

## **CHOLA WIND-MILL PROTECT POLICY**

### **Policy Wordings**

The Insured (hereinafter called "You/ Yours") named in the Schedule hereto by a proposal and declaration together with any statement, report and/or other document has applied to the *Cholamandalam MS General Insurance Company Limited* (hereinafter called the 'Company/ We/ Our/ Us') for the insurance and has paid the premium as consideration for such insurance

Subject to the terms, exceptions and conditions contained herein or endorsed hereon, the Company agrees to indemnify the Insured, shortfall in deemed energy production caused due to any insured peril as specified in the policy schedule, at any time during the period of insurance. Shortfall in deemed energy production is defined by virtual energy produced Index, based on observations of insured parameters, as described in detail under policy schedule.

The liability of the Company in respect of a wind mill power plant shall not exceed the sum insured specified for the plant in any one period of insurance.

#### 1. DEFINITIONS

- a. "Company" means the Cholamandalam MS General Insurance Company Limited
- b. "Proposal" means any signed Proposal by filling up the questionnaires and declarations, written statements and any information in addition thereto supplied to The Company by you or on your behalf.
- c. "Policy" means the policy booklet, the schedule and any applicable endorsement. The policy contains details of the extent of cover available to the insured the exclusions from the cover and the terms and conditions of the issue of the policy.
- d. "Endorsement" means any alteration made to the policy which has been agreed by Us in writing
- e. "Exclusion" means the damages/ perils/ properties/ contingencies which are not covered under the Policy and for which the Company have no liability in the event of loss occurrence.
- f. "Insured" means the person or entity whose name specifically appears as such in the policy schedule

- g. "Risk Period" means the cover period of the policy starting with the policy commencement date, which could be any length of period from few months up to a maximum of 12 months, for which coverage is sought by the insured
- h. "Insured Units" means the Virtual Energy Produced. Virtual energy is the calculated energy that a power plant is deemed to have produced taking the Insured parameter as the only variable real input and assuming all other factors as constant over the cover period
- i. "Payout per plant" is the maximum claim amount payable for the affected power plant. It is worked out as below:

Payout per plant = (Trigger - virtual energy) \* notional, subject to a maximum of sum Insured for the power plant

- j. "Trigger" means the virtual energy production level, below which the claim becomes payable under the policy. Insurer will be liable for payment of a claim if the virtual energy produced is less than trigger.

Example for Trigger workings is as below:

Trigger = (Virtual Energy at P(50)) – (x %)

Virtual Energy at P(50) = Long Term Average of the total Virtual Energy that is deemed to have been produced in a cover period, calculated by taking the simple average for the same length of period as the cover period, over the last 15 – 30 years, for the site of plant, using historical wind speed data at hub height

Assuming that the Virtual Energy Produced is distributed normally, P(50) corresponds to that level of Virtual Energy, that has the probability of exceedance at 50%, i.e., the probability that the Virtual Energy Produced by the plant for that period would exceed this level is 50%.

(Note-This probability of 50% varies for every plant as per the option by Insured before policy issuance and is as specified in policy schedule).

x % is the deductible to be applied and is as shown in the policy schedule

- k. "Exit" means the minimum virtual energy production level below which the insurer has no liability. It is worked out as below:

Exit=(Virtual Energy at P50)-(y%)

Y% is to be decided depending upon the variation in total energy production over the cover period, as expected by the Insured, and is considered as the value at risk.

Y% > x%

- i. "Notional" means payout per unit of shortfall in the virtual energy Index. Notional is set equal to the actual loss that would be incurred by the Insured per unit of shortfall in actual power production, based on documentary evidence submitted by the Insured. This evidence could be tariff applicable for the plant over the cover period, as demonstrated by the Insured's power purchase agreement or any other similar evidence
- m. "Sum Insured" means and denotes the amount of cover available as stated in Policy Schedule.
- n. "Limit of Liability" means the sum Insured per plant

Sum Insured per wind turbine hub is first arrived at as below:

$$\text{Sum Insured per hub} = (\text{trigger} - \text{Exit}) * \text{Notional}$$

- o. "Total Limit of Liability or ultimate net loss" means the aggregate Sum Insured for all the hubs in the plant, and is calculated as below:

$$\text{Total Limit of Liability or ultimate net loss} = \text{Number of hubs in the plant covered} * \text{limit of liability per hub}$$

In case the capacities of the hubs differ from each other, sum of limit of liability of each of the hubs shall be considered as total limit of liability under the policy. The limit of liability of each hub with necessary identifying specifications shall be listed and annexed to the policy schedule

## **2. EXCLUSIONS:**

**The company shall not be liable to make any payment under this policy to the insured, in connection with or in respect of any losses or expenses, whatsoever, incurred by any insured, arising out of any of the following, but not limited to:**

- a. **Liability arising out of deliberate, willful or intentional non-compliance of any statutory provision**
- b. **War Risk : Any liability assumed by the Insurer for loss or damage directly or indirectly occasioned by, happening through or in consequence of war, invasion, acts of foreign enemies, hostilities or war-like operations (whether war be declared or not), civil war, mutiny, civil commotion assuming the proportions of or amounting to a popular rising, military rising,**

insurrection, rebellion, revolution, military or usurped power, martial law, confiscation or nationalization or requisition or destruction of or damage to property by or under the order of any Government or public or local authority.

- c. **Nuclear Risks:** Nuclear energy risks in accordance with the Nuclear Energy Risks Exclusion Clause NMA 1975a and any other liability, loss, cost or expense of whatsoever nature directly or indirectly caused by, resulting from, arising out of or in connection with nuclear reaction, nuclear radiation or radioactive contamination regardless of any other cause contributing concurrently or in any other sequence to the loss, save where such liability, loss, cost or expense arises under insurances or reinsurances expressly exempted from NMA 1975a in respect of which the Insurer has specifically granted cover.
- d. **Terrorism:** Any loss, damage, cost or expense of whatsoever nature directly or indirectly caused by, resulting from, happening through, and arising out of or in connection with any act of terrorism, regardless of any other cause contributing concurrently or in any other sequence to the loss, damage, cost or expense. For the purpose of this exclusion, terrorism means an act or threat of violence or an act harmful to human life, tangible or intangible property or infrastructure with the intention or effect of influencing any government or of putting the public or any section of the public in fear. In any action, suit or other proceedings where the Insurer alleges that by reason of this definition a loss, damage, cost or expense is not covered by this Agreement, the burden of proving that such loss, damage, cost or expense is covered shall be upon the Insured.
- e. **Consequential Loss:** Consequential loss of any kind or description.
- f. **Expenses Incurred:** Any expenses whatsoever incurred by an Insured Person in connection with or in respect of any loss, howsoever caused, even if such loss results in diminished output/ yield.
- g. **Losses in revenue arising from lack of energy actually produced owing to any factor(s) whatsoever, other than that deemed to have been produced, derived solely from the virtual energy index, and that has been calculated pursuant to the terms and conditions of the policy, at the end of the cover period**
- h. **Complete shutdown of the plant.**

### **3. CLAIM COMPUTATION:**

- a. **Settlement of Claims:** Claims will be calculated and settled at the end of the risk period, solely based on the virtual energy index derived from 3<sup>rd</sup> party data, and no actual generation or site data

will be used. However, a calibration factor may be applied in case there is actual site data available for a sufficient period of time.

**b. Claims Calculation Methodology-**

Virtual Energy Produced Index determines the calculation for the Payout at the end of the Cover Period.

Virtual Energy Produced is a function of the turbine's Power Curve and System Efficiency.

Virtual Energy Produced= Power Curve (applied on hub-height wind speed) x System Efficiency  
Power Curve provides the turbine's electric power output as a function of the hub-height wind speed. Power Curve is measured and provided by the turbine manufacturer, based on industry standards. If required, the Power curve will be linearly interpolated for wind speed (m/s) steps intermediate of that provided for by the manufacturer.

System Efficiency is derived from aggregate of all System Losses like Wake losses, Machine Availability, Grid Availability, Transmission & Distribution Losses, etc. System Losses are taken as per the technical specifications provided by the manufacturer, and/ or, as reported (or assumed) in the system sizing (or feasibility) report of the plant; and, are assumed to be constant over the cover period.

