchase Agreement (PPA)	
RoW for transmission line	

The company is currently operating 18.00 MW of wind power project at Elakurnahalli village, Chitradurga district, in Karnataka. The total land used for the project is 27.63 hectares (ha) which comes under Jogimatti wind zone area designated by MNRE.

### Low execution risk

IEL awarded Suzlon Energy Limited the contract for execution of the project on turnkey basis including supply and installation of 12 wind turbine generator (WTG) model SUZLON S82 WTG each having capacity of 1.50 MW. On April 10, 1995 Suzlon Energy Limited was incorporated with Registrar of Companies, Ahmedabad. Over the years, the company has evolved from a 20 member team to a global solution provider for wind and solar energy with presence in 18 countries across 6 continents and Research and Development (R&D) facility in Germany, Netherlands, Denmark and India. Suzlon Energy Limited is operating in India with 100 plus wind farms with an installed capacity of more than 9,000.00 MW spread across 9 states. Suzlon Energy Limited has production facility spread across India and China. All manufacturing facility are mentioned below:

Production facility	Name of location
Blades manufacturing	Anantpur, Badnawar, Bhuj, Daman, Dhule, Padubidri, Pondicherry
Generator manufacturing	Chakan and Coimbatore
Nacelle and hub	Daman, Padubidri and Pondicherry
Panels	Coimbatore
Tower	Gandhidham
Plug, mould, EMT and SPM	Vadodara

Moreover, the graded entity has vast experience in execution of wind energy projects. As on December 31, 2017 the company owns a total of 49.87 MW of capacity of wind electric generator in Tamil Nadu and Karnataka and supplies this power to regional electricity boards and corporates. The company offers "Green Power" to its customers, which are mainly corporates and state utilities in order to ensure high revenue realization.

Hence, considering the experience of Suzlon Energy Limited and Indowind Energy Limited, CRISIL opines that the graded entity had strong ability to execute the project satisfactorily.

### **Low to moderate operating risk**

The evaluated entity has entered into operation and maintenance (O&M) contract with Suzlon Energy Limited for supply, installation, testing, commissioning, operation and maintenance of WTGs for the project. SEL has vast experience in execution, operations and maintenance of wind power projects across India and worldwide.

However, in 2009 the graded entity entered in an agreement with Suzlon Energy Limited. As per the agreement, the generation prognosis, the estimated generation of 42.00 lakh units per Wind Turbine Generation per annum at 100.00 per cent grid availability and 95.00 per cent machine availability at the controller. Any shortfall in actual generation from estimated generation of 42.00 lakh units shall be compensated by Suzlon Energy Limited at prevailing BESCO tariff. The contract has been entered for seventeen years and four months i.e. from November 28, 2010 to March 27, 2028.

Furthermore, as confirmed with management, Suzlon Energy Limited has failed to honour its commitments. Hence, IEL has filed a litigation against Suzlon Energy Limited and as per order of Madras high court dated April 21, 2015, IEL need not pay O&M charges to Suzlon Energy Limited and Suzlon Energy Limited have to carry operation and maintenance on 12 WTG installed in the wind project till compensation for shortfall in actual generation from estimated generation of 42.00 lakh units is received.



On August, 2017 Indowind Energy Limited won an arbitration case initiated in April, 2015. The arbitration court has directed Suzlon Energy Limited to pay Rs.20.74 crore along with 18.00 per cent of interest from April 1, 2015 till the date of payment of the aforesaid award amount. As per management discussion, IEL plans to resolve the issue with Suzlon Energy Limited with mutual understanding.

Hence, considering the litigations pending between the two parties, CRISIL opines that the project is exposed to low to moderate risk.

### **Low generation/fuel availability risk**

As per Crisil empanelment personnel site visit report, following observations were observed:

- For the year 2015-16 and 2016-17, the PLF was 21.66 per cent and 28.32 per cent respectively.
- From April, 2017 to October, 2017 the PLF stood at 31.84 per cent owing to favourable wind peak wind season in Tamil Nadu for the mentioned period. Furthermore, owing to better grid availability for the off take of the electricity.
- The annual average wind power density (WPD) at Elakurnahalli is 632.00 W/m<sup>2</sup> at 50 m. Air density at 50 m is 1.043 kg/m<sup>3</sup> and 1.077 kg/m<sup>3</sup> at 80 m.

As per the O&M agreement between IEL and SEL, the generation prognosis, the estimated generation of 42.00 lakh units per Wind Turbine Generation per annum at 100.00 per cent grid availability and 95.00 per cent machine availability at the controller. Any shortfall in actual generation from estimated generation of 42.00 lakh units shall be compensated by Suzlon Energy Limited at prevailing BESCO tariff. The contract has been entered for seventeen years and four months i.e. from November 28, 2010 to March 27, 2028. Furthermore, as confirmed with management, Suzlon Energy Limited has failed to honour its commitments. Hence, IEL has filed a litigation against Suzlon Energy Limited.

Considering SEL not able to honor its contractual obligation in the past pertaining to the generation prognosis, CRISIL is of the opinion that, the project is exposed to low to moderate generation risks.

## **Moderate off-take/ counterparty credit risk**

On April 2, 2008 the company has entered a PPA with BESCO for a period of 10 years with a tariff rate of Rs.3.40 per kVA without any annual escalation for period from the commercial operation date. From 11<sup>th</sup> year of commercial operation date, BESCO shall pay to IEL for the energy delivered at the metering point at a rate determined by the Karnataka Electricity Regulatory Commission (KERC). From 11<sup>th</sup> year of commercial operation date, BESCO shall pay to IEL at a rate determined by the Karnataka Electricity Regulatory Commission (KERC) for the energy delivered at the metering point. In case BESCO is unwilling to purchase per at the rates determined by KERC, the company shall be permitted to sell energy to third party. The graded entity may enter into wheeling and Banking agreement with BESCO, for which IEL shall pay transmission and other charges to BESCO at the rates applicable as approved by KERC. BESCO shall make payment of the amount due in 15 days from the date of receipt of tariff invoice. In case of delay, BESCO is liable to pay IEL at SBI medium term lending rate for such a payment from the date such payment was due till such payment is made in full.

Bangalore Electricity Supply Company Limited (BESCO) was constituted in the year 2002 after unbundling from Karnataka Power Transmission Cooperation Limited (KPTCL). BESCO is responsible for power distribution and transmission in 8 districts of Karnataka. BESCO covers an area of 41,092 square kilometer with a population of over 207.00 lakh. The company has 3 operating Zones – Bangalore Metropolitan Area Zone, Bangalore Rural Area Zone and Chitradurga Zone, 9 Circles, 28 Divisions, 119 Sub-divisions and 453 Section Offices.

