



**Date: 22<sup>nd</sup> March, 2016**  
**Scip: 533644**  
**Symbol: UJAAS**

To,  
The General Manager  
Dept. of Corporate Services  
**Bombay Stock Exchange Limited**  
Phiroze Jeejeebhoy Towers,  
Dalal Street, Mumbai - 400 001

To,  
The Managing Director  
**National Stock Exchange of India Limited**  
Corporate Communication Department  
Exchange Plaza  
Bandra Kurla Complex, Bandra (E)  
Mumbai-400051

Dear Sir/Madam,

**Re: Disclosure of Material Event/Information under Regulation 30 of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015**

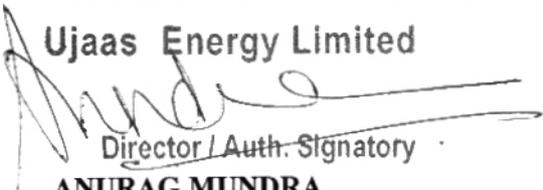
**Sub: Analyst / Investor Meets**

Pursuant to Regulations 30 of SEBI (LODR) Regulations, 2015, we would like to inform you that the company has organised Investor/Analyst conference at Trident, BKC, Mumbai on Monday 21<sup>st</sup> March, 2016. The presentation made during the meeting is uploaded on the website of the company and also attached herewith. All discussions were based around general business updates and did not involve any forward looking statements or unpublished price sensitive information.

Thank You,  
Yours faithfully,

**For UJAAS ENERGY LIMITED**

**Ujaas Energy Limited**

  
Director / Auth. Signatory

**ANURAG MUNDRA**

**JOINT MANAGING DIRECTOR**

**DIN: 00113172**

**ADD: 701-A, NRK Business Park, Vijay Nagar Square, Indore.**

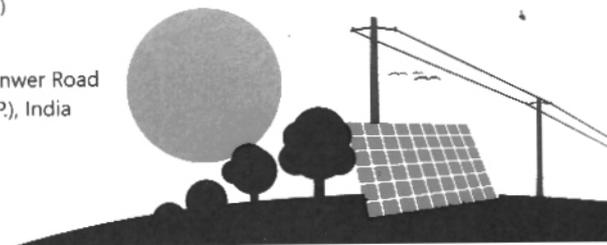
**Encl.: Copy of Investor's Presentation.**

**UJAAS ENERGY LIMITED** (Formerly known as M AND B Switchgears Ltd.)

Corporate Office: 701, NRK Business Park,  
Vijay Nagar Square,  
Indore - 452010 (M.P.), India

Registered Office: Survey No.211/1,  
Opposite Sector - C & Metalman, Sanwer Road  
Industrial Area, Indore - 452015 (M.P.), India

Ph: +91-731-4715330, 4715300, Fax: +91-731-4715344  
Website: [www.ujaas.com](http://www.ujaas.com) | Email: [info@ujaas.com](mailto:info@ujaas.com)  
CIN : L31200MP1999PLC013571



**Ujaas Energy Ltd.**  
**Investor Presentation**  
**March 2016**



# Executive Summary

- Ujaas Energy Ltd (UEL) founded Mr Shyam Sunder Mundra and is run today along with his two sons, Mr Vikalp Mundra and Mr Anurag Mundra.
- Manufacturing transformers for more than 30 years, the company diversified into the generation of Solar energy and a Solar Power turn-key project called 'UJAAS' since 2010.
- UEL was listed on both BSE and NSE in October 2011.
- Company's market capitalization was INR 4,300 Mn as on 31<sup>st</sup> December, 2015.

## Company Overview



## Business Mix



### UJAAS

- 'UJAAS' is UEL's flagship brand for one stop comprehensive solar turn-key projects to any potential Solar Power Producer.

### Solar Power Generation

- UEL also has 15.4 MW of solar power plant under its own books.
- The Company sells this power to commercial properties in Madhya Pradesh.

### Transformer Business

- Primarily engaged in manufacture of transformers up to 25MVA capacity at 132 KV class and automatic voltage controllers.

- **UJAAS** – UEL has set up more than 130 MW of Solar Power plants for several corporate and Individual clients like KRBL, SRS, Friends Group, Rockwell, Avon cycles, NALCO, SECI etc.
- **Solar Power Generation** - UEL sells its solar power to commercial consumers like hotels, malls, industries across Madhya Pradesh.
- **Transformers** – UEL was primarily engaged in Transformer business, supplies various types of transformers to clients across public sector companies such as Coal India, BHEL and also private sector companies.

## Markets



## Financials

- **Total Income** in FY15 reported at INR 1,133 Mn
- **EBITDA** in FY15 reported at INR 445 Mn; **EBITDA Margins** reported at 39.28%
- **Net Profit** in FY15 reported at INR 117 Mn; **PAT Margins** reported at 10.33%



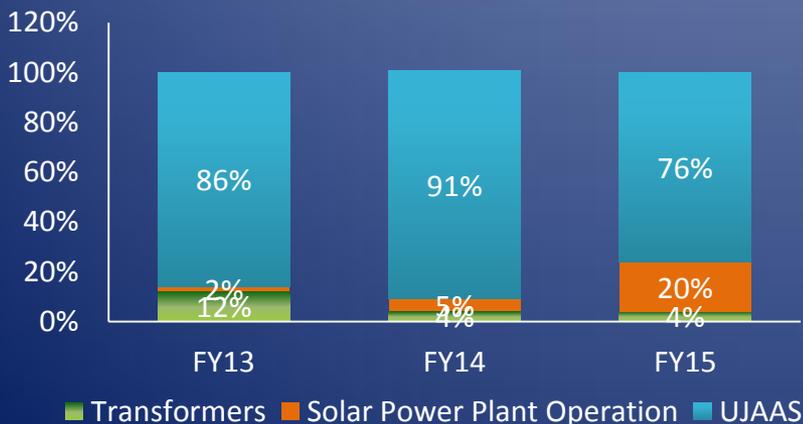


# Company Overview

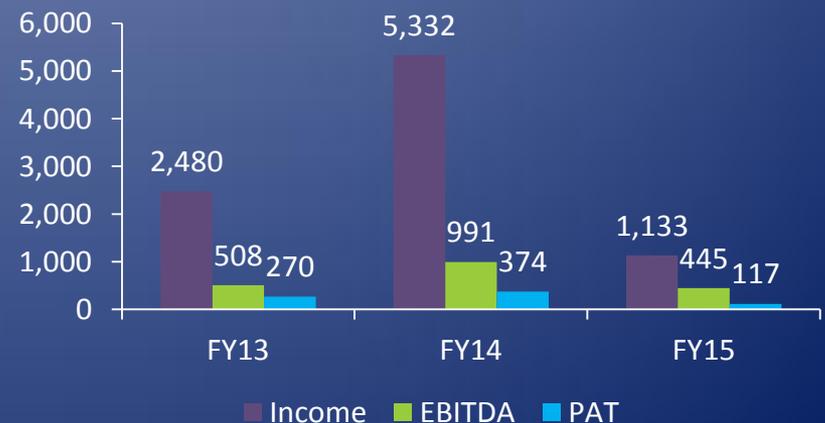
# Summary

- Founded by **Mr. Shyam Sunder Mundra** in **1976**, as a sole proprietorship firm under the name of **M And B Switchgears Limited**. Effective from 19<sup>th</sup> August 2013, M And B Switchgears Limited was re-named as **Ujaas Energy Ltd**.
- Started with the manufacturing of panel meter for energy controlling & thereafter developed a technology to transform energy with the manufacturing of **Energy Transformers** viz. Distribution, Power & Furnace.
- Initially Ujaas Energy Ltd started with a capacity to manufacture 550 transformers per annum and have grown gradually to a capacity to manufacture more than **5,000 transformers per annum**. Ujaas Energy Ltd sells its **transformers in more than 15 States of India**.
- Taking from its experience in the transformers and the utilities Industry, Ujaas Energy Ltd realized the huge potential in '**Green Energy**' and ventured into the generation of Solar Power. The company became pioneer in generation of green energy by becoming one of India's first public companies to enter into the **Solar Power generation and Solar Power Turnkey project management space**. Ujaas Energy Ltd also became the **first company to register under Solar-REC Mechanism**.
- Realizing the vast potential, Ujaas Energy Ltd erected and commissioned a 2.2 MW Solar Power Plant in March 2012 and has added another 13.2 MW in 2014 with the intention to divest at a suitable time and price.
- Ujaas Energy Ltd commissioned its first solar power turnkey project under its flagship brand '**UJAAS**' for M/s Gupta Sons (Jewellers, Bhopal) in March 2012. The company currently has more than **130 MW** of solar power projects under management.

## Segmental Break up



## Financial Performance



# Management Profiles

Shyam Sunder Mundra



## Chairman and Managing Director

- Holds a degree in Bachelor of Science in Engineering (Electrical),.
- A Masters degree in Electronics and Servomechanism ,also in Business Administration from Indore University.
- Has over 43 years of experience in the power industry , Specifically 35 years in the manufacturing of transformers sector.
- Previously he had worked for the Madhya Pradesh Electricity Board for 8 years, before venturing into the transformer business independently.

Vikalp Mundra



## Joint Managing Director

- Holds a degree in Bachelor of Engineering (Electrical) .
- A Masters degree in management science .
- He has an overall experience spanning 22 years in the transformer sector.

Anurag Mundra

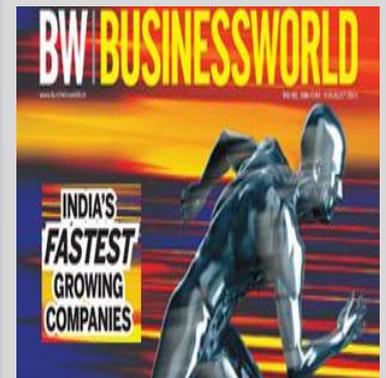
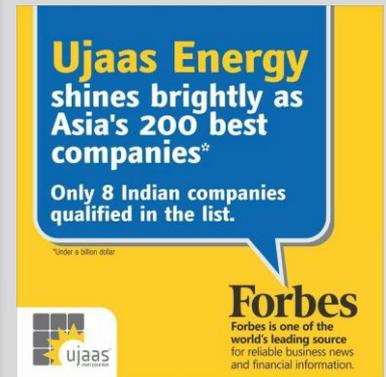


## Joint Managing Director

Holds a degree in Bachelor of Commerce from

- Post-Graduation Diploma in Business Administration (PGDBA)
- Chartered Financial Analyst from Institute of Chartered Financial Analysts of India, Hyderabad.
- He joined the Company in 1999 and has over 16 years experience in manufacture of transformers business.

## Accolades



# Management Profiles

Manish Agarwal  
Chief Operating Officer

- Over 19 years of work experience in India at Leadership positions in Global Multinational organizations like Citibank, Dell and Deloitte
- Last employed as Vice President of Strategy, research and Innovation group at Deloitte where he oversaw a team of 300 people providing business research
- B Tech from IIT Kanpur and a Post Graduate from IIM Ahmedabad

Amit Neema  
VP Operations

- Engineering Graduate in Electrical Engineering
- With more than 20 years of work experience.
- He handles a huge dedicated team of experienced engineers from all verticals along with all government related issues for permissions and approvals.

Ashu Gupta  
VP Corporate

- A Management Graduate with experience of working in government and private sector since 1999.
- He has been into the field of renewable energy since 2003.
- He is now heading the legal and strategy department of the company

Sumit Somani  
VP Business Development

- An Engineer with management education from IIM –C.
- He has experience of more than 10 years in the field of renewable energy.
- Heading the Business development vertical of the company he assists his sales team and has successfully brought several contracts for the company.

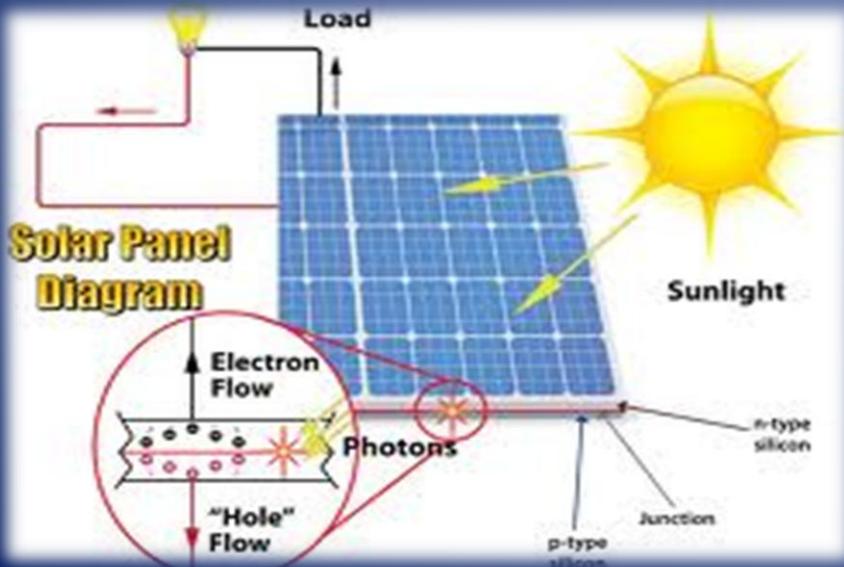
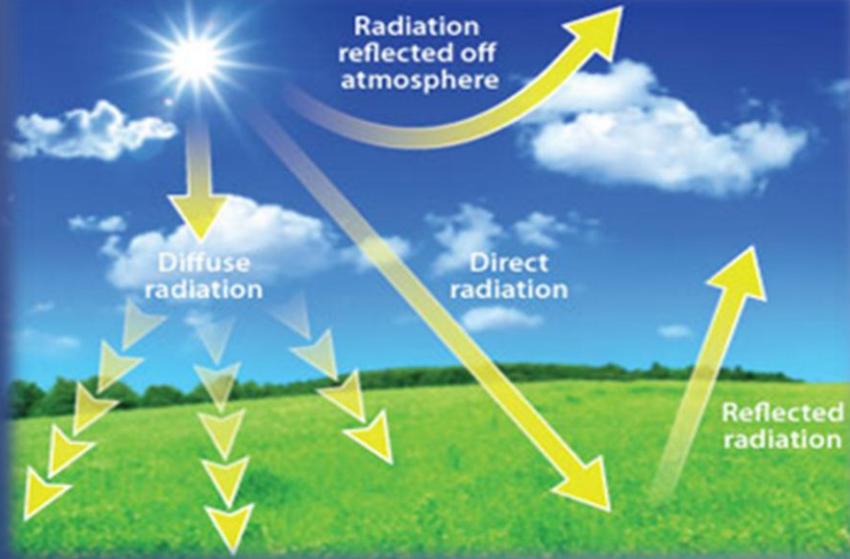
Bikramaditya Raha  
VP EPC

- An Electrical Engineer from Jadavpur University & MBA from IIM.
- More than 34 years of experience, specialized in substation, transmission & distributions up to 765 KV system, worked with top multi-nationals e.g. Siemens, GE, Vestas etc. both in India & abroad.
- Selected as member of “Renewable Energy Committee” of FICCI for 5 years from 2003.

# Solar Industry Overview



# Solar Energy



- Solar energy is an energy source that involves tapping the radiant light energy that is emitted by the sun and converting it into electricity. The sun supplies energy in the form of radiation.
- The amount of Energy in the sunlight received is equivalent to around 10,000 times the world's energy requirement. Only 0.01% of the energy in sunlight would need to be harnessed to cover mankind's total energy needs.
- Sunlight comprises of a direct portion and a diffused portion. The direct radiation comes from the direction of the sun and casts strong shadows of objects. Diffused energy is scattered from the dome of the sky, has no defined direction.
- Solar power is the conversion of sunlight into electricity, either directly using photovoltaics (PV), or indirectly using concentrated solar power (CSP).
- When the photons from the sunrays are made to hit the electrons in a specially prepared surface called solar photovoltaic cell, electricity is generated.

# Why Solar?

## Importance & Relevance of solar energy

- Plants and animals, alike, use solar energy to produce important nutrients in their cells.
- It is a clean Energy Source
- Does not cause disruption to the environment or create a threat to Eco-systems
- Does not cause greenhouse gases, air or water pollution.

## Radical Applications



Tesla Motors, Inc. is an American company that designs, manufactures, and sells electric cars and electric vehicle powertrain components



Airbus Group is developing an electric aircraft with Aero Composite Saintonge. The aircraft uses on-board lithium batteries to power the two electric engines.



A solar vehicle is an electric vehicle powered completely or significantly by direct solar energy. Usually, photovoltaic (PV) cells contained in solar panels convert the sun's energy directly into electric energy.

# Solar Power Technology

## Different Types of Solar Technology



**Photovoltaic Solar Panels** - A typical silicon PV cell is a thin wafer consisting of phosphorous doped (N-type) silicon on top of a thicker layer of boron-doped (P-type) silicon. An electric field is created near the top surface of the cell where these two materials are in contact (the P-N junction). When sun light strikes the surface of PV cell, this electrical field results in a flow of current when the cell is connected to an electrical load.



**Solar Thermal** - Uses parabolic disc technology to capture thermal energy based on the solar thermal effect

## Different Types of Solar Modules



**Crystalline Silicon Modules** - Most solar modules are currently produced from silicon photovoltaic cells. These are typically categorized as monocrystalline or polycrystalline modules.



**Thin-film Modules**- Third generation solar cells are advanced thin-film cells. They produce a relatively high-efficiency conversion for the low cost compared to other solar technologies.

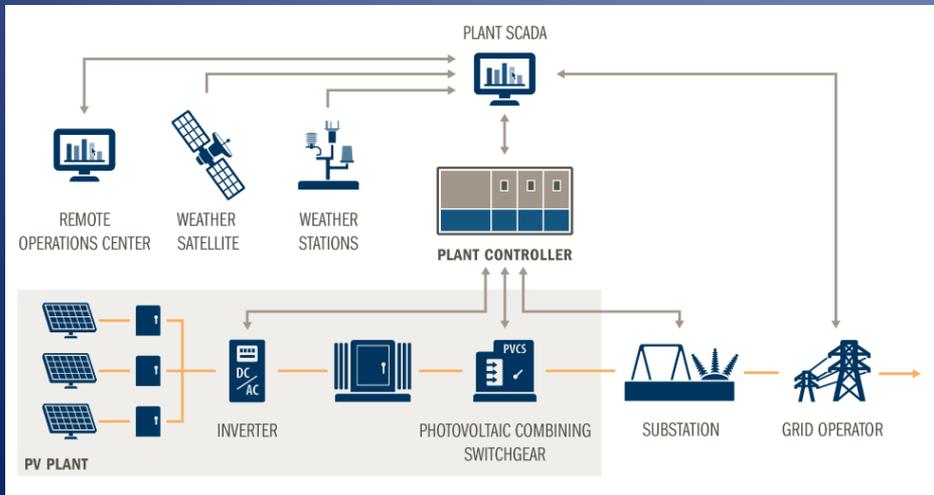


**Others, like Dye Sensitized Solar Cell and Organic** - Based on a semiconductor formed between a photo-sensitized anode and an electrolyte, a photo electrochemical system

# Solar Power Plant



- Photovoltaic module consists of several photovoltaic cells connected by circuits and sealed in an environmentally protective laminate, which forms the fundamental building blocks of the complete PV generating unit.
- Photovoltaic panel include more than one PV module assembled as pre-wired, field installable unit. Several PV panels mounted on a frame with or without tracking mechanism for following the sun's path are termed as PV Array.



Grid connected solar power plant comprises of the main equipment and components as listed below:

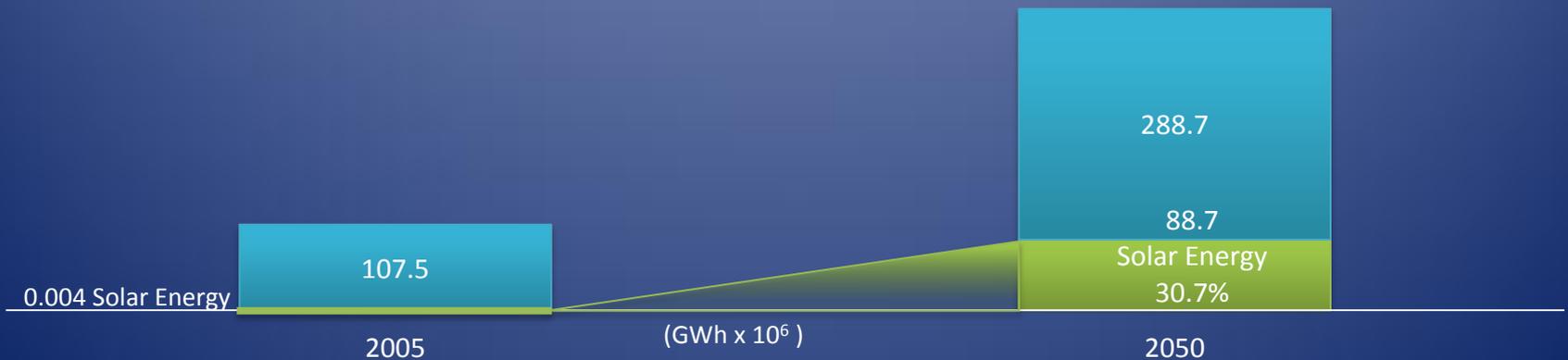
- Solar PV Modules and Module Mounting system
- Power Conditioning - Inverters and Frequency Converters
- Grid connect equipment
- Monitoring system
- Master Control Unit
- Cables & connectors
- Buildings for housing the electronics (Sub-station).

# Global Energy Demand

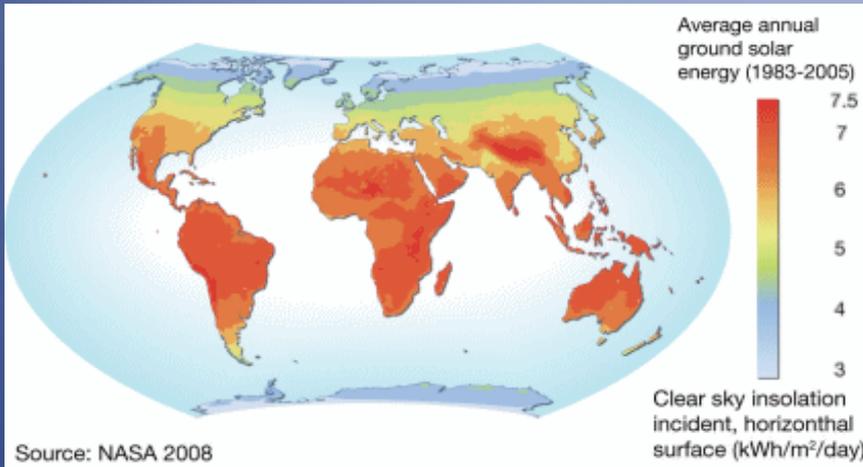
## Electric Power Consumption (kWh per capita)



## Global Energy Use



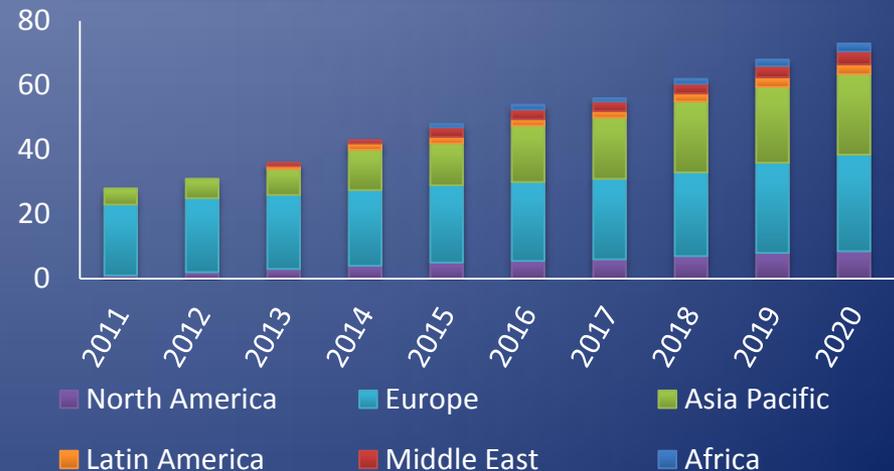
# Solar Power Scenario in the World



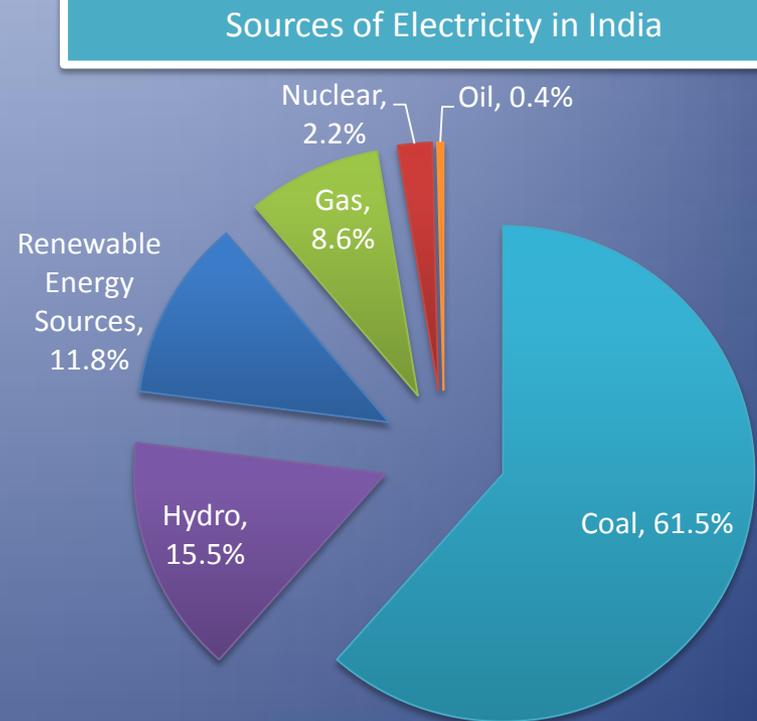
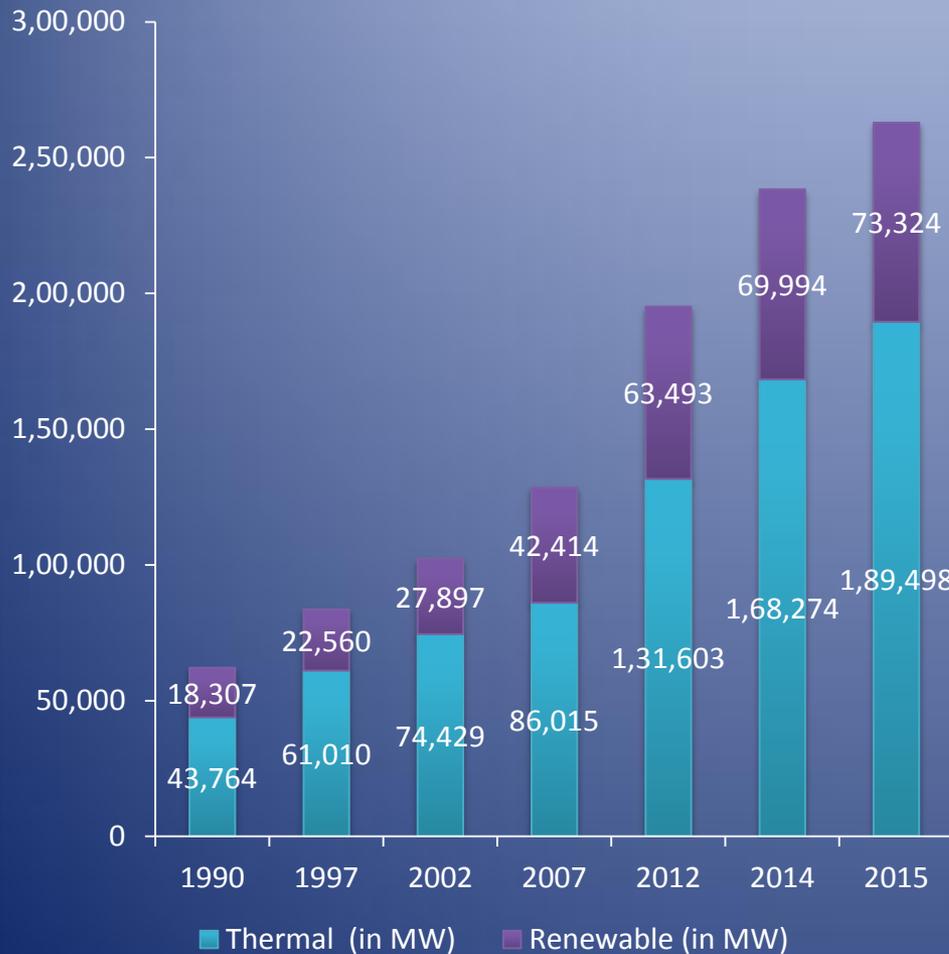
- It is projected that Total World Power Demand in 2025 will increase to 23,000 TWH compared to the 19,462 Terawatt hours (TWH) in 2012.
- It is also projected that 16% of this demand will be met by solar PV systems
- With an installed capacity of 433 GWP.
- Two third of this capacity is expected to be grid connected systems.
- There has been considerable growth in the past in this technology and many large-scale solar PV power plants have come up.

Growth will be driven by the Asia Pacific region

- The growth rates Europe, Japan and the USA are based on the market development over the last few years .
- And also the targets laid down by some countries for installed PV capacity by 2010.
- For other countries the market expectations are based on their likely take-off as the technology spreads.
- The average annual growth rate worldwide up to 2009 is projected to be 35%, and 26% between 2010 and 2015.
- Between 2016 and 2025 market remains on a high level, however the annual market growth drops to 19% till 2020 and 11% in 2025.



# Indian Power Scenario



**The electricity sector in India had an installed capacity of 268.602 GW as of end April 2015.**

# Comparison of Power Generation Methods

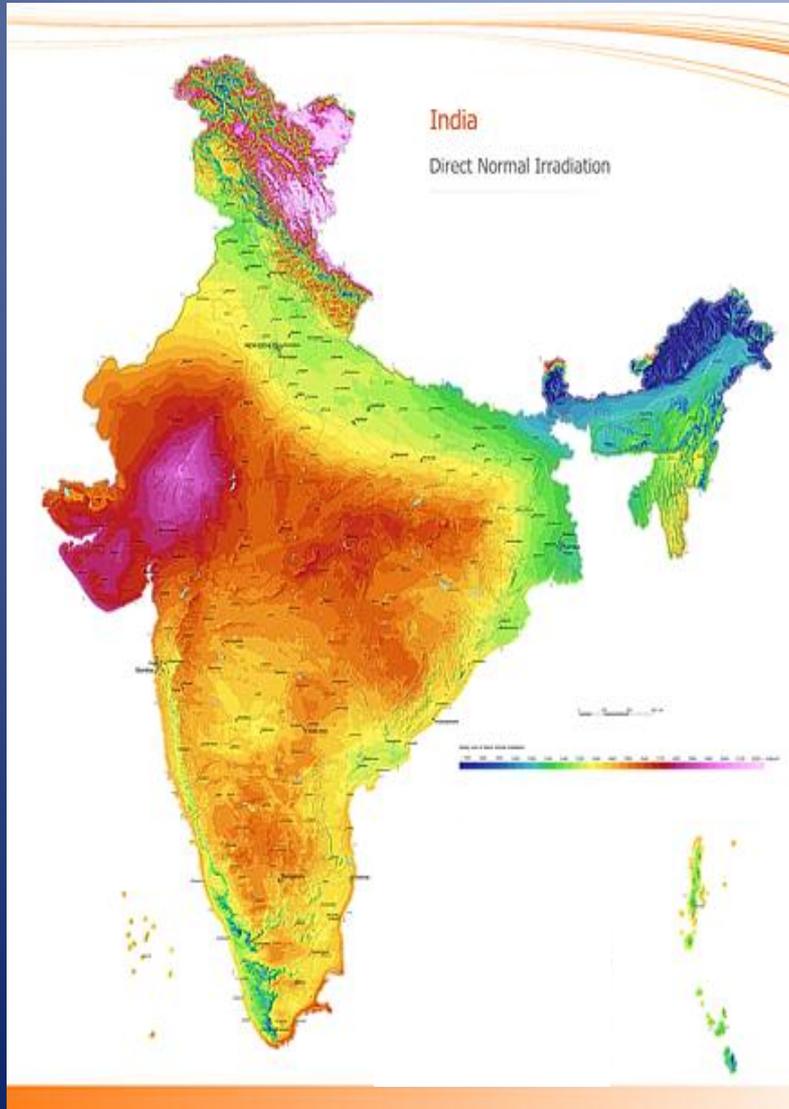
	 <b>Thermal</b>	 <b>Wind</b>	 <b>Hydro</b>	 <b>Solar</b>
<b>Pros</b>	<ul style="list-style-type: none"> <li>Abundant supply</li> <li>Currently inexpensive to extract</li> <li>Reliable and capable of generating large amounts of power</li> </ul>	<ul style="list-style-type: none"> <li>No emissions</li> <li>Affordable</li> <li>Little disruption of ecosystems</li> <li>Relatively high output</li> </ul>	<ul style="list-style-type: none"> <li>No emissions</li> <li>Reliable</li> <li>Capable of generating large amounts of power</li> <li>Output can be regulated to meet demand</li> </ul>	<ul style="list-style-type: none"> <li>Non-polluting</li> <li>Most abundant energy source available</li> <li>Systems last 15-30 years</li> </ul>
<b>Cons</b>	<ul style="list-style-type: none"> <li>Emits major greenhouse gases/acid rain</li> <li>High environmental impact from mining and burning</li> </ul>	<ul style="list-style-type: none"> <li>Output is proportional to wind speed</li> <li>Not feasible for all geographic locations</li> <li>High initial investment/on-going maintenance costs</li> <li>Extensive land use</li> </ul>	<ul style="list-style-type: none"> <li>Environmental impacts by changing the environment in the dam area</li> <li>Hydroelectric dams are expensive to build</li> <li>Dams may be affected by drought</li> <li>Potential for floods</li> </ul>	<ul style="list-style-type: none"> <li>High initial investment</li> <li>Dependent on sunny weather</li> <li>Requires large physical space for PV cell panels</li> </ul>
<b>Cost/MW*</b>	INR 4 - 6cr	INR 5 - 7 cr	INR 8 - 10 cr	INR 6 – 7 cr
<b>RECs Band</b>	None	INR 1.5 - 3.3 per unit	INR 1.5 - 3.3 per unit	INR 3.50 - 5.80 per unit**
<b>Average PLF's*</b>	70.00%	20.00%***	60.00%	18.26%
<b>Tax Benefits</b>	None	80% + 20% depreciation	None	80% + 20% depreciation

\* Approximate values; Source: energy4me.org

\*\* Rate revised from 9.3 to 13.4 per unit in December 2014

\*\*\* volatility upto 30% depending upon wind variation

# Solar Power Scenario in India



- India is endowed with a rich solar energy resource. The average intensity of solar radiation received on India is 200 MW/km square (megawatt per kilometer square). With a geographical area of 3.287 million km square, this amounts to 657.4 million MW.
- It can be seen from the map that Rajasthan, Gujarat, West Madhya Pradesh and North Maharashtra receive more than 3,000 to 3,200 hours of bright sunshine in a year. Over 2,600 to 2,800 hours of bright sunshine are available over the rest of the country, except Kerala, the North-Eastern states, and Jammu & Kashmir where they are appreciably lower.
- By End of 2009, India had less than 10 MW of Solar Power whereas the world was running 23 GW. In 2010, India had increased its solar power capacity to 40 MW while world was generating in excess of 35 GW.
- India has presently just above 3.5 GW of grid-connected solar generation capacity that has been added only since year 2009.
- With the last few years seeing a drop in solar power costs, the government perceives solar power as an economically rational investment and has raised its target from **20 GW** to **100 GW** by 2022.

# National Solar Mission

- The Jawaharlal Nehru National Solar Mission was launched on the 11th January, 2010 by then Prime Minister Manmohan Singh.
- The Mission had set the ambitious target of deploying 100 GW of grid connected solar power by 2022.
- It is aimed at reducing the cost of solar power generation in the country through:
  - (i) Long Term Policy
  - (ii) Large Scale Deployment Goals
  - (iii) Aggressive R&D
  - (iv) Domestic Production Of Critical Raw Materials, Components And Products

## Objective is to establish India as a global leader in solar energy

- Reduce India's dependence on imports of diesel and coal for power generation
- Reduce greenhouse gas emissions
- Contribute to energy security

## Mission adopts 3-phase approach

- **Phase I (up to 2012/2013)** – remaining period of 11th five year plan & first year of 12th year plan
- **Phase II (2013-2017)** – remaining 4 years of 12th five year plan
- **Phase III (2017-2022)** – 13th five year plan

## Importance And Relevance Of Solar Energy For India

- Laggard in power generation till the 12th Five Year Plan
- Distribution Generation
- Modular
- Clean and Reliable
- Energy Security
- Scalable
- Generate power on a distributed basis
- Enables rapid capacity addition with short lead times
- Theoretically, a small fraction of the total incident solar energy (if captured effectively) can meet the entire country's power requirements.

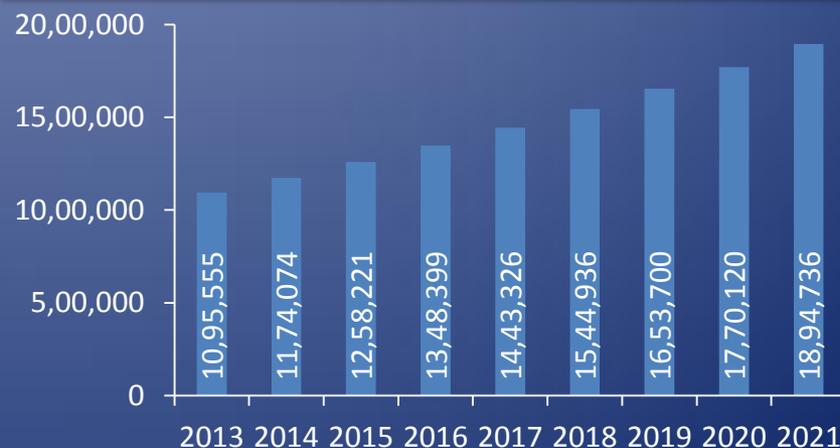
# Renewable Purchase Obligation

- Renewable Purchase Obligation ('RPO') is the requirement set by the Central Electricity Regulatory Commission (CERC) for an obligated entity to purchase electricity from renewable energy sources or buy Renewable Energy Certificates.
- While the definition may vary slightly from state to state, an obligated entity generally means the distribution licensee, consumer owning the captive power plant and open access consumers who are mandated to fulfil the renewable power obligations under the respective State's legislation.
- Based on the Renewable Purchase Obligation mechanism, in order to achieve the ambitious target of each state meeting 3% of its energy demand from solar sources, It is anticipated that by year 2022, the total Solar Power requirement in the country will be in excess of 34,000 MW. As per the National Tariff Policy cleared by the Union Cabinet on 20<sup>th</sup> January, 2016; 8% of electricity consumption excluding hydro power, shall be from solar energy by March 2022. The Ministry of New and Renewable Energy is planning to raise the mandatory RPO requirement to 10.5 per cent.

**Official Targets for Capacity Addition in 2014-2022 (MW)**

Region	Solar	Wind	Hydro	Biomass
Northern	31,120	8,600	2,450	4,149
Western	28,410	22,600	125	2,875
Southern	26,531	28,200	1,675	2,612
Eastern	12,237		135	244
North-Eastern	1,205		615	
Other	31	600		120
<b>Total</b>	<b>99,534</b>	<b>60,000</b>	<b>5,000</b>	<b>10,000</b>

**Total Estimated Energy Demand in India (GW/h)**



# Regulatory Highlights

## Supreme Court Judgment

- In a landmark judgement on May 13, 2015, the Supreme Court upheld the Rajasthan Electricity Regulatory Commission's decision forcing the appellants to procure stipulated amounts of renewable energy or pay surcharge on non-fulfilment of the obligation.
- The implications of this judgement will have far reaching consequences with regard to enforcement of Renewable Purchase Obligations ('RPO').
  - **Stay by HC in various states may become redundant:** Till date, the enforcement of RPO regulations has been lax due to various reasons. One of the reasons has been the stay granted by various High Courts like in the case of Gujarat (recently vacated), MP and Tamil Nadu, among others. With the Supreme Court now ruling in favour of imposition of RPO, similar cases pending in lower courts may become redundant.
  - **Enable stronger enforcement:** Further, the order is likely to provide support to the state electricity regulators to impose RPO regulations more forcefully and effectively
- Further, the Supreme Court upheld the RPO regulations stating that:
  - Imposing RPO is desirable in the larger public interest
  - RPO applicability on captive and open access consumers is well within the ambit of the Electricity Act 2003
  - Cost of fulfilling the obligation cannot be held above the larger public interest

## RBI Priority Sector Lending

- The Reserve Bank of India has revamped priority sector lending (PSL) norms. Now, loans to sectors such as social infrastructure, renewable energy and medium enterprises will also be treated as PSL.
- In the **renewable energy segment, bank loans of up to Rs 15 crore for solar-based power generators, biomass-based power generators, wind mills, micro-hydel plants, etc, will be considered part of PSL. For individual households, the loan limit will be Rs 10 lakh a borrower.**
- The revised guidelines are operational with effect from 23 April, 2015.

# Regulatory Highlights

## Regulatory Updates

- In a judgement dated April 20, 2015 by the Appellate Tribunal for Electricity, the Tribunal has given various directions to State/Joint Commissions:
  - **State Commissions shall decide the RPO targets before commencement of Multi-Year Tariff period.** Further, distribution licensees should have preferential tariff for procurement of renewable energy in place before the beginning of the respective financial year.
  - The State Commissions shall obtain proposal with supporting documents for renewable energy procurement by the distribution licensee as part of the tariff petition for the ensuing year/Annual Performance Review for the current year as per the RPO Regulations. If the **distribution licensee is not able to tie up procurement of renewable energy** to meet the RPO target, it may **plan to purchase RECs** to meet its RPO target if market conditions are more favourable for it.
  - **Monitoring of compliance of the RPO should be carried out periodically.** State Commissions may review the RPO performance of distribution licensees after the end of each financial year and give directions accordingly.
  - **Carry forward/review** should be **allowed strictly** as per the provisions of the Regulations **keeping in view of availability of REC. In case of default** in fulfilling of RPO by obligated entity, the **penal provisions** as provided for in the Regulations **should be exercised.**
  - **State Commissions are bound by their own Regulations and they must act strictly in terms of their Regulations.**
  - Provisions in Regulations like power to relax and power to remove difficulty should be exercised judiciously under the exceptional circumstances, as per law and should not be used routinely to defeat the object and purpose of the Regulations.

# Regulatory Highlights

## Amendments to Electricity Bill

- The Electricity (Amendment) Bill 2014, was presented in Parliament in December 2014. This was referred to Parliamentary Standing Committee on Energy and the committee has submitted its report to the Parliament on 7th May, 2015. The aim of bill is to make fundamental changes to the organization & structure of the sector. The bill is strongly considering promoting Renewable Energy generation in the country. The main highlights of proposed amendments are as below:
  - Target of 100 GW of grid connected solar power by 2022
  - Open Access will be available to consumer with load of 1MW or more, by default. Such consumer can enter in to bilateral agreement.
  - Renewable Energy Generation Obligation (RGO) concept is introduced for Coal/Lignite based power generators. Generators are required to generate RE power, which is more than 10% of thermal power installed capacity.
  - Obligated entities are subjected to penalties for non-compliance of Renewable Purchase Obligation (RPO). The accountability of regulators is also considered in this amendment.
  - No cross subsidy will be applicable if power is procured from Renewable Energy Sources, under Open Access.
  - Violating norms under Electricity Act will attract penalties. Penalty may go up to INR 1crore for an entity. In case of renewable energy generators proposed penalty is INR 10 Lakh.
  - Creation of a separate National Renewable Energy Policy for the promotion of Renewable Energy Generation through tax rebates, generation linked incentives and creation of national renewable energy fund.

# Regulatory Highlights

## Draft Renewable Energy Act 2015

- While the Electricity Act Amendment provides many provisions for the promotion of renewable energy, there is the need for an integrated energy resource planning mechanism with the right supports in place. The purpose of this Act is to promote the production of energy through the use of renewable energy sources in accordance with climate, environment and macroeconomic considerations in order to reduce dependence on fossil fuels, ensure security of supply and reduce emissions of CO2 and other greenhouse gases.
- The provisions under the Act include
  - empowering the Central, State and Nodal agencies to formulate, execute and monitor renewable energy policies as well as funding related activities
  - Creation of a National Renewable Energy Committee to advise the Central Government
  - Creation of a National Renewable Energy Policy with firm national targets
  - Provision to set up Renewable Energy Manufacturing and Investment Zones
  - Creation of State Green Fund
  - Low cost debt and financing for renewable energy projects and equipment manufacturers
  - Promotion of decentralized generation through renewable energy
  - Mandatory and strictly enforced renewable energy targets

# Regulatory Highlights

## National Tariff Policy

- The Cabinet approved the following amendments in January 2016 to the National Power Tariff Policy which will have an impact on the renewable sector
  - Solar RPO to increase to up to 8% by March 2022
  - Exemption of inter-State transmission charges and losses for renewable power
  - New coal and lignite based thermal plants to also build/procure renewable capacity as prescribed by Government of India

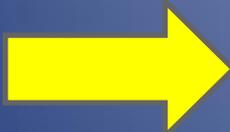
## Ujjwal Discom Assurance Yojna (UDAY) Scheme

- UDAY is the financial turnaround and revival package for electricity distribution companies of India (DISCOMs) initiated by the Government of India with the intent to find a permanent solution to the financial mess that the power distribution is in and was launched in November 2015.
- So far 16 states (representing over 90% of DISCOM losses) have joined. It is expected that the UDAY Scheme will ease the financial health of DISCOMs thus leading to higher procurement of renewable energy.