For the purpose of Claims calculation, hourly (or 3 hourly or daily) Wind Speed data, for the specified hub height, for the specified Lat Long coordinate(s), for the risk period, will be taken from the Data provider.

Virtual Energy Produced is derived as follows -

Gross Energy produced per day is calculated by applying the turbine manufacturer's Power Curve on hourly (or 3-hourly or daily) average wind speed at hub height, and then, integrating it for the day.

Net Power produced per day will be arrived at by adjusting for the System Efficiency

Virtual Energy Produced is derived by integrating the Net Daily Energy for the length of cover period

If the Virtual Energy produced, as calculated, falls below the specified trigger, insurance pay-out will be made at the rate of specified notional per unit of shortfall, up to the policy limit .

**c. Source of data:** The data source for the purpose of claim computation as above shall be any of the following:

- a. 3 TIER - Wind Prospecting Tool by Vaisala, Finland
- b. NASA Prediction of Worldwide Energy Resource (POWER), High Resolution Daily Time Series data – with Parameters from MERRA (Modern Era Retrospective Analysis)
- c. ECM ERA Interim Wind Speed data by the European Centre for Medium-Range Weather Forecasts (ECMWF), UK
- d. Any other data source accepted by the Insured and the Company i.e. the Insurer.

**d. APPLICATION OF CALIBRATION FACTOR FOR ACTUAL SITE DATA**

In case the Insured seeks claim settlement factoring in the site data, the Company agrees to take the site data into account and apply annual calibration factor to the third party source data for the purpose of claims calculation. This calibration factor is applicable only for those policies where the insured has opted for calibration factor application, prior to policy period.

In case this feature is opted for, the following methodology would be applicable:

- i. Calibration factor is the percentage calibration (either positive or negative) needed to be applied to the virtual energy produced for calculating the sum Insured and trigger, based on the relation between the third party data source and site data. Further the claims for the subsequent year would be settled on the application of this factor.
- ii. Application of calibration factor would be allowed only from second year of the Insurance policy with us
- iii. Services of any mutually agreed and reputed vendor (like Skymet, NSMSL, etc.) will be engaged to install an Anemometer and/ or other suitable measuring devices at the client's site, in the first year of Insurance policy.
- iv. The service provider would have right to physically inspect the anemometer/other measuring equipment on a regular basis and the data from this would be provided to Insured and Insurer, by the vendor on a regular basis.
- v. At the time of first renewal, the monthly actual Wind Speed data provided by the vendor measured at the Insured site for the earlier period (of 10 to 12 months depending on availability as of renewal) will be correlated with that of the third party data.
- vi. Calibration factor would be applied if the correlation between third party data and site data is more than 75%. If the correlation is found to be less than 75%, site data would not be considered. Policy coverage would depend only on data from third party sources.
- vii. Where the calibration factor is within +/- 10%, sum Insured and trigger would be modified by applying the calibration factor. If the calibration factor is beyond +/- 10%, sum Insured, trigger and premium rate would be reviewed suitably.

**e. MEASUREMENT OF SATELLITE BASED WIND SPEED DATA:**

Hourly (or 3 hourly or daily, highest temporal resolution available) average wind speed data from any of the above satellite data sources will be taken for the GPS coordinates of the insured plant for the cover period.

If wind speed data at the hub height is not readily available from the data source (otherwise, usually reported at 10 m height), wind speed at hub height will be extrapolated from the data at reported height by using standard mathematical formula

If required, appropriate Calibration Factor will be applied to the Wind Speed data to calibrate the calculated P50 (and respective Plant Load Factor) with that estimated by the manufacturer, and in

which case, the same Calibration Factor so chosen, will also be applied for the purpose of settlement.

