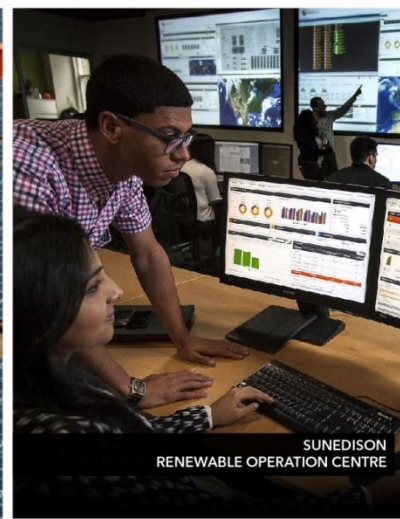
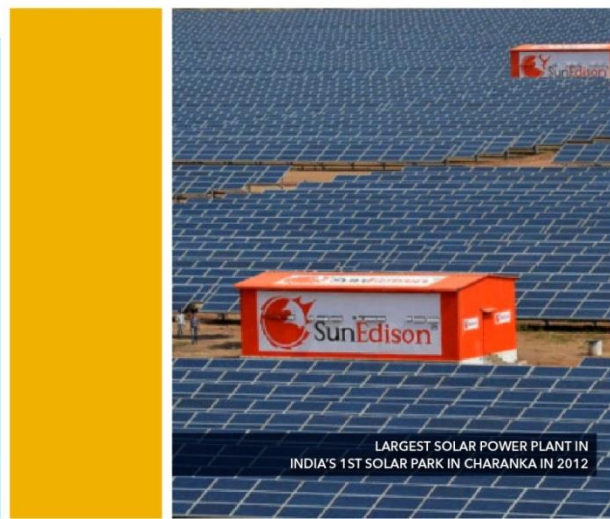




Company Overview  
SunEdison Infrastructure Limited  
February 2020





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# Executive Summary

## 1 RE-EMERGENCE

SunEdison, one of the pioneers of the Indian Solar Industry, is rebuilding its business in India and soon globally with focus in distributed energy in C&I, Rural Energy like Solar Water Pumps, Home and Street Lighting System, SME and Residential segments and emerging technologies like waste heat to power.

## 2 PAN-INDIA PRESENCE

The team has the experience of building more than a GW of distributed solar projects in 8000+ locations. Our teams are present in 15 States and have built relationships with the local eco-systems of sub-contractors, energy administration and customers.

## 3 COMBINED EXPERIENCE

The leadership team has over 100+ years of management experience in solar and distributed energy; the team has a cumulative relevant experience of over 1500 man-years. The leadership team comes with managerial experience from several global and Indian companies like Cisco, Cypress Semi, Bloom Energy, PwC, Maersk, ICICI, ILFS, HCL, JSW, Maruti Suzuki, IBC Solar, SunEdison, Texas Instruments, Bell Labs and Ashok Leyland.

## 4 EXECUTION CAPABILITIES

The team has deep experience for over a decade in all elements of life cycle of Solar assets across various segments – Project Development, EPC, Equity and Debt raise, O&M, Asset Management and Sell Downs. The team has pioneered many firsts in India – use of tracker (2010), utility projects in Gujarat (2010), first solar rooftop PPA (2011), canal top solar (2012), solar micro-grid and solar irrigation Pump (2012), listing of Solar Yield co. in NASDAQ (2015), and grid connected solar irrigation pumps (2016).

## 5 UNIQUE PORTFOLIO

SunEdison has built a strong pipeline of 234 MW of distributed solar assets, majority of which is with the Indian Railways (AAA rated). Further a work order of ~135,000 nos. of Solar irrigation pump distributed across 15 Countries of International Solar Alliance is expected over the next one year.

## 6 DISTINGUISHED PARTNER

With highly experienced Promoters backing the platform and a portfolio of projects with mid-teen returns, SunEdison is uniquely positioned to be a distinguished partner to an Investor, whose vision is to build a multi-faceted platform which provides end-to-end renewable energy solutions.



# COMPANY OVERVIEW

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# The Pioneer (1/2)



Built first utility scale project in Gandhinagar, Gujarat of 1 MW



First solar plus storage micro-grid project in an un-electrified village in, Meerwada, Guna, Madhya Pradesