

Corporate Presentation FY 2020-21





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- Presence
- Products (PV Modules, PV Cells, Encapsulants, Backsheets)
- Facilities (Hyderabad and Bengaluru)
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### RenewSys

RenewSys is the First Integrated

Manufacturer of Solar PV Modules

and Its Key Components -

Encapsulants (EVA and POE),

Backsheets and Solar PV Cells







### **ENPEE**



58 Years

\$300+ MILLION

**3000+ EMPLOYEES** 

www.enpee.com

RenewSys India Pvt. Ltd. is a part of the ENPEE Group.

An international conglomerate

with a rich heritage of

nearly 60 YEARS of manufacturing excellence in diverse industries.





### **ENPEE Group Values**



Our growth story is based on five key values identified for the team, by the team.





# **ENPEE Group Companies**



- Based in Nigeria
- Manufacturing Metal Packaging



- Based in Nigeria
- Printing Cylinders and Inks,
   CPP Films



- Based in Nigeria
- Soaps, Personal and Home Care, Beauty and Cosmetics



- Based in Nigeria
- Flexible packaging



- Based in Nigeria
- Cement/ Fibre Cement Sheets



- Based in India
- Packaging Brand Management



- Based in Nigeria
- Construction, Chemicals,
   Adhesives, Power Cables



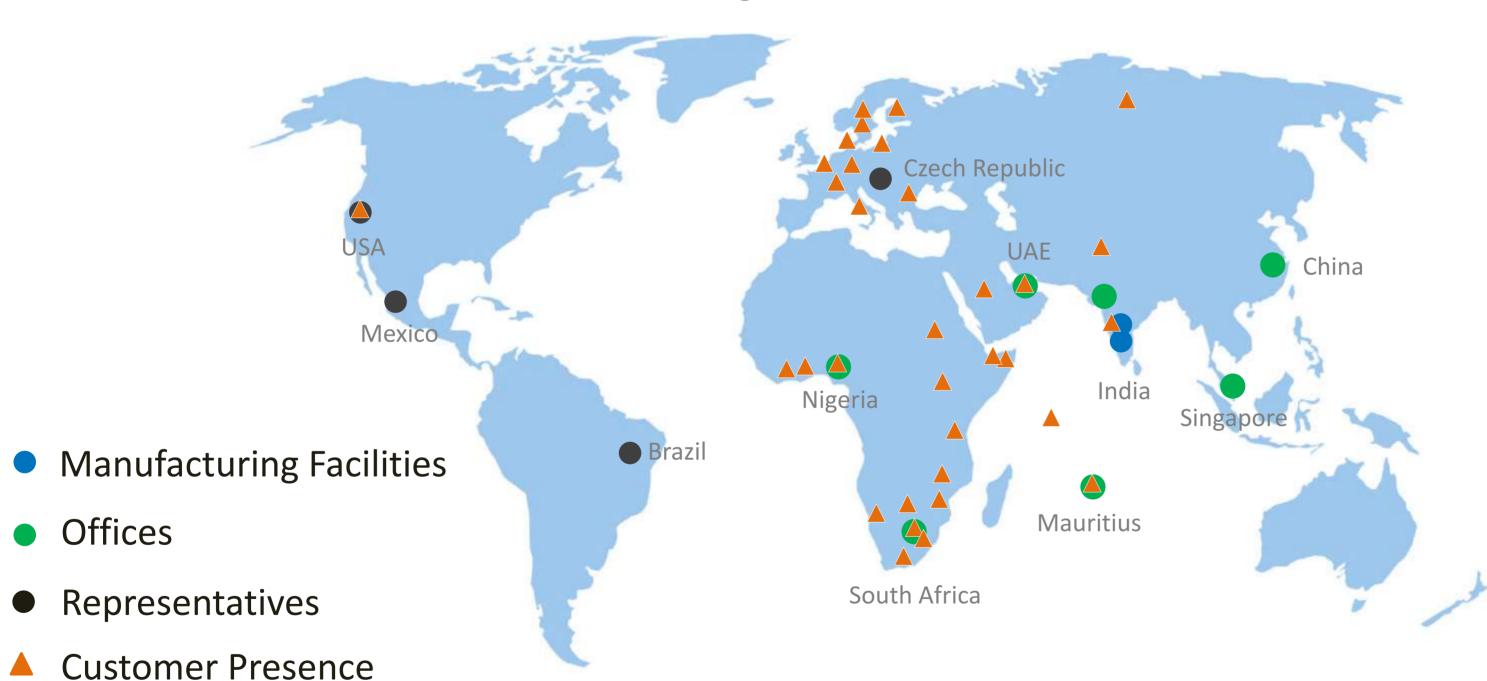
- Solar PV Modules & Components
- Manufacturing Facilities in Hyderabad & Bengaluru, India

www.enpee.com





# RenewSys Global Presence





























## RenewSys PV Module Installations









RenewSys PV Modules are harnessing the sun's power across the globe in projects, ranging from small specialised applications to utility scale projects.