**f. FALLBACK METHODOLOGY:**

For any day during the Calculation Period for which the Wind Speed data is not available from the satellite/ modelled data source under consideration, the missing data shall be replaced by the arithmetic mean of the relevant data from the same satellite/ modelled data source for the corresponding calendar day in the preceding five (5) calendar years, or, if not reported for all of such years, the years for which it was reported, rounded to the nearest tenth

**g. ADJUSTMAENT TO FALLBACK METHODOLOGY:**

If the satellite/ modelled data source publishes official data for any of the day(s) for which the Fallback Methodology was used, such data, if relevant, will be used to recalculate the loss as if such data were previously available and an appropriate amount (without interest unless payment of such amount is in default) will be promptly paid or reimbursed by the relevant party. This is subject to such official data being available within a period of 120 days from the end of the calculation period (risk period).

**4. STANDARD TERMS AND CONDITIONS:**

**A. Validity of Cover:**

- I. The cover would be valid subject to submission of Commissioning Certificate of the plant, in addition to documentary proof (for example, declaration on company letter head, etc.) of the plant being "in-operation" as on the day of policy inception**
- II. Such documents should also specify the system configuration (Wind Turbine Generator, etc.) of the plant, which should match with the information provided by the Insured in its submission, based on which the cover was offered**
- III. Additionally, the insured is responsible to inform the Insurer in case of a permanent shut down of the entire plant, for whatsoever reasons, during the course of the cover period, and if the insured is unable to or has no intent to produce power after that. Following treatment would be adopted for the various scenarios that may arise in such a case:**
  - a. In case of shutdown of only a part of the plant, the cover would continue**
  - b. Only in case of a permanent shutdown of the entire plant, the cover would cease to exist on that date and in which case**
  - c. Premium will be refunded back to the client only for the remainder of the cover (unexpired) period, to be calculated on pro-rata basis**
  - d. A minimum charge @ 1% of the refundable premium will be deducted towards administrative expenses from the refundable premium amount**

- e. **No claims will be paid for the part of cover period already past. However, cases where the Insured may request for a pro-rata claim settlement for the period already past only in cases when the shutdown was due to a natural calamity, and in which case the insurer would have the right to verify the same by site inspection**

**B. Limitation Period**

**In no case whatsoever shall the Company be liable for any loss or damage after the expiration of 12 months from date on which the claim under this policy is made if the insured fails to produce or deliver such documents or details as may be required by the Company in connection with the claim, unless the claim is the subject of pending action or arbitration.**

**It being expressly agreed and declared that if company shall disclaim liability for any claim hereunder and such claim shall not within 12 calendar month from the date of the disclaimer have been made the subject matter of a suit in a court of law then the claim shall for all purposes be deemed to have been abandoned and shall not thereafter be recoverable hereunder.**

**C. Legal Ownership**

**During the Period of Insurance, the Insured shall possess all legal ownership rights with regard to, and/ or adequate insurable interest in the Property. The insured shall provide to the Company such title deeds and/ or other documents as may be required by the Company for verification of his / her ownership over, and/ or insurable interest in the Property. The due observance and fulfillment of the above shall be a condition precedent for settlement of any claim under this policy.**

**D. Incontestability and Duty of Disclosure**

**The policy shall be null and void and no benefit shall be payable in the event of untrue or incorrect statements, misrepresentation, mis-description or on non-disclosure in any material particular in the proposal form, personal statement and declaration and connected documents, or any material information having been withheld or a claim being fraudulent or any fraudulent means or devices being used by the insured or any one acting on his behalf to obtain any benefit under this policy.**

**E. Reasonable Care**

**The Insured shall take all reasonable steps to safeguard the interest of the Insured against loss or damage that may give rise to a claim.**



**F. Observance of Terms and Conditions**

The due observance and fulfillment of the terms, conditions and endorsement of this policy in so far as they relate to anything to be done or complied with by the insured shall be condition precedent to any liability of the company to make any payment under this policy.

**G. Material Change**

The insured shall immediately notify the company by mail/ fax and in writing of any material change in the risk, and cause at his own expense such additional precautions to be taken as circumstances may require to ensure safe operation of the insured items or trade or business practices thereby containing the circumstances that may give rise to the claim, and the company may adjust the scope of cover and / or premium if necessary, accordingly.

**H. Records to be maintained**

The insured shall keep an accurate record containing all relevant particulars and shall allow the company to inspect such record. The insured shall within one month after the expiry of the insurance policy furnish such information as the company may require.