For the year ended March 31, 2016 the company posted a revenue of Rs.14,857.41 crore and incurred a profit of Rs.108.01 crore. The DISCOM has tangible net worth of Rs.6,529.62 crore and total debt of Rs.6,816.66 crore as on March 31, 2016<sup>1</sup>. Moreover, **BESCO is rated A** indicating high operational and financial performance capability on a six scale of grade from A+ to C; as per integrated rating undertaken by Ministry of Power, Government of India as on May 2017<sup>2</sup>. KERC has fixed Power Purchase Agreement at around Rs.3.70 per unit for power purchase agreement signed on and after January 1, 2010. Hence, CRISIL opines that the possibility for the graded entity to renew the power purchase agreement at higher tariff exists. Moreover, the company has established cliental base of corporate customers in South India that purchase power under its patented trademark "Green Power". Hence, in the light of above, the ability of the management to negotiate PPA rate with the customer after 2018 remains to be seen.

---

<sup>1</sup> Media Sources: Based on Annual Report as on March 31, 2016

<sup>2</sup> As per the Annual Integrated Rating of State Distribution Utilities dated May, 2017

## **Low funding and financial risk**

As on March 31, 2017 IEL has a strong capital base as reflected by the net worth of Rs.165.92 crore. For the year ended March 31, 2017 IEL earned operating income of Rs.26.02 crore and PAT of Rs.1.64 crore. Indus Finance Limited is a promoter company and has stake of 7.16 per cent in IEL. There is no major stakeholder in shareholding pattern of the company. Hence the evaluated entity is Sponsor Company for financial evaluation of evaluated wind project.

IEL's is currently having EXIM bank loan of Rs.54.51 crores as on March 31, 2017. This loan was procured for 8.00 MW operational wind power project in the states of Tamil Nadu and Karnataka. The repayment of EXIM Bank loan will be honoured from cash flows generated from 8.00 MW wind mill project in Tamil Nadu and Karnataka **(further details of the project are not provided to CRISIL)**. The company has moderate credit protection measures as reflected in TOL/TNW of 0.89 times and gearing of 0.48 times as on March 31, 2017.

The company has demonstrated timely infusion of funds required prior to commissioning of the project developed by the evaluated entity. The company has in the past raised capital by issuing 30.00 million in US Dollar foreign currency convertible bonds. In the board meeting held on January 5, 2018 the management has decided to raise capital of Rs.30.00 crore by way of Qualified Institutional Placement (QIP) of Rs.20.00 crore and issue of warrants to promoters amounting to Rs.10.00 crore. Furthermore, the graded entity is expected to receive settlement account from arbitration case initiated on April, 2015. The arbitration court has directed Suzlon Energy Limited to pay Rs.20.74 crore along with 18.00 per cent of interest from April 1, 2015 till the date of payment of the aforesaid award amount. As per management discussion, IEL plans to resolve the issue with Suzlon Energy Limited with mutual understanding.

Further, the repayment of debt has been structured to match cash flows of the project. CRISIL believes that the repayment structure streamlines the debt repayments during months of peak production; this would enable cash flow management of the company.

## 3. FACT SHEET



<b>Name of the company</b>	Indowind Energy Limited (IEL)
<b>Date of incorporation</b>	July 19, 1995
<b>Legal status</b>	Public limited company
<b>Legal history</b>	<ul style="list-style-type: none"> <li>▪ On July 19, 1995, IEL was incorporated as private limited company; Indowind Energy Private Limited.</li> <li>▪ Thereafter as on September 30, 1997 pursuant to the provisions of Section 43A of The Companies Act, 1956 IEL was converted into Public limited company; Indowind Energy Limited.</li> <li>▪ Refer to "Background and Project overview" section on page no '3'</li> </ul>
<b>Registered with</b>	Registrar of companies, Chennai
<b>Corporate identity number</b>	L40108TN1995PLC032311
<b>Chairman</b>	Mr. Bala Venket Kutti
<b>Corporate office</b>	603, "Keshava", 6 <sup>th</sup> Floor, Bandra-Kurla Complex Bandra (East), Mumbai – 400 051, Maharashtra.
<b>Registered office</b>	"Kothari Building", 4 <sup>th</sup> Floor 114, M. G Road Nungambakkam, Chennai- 600 034, Tamil Nadu.
<b>Location of existing wind power project</b>	Elakurnahalli, Chitradurga district, Karnataka
<b>Statutory compliance (As provided by the management, not independently verified)<sup>3</sup></b>	<ul style="list-style-type: none"> <li>▪ Income tax filing: Regular and timely</li> <li>▪ Excise duty filing: Not applicable</li> <li>▪ Sales tax filing: Not applicable</li> <li>▪ ESIC and EPF dues: Regular and timely</li> </ul>
<b>Listing</b>	Yes, since September 2007  <b>BSE</b> As on March 6, 2018: Rs.8.20 52 week low: Rs.3.97 52 week high:Rs.16.45

<sup>3</sup> As per information provided by the management

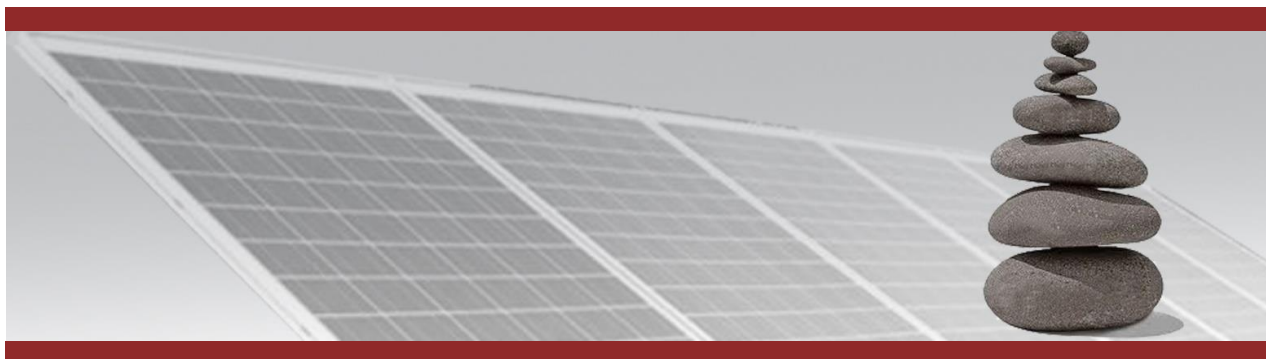
**NSE**

As on March 6, 2018: Rs.8.05

52 week low: Rs.3.90

52 week high:Rs.16.50

## 4. COMPANY PROFILE



### 4.1 BACKGROUND AND PROJECT OVERVIEW

#### **Indowind Energy Limited (IEL):**

- On July 19, 1995 Indowind Energy Private Limited was incorporated with the objective of commercialising energy generation through wind mills, wind turbines and other equipment and catering energy needs of State Electricity Board and corporate clients.
- The company is promoted by Mr. Bala Vencket Kutti and Indus Finance Limited (formally known as Subuthi Finance Limited). Mr. Bala Vencket Kutti holds a Bachelor's degree in Technology from Anna University and a Master of Business Administration degree from Bhartidasan Institute of Management and has completed Advanced Management Programme from Stanford University, USA. With 23 years of business experience in the areas of renewable energy project management, investment banking, corporate lending and merchant banking, Mr. Bala Vencke Kutti is the Chairman of Indowind Energy Limited.
- On September, 1995 the graded entity commenced its commercial operation of generating power by setting up 225.00 KW wind electric generator in Tamil Nadu.
- In March 2005, the company launched and patented the "Green Power" as a trademark for sale of power to Corporates and State Electricity board. The graded entity has both private and public entities as its customers spread across South India which includes Tamil Nadu Electricity Board (TNEB), Hindustan Coca Cola Beverages Private Limited, Karnataka Distilleries Limited, Mangalore Distilleries Limited, H&R Johnson India Limited, Delphi Automotive Systems Private Limited and Spicer India Limited.
- In 2005, the graded entity is first in Tamil Nadu to obtain Host Country approval for Carbon Emission reduction (CER) and get its project registered with United Nations Framework Convention on Climate Change (UNFCCC). On September 24, 2006, the company is first in India to get carbon credits issued by UNFCCC.