### Manufacturing Facilities



Our **Hyderabad** facility manufactures:

**DESERV 750 MW** Solar PV Modules

**RESERV 130 MW** Solar PV Cells



Our Bengaluru facility manufactures:

**CONSERV 1.4 GW** EVA and POE Encapsulants

PRESERV 3 GW Backsheets





### The Team





#### Team RenewSys:

- Diverse set of dedicated professionals
- Knowledgeable with varying skill sets as engineering, finance, human resources
- Energetic and Dynamic
- Innovative and Progressive
- Human Resource strength of approximately
   1000





### Careers



An environment that is conducive for ambition, growth and development:

- In-house training and development
- External training programmes
- Safe and healthy work environment
- Equal opportunity organisation





## **Community Initiatives**



We are committed to giving back:

- India One Solar Thermal Power Plant supporter
- Eye care and Diabetes research
- Education for the underprivileged
- Sponsoring Cancer patients
- Sponsoring Ph.D. Scholarship SERIS, Singapore
- Vision Centres across India
- Special Needs Vision Clinic, Hyderabad





### **Product Excellence Centres**



Reliable, Superior Product Quality:

- Facilitate New Product Development
- Continuous testing and Quality Control
- Superior Equipment Laboratory Extruder, Lab grade Laminator, and Universal Testing Machine, Environmental Chambers for Damp Heat Test, Thermal Cycling, etc.





# RenewSys - The 1st



- To launch India's only Glass-Backsheet Bi-facial Solar PV Module 'DESERV Extreme'
- And only in India to receive UL approval and commercialise the production of POE Encapsulant - CONSERV E 360
- And only Indian manufacturer to have a dedicated 'Product Excellence Centre'
- And only in India with NABL Accredited PV Lab specifically for Encapsulants,
   Backsheets & their raw materials Bengaluru Facility
- And only in India to have Intertek Certified Satellite<sup>®</sup> Lab Hyderabad Facility
- In India to launch Dr. PV, a free module wellness programme
- In India to launch 5 BB and 6 BB solar PV Cells, Made in India
- Indian company to receive a PV Backsheet Patent







# RenewSys Hyderabad





## The Hyderabad Factory



- At FAB City, Outskirts of Hyderabad
- Total area 50 Acres
- World class manufacturing facility
- State-of-the-art European Technology
- World class Racking System on tracks





## **Environment - Friendly Measures**



The Hyderabad facility is designed to reduce its overall carbon footprint by: **249 Tons** 

- ✓ Water Conservation measures = 5043 KWH saved
- ✓ Electricity Conservation measures = 280,895 KWH saved with the power generation of = 1,00,000 units/mth
- ✓ 2000+ Trees and 1250+ Saplings
- ✓ IMS Certified (ISO and OHSAS)





# **Production Capacity: DESERV and RESERV**



- <u>DESERV ™ 750 MW</u> Solar PV Modules:
- Automated European lines to manufacture
   Multi and Mono, full cell and cut cell modules
- RESERV® 130 MW Solar PV Cells
- Fully automated European production lines





# **DESERV - Product Range**

Solar PV Modules to suit applications from small lighting systems to utility scale plants.



- High Performance PV Modules (Multi and Mono)
- High Voltage, High Output PV Modules for special applications
- Higher Output PV Modules
  - Bi-facial Cells (Multi and Mono)
- Small PV Modules
- Specialised PV Modules
  - BIPV (Building Integrated Photovoltaic)
  - Semi-rigid and Flexible (Multi and Mono)





### **Assured Performance**



Rigorous and controlled manufacturing ensures that DESERV PV Modules set benchmarks for performance

- State-of-the-art manufacturing technology
- Three Stage Laminator
- Fully automated inspection process
  - 100% EL process pre and post lamination
  - Automated Optical Inspection
- RTV Curing Chamber to assure quality