**I. No constructive Notice**

Any knowledge or information of any circumstances or condition in connection with the insured in possession of any official of the company shall not be the notice to or be held to bind or prejudicially affect the company notwithstanding subsequent acceptance of any premium.

**J. Notice of charge etc.**

The company shall not be bound to take notice or be affected by any notice of any trust, charge, lien, assignment or other dealing with or relating to this policy, but the payment by the company to the insured or his legal representative of any compensation or benefit under the policy shall in all cases be on effectual discharge to the company.

**K. Special provisions**

Any special provisions subject to which this policy has been entered into and endorsed in the policy or in any separate instrument shall be deemed to be part of this policy and shall have effect accordingly.

**L. Right to inspect**

If required by the company, an agent/ representative of the company including a loss assessor or a surveyor appointed in that behalf shall in case of any loss or any circumstances that have given rise to the claim to the insured be permitted at all reasonable times to examine into the

circumstances of such loss. The insured shall on being required to do so by the company produce all books of accounts, receipts, documents relating to or containing entries relating to the loss or such circumstance in this possession and furnish copies of or extract from such of them as may be required by the company so far as they relate to such claims or will in any way assist the company to ascertain in the correctness thereof or the liability of the company under the policy.

If the insured does not comply with the provisions of this Clause or other obligations cast upon the insured under this policy, in terms of the other clauses referred to herein or in terms of the other clauses in any of the policy documents, all benefits under the policy shall be forfeited, at the option of the company.

**M. Fraudulent claims**

If any claim is in any respect fraudulent, or if any false statement, or declaration is made or used in support thereof, or if any fraudulent means or devices are used by the insured or anyone acting on his / her behalf to obtain any benefit under this policy, or if a claim is made and rejected and no court action or suit is commenced within twelve months after such rejection or, in case of arbitration taking place as provided therein, within twelve(12) calendar months after the Arbitrator or Arbitrators have made their award, all benefits under this policy shall be forfeited.

**N. Cancellation / Termination**

The company may at any time, cancel this policy, by giving 15 days notice in writing by Registered Post Acknowledgment Due post to the insured at its last known address in which case the company shall be liable to repay on demand a rateable proportion of the premium for the unexpired term from the date of the cancellation.

**O. Policy Disputes**

Any dispute concerning the interpretation of the terms, conditions limitations and/or exclusions contained herein is understood and agreed to by both the insured and the company to be subject to Indian law. Each party agrees to submit to the exclusive jurisdiction of the High Court of Madras and to comply with all requirements necessary to give such Court the jurisdiction. All matters arising here under shall be determined in accordance with the law and practice of such court.

**Q. Arbitration clause**

If any dispute or difference shall arise as to the quantum to be paid under this policy (liability being otherwise admitted) such difference shall independently of all other questions be referred to the decision of a sole arbitrator to be appointed in writing by the parties to the

**dispute/difference, or if they cannot agree upon a single arbitrator within 30 days for any party invoking arbitration, the same shall be referred to a panel of three arbitrators, wherein one arbitrator to be appointed by each of the parties to the dispute/difference and the third arbitrator to be appointed by such two arbitrators. Arbitration shall be conducted under and in accordance with the provisions of the Arbitration and Conciliation Act, 1996.**

**It is clearly agreed and understood that no difference or dispute shall be referable to arbitration, as hereinbefore provided, if the company has disputed or not accepted liability under or in respect of this policy.**

**It hereby expressly stipulated and declared that it shall be a condition precedent to any right of action or suit upon this policy that the award by such arbitrator/arbitrators of the amount of the loss or damage shall be first obtained.**

**R. Notices**

**Any notice, direction or instruction given under this Policy shall be in writing and delivered be hand, post, or facsimile to:**

**In case of the Insured – at the address specified in Policy Schedule.**

**In case of the Company –**

**Cholamandalam MS General Insurance Company Limited**

**“Dare House” 2<sup>nd</sup> Floor,**

**No.2, N.S.C. Bose Road,**

**Chennai – 600 001**

Notice and instruction will be deemed served 7 days after posting or immediately upon receipt in the case of hand delivery, facsimile or e-mail.