# Business Models for a Solar Plant



Solar Radiation



Electricity Generation



IPP/Grid Sales & Captive Sales

PPA Mechanism

Sale to Utility

Funds from Sale

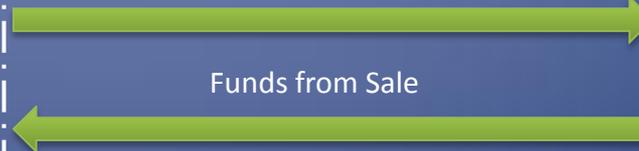


Bundled Power

Utility

Sale through State tariff policy or private consumers

Funds from Sale



Utility / Private Consumer

RPO Mechanism

REC - Market Price

Funds from Sale



# REC vs Preferential Tariff

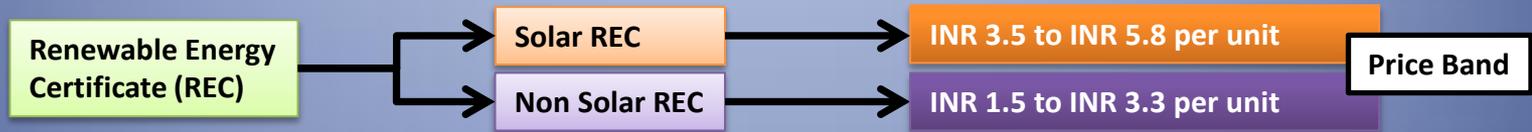
## REC Projects

- Open access
- High but variable returns
- Any capacity above 250 Kw
- Allotment is assured
- Get RECs trading
- Variable tariff
- Unlimited allotments due to huge demand
- Tariff variable but minimum revenue REC floor + APPC
- Accelerated depreciation benefit allowed

## PPA Projects

- Through competitive bidding
- Average but fixed returns
- Minimum 5 MW
- Allotment depends on competition
- Not eligible for REC trading
- Fixed tariff
- Limited allotments
- Tariff fixed for 25 years

# REC Mechanism



## Key Salient Features of REC Mechanism

- It is a market based instrument created to promote renewable energy and facilitate renewable purchase obligations (RPO). However, RE generators with existing PPAs are not eligible for REC mechanism.
- 1 REC = 1 MWh of renewable electricity generated and injected into the grid.
- REC to be traded only in the CERC approved power exchanges namely Indian Energy Exchange and Power Exchange of India.
- As of December 2014, the floor price of Solar RECs have been revised and now stands at Rs.3,500/MWh and Forbearance Price at Rs. 5,800/MWh as compared to Rs. 9,300/MWh to Rs. 13,400/MWh.
- Vintage Multiplier for Solar RECs has been introduced so that solar projects registered under REC Mechanism before 1 January, 2015 would get 2.66 RECs for every MWh of energy until March 2017.





**UJAAS**

# Revenue Stream of UJAAS' Clients



## Sale of Power

- Power generated to be sold to Large power (HT) consumers, State Electricity boards/utility and distribution companies and lastly used for self-consumption of power.



## Tax Benefits

- The solar power plant is 80% depreciable item. In the first year 20% extra depreciation is available, which constitute it to a 100% depreciable item.
- Hence substantial tax will be saved on the profits generated from existing business of customer. Solar Power Generation also qualifies for the benefit under section 80 IA of Income Tax.



## Renewable Energy Certificate

- National Tariff policy 2006 mandates the State Electricity Regulatory Commission (SERC) to fix a minimum % of energy to be purchased from renewable sources of energy generally called as RPO. Solar RPO starts with 0.25% minimum in the current year and will increase to 3% as per National Solar Mission by 2022.
- All obligated agencies are bound to purchase REC to meet their obligation. The price band of Solar REC is INR 3.50 to INR 5.80 per unit. Due to the reduction in REC band price, solar projects registered before 1<sup>st</sup> Jan 2015 will get a vintage multiplier of 2.66 RECs for every MWh of energy upto 31<sup>st</sup> March 2017.



## Carbon Credits

- Under the Clean Development Mechanism, the project would earn carbon emission certificates (CERs) which could be traded on international exchanges to generate additional revenue.

# Benefits of UJAAS

- **Saving Tax**

- 100% Depreciation (80%\* + 20% additional in 1<sup>st</sup> year)
- Tax free Income under 80 IA.



- \* Upto March 2017, then 40%

- **Lucrative Returns**

- Multiple Streams of product revenue fetch good Internal Rate of Return IRR for 20 years consistently.



- **Go Green Initiative**

- Contributing to green initiative, by using Solar Power and reducing carbon footprint.



- **New Business Opportunity**

- Build a stake in the highly promising solar power generation.



# Benefits of Ujaas

## Advantages of Madhya Pradesh Sites for Solar Power Plants

- Rajgarh and Barod sites are a mix of high radiation and low temperature making them ideal for solar power generation
- Both sites are near the substations and company has built dedicated feeders from the solar site to that substation
- Availability of ample water at site, for maintenance work
- Friendly Policy for third party power sale
- Politically Stable and Power Deficit State

## Incentives By Madhya Pradesh Government for Solar Plant

- Electricity and Cess Exemption for 10 years (including captive units)
- Wheeling Charges: Government of Madhya Pradesh will provide a grant of 4% in terms of energy injected and the balance if any shall be borne by the investor.
- Banking for 100% of energy shall be permitted in a financial year. Further the balance energy, if any, at the end of a financial year after return of banked energy shall be purchased by the concerned utility
- Third party sale within and outside the state of MP will be allowed as per the Electricity Act 2003
- Contract demand reduction up to 50% of the electricity buyer.
- Exemption of 50% stamp duty in case developer opts to use private land.
- Equipments purchased for installation of solar power plants will be exempted as per VAT rules and entry tax.

# Some of UJAAS' Clients





**UJAAS EPC**

# UJAAS EPC

- Over 35 years experience in the power sector with a track record of over 140 MW in the solar sector.
- Order book at 40 MW and bid book at 180 MW.
- Experience in both ground mounted and rooftop projects.
- ISO 9001:2008 certified.
- Proven design and construction capability along with a O&M offering.
- Expert Team of Engineers.
- Customers can remotely monitor real-time performance of solar power plant through the client login portal.



## Ujaas EPC Clients



SOLAR ENERGY CORPORATION OF INDIA



Conquering Newer Horizons

# UJAAS Parks



# UJAAS Parks

## Under the UJAAS Parks segment, the company takes care of:

- **Land:** Land selection for the Solar Power Plant plays a critical role in power generation. Land banks are available with Ujaas Energy Ltd.(UEL) having the clear title without any encumbrance. Required land will be sold to Solar Power Generator
- **Evacuation Infrastructure:** UEL will provide the evacuation infrastructure for the evacuation of power from generating station to the grid.
- **Common Facilities :** A potential customer can utilise weather station set up by UEL along with the monitoring equipments and software like SCADA. Customer can also utilise the services of various intermediaries, selected by UEL.
- **Permissions, Approval & Liaison :** UEL has rich experience in speedy approval and permissions with various authorities. This is an invaluable service UEL can offer to its potential clients.
- **Operation & Maintenance:** UEL will enter in a long term agreement for operation and maintenance of Solar Power Plant. O&M of solar power plant involves, cleaning of Solar Panels, periodic maintenance of electrical and electronic equipments and lines, security, ground maintenance etc.
- **Advisory service :** UEL will advice all the customers in searching suitable power purchaser. UEL will also advise clients on REC pricing and selling strategy. UEL will also advise on documentation requirement of Regulatory agencies and others.