### **Product Certifications**



#### **Certification Details:**

TUV Certified 61215,
 CAN/CSA: 61730

61730, 60068-2-68,

61701, 62716

• IEC TS 62804,61853

UL Certified: 1703

**SON CAP Certified** 

MCS Certified

**DEWA** Listed

Independently audited by Solar Buyer

• BIS NO.: R-63000760

Meets requirements for - SASO, RRECL, GEDA





### Munich RE & DNVGL

- Setting industry benchmarks for transparent, reliable business
- RenewSys modules now accepted by major Developers, EPC companies and Financiers, who otherwise only accept 'Tier 1'

#### **Bankability**

Transparency enhanced with audit by DNV GL - empowers customers with insights



#### **Insurance**

Product and performance insurance globally

Re-insurance offered by Munich RE\*

Warranty partner



Large-scale PV projects bought during the Policy Period of 19 July, 2019-18 July, 2020 can obtain optional warranty back stop by **Munich Re**, with insurance capacity exclusively allocated for each project.





## **Champion Products**

#### **DESERV EXTREME** INDIA'S MOST Efficient Solar PV Module

A 390 Wp Solar PV Module giving an output as high as 663 Wp @70% Albedo



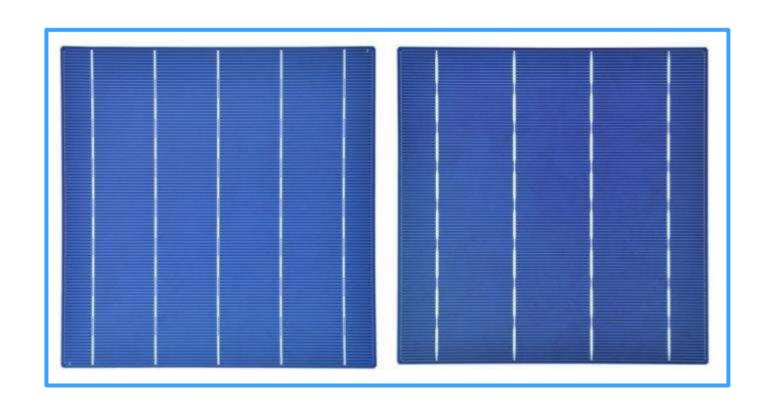
- Bi Facial
- Cut Mono PERC Cells
- Transparent Fluoro Backsheet





## **RESERV - Product Range**

RESERV range of PV Cells made from virgin poly-silicon wafers and silver bus-bars



- Total cell capacity 130 MW
- First Indian company to launch 5 BB and 6 BB Cells
- We manufacture 4 BB Cells and 5 BB Cells
- Raw materials, including high purity solar grade silicon wafers and contact pastes with high metal content used
- Statistical process control during production





### **Assured Performance**



A meticulous process ensures that the highest quality of PV Cells are manufactured:

- Automated Cell Sorting is conducted with the help of our latest European technology
- PID Testing at cell level
- Statistical Process Control to check cell measurements
- High conversion efficiency due to elimination of cracks





# Packaging and Storage - Hyderabad



Our storage facilities are designed for the secure and safe dispatch of our modules and components:

- Detailed inspection system ensuring safe delivery
- ISO Certified and OHSAS compliant storage facility
- Over 2,000 modules dispatched per day
- Customised packaging
- Instore software for retrieval of goods from storage
- World class Racking System with the facility to move on tracks





### Intertek Lab



**India's 1<sup>st</sup> Intertek Certified Satellite®** 

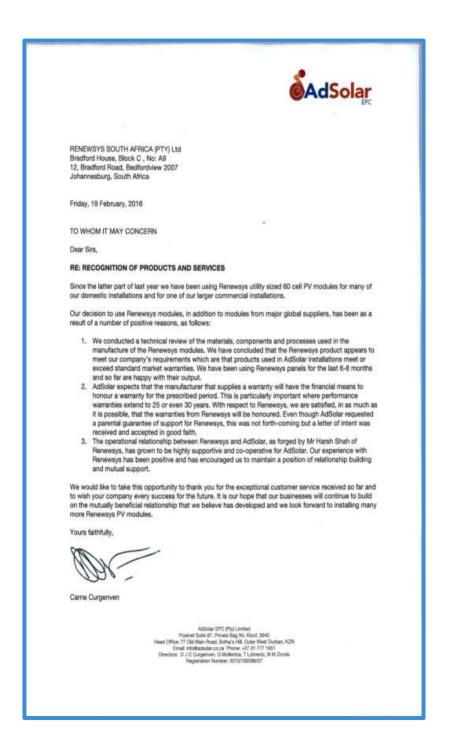
**Lab - Hyderabad Facility** 

Know more...