**S. Customer Service**

If at any time the insured requires any clarification or assistance, the Insured may contact the offices of the Company at the address specified, during normal business hours.

**a. Grievance Mechanism**

As an esteemed customer of our company, You can contact us to register complaint/ grievance, if any, including servicing of policy, claims etc. with regard to the insurance policy issued to You.

The contact details of our office are given below for Your reference

**Cholamandalam MS General Insurance Company**

**Customer services**

Address: H.O: Dare House 2nd floor, No 2 N.S.C. Bose Road, Chennai 600 001,

Toll-Free : 1800 200 5544

SMS : 'CHOLA' to 56677 (premium charges apply)

E-Mail : customercare@cholams.murugappa.com

Website : www.cholainsurance.com

If you have not received any reply from us within one month from the date of lodging the complaint or if you are not satisfied with our reply, you can also contact the nearest Insurance Ombudsman, whose addresses are mentioned below.

Serial No	Office of the Ombudsman	Contact Details: Office of the Insurance Ombudsman	Areas of Jurisdiction
1	AHMEDABAD	2nd floor, Ambica House, Near C.U. Shah College, 5, Navyug Colony, Ashram Road, Ahmedabad – 380 014 Tel.:- 079-27546150/139   Fax:- 079-27546142 Email:- bimalokpal.ahmedabad@gbic.co.in	State of Gujarat and Union Territories of Dadra & Nagar Haveli and Daman and Diu.
2	BENGALURU	Jeevan Soudha Building, PID No.57-27-N-19, Ground Floor, 19/19, 24th Main Road, JP Nagar, 1st Phase, Bengaluru-560 078. Tel.:- 080-26652048 / 26652049 Email:- bimalokpal.bengaluru@gbic.co.in	Karnataka.
3	BHOPAL	Janak Vihar Complex, 2nd Floor, 6, Malviya Nagar, Opp.Airtel Office, Near New Market, Bhopal – 462 033. Tel.:- 0755-2769200/201/202   Fax:- 0755-2769203 Email:- bimalokpalbhupal@gbic.co.in	States of Madhya Pradesh and Chattisgarh.
4	BHUBANESHWAR	62, Forest park, Bhubneshwar – 751 009. Tel.:- 0674-2596461 / 2596455   Fax:- 0674-2596429 Email:- bimalokpal.bhubaneswar@gbic.co.in	State of Orissa.
5	CHANDIGARH	S.C.O. No. 101, 102 & 103, 2nd Floor, Batra Building, Sector 17 – D, Chandigarh – 160 017. Tel.:- 0172-2706196/5861 / 2706468   Fax:- 0172-2708274 Email:- bimalokpal.chandigarh@gbic.co.in	States of Punjab, Haryana, Himachal Pradesh, Jammu & Kashmir and Union territory of Chandigarh.
6	CHENNAI	Fatima Akhtar Court, 4th Floor, 453 (old 312), Anna Salai, Teynampet, CHENNAI – 600 018. Tel.:- 044-24333668 / 24335284   Fax:- 044-24333664 Email:- bimalokpal.chennai@gbic.co.in	State of Tamil Nadu and Union Territories - Pondicherry Town and Karaikal (which are part of Union Territory of Pondicherry).
7	DELHI	2/2 A, Universal Insurance Building, Asaf Ali Road, New Delhi – 110 002. Tel.:- 011-23239611/7539/7532   Fax:- 011-23230858	State of Delhi.

		Email:- bimalokpal.delhi@gbic.co.in	
8	ERNAKULAM	2nd floor, Pulinat Building, Opp. Cochin Shipyard, M.G. Road, Ernakulum - 682 015. Tel.:- 0484-2358759/2359338   Fax:- 0484-2359336 Email:- bimalokpal.ernakulum@gbic.co.in	Kerala, Lakshadweep, Mahe-a part of Pondicherry
9	GUWAHATI	Jeevan Nivesh', 5th Floor, Nr. Panbazar over bridge S.S. Road, Guwahati - 781001(ASSAM). Tel.:- 0361- 2132204 / 2132205   Fax:- 0361-2732937 Email:- bimalokpal.guwahati@gbic.co.in	States of Assam, Meghalaya, Manipur, Mizoram, Arunachal Pradesh, Nagaland and Tripura.