- In September 2007, the company got listed on Bombay Stock Exchange and National Stock exchange to raise funds required for development of projects in Tamil Nadu. The company also issued foreign Currency convertible bonds of 150.00 lakh US Dollar and the issue was successfully completed by 2008.
- As on December 31, 2017 the company owns a total of 49.87 MW of capacity of wind electric generator in Tamil Nadu and Karnataka and after repowering supplies this power to regional electricity boards and corporates.
- The major projects undertaken by the company are as follows:

Project	Location	Capacity (MW)	Commercial date of operation
Wind power project	Hanumasagar, Karnataka	1.92	1997
	Nagarcoil, Tamil Nadu	1.48	1997
	Gadag, Karnataka	2.33	1998
	Nagercoil, Tamil Nadu	6.08	2004
	Tenkasi, Tamil Nadu	3.75	2004
	Chitradurga, Karnataka	9.00	2008
	Chitradurga, Karnataka	9.00	2009

- IEL has entered into independent PPAs with few of the industrial and commercial consumers mentioned below.

Customer Name	Tentative capacity distribution (MW)	Charges Rs. Per unit
Green Park Hotels and Resorts Limited	1.37	7.39
RSWM Limited	4.56	5.39
Spicer India Limited	5.00	5.76
Venture Lighting India Limited	1.78	6.70
Rattha Somerset Greenways (Chennai) Limited	3	6.80
Rattha Holding Company Limited	4.56	6.80
PKS Prasath and PJK Sairam	0.9	7.72
Pandyan Hotel Limited	0.9	7.31
Dr. Kamakshi Memorial Hospitals Private Limited	1.82	6.89
DACCS Granites Private Limited	1.83	6.76
A R Foundations Private Limited	4.97	6.46

### **Indus Finance Limited (shareholder)**

- Indus Finance Limited (IFL) was incorporated as 'Subuthi Finance Private Limited' a public limited company on March 11, 1992 with the ROC, Tamil Nadu at Chennai. The registered office of IFL is situated at Chennai, Tamil Nadu.

- IFL is a Non-Banking Finance Company registered with RBI inter alia in the business of corporate lending, investment in securities, property and infrastructure loans and financial advisory services.
- IFL has shareholding of 7.16 per cent in evaluated company with 64,21,765 shares of Rs.10.00 each as on March 31, 2017.
- For the year ended March 31, 2017 the company posted revenue of Rs.340.00 lakh and PAT of Rs.7.1 lakh. ***Details pertaining to total debt and net worth were not provided to CRISIL.***



## 4.2 PROJECT OVERVIEW

- The graded entity has implemented a wind power project of 18.00 MW generated through 12 wind turbines and was implemented in two phases in Chitradurga District, Karnataka State in Joggimati wind zone . The first phase of 9.00 MW (1.5 MW X 6 WTG) achieved COD on March 28, 2008 and second phase of 9.00 MW (1.5 MW X 6 WTG) was implemented in 2009.
- For the execution of the case, the graded entity availed loan for only Phase I from IREDA which amounts to Rs.38.00 crore in March 2009. The company funded execution of Phase II from internal accruals.
- The evaluated entity has entered into EPC and operation and maintenance (O&M) contract with Suzlon Energy Limited for supply, installation, testing, commissioning, operation and maintenance of WTGs for the project.
- On April 10, 1995 Suzlon Energy Limited was incorporated with Registrar of Companies, Ahmedabad. Over the years, the company has evolved as a global solution provider for wind and solar energy with presence in 18 countries across 6 continents and Research and Development (R&D) facility in Germany, Netherlands, Denmark and India. Suzlon Energy Limited is operating in India with 100 plus wind farms with an installed capacity of more than 9,000 MW spread across 9 states.
- On April 2, 2008, the graded entity has entered into power purchase agreement with Bangalore Electricity Supply Company Limited (BESCOM) for a period of 10 years with a tariff rate of Rs.3.40 per kVA. From 11<sup>th</sup> year of commercial operation date, BESCOM shall pay to IEL at a rate determined by the Karnataka Electricity Regulatory Commission (KERC) for the energy delivered at the metering point. In case BESCOM is unwilling to purchase per at the rates determined by KERC, the company shall be permitted to sell energy to third party.
- KERC has fixed Power Purchase Agreement at around Rs.3.70 per unit for power purchase agreement signed on and after January 1, 2010. Hence, CRISIL opines that the possibility for the graded entity to renew the power purchase agreement at higher tariff exists. Moreover, the company has established cliental base of corporate customers in South India that purchase power under its patented trademark "Green Power". In the past, the company has demonstrated strong marketing initiatives which has resulted in signing of PPA's with corporates at an average rate of Rs.4.40 per MW. Hence, in the light of above, the ability of the management to negotiate PPA rate with the customer after 2018 remains to be seen.

- In 2009 the graded entity has entered into an agreement with Suzlon Energy Limited. As per the agreement, the generation prognosis, the estimated generation of 42.00 lakh units per Wind Turbine Generation per annum at 100.00 per cent grid availability and 95.00 per cent machine availability at the controller. Any shortfall in actual generation from estimated generation of 42.00 lakh units shall be compensated by Suzlon Energy Limited at prevailing BESCO tariff. The contract has been entered for seventeen years and four months i.e. from November 28, 2010 to March 27, 2028.
- Furthermore, as confirmed with management, Suzlon Energy Limited has failed to honour its commitments. Hence, IEL has filed a litigation against Suzlon Energy Limited and as per order of Madras high court dated April 21, 2015, IEL need not pay O&M charges to Suzlon Energy Limited and Suzlon Energy Limited have to carry operation and maintenance on 12 WTG installed in the wind project till the compensation for shortfall in actual generation from estimated generation of 42.00 lakh units is received.
- In August, 2017 Indowind Energy Limited won an arbitration case initiated on April, 2015. The arbitration court has directed Suzlon Energy Limited to pay Rs.20.74 crore along with 18.00 per cent of interest from April 1, 2015 till the date of payment of the aforesaid award amount. As per management discussion, IEL is pursuing the case legally and plans to resolve the issue with Suzlon Energy Limited through out of court settlement.
- The details of the wind power project at Elakurnahalli, Chitradurga, Karnataka for the evaluated entity as per DPR are as follows<sup>4</sup>:

Description	Units	Projections
<b>Project specifications</b>		
Project capacity	MW	18 MW (Stage I :9 MW and Stage II: 9 MW)
Wind turbine	No.	12
Wind turbine capacity	MW	1.50 MW each
<b>Project financials</b>		
Total project cost	Rs. Crore	108.60
Payback period	Years	7.6
Debt : Equity	Times	70:30
Debt	Rs. Crore	38.00
Equity	Rs. Crore	70.60
PLF	Per cent	30.44

- The wind power plant at Elakurnahalli village, Chitradurga district, in Karnataka operates 12 Wind Turbine Generators (WTG) with a capacity of 1.50 MW each, and has set up on a turnkey basis by Suzlon Energy Limited (SEL).
- The company is currently operating 18.00 MW of wind power project at Elakurnahalli village, Chitradurga district, in Karnataka. The total land used for the project is 27.63

<sup>4</sup> Based on the documents and management clarification provided to CRISIL

hectares (ha) which comes under Jogimatti wind zone area designated by MNRE. The land used for the project is under 30 years of long term lease with Government of Karnataka.

- The details of approvals and clearances obtained by IEL for the wind power project are as follows<sup>5</sup>:

Particulars	Current Status
Grid interconnect approval	March 3, 2008
Administrative approval granting permission for wind power project, New & Renewable Energy Department (RNRED)*	March 20, 2013
Land use permission, RNRED	March 25, 2008
Signing of PPA	April 2, 2008
NOC from gram Panchayat	July 14, 2010
O&M contract	September 15, 2009
External transmission contract	January 5, 2007
Internal transmission and substation contract	
Land allotment letter from Karnataka Renewable Energy Development Limited with permission of forest department of Karnataka	December 28, 2004
Commission certificate of 9.00 MW project (Stage I)	April 12, 2009: ( <i>stating commencement from March 28, 2008</i> )
Statement of compliance of WTG installation from Germanischer Lloyd SE, Germany	May 11, 2007

Suzlon was allotted a total capacity of 37.50 MW to develop wind power project in Jogimatti wind zone as area designated by MNRE, Taluk & District Chitradurga, Karnataka. The permission for transferring the license in favor of IEL was issued on 25-02-2008 vide order no EN 66 NCE 2008 to setup the wind projects in Elkurnahalli, Chikkasiddavanahalli & Yalakuranahalli villages in Tehsil Hirayur, District Chitradurga from the capacity was allotted to Suzlon Energy Limited.

- Details of WTGs to be supplied are as follows:

Name of Supplier	WTG Model	Turbine Rating (kW)	Hub Height (in meters)	Rotor Diameter (in meters)	Total quantity	Total Installed Capacity (MW)
Suzlon Energy Limited	Suzlon S82	1500.00 KW (1.50 MW)	78.5 m	82.00 m, with 3 blades, horizontal axis	12	18.00 MW

<sup>5</sup> Based on the management discussion

The other components used for installation are:

Components	Manufactured by
Tubular Tower	Suzlon Towers and Structures Limited
Rotor Hub	L & T Limited
Rotor Blade	Suzlon Energy Limited
Slew ring	Imported from Italy
Wind sensors	Imported from Germany
Transformers	Ajanta Transpower Equipments Private Limited
Air Circuit breakers	Sumadhura Geomatica Private Limited

## 4.3 OWNERSHIP PATTERN

Shareholding pattern as on: March 31, 2017

Name of the shareholder	Relationship with the managing director	Share in capital (%)
Mr. Bala Vencket Kutti	Self	6.06
Indus Finance Limited	Associate Company	5.44
Loyal Credit and Investment Limited		9.05
Indus Finance Limited		1.72
Mr.K S Ravindranath	Business Associate	1.99
Ind Eco Ventures Limited	Associate Company	2.39
Mr. Manohar V Kutti	Business Associate	0.84
Mr. K B Prathadevi	Business Associate	0.64
Indus Capital Private Limited	Associate Company	0.55
Soura Capital Private Limited		17.42
Others (includes individuals and corporates)		53.91
<b>Total</b>		<b>100.00</b>

## 5. GROUP DETAILS

Group Companies	Year of incorporation	Business
Indus Finance Limited	1992	NBFC- Lending operations
Ind Eco Ventures Limited	1982	Power Generation
Indonet Global Limited	2007	Software development
Indus Nutri Food Limited	1999	Power Generation
Soura Capital Private Limited	2010	Investments in group companies
Loyal Credit & Investments Ltd	1979	Investments in group companies
Indowind Power Private Limited	2010	Power distribution
Perpetual Power Private Limited	2013	Power distribution

## 6. ORGANISATIONAL STRUCTURE, CONTROLS AND SYSTEMS-

### 6.1 PROMOTER PROFILE

<b>Director's name</b>	Mr. Bala Vencket Kutti
<b>Age</b>	49 years
<b>Qualification</b>	B.Tech (Textile technology), MBA (BIM-Trichy), Executive Programme for growing companies from Stanford University, USA
<b>Designation/ Responsibilities</b>	Chairman, Chief Executive Officer, Founder/ strategic decision making
<b>Previous experience</b>	<b>1989 – 1992:</b> working with ICICI Bank Limited as a project analyst <b>1992 onwards:</b> incorporated Indus Finance Limited ( <i>formally known as Subuthi Finance Limited</i> ) as non-banking financial company. The company was incorporated to lend loans to power sector. <b>1995 onwards:</b> Director in evaluated company
<b>Relevant experience</b>	22 years managing business operations in evaluated entity
<b>Net worth</b>	<b>Data not provided to CRISIL</b>

<b>Director's name</b>	Mr. Kuppa Sankaran Ravindranath
<b>Age</b>	58 years
<b>Qualification</b>	Diploma in Engineering
<b>Designation/ Responsibilities</b>	Director / technical operations
<b>Previous experience</b>	Has more than 32 years of industrial experience in Textile industry and operation of power plants
<b>Relevant experience</b>	<b>22 years through evaluated entity</b> Manages technical operations and is instrumental in overseeing site erection and installation of wind electric generators, spares and maintenance.