### **Customers Testimonials**











# RenewSys Bengaluru





# The Bengaluru Factory



- Located on Bommasandra Jigani Link Road,
   Bengaluru
- Total area of facility = 6 Acres, of which
   10% area is a green belt
- World class manufacturing facility
- Latest and state-of-the-art European technology





# **Environment - Friendly Measures**



The Bengaluru facility is designed to reduce

its overall carbon footprint by: 1640+ MT per year

- ✓ ISO certified 9001 : 2015
- ✓ Building Integrated System
- ✓ CNG used instead of electrical heating
- √ 145+ Trees planted
- Safety Calendar





## **Production Capacity: CONSERV and PRESERV**



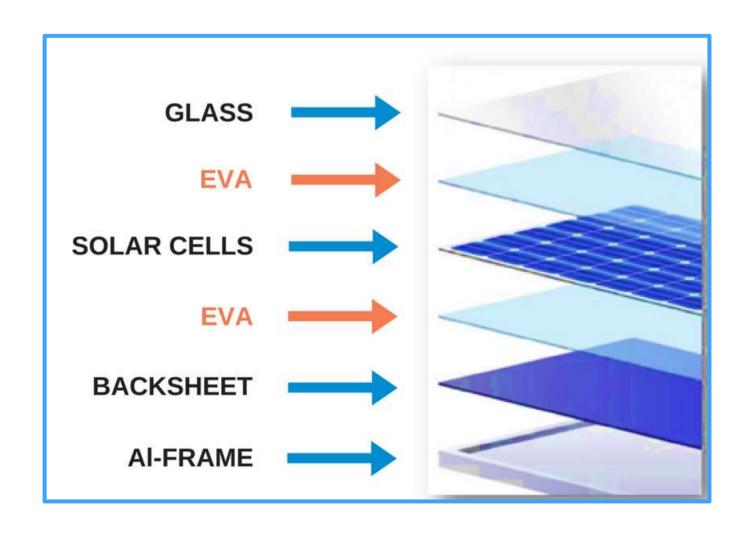
- CONSERV ® EVA and POE Encapsulants:
   1.4 GW
- PRESERV® Backsheets and Bus Bar Insulation Sheet: 3 GW
- Fully automated European lines





# **CONSERV - EVA Encapsulant**

CONSERV range of Ethylene Vinyl Acetate (EVA) Encapsulants protect PV cells and the integrity of the module



#### **CONSERV EVA Encapsulant:**

Encompasses a range of products in 'Fast Cure' and 'Ultra - fast Cure' versions:

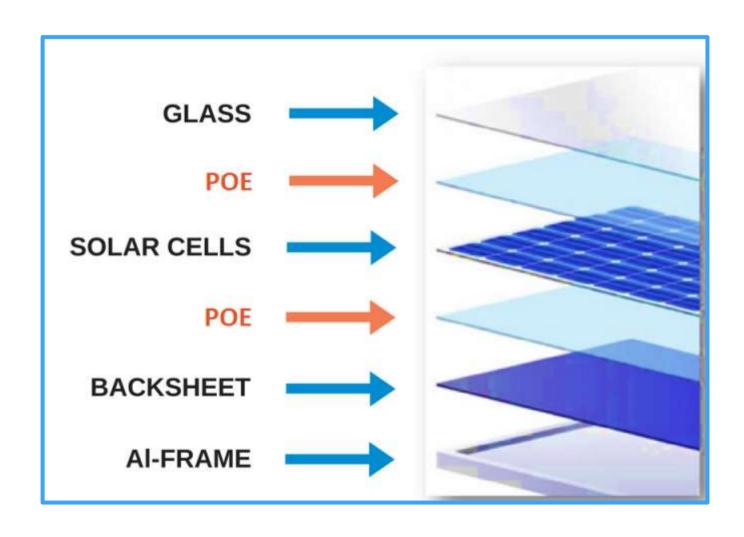
- Potential Induced Degradation (PID) Resistant
- Ultra Violet (UV) Transparent





# **CONSERV - POE Encapsulant**

CONSERV range of Polyolefin Elastomer (POE) Encapsulants protect PV cells and the integrity of the module



#### **CONSERV POE Encapsulant:**

Ideal for use in Glass-to-Glass PV modules, it is well suited to protect Glass-to-Backsheet PV modules also.