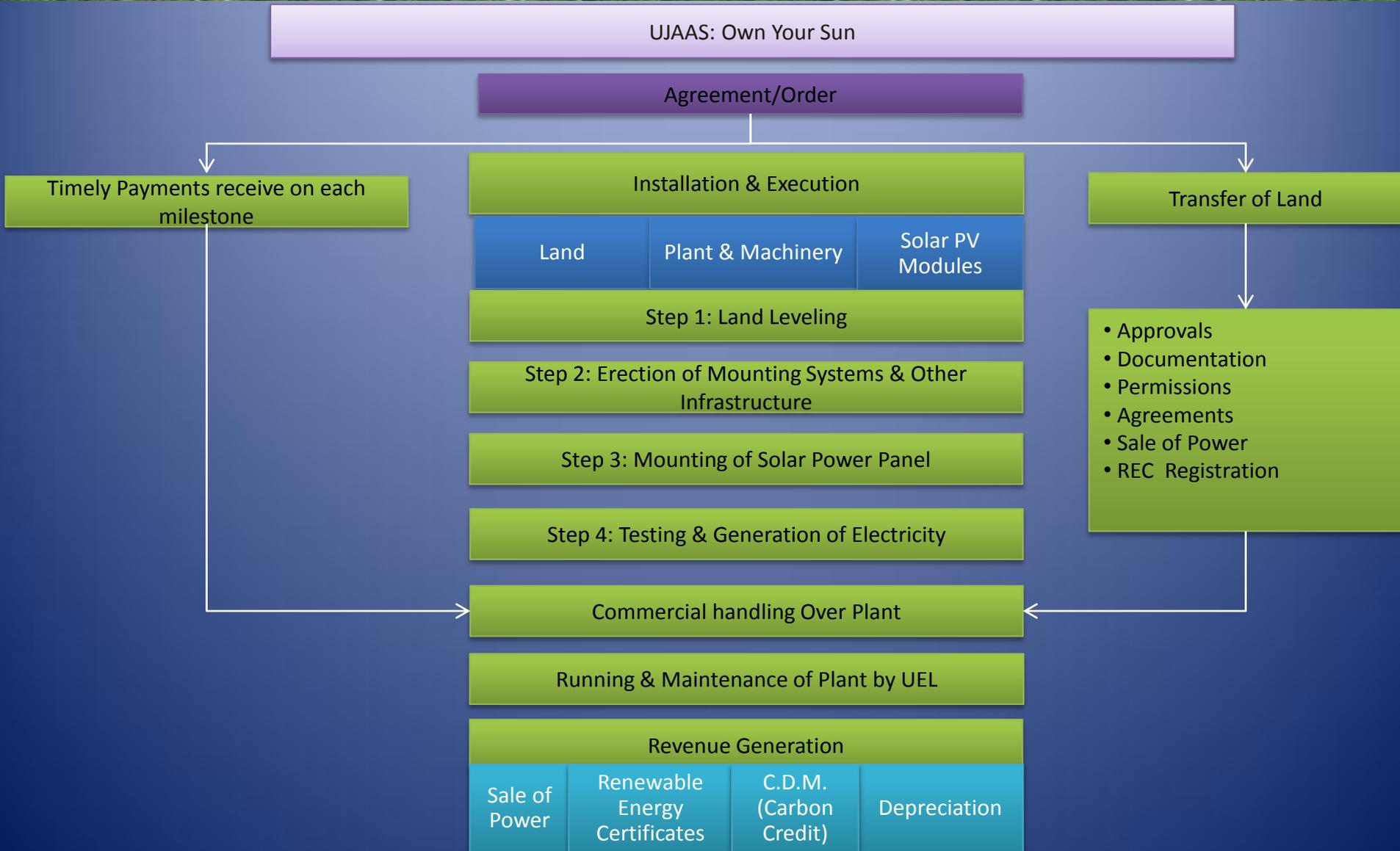
## A total Turnkey Solution



## Phases in Project Development



# UJAAS Parks Flowchart

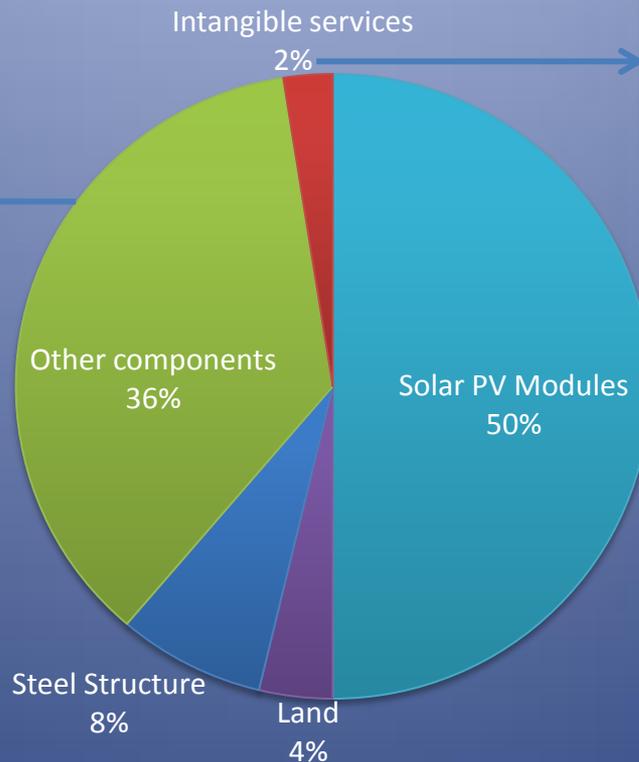


# UJAAS Park Economics

## Average 1 Mega Watt Solar Power Park Cost Breakup

**Intangible Services include:**  
Environmental Clearances  
REC registrations  
Other permissions and approvals

**Other Components include:**  
Inverters  
Transformers  
SCADA system  
Weather Station  
Other Common Infrastructures



**Land requirement:**  
Around 4-5 acres

# UJAAS Parks- Projects



**Type** – Grid Connected Solar Power Plant  
**City** – Barod, M.P  
**Capacity** – 28.22 MW



**Type** – Grid Connected Solar Power Plant  
**City** – Rajgarh, M.P  
**Capacity** – 16.5 MW



**Type** – Grid Connected Solar Power Plant  
**City** – Susner, M.P.  
**Capacity** – 16.49 MW



**Type** – Grid Connected Solar Power Plant  
**City** – Ichhawar, M.P  
**Capacity** – 25.19 MW



**Type** – Grid Connected Solar Power Plant  
**City** – Rojhani, M.P.  
**Capacity** – 32.96 MW



**Type** – Grid Connected Solar Power Plant  
**City** – Berchha, M.P.  
**Capacity** – 4.27 MW



# UJAAS My Site

# UJAAS – My Site

## UJAAS My Site:

- caters to commercial organizations wanting to install solar power generation systems on their own premises or sites of their choice.
- The premises installation attracts very less approvals & permissions and can be executed quickly.
- Provides complete turnkey solution whether it is a ground mounted or a roof top solar installation.
- The company assists investors in selecting the suitable location and provide you with a detailed insolation and feasibility study.
- Ujaas assists investors from designing to procurement till commissioning, the company will take care of the entire responsibility. O&M contracts can also be offered as per investors needs.
- The plant size varies from 25 KWs onwards.

## Land & Liaisoning Services

- Insulation and Feasibility Test at your land to measure the Suitability of Land
- Designing & Developments
- Permission and Approvals
- Registration with different REC trading exchanges

## Sale of REC & Power

- Monthly certification from electricity board to issue of REC
- Sale of REC through power trading exchanges
- Selection of Third Party for Power Sale
- Sale of power & monthly invoice & collection of payment

## Engineering, Procurement, and Construction (EPC) Services

- Civil & Structural Work
- Selection of Modules & other equipments
- Infrastructure for Evacuation of Power
- Commissioning of plant

## Operations and Maintenance (O&M)

- SCADA Services
- World class maintenance equipments
- Operations and modifications for generation



# UJAAS – My Site Projects



Sector – Power Generation  
City – Noida  
Capacity – 110KW



Sector – Retail Chain  
City – Hyderabad  
Capacity – 100KW



Sector – Cycles  
City – Ludhiana  
Capacity – 100 KW



Sector – Aluminium  
City – Bhubaneswar  
Capacity – 160 +100 KW



Sector – Education  
City – Junjhunu  
Capacity – 100 KW





# UJAAS Home

# UJAAS – Home

नालको  **NALCO**  
National Aluminium Company Limited



160 KW Roof Top Solar PV Power Plant, NALCO  
Bhawan, Bhubaneswar

- With UJAAS Home, the company brings the power of the sun to investor's doorstep. Offering small off grid solutions to the customer, Ujaas provides customers an opportunity to produce clean energy for their own house.
- Using these small roof top solutions consumers can produce solar energy for their captive usages and save on their electricity bills. Ujaas' solutions are battery backed systems which can produce power ranging from 0.5KW to 25 KW.
- Before installation, Ujaas will study the load requirements and perform technical demand analysis to understand investor's requirements. Necessary planning, designing, installations and delivery are all the company's responsibilities. O& M contracts can also be offered as per need of the customer.
- UJAAS Home is the perfect solution for producing clean green energy for your house.



## Basic Study

- Study of Load requirement
- Insulation and Feasibility Test at your roof to measure the suitability for setup
- Designing & Developments



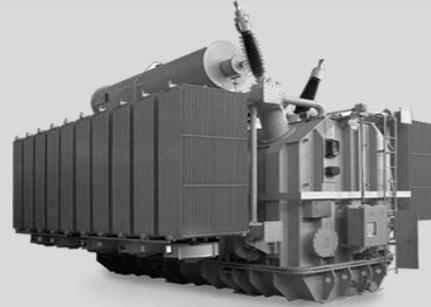
## Engineering, Procurement, and Construction (EPC) Services

- Civil & Structural Work
- Selection of Modules & other equipments
- Infrastructure for Evacuation of Power
- Commissioning of plant



# Transformer Business

# Transformer Business



Through continuous research and development, UJAAS has successfully extended its product range to manufacture transformers up to 25,000 KVA at 132 KV class and includes special duty transformers too.

The transformers are manufactured in conformance to Indian Standards Specification IS:2026 and IS:1180, International Specification IEC:76 and / or equivalent. However transformers can be supplied conforming to any other standard if / as specifically required by the customer. The company regularly manufacture ratings prevalent in India. However, any other rating can also be supplied on request.