<b>Director's name</b>	Mr. Niranjan Raosaheb Jagtap
<b>Age</b>	72 years
<b>Qualification</b>	B Com and LLB from Mumbai University
<b>Designation/ Responsibilities</b>	Director / legal advisor
<b>Previous experience</b>	Since 1960, practicing as an advocate with 47 years of business experience
<b>Relevant experience</b>	22 years through evaluated entity

<b>Name</b>	Mrs. Alice Chikkara
<b>Age</b>	31 years
<b>Qualification</b>	Banking and finance from London University
<b>Designation/ Responsibilities</b>	Director /Financial advisor
<b>Previous experience</b>	<b>Around 9 years of experience which includes:</b> <b>2008 onwards:</b> Managing investments, finances and asset management in Altech Capital Limited <b>2013 onwards:</b> Finance operations in evaluated entity
<b>Relevant experience</b>	4 years through evaluated entity

<b>Name</b>	Mr. Shyam Sundar
<b>Age</b>	66 years
<b>Qualification</b>	Graduate
<b>Designation/ Responsibilities</b>	Director / Admin operations
<b>Previous experience</b>	<b>Around 37 years of experience which includes:</b> Held distinguished positions in India police Service and serviced various Public Sector Undertakings
<b>Relevant experience</b>	3 year experience in evaluated entity

## 6.2 SENIOR MANAGEMENT PROFILE

<b>Name</b>	Mr. A Rajasukumar
<b>Age</b>	50 years
<b>Qualification</b>	MBA
<b>Designation/ Responsibilities</b>	President / resource mobilization and management
<b>Previous experience</b>	Around 26 years of experience
<b>Relevant experience</b>	12 years through evaluated entity

<b>Name</b>	Mr. K K Dinakar
<b>Age</b>	52 years
<b>Qualification</b>	BCom, and Company Secretary
<b>Designation/ Responsibilities</b>	President / Finance operations
<b>Previous experience</b>	Around 26 years of experience
<b>Relevant experience</b>	10 years through evaluated entity

<b>Name</b>	Mr. S Diraviam
<b>Age</b>	59 years
<b>Qualification</b>	Company Secretary, ICWA and LLB
<b>Designation/ Responsibilities</b>	President / Legal Operations
<b>Previous experience</b>	Around 34 years of experience
<b>Relevant experience</b>	9 years through evaluated entity



## 7. PROJECT DETAILS AND ARRANGEMENT



### 7.1 SALIENT FEATURES OF THE PROJECT

- Salient features of the project are as follows:

Particulars	Details
Type of project	Wind Power Project
Location	Elakurnahalli, Karnataka
Generation Capacity	18.00 MW comprising of 12 WTGs
Name of WTG supplier	Suzlon Energy Limited
WTG model	SUZLON S82 (1500 KW) WTG
<i>Cut-in speed (in meters / second)</i>	<i>4.00 m/s</i>
<i>Cut-out speed (in meters / second)</i>	<i>20.00 m/s</i>
<i>Rated wind speed (in meters / second)</i>	<i>14.00 m/s</i>
<i>Hub height (in meters)</i>	<i>78.5 m</i>
<i>Rotor Swept area</i>	<i>5,281m<sup>2</sup></i>
<i>Rotor diameter (in meters)</i>	<i>82.00 m, with 3 blades, horizontal axis</i>
PPA	PPA with BESCOM at Rs.3.40 per kVA without annual escalation for period of first 10 years from the commercial operation date and for next 10 years rate as determined by KERC.

## 7.2 LOCATION

- On November 17, 2006 27.63 hectare of forest land was diverted in the favour of Suzlon Energy Limited, Bangalore for establishment of 33.00 MW wind power project in Jogmatti Reserve Forest in Chitradurga district, Karnataka.
- The project site is around 210.00 Km away from Bengaluru Airport. The site is well connected to the Bangalore – Chitradurga National Highway.
- On January 5, 2007 Karnataka forest Department and Suzlon Energy Limited entered into long term lease agreement for the period of 30 years for the existing location. The lease rent at Rs.0.30 lakh per MW is charged as lump sum payment for the entire period of lease.
- On March 24, 2008, Suzlon Energy Limited and Indowind Energy Limited entered into lease agreement for use of land at Yellekurnahalli site, Chitradurga district, Karnataka. The lease rights were transferred at Rs.54.30 crores from Suzlon Energy Limited to Indowind Energy Limited as a project cost for EPC agreement between the said companies.

## 7.3 WTG SUPPLY CONTRACTOR

- Suzlon Energy Limited was awarded the contract for supply and installation of 12 wind turbine generator (WTG) model SUZLON S82 WTG each having capacity of 1.50 MW.
- Suzlon Energy Limited has secured necessary approvals and clearances required for implementation of the project and assisted the evaluated entity in executing PPA with BESCO for sale of power.
- Details of WTG supplied by Suzlon is as follows<sup>6</sup>:

Name of Supplier	WTG Model	Turbine Rating (kW)	Hub Height (in meters)	Rotor Diameter (in meters)	Total quantity	Total Installed Capacity (MW)
Suzlon Energy Limited	SUZLON S82	1500 KW, (1.50 MW)	78.5 m	82.00 m, with 3 blades, horizontal axis	12	18.00

### Notes:

- On April 10, 1995 Suzlon Energy Limited was incorporated with Registrar of Companies, Ahmedabad. Over the years, the company has evolved from a 20 member team to a global solution provider for wind and solar energy with presence in 18 countries across 6 continents and Research and Development (R&D) facility in Germany, Netherlands,

<sup>6</sup> Based on management discussion and documents provided to CRISIL

Denmark and India. Suzlon Energy Limited is operating in India with 100 plus wind farms with an installed capacity of more than 9,000.00 MW spread across 9 states.

- Some of the notable clients of the Suzlon group is as follows:

Name of Clients	Commissioned Capacity (MW)
Mytrah Energy Limited	309.90
Leap green energy Private Limited	242.00
Techno Electric and Engineering Company Limited	207.35
Malpani Group	164.20
ONGC	153.90
Gujarat State Fertilizers & Chemicals Limited	152.80
Renew Power	98.70
Indian Oil Corporation Limited	69.30

- Suzlon Energy Limited has production facility spread across India and China. All manufacturing facility are mentioned below:

Production facility	Name of location
Blades manufacturing	Anantpur, Badnawar, Bhuj, Daman, Dhule, Padubidri, Pondicherry
Generator manufacturing	Chakan and Coimbatore
Nacelle and hub	Daman, Padubidri and Pondicherry
Panels	Coimbatore
Tower	Gandhidham
Plug, mould, EMT and SPM	Vadodara

## 7.4 OPERATION AND MAINTENANCE CONTRACTOR

- On September 15, 2009 the graded entity entered into comprehensive operation and maintenance (O&M) contract with Suzlon Infrastructure Services Limited (SISL) to manage and operate (without involving parts and consumable) Suzlon S82 which includes six wind turbines of cumulative capacity 1.50 MW installed at location numbers: K60, K61, K62, K63, K64 and K65<sup>7</sup>.
- SISL is expected to provide comprehensive operation and maintenance of the project (not involving parts / consumables without parts) which includes routine post-operative services, security services, management services, technical services and crane services.
- Based on the operation and maintenance agreement with SISL; the broad terms and conditions of O&M contract are expected to be as follows:

<sup>7</sup> Based on documents provided by the management

- The performance guarantee in terms of machine availability is offered for period of 20 years from the date of commissioning.
- Quarterly O&M charges are fixed for payments to Suzlon Energy Limited as mentioned in Schedule 1 of the contract till March 27, 2016 with escalation of 5.00 per cent per annum. The O&M charges for the subsequent period will be mutually agreed upon. Furthermore, such mutually agreed O&M charges will not be more than average O&M charges of all similar rating WTG installed and operating in India at that particular time.
- The generation prognosis, the estimated generation of 42.00 lakh units per Wind Turbine Generation per annum at 100.00 per cent grid availability and 95.00 per cent machine availability at the controller. Any shortfall in actual generation from estimated generation of 42.00 lakh units shall be compensated by Suzlon Energy Limited at prevailing BESCO tariff. The O&M contract between IEL and SISL is valid for a period of seventeen years and 4 months commencing from November 28, 2010 till March 27, 2028
- As confirmed with management, in recent past Suzlon Energy Limited has failed to honour its commitments. Hence, IEL has filed a litigation against Suzlon Energy Limited and as per order of Madras high court dated April 21, 2015, IEL need not pay O&M charges to Suzlon Energy Limited and Suzlon Energy Limited have to carry operation and maintenance on 12 WTG installed in the wind project till the compensation for shortfall in actual generation from estimated generation of 42.00 lakh units is received.
- Furthermore, on August, 2017 Indowind Energy Limited won an arbitration case initiated in April, 2015. The arbitration court has directed Suzlon Energy Limited to pay Rs.20.74 crore along with 18.00 per cent of interest from April 1, 2015 till the date of payment of the aforesaid award amount. As per management discussion, IEL is pursuing the case legally and plans to resolve the issue with Suzlon Energy Limited through out of court settlement.

## 7.5 TRANSMISSION LINES CONTRACTOR

Total distance from project pooling station to BESCO grid is 24 kilometres. To facilitate the same Suzlon Energy Limited has erected following:

Description	Units
Total towers carrying transmission lines	95
Pit evacuated for installing the power	75
Towers erected	59
Stringing lines	36

## 7.6 CAPACITY UTILISATION OR PLANT LOAD FACTOR (PLF)

- As per Crisil empanelment personnel site visit report, following observations were observed:
  - For the year 2015-16 and 2016-17, the PLF was 21.66 per cent and 28.32 per cent respectively.
  - From April, 2017 to October, 2017 the PLF stood at 31.84 per cent owing to favourable wind peak season in Tamil Nadu for the mentioned period. Furthermore, owing to better grid availability for the off take of the electricity.
  - The annual average wind power density (WPD) at Elakurnahalli is 632.00 W/m<sup>2</sup> at 50 m. Air density at 50 m is 1.043 kg/m<sup>3</sup> and 1.077 kg/m<sup>3</sup> at 80 m.

## 7.7 OFF-TAKE ARRANGEMENT

- On April 2, 2008 the company has entered a PPA with BESCO for a period of 10 years with a tariff rate of Rs.3.40 per kWh without any annual escalation for period from the commercial operation date.
- From 11<sup>th</sup> year of commercial operation date, BESCO shall pay to IEL for the energy delivered at the metering point at a rate determined by the Karnataka Electricity Regulatory Commission (KERC). From 11<sup>th</sup> year of commercial operation date, BESCO shall pay to IEL at a rate determined by the Karnataka Electricity Regulatory Commission (KERC) for the energy delivered at the metering point. In case BESCO is unwilling to purchase as per the rates determined by KERC, the company shall be permitted to sell energy to third party. The graded entity may enter into wheeling and Banking agreement with BESCO, for which IEL shall pay transmission and other charges to BESCO at the rates applicable as approved by KERC.
- BESCO shall make payment of the amount due in 15 days from the date of receipt of tariff invoice. In case of delay, BESCO is liable to pay IEL at SBI medium term lending rate for such a payment from the date such payment was due till such payment is made in full.

- As per PPA, if the company commits O&M default, BESCO shall give notice to the company in writing calling upon the company to remedy such default. In failure of the same within the aforesaid period the PPA agreement shall stand terminated.

## 7.8 QUALITY OF COUNTERPARTY

- The project under evaluation sell the total power generated to BESCO as per the PPA agreement.
- Bangalore Electricity Supply Company Limited (BESCO) was constituted in the year 2002 after unbundling from Karnataka Power Transmission Cooperation Limited (KPTCL).
- BESCO is responsible for power distribution and transmission in 8 districts of Karnataka. BESCO covers an area of 41,092 square kilometer with a population of over 207.00 lakh. The company has 3 operating Zones – Bangalore Metropolitan Area Zone, Bangalore Rural Area Zone and Chitradurga Zone, 9 Circles, 28 Divisions, 119 Sub-divisions and 453 Section Offices.
- For the year ended March 31, 2016 the company posted a revenue of Rs.14,857.41 crore and incurred a profit of Rs.108.01 crore. The DISCOM has tangible net worth of Rs.6,529.62 crore and total debt of Rs.6,816.66 crore as on March 31, 2016<sup>8</sup>.
- Moreover, **BESCO is rated A** indicating high operational and financial performance capability on a six scale of grade from A+ to C; as per integrated rating undertaken by Ministry of Power, Government of India as on May 2017<sup>9</sup>.
- **Key Strengths of BESCO**
  - BESCO's AT&C loss level has remained satisfactory and shown a declining trend and is above average among all Karnataka DISCOMs
  - Largest DISCOM in Karnataka accounting for 45-50% of total energy sales; Consumer profile is also favourable with good mix of HT and commercial consumers
  - Regulatory clarity in the State, with multi-year tariff regime in place and regular tariff filings and tariff orders issuance observed
  - Timely availability of audited financial accounts for FY 2016
  - 100% RPO compliance in FY 2016
- **Key Concerns of BESCO**
  - Decline in cost coverage ratio in FY 2016 over the previous year owing to significant increase in power purchase cost
  - High level of pending receivables and inter-discom power purchase receivables

<sup>8</sup> Media Sources: Based on Annual Report as on March 31, 2016

<sup>9</sup> As per the Annual Integrated Rating of State Distribution Utilities dated May, 2017

- Hours of supply in the rural areas by BESCO remains less than 18 hours

## 7.9 APPROVAL AND CLEARANCES<sup>10</sup>

The completion date is tabulated as below:

Particulars	Current Status
Grid interconnect approval	March 3, 2008
Administrative approval granting permission for wind power project, New & Renewable Energy Department (RNRED)*	March 20, 2013
Land use permission, RNRED	March 25, 2008
Signing of PPA	April 2, 2008
NOC from gram Panchayat	July 14, 2010
O&M contract	September 15, 2009
External transmission contract	
Internal transmission and substation contract	January 5, 2007
Land allotment letter from Karnataka Renewable Energy Development Limited with permission of forest department of Karnataka	December 28, 2004
Commission certificate of 9.00 MW project (Stage I)	April 12, 2009: ( <i>stating commencement from March 28, 2008</i> )
Statement of compliance of WTG installation from Germanischer Lloyd SE, Germany	May 11, 2007

<sup>10</sup> Based on the management discussion and estimates provided to CRISIL

## **7.10 FINANCIAL CLOSURE**

- The evaluated entity has developed 18.00 MW wind power project at a total estimated cost of Rs.108.60 crore in Elakurnahalli, Chitradurga, Karnataka under IEL. The EPC and O&M contract was awarded to Suzlon Energy Limited.
- Initially during the preparation of project DPR, the project cost of Rs.108.60 crore for 18.00 MW wind mill was expected to be funded in debt-to-equity mix of around 70:30 by contributing Rs.32.00 crore as promoter's equity contribution in the project through IEL. Hence, company had applied for loan of 76.00 crores with IREDA, of which Rs.38.00 crores was funded by IREDA for 9.00 MW (Stage I) wind project. 9.00 MW (Stage II) wind project was funded by company through debt secured by EXIM Bank of India and funds from Synthite Industries Limited.