- India's only UL Certified POE
- Delivered advantages of TPO as well
- Resilient in harsh and extreme climatic conditions
- Unique formulation for virtually Zero PID





### **Assured Performance**



The CONSERV product range is designed to ensure better module performance:

- Superior bonding to Backsheets and Glass
- PID Resistance
- High Luminous Transmittance
- Compatible with Glass-to-Glass and Glass-to-Backsheet PV Modules





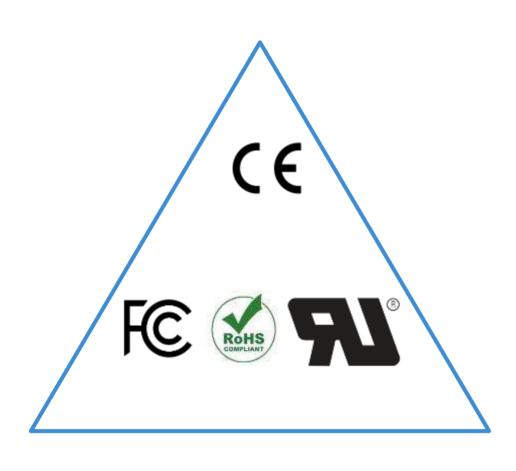
# **Champion Products**







### **Product Certifications**



### **Certification Details:**

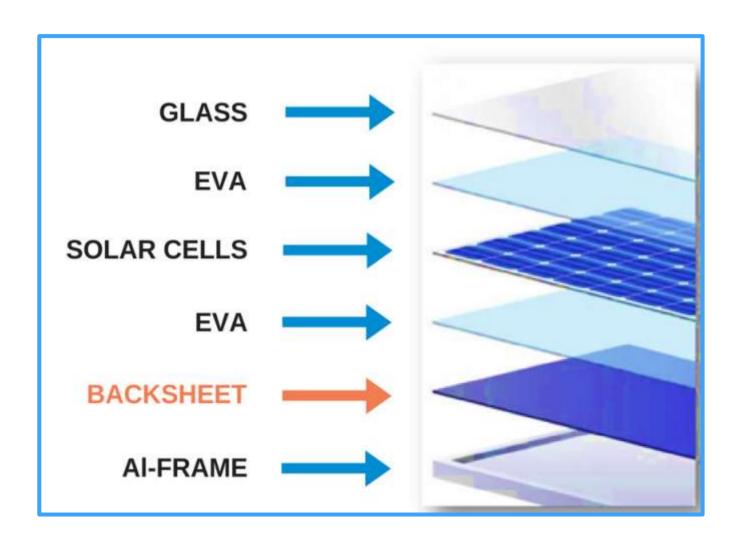
- FC: UL (UL 94, UL 746A & UL746B)
- IEC 61215
- RoHS
- DHT TUV Declaration





# PRESERV - Product Range

PRESERV Backsheets protect the module from moisture and dust, and are crucial for ensuring performance



### PRESERV Backsheets:

- PVF Backsheets (Fluoro)
- PVDF Backsheets (Fluoro)
- Metallic-based Backsheets
- PET-based Backsheets





# PRESERV - Product Range

PRESERV range of Bus - Bar Insulation Sheet ensures prevention of inter- connect breaking



### PRESERV Bus Bar Insulation Sheets:

- PVF Backsheets (Fluoro)
- PVDF Backsheets (Fluoro)
- Metallic-based Backsheets
- PET-based Backsheets





### **Assured Performance**

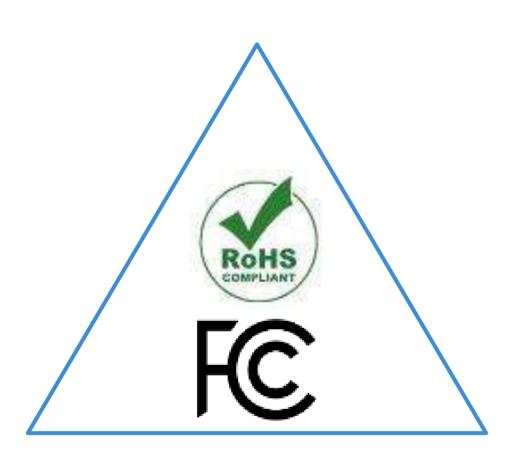


- Laminated with high dielectric properties
- High moisture barrier
- High partial discharge = 1500V DC: available
- High mechanical properties and Peel Bond retention post - DHT and HAST exposure





### **Product Certifications**



### **Certification Details:**

- FC: UL (UL 94, UL 764 & UL 764B)
- CTI (Comparative Tracking Index)
- RoHS
- Partial Discharge
- Flame Spread Index





## **Photovoltaic Lab**



#### CERTIFICATE OF ACCREDITATION

PHOTO VOLTAIC LABORATORY - RENEWSYS INDIA PVT. LTD.