Serial No	Office of the Ombudsman	Contact Details: Office of the Insurance Ombudsman	Areas of Jurisdiction
10	HYDERABAD	6-2-46, 1st floor, "Moin Court", Lane Opp. Saleem Function Palace, A. C. Guards, Lakdi-Ka-Pool, Hyderabad - 500 004. Tel.:- 040-65504123/23312122   Fax:- 040-23376599Email:- bimalokpal.hyderabad@gbic.co.in	States of Andhra Pradesh, Telangana and Union Territory of Yanam - a part of the Union Territory of Pondicherry.
11	JAIPUR	Jeevan Nidhi-II Bldg., Ground Floor, Bhawani Singh Marg, Jaipur - 302005. Tel.:-0141 2740363Email:bimalokpal.jaipur@gbic.co.in	State of Rajasthan.
12	KOLKATA	Hindustan Building Annexe, 4th floor, 4, CR Avenue, Kolkata - 700 072. Tel.:- 033-22124339 / 22124340   Fax:- 033-22124341 Email:- bimalokpal.kolkata@gbic.co.in	States of West Bengal, Bihar, Sikkim and Union Territories of Andaman and Nicobar Islands.
13	LUCKNOW	6th Floor, Jeevan Bhawan, Phase-II, Nawal Kishore Road, Hazratganj, Lucknow-226 001. Tel.:- 0522-2231330 / 2231331   Fax:- 0522-2231310. Email:- bimalokpal.lucknow@gbic.co.in	District of Uttar Pradesh: Lalitpur, Jhansi, Mahoba, Hamirpur, Banda, Chitrakoot, Allahabad, Mirzapur, Sonbhadra, Fatehpur, Pratapgarh, Jaunpur, Varansi, Gazipur, Jalaun, Kanpur, Lucknow, Unnao, Sitapur, Lakhimpur, Bahraich, Barabanki, Raebareli, Sravasti, Gonda, Faizabad, Amethi, Kaushambi, Balrampur, Basti, Ambedkarnagar, Sulanpur, Maharajganj, Santkabirnagar, Azamgarh, Kaushinagar, Gorkhpur, Deoria, Mau, Chandauli, Ballia, Sidharathnagar.
14	MUMBAI	3rd Floor, Jeevan Seva Annexe, S. V. Road, Santacruz (W), Mumbai - 400 054. Tel.:- 022-26106928/360/889   Fax:- 022-26106052 Email:- bimalokpal.mumbai@gbic.co.in	States of Goa, Mumbai Metropolitan Region excluding Navi Mumbai & Thane.

**Chola Wind-Mill Protect Policy**  
**UIN IRDAN123RP0012V01201819**

15	NOIDA	Bhagwan Sahai Palace, 4th Floor, Main Road, Naya Bans, Sector-15, Gautam Budh Nagar, Noida Email:- bimalokpal.noida@gbic.co.in	States of Uttaranchal and the following Districts of Uttar Pradesh: Agra, Aligarh, Bagpat, Bareilly, Bijnor, Budaun, Bulandshehar, Etah, Kanooj, Mainpuri, Mathura, Meerut, Moradabad, Muzaffarnagar, Oraiyya, Pilibhit, Etawah, Farrukhabad, Firozabad, Gautam Budh Nagar, Ghaziabad, Hardoi, Shahjahanpur, Hapur, Shamli, Rampur, Kashganj, Sambhal, Amroha, Hathras, Kanshiramnagar, Saharanpur.
16	PATNA	1st Floor, Kalpana Arcade Building, Bazar Samiti Road, Bahadurpur, Patna - 800 006. Email:- bimalokpal.patna@gbic.co.in	States of Bihar and Jharkhand.
17	PUNE	Jeevan Darshan Building, 3rd Floor, CTS Nos. 195 to 198, NC Kelkar Road, Narayan Peth, Pune - 411 030 Tel:020-32341320 Email:- bimalokpal.pune@gbic.co.in	States of Maharashtra, Area of Navi Mumbai and Thane excluding Mumbai Metropolitan Region.