## PROJECT INVESTMENT

### 8.1 COST OF THE PROJECT - MANAGEMENT ESTIMATES

Source of funds	Amount projected as per DPR (Rs. Crore)	Amount invested (Rs. Crore)	Application of funds	Amount projected as per DPR (Rs. Crore)	Amount actually incurred (Rs. Crore)
Promoters contribution	52.60	16.30	Land and site development	2.16	2.16
Loan from IREDA For stage I; 9MW	56.00	38.00	Plant, machinery, wind mill and turbine cost	87.72	87.72
Other sources	-	54.30	EPC contract and service	12.24	12.24
			Substation Charges	4.65	4.65
			Taxes	1.83	1.83
			<b>Total</b>	<b>108.60</b>	<b>108.60</b>

#### Notes:

- IEL executed 18.00 MW in two phases and invested the funds secured from IREDA (Rs.38.00 crore) in Phase I (9.00 MW) with debt to equity mix of 70:30 for Phase I project. Phase II of the project was executed by funds from company through loans secured from banking institutions and internal accruals from generation proceeds.

## 9 FINANCIAL PROFILE (MANAGEMENT PROJECTIONS)

*(The financial projections enclosed are pertaining to 9.00 MW (Stage I) wind project, as the company shall utilise cash flows from 9.00 MW (Stage I) wind project to repay the existing IREDA loan)*

Particulars		2018	2019	2020	2021	2022	2023	2024
Net sales	Rs.crore	7.38	9.56	9.56	9.56	9.56	9.56	9.56
OPBDIT	Rs.crore	7.17	9.35	9.35	9.35	9.35	9.35	9.35
RPAT	Rs.crore	2.56	4.89	5.19	5.51	5.86	6.23	6.64
Net Cash Accruals	Rs.crore	4.90	7.23	7.52	7.84	8.19	8.57	8.98
Equity Share Capital	Rs.crore	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Adjusted Net worth	Rs.crore	29.32	34.21	39.40	44.90	50.76	56.99	63.63
Adjusted Total Debt	Rs.crore	18.83	16.29	13.66	10.67	7.55	4.06	0.49
<b>Ratios</b>								
OPBDIT / Operating Income	%	97.16	97.80	97.80	97.80	97.80	97.80	97.80
APAT/Operating Income	%	34.68	51.22	54.28	57.62	61.28	65.24	69.49
OPBDIT/Interest & Finance Charges	Times	4.27	4.63	5.37	6.51	8.48	12.62	26.57
Net Cash Accruals / Adjusted Debt	Times	0.26	0.44	0.55	0.74	1.09	2.11	18.45
Adjusted Debt / Adjusted Net Worth	Times	0.64	0.48	0.35	0.24	0.15	0.07	0.01
DSCR	Times	1.57	1.98	2.06	2.04	2.15	2.16	2.33

**Notes:**

- The financial projections enclosed in this report have been prepared by the company's management. CRISIL has also undertaken a sensitivity analysis of projections based on industry benchmarks, discussions with various stakeholders and inputs from its associates.
- The adjusted net worth includes reserves and surplus and MNRE subsidy.
- Management has assumed to repay the entire term loan in 2025.
- CRISIL has enclosed financial projections of the company only for 7 years, as management proposes to repay the entire term loan availed from IREDA in 8 years. However, the project life cycle is 35 years as assumed by the management.
- Based on management assumptions, average DSCR comes out to 2.04 times with a minimum DSCR of 1.57 times.

## 10 KEY FINANCIAL ASSUMPTIONS

### 10.1 ANNUAL GENERATION PLAN

- The management plans to operate the existing facility for 365 days in a year.
- The management has estimated that the existing wind power project would generate 21.71 million units at a PLF of 27.54 per cent at 100.00 per cent dependable year.
- The management has not considered any transmission losses.

### 10.2 TARIFF PRICE

- As per the PPA with BESCO, the tariff rate of Rs.3.40 per kVA without annual escalation for period of first 10 years from the commercial operation date i.e. from April 2008<sup>11</sup>.
- From 11<sup>th</sup> year of commercial operation date (*from April 2018*), BESCO shall pay to IEL for the energy delivered at the metering point at a rate determined by the Karnataka Electricity Regulatory Commission (KERC).
- The management has assumed levelised tariff rate of Rs.4.40 per unit without annual escalation for period of next 10 years from April 2018.

### 10.3 OPERATION AND MAINTENANCE (O&M)

- The evaluated entity has entered into EPC and operation and maintenance (O&M) contract with Suzlon Energy Limited for supply, installation, testing, commissioning, operation and maintenance of WTGs for the project.
- Hence O&M charges are projected at Nil as compensation claim receivable has not been factored in the projection.

### 10.4 DEPRECIATION

- The management has considered a depreciation rate of 5.33 per cent per annum on building & civil works, evacuation, plant and machinery, and E&M works.

### 10.5 INTEREST ON TERM LOAN REPAYMENT

- **Loan from IREDA:** The management has assumed an interest rate of 10.85 per cent on term loan during the entire tenure of the loan.
- Principal is expected to be repaid by FY 2025 by the management.

---

<sup>11</sup> Based on the PPA shared with CRISIL

## 10.6 TAX

- No Income tax payable under regular computation has been assumed till 2028–29 as the company as a whole has Rs.76.00 crores of unabsorbed depreciation and MAT credit of Rs.3.31 crores as on March 31, 2015. In view of the same the company projects no tax is payable till 2028–29. ***Further details pertaining to the same were not provided to CRISIL***

## 11 SENSITIVITY ANALYSIS

### 11.1 ANNUAL GENERATION PLAN

- As per the projected financials submitted to CRISIL, the PLF is 27.30 per cent. However, based on site visit undertaken by CRISIL's consultant, CRISIL has sensitised the projections at net average PLF of 24.00 per cent<sup>12</sup>.

### 11.2 TARIFF PRICE

- As per the PPA with BESCO, the tariff rate of Rs.3.40 per kVA without annual escalation for period of first 10 years from the commercial operation date i.e. from April 2008<sup>13</sup>.
- From 11<sup>th</sup> year of commercial operation date (*from April 2018*), BESCO shall pay to IEL for the energy delivered at the metering point at a rate determined by the Karnataka Electricity Regulatory Commission (KERC).
- The management has assumed levelised tariff rate of Rs.4.40 per unit without annual escalation for period of next 10 years from April 2018. CRISIL has sensitized the tariff rate to Rs.3.75 per unit owing to the competitive market and recent dispute over tariff order issued to by the state power regulator on September 4, 2017, allowing the DISCOMS to purchase wind power at Rs.3.74 per unit.