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO. 21,22 & 23. BOMMASANDRA JIGANI LINK ROAD, INDUSTRIAL AREA, BENGALURU, KARNATAKA, INDIA

in the field of

#### TESTING

Certificate Number: TC-8436

Issue Date:

12/04/2019

Valid Until:

11/04/2021

In view of the transition deadline for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on 30.11.2020.

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL. (To see the scope of accreditation of this laboratory, you may also visit NABL website www.mabl-india.org)

Signed for and on behalf of NABL



N, Venkateswaran Chief Executive Officer India's 1st NABL accredited Solar PV Laboratory specifically

for Encapsulants, Backsheets & their raw materials

Who should avail of this facility:



Solar
PV Module
Manufacturers



Solar Project Financiers,
Project Developers, EPC,
& System Integrators



Encapsulant & Backsheet Manufacturers

Know more...





## **Customers Testimonials**







#### Dear Renewsys Team,

Thank you very much for your hospitality during our visit to your factory. We found your Production Line, QC and R&D very impressive.

Thanks & Best Regards Navin Patni +91 9819230203

Jyotitech Solar LLP R-456, Rabale MIDC, TTC Industrial Area, Navi-Mumbai-400701 Maharashtra-INDIA







# Haryana



Location: National Dairy Research Institute

Capacity: 1 MW





# Maharashtra







Location: Shegoan, Maharashtra

Capacity: 800 KW





# West Bengal



Location: Canal Top, West Bengal

Capacity: 10 MW





# Germany



Location: 39615 Zehrental (OT Drösede), Altmark

Capacity: 750 KW







## South Africa



Location: Nelson Mandela University

Capacity: 1.1 MW





## **Switzerland**



Location: Bachmann AG, 6153 Ufhusen

Capacity: 931 KW







## **Contact Us**



#### **Head Office:**

RenewSys India Pvt. Ltd.

98, Jolly Maker Chambers No. 2, 225, Nariman Point, Mumbai - 400 021, Maharashtra, India.

Tel.: +91-22-6810 0500

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720 49' 19.5996" E

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GPS Coordinates: 28° 34′ 04.2" N | 77° 13′ 26.8" E

RenewSys Industries Nigeria Ltd.

122/132 Oshodi - Apapa Express Way, Behind Afprint compound, Isolo, Lagos, Nigeria.

Tel.: +234-805-459 5612

Email: prasanna.kuppuswamy@renewsysnigeria.com Email: vijay.narang@renewsysfze.com GPS Coordinates: 60 32'6.4392 N | 30 20' 0.6828" E

#### **Factory Contacts:**

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Bengaluru, Karnataka, India. Tel.: +91-80-3367 1400

Email: renewsys@renewsysindia.com GPS Coordinates: 120 46' 34.7460" N

770 39' 34.0056" E

RenewSys India Pvt. Ltd.

240, Capital Plaza, Pachpedi Naka, Raipur- 492001,

Chhattisgarh, India. Tel.: +91-9691298829

Email: renewsys@renewsysindia.com

GPS Coordinates: 21° 12' 42.48" N | 81° 39' 55.12" E

#### RenewSys FZE

AB0907, Jafza One, Jebel Ali Free Zone, Dubai, United Arab Emirates

Tel.: +971-56-167 8678

GPS Coordinates: 24.9650° N | 55.0802° E

RenewSys India Pvt. Ltd.

Hyderabad Division:

Plot No. 06, Survey # 114/P, Srinagar village,

Maheshwaram Mandal, Rangareddy,

Dist. - 501359, Telangana, India. Tel.: +91-40-6730 3000

Email: renewsys@renewsysindia.com GPS Coordinates: 170 11' 40.4376" N

780 29' 47.9004" E

RenewSys South Africa (PTY.) Ltd.

Block C, No. A9, Brandford House, 12 Brandford Road, Johannesburg, Bedford

view 2007, South Africa.

Tel.: + 27-11-615 4107

Email: renewsys@renewsysouthafrica.com

GPS Coordinates: 260 11' 3.9732" S | 280 7' 13.134" E