## Product Profile

- Distribution transformers (33 or 11/0.4 KV)
- Power Transformers (132/33/11 KV)
- Automatic Voltage Controllers (33,11,0.4 KV)
- Dry type and fire proof transformers.
- Arc Furnace, Induction Furnace transformers.
- Converter & Special purpose transformers.
- Balancing Transformers (3 ph to 2 ph & 1 ph).

## Why Ujaas Energy Ltd Transformers?

- Low losses, i.e. lifetime gains
- Computerized custom designed for your specific requirement
- Match impedance to your exact requirement.
- Greater short circuit strength.
- Designed to withstand impulse voltage test.
- Low temperature rise.
- Higher overload capacity.
- Timely deliveries.
- Prompt after sales service.

# Financial Performance



# Income Statement

Particulars (INR. Mn)	FY11	FY12	FY13	FY14	FY15	9MFY16
<b>Total Income *</b>	<b>339</b>	<b>370</b>	<b>2,480</b>	<b>5,332</b>	<b>1,133</b>	<b>1,115</b>
Operating Expenses	305	336	1,972	4,341	688	776
<b>EBITDA</b>	<b>34</b>	<b>34</b>	<b>508</b>	<b>991</b>	<b>445</b>	<b>339</b>
<b>EBITDA Margin (%)</b>	<b>10.03%</b>	<b>9.19%</b>	<b>20.48%</b>	<b>18.58%</b>	<b>39.28%</b>	<b>30.40%</b>
Finance Cost	19	10	50	91	180	101
Depreciation	3	4	19	47	81	60
<b>Profit Before Tax</b>	<b>12</b>	<b>20</b>	<b>439</b>	<b>853</b>	<b>184</b>	<b>178</b>
Taxation	4	11	169	479	67	108
<b>Profit After Tax</b>	<b>8</b>	<b>9</b>	<b>270</b>	<b>374</b>	<b>117</b>	<b>70</b>
<b>PAT Margin (%)</b>	<b>2.36%</b>	<b>2.43%</b>	<b>10.89%</b>	<b>7.01%</b>	<b>10.33%</b>	<b>6.28%</b>
Diluted EPS (INR)	0.04	0.05	1.35	1.87	0.59	0.35

\* Including Other Income

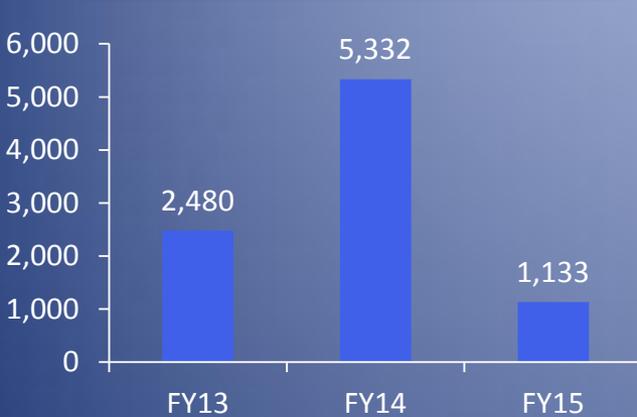
# Standalone Balance Sheet

	Particulars (INR Mn)	FY13	FY14	FY15	H1 FY16
A	EQUITIES & LIABILITIES				
Part-1	<u>Shareholder Funds</u>				
	(a) Share Capital – Equity	200	200	200	200
	(b) Reserves & Surplus	1,101	1,428	1,533	1,577
	<b>Total - Shareholder Funds</b>	<b>1,301</b>	<b>1,628</b>	<b>1,733</b>	<b>1,777</b>
Part-2	<u>Non-Current Liabilities</u>				
	(a) Long term Borrowings	210	1,112	994	954
	(b) Long term Provisions	1	1	1	2
	(d) Deferred Tax Liability	90	379	407	459
	<b>Total - Non – Current Liabilities</b>	<b>301</b>	<b>1,492</b>	<b>1,402</b>	<b>1,415</b>
Part-3	<u>Current Liabilities</u>				
	(a) Short-Term Borrowings	15	92	1	0
	(b) Trade Payables	805	1,431	344	350
	(c) Other Current Liabilities	92	143	138	137
	(d) Short-term provisions	69	181	16	5
	<b>Total – Current Liabilities</b>	<b>981</b>	<b>1,846</b>	<b>499</b>	<b>492</b>
A	<b>GRAND TOTAL</b>	<b>2,583</b>	<b>4,966</b>	<b>3,634</b>	<b>3,684</b>

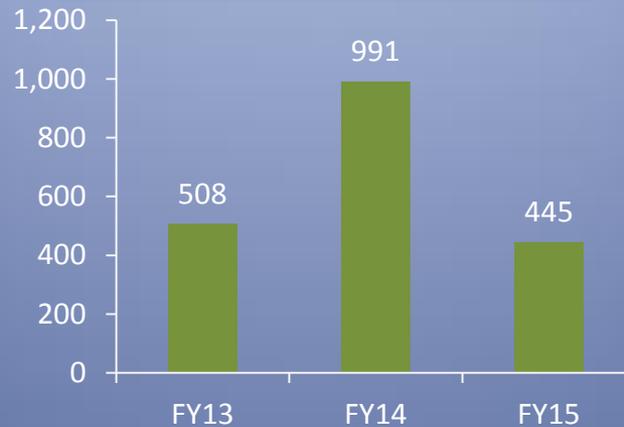
	Particulars (INR Mn)	FY13	FY14	FY15	H1 FY16
B	ASSETS				
Part -1	<u>Non-Current Assets</u>				
	Fixed Assets				
	(a) Tangible Assets	400	1,904	1,828	1,791
	(b) Intangible Assets	0	3	2	1
	(c) Capital Work-in-Progress	122	-	NA	0
	(d) Intangible Assets under development	3	0	NA	1
	(e) Long Term Loans & Adv.& other current assets	370	29	41	9
	<b>Total - Non – Current Assets</b>	<b>895</b>	<b>1,936</b>	<b>1,871</b>	<b>1,802</b>
Part-2	<u>Current Assets</u>				
	(a) Inventories	255	423	637	554
	(b) Trade Receivables	870	1,770	824	795
	(c) Cash and Bank Balances	376	654	160	189
	(d) Short-term loans and advances	175	168	121	163
	(e) Other current assets & Current Investments	12	15	21	181
	<b>Total – Current Assets</b>	<b>1,688</b>	<b>3,030</b>	<b>1,763</b>	<b>1,882</b>
B	<b>GRAND TOTAL</b>	<b>2,583</b>	<b>4,966</b>	<b>3,634</b>	<b>3,684</b>

# Financial Performance

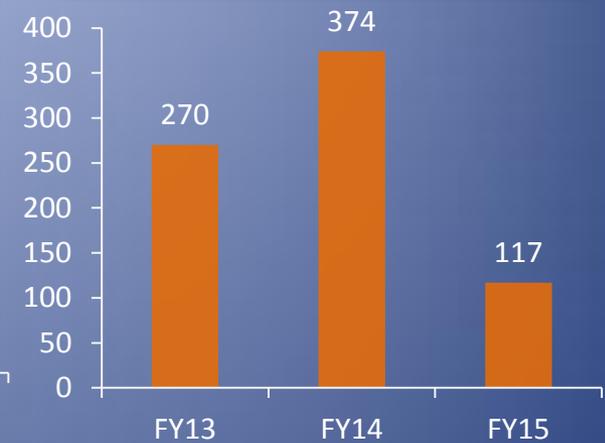
Income (INR Mn)



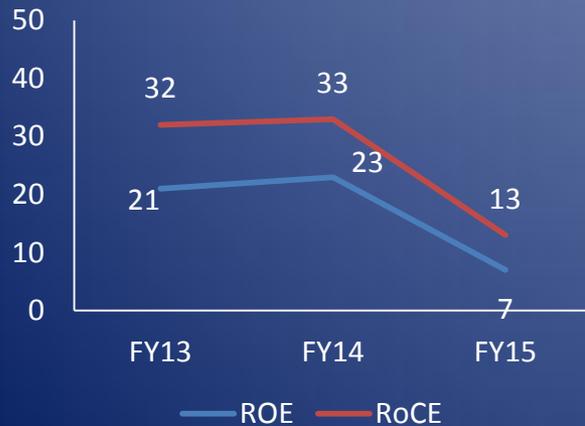
EBITDA (INR Mn)



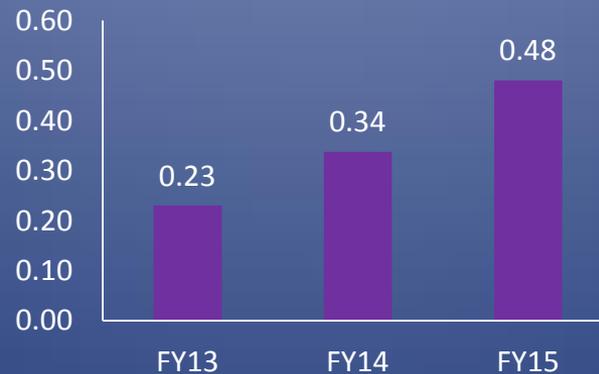
PAT (INR Mn)



ROE & RoCE (%)



Net Debt Equity (x)



Book Value per Share (INR)



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