### 9.3 OPERATIONS AND MAINTENANCE (O&M)

- As per CERC report operation and management expense is at 5.72 per cent of total capital cost. However, as per order of Madras high court dated April 21, 2015, IEL need not pay O&M charges to Suzlon Energy Limited and Suzlon Energy Limited have to carry operation and maintenance on 12 WTG installed in the wind project. Hence the same is not sensitised as per CERC report.

---

<sup>12</sup> Based on the PLF achieved by the projects graded by CRISIL in the past

<sup>13</sup> Based on the PPA shared with CRISIL

**Based on sensitivity analysis, the observations are as following:**

- Operating profit before depreciation, interest and tax (OPBDIT) margins are expected to in the range of 97.07 per cent to 97.16 per cent over the tenure of the loan.
- The net profit after tax margin of the company is expected to be in the range of 34.68 per cent to 59.27 per cent over the tenure of the loan.
- Average DSCR is at 1.57 with minimum DSCR of 1.46 and maximum DSCR of 1.72.

## SCENARIO ANALYSIS

CRISIL has also run various scenarios to evaluate debt servicing capability of the company corresponding to the change in base PLF and interest rate. Following is the snapshot of the same for reference:

### Scenario I: At a tariff rate of Rs.4.00/kWh

Minimum DSCR	Average DSCR
1.56	1.66

### Scenario II: At a tariff rate of Rs.4.25/kWh

Minimum DSCR	Average DSCR
1.57	1.76

### Scenario III: At PLF of 30.00 per cent

Minimum DSCR	Average DSCR
1.57	1.92



## 12 FINANCIAL RISK ASSESSMENT OF IEL



For the year ended		2016-17	2015-16	2014-15
		Audited	Audited	Audited
<b>Number of months</b>		<b>12</b>	<b>12</b>	<b>12</b>
Net Revenues	Rs.Lakh	2,602.21	1,687.66	2,005.14
Operating Income	Rs.Lakh	2,602.21	1,687.66	2,005.14
OPBDIT	Rs.Lakh	177.87	730.14	513.96
Interest	Rs.Lakh	1,529.34	740.06	907.85
Depreciation	Rs.Lakh	645.56	678.88	616.60
Non operating income	Rs.Lakh	1,092.14	755.36	754.24
RPAT	Rs.Lakh	164.00	73.00	22.81
Net Cash Accruals	Rs.Lakh	1,256.14	828.36	777.05
Equity share capital	Rs.Lakh	8,974.15	8,974.15	8,974.15
Tangible net worth	Rs.Lakh	16,592.45	16,751.86	16,619.21
Total Debt	Rs.Lakh	7,940.58	7,388.59	7,665.79
Fixed assets	Rs.Lakh	25,253.62	25,815.58	19,714.15
Investments	Rs.Lakh	986.78	840.86	611.91
Creditors	Rs.Lakh	50.14	83.10	72.87
Receivables	Rs.Lakh	635.50	468.07	546.15
Inventory	Rs.Lakh	142.98	325.56	372.24
<b>Ratios</b>				
OPBDIT margin	%	58.77	43.85	45.28
PAT margin	%	6.30	4.33	1.14
Return on capital employed	%	2.49	2.89	5.35
Interest coverage	Times	2.37	1.09	1.47
Net Cash Accruals/Adjusted Debt	Times	0.16	0.11	0.10
Total Outside Liabilities/Tangible Net worth	Times	0.88	0.86	0.88
Adjusted Debt/ Adjusted Net Worth	Times	0.48	0.44	0.46
Current Ratio	Times	3.67	1.73	2.39
Quick Ration	Times	3.41	1.43	1.80
Days Receivables	Days	89	101	99
Days Payables (on materials)	Days	32	56	37
Days inventory (on COP)	Days	49	125	124

NM: Not meaningful

## Comments on financial performance:

- For the year ended March 31, 2017 IEL earned operating income of Rs.26.02 crore as compared to Rs.16.88 crore for the year ended March 31, 2016 owing to better grid availability, evacuation and forecasting & scheduling provided by National Institute of Wind energy (NIWE).
- For the year ended March 31, 2017 non-operating income includes interest income from bank deposits (Rs.41.57 lakh) and interest income from investments in associate company (Rs.135.70 lakh).
- As on March 31, 2017 the net worth decreased on account of miscellaneous expenses written off. **Further details pertaining to the same is still awaited by CRISIL.**
- As on March 31, 2017 the total debt of the company increased to Rs.7,940.58 lakh owing to additional debt secured to purchase wind generating assets in Tamil Nadu.

## 13 BANKING FACILITIES - IEL



Name and location of the bank	Length of relationship	Facilities availed	Type of facility	Amount disbursed (Rs. Crore)	Amount outstanding <sup>14</sup> (Rs. Crore)	Rate (%)
IREDA	10 years	Term Loan	Fund based	38.00	21.02	10.85
LIC		Against LIC policy		2.39	2.39	6 month LIBOR plus 4.50 per cent
EXIM Bank	7 years	Term Loan		\$1.27 crores (Rs.81.28 crores <sup>15</sup> )	\$1.22 crores (Rs.78.08 crores <sup>15</sup> )	6 month LIBOR plus 4.00 per cent

<sup>14</sup> As on March 31, 2017

<sup>15</sup> \$1.00 crores disbursed in May 2011 and \$0.27 crores disbursed in March 2013; **average dollar rate assumed at Rs.64.**

## CRISIL INSTITUTIONAL SME RATINGS

### Business Development Contacts

#### Head Office

Mr. Satish Ramchandani  
Tel: +91 22 3342 3685  
E-mail: satish.ramchandani@crisil.com

#### West

Mr. Sidharth Pande  
Tel: +91 96196 31690  
E-mail: sidharth.pande@crisil.com  
Mr. Suresh Pillai  
Tel: +91 73034 20053  
E-mail: suresh.pillai@crisil.com

#### North

Mr. Gautam Verma  
Tel: +91 99990 21752  
E-mail: gautam.verma@crisil.com

#### Bengaluru

Mr. Varun Yeggina  
Tel: +91 98801 98855  
E-mail: varun.yeggina@crisil.com

### Analytical Contacts

#### Head Office

Mr. Sudhir Nair  
Tel: +91 22 3342 3526  
**E-mail:** sudhir.nair@crisil.com

Mr. Balgovind Agnihotri  
Tel: +91 22 3342 4053  
**E-mail:** Balgovind Agnihotri@crisil.com

#### Head Office

CRISIL House  
Central Avenue  
Hiranandani Business Park,  
Powai, Mumbai - 400 076

#### Gurgaon

Plot No. 46,  
Sector 44,  
Opposite PF Office,  
Gurgaon - 122 003

#### Chennai

No:43/44, 1st Floor,  
Thapper House  
Montieth Road, Egmore  
Chennai - 600 008