**POLICY SCHEDULE**

Policy issuing office:

Policy Number:

Agent:

Customer code:

Name of the Insured:

Address of the Insured:

Policy Period: From.....To.....

Insured Parameter: Wind speed volatility

Coverage Location:

For Wind Power plant -

(Refer to annexure for hub wise limits)

Trigger(MWh):

Exit(MWh):

Deductible (X):

Sum Insured per Hub (INR ):

Total Limit of Liability ( Rs):

**Annexure:**

For the purpose of illustration, let us assume the following sample cases.

**PARAMETRIC INSURANCE COVER FOR WIND SPEED VOLATILITY**

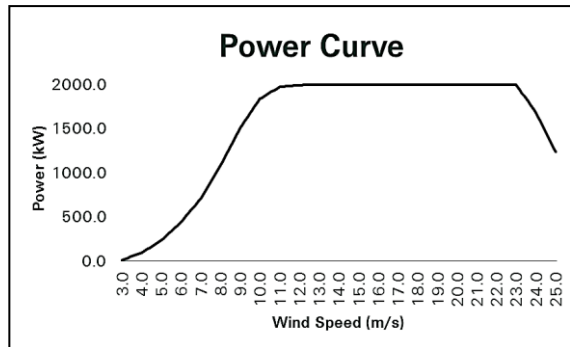
Submission received from the Client

Lat	XX.XXX
Long	YY.YYY

Turbine	Gamesa G97
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Technical Specifications	
Hub Height (m)	104
Capacity per Turbine (MW)	2
No. of Turbines	50
<b>Plant Capacity (MW)</b>	<b>100</b>

System Efficiency	
Machine Availability	95%
Grid Availability	95%
T & D Losses	3%
Others	1%
<b>Total Efficiency</b>	<b>86.67%</b>



**Tariff as per PPA | INR 4830/ MWh**

Power Curve	
Wind Speed (m/s)	Power (kW)
3	14
4	94
5	236
6	438
7	714
8	1084
9	1508
10	1836
11	1973
12	1992
13	1998
14	2000
15	2000
16	2000
17	2000
18	2000
19	2000
20	2000
21	2000
22	2000
23	2000
24	1676
25	1234

All the above information are referred to structure the product, and are kept **constant** over the cover period.

Notes:

1. All 50 hubs in the plant uses the same model of turbine.
2. T & D Losses : Transmission and Distribution losses



### Data taken from 3rd party data provider

Hourly wind speed data at hub height of 104 m for 1995 – 2015

### Calculated by Insurer

P50 = Long Term Average of Virtual Energy from 1995 – 2015 = 6400 MWh per Hub

Expected Revenue at P50 = INR 30,912,000 per Hub

#### Trigger & Exit

Deductible (x%) = 5%

Value at Risk (y%) = 15%

Trigger = P50 – x% = 6080 MWh

Exit = P50 – y% = 5440 MWh

Tariff = INR 4,830/ MWh

Sum Insured per hub = (Trigger – Exit) x Tariff

$$= (6080 - 5440) \times 4,830 = \text{INR } 3,091,200$$

#### Notes:

1. P50 denotes the virtual energy production, which is reached with a probability of 50%.
2. Trigger point has been arrived at after applying a deductible of 5% on P50
3. Exit has been set to cover a net shortfall of 15% from P50 (assumed value at risk).

### Termsheet

Cover Period	Apr 01 to Mar 31
Trigger	6080 MWh
Exit	5440 MWh
Payout/ MWh shortfall	INR 4,830
Sum Insured per hub	INR 3,091,200
Sum Insured for Plant	INR 154,560,000

### Settlement

- 1) At the end of Cover Period, data from the same data provider will be taken and Virtual Energy Produced will be calculated for the Cover Period, to determine Payout, if any.
- 2) If the Virtual Net Energy produced, as calculated, falls below 6080 MWh, insurance pay-out will be made at the rate of INR 4,830/ MWh of shortfall, up to 5440 MWh
- 3) Net pay out will be gross pay out multiplied by the number of hubs erected and in operation in the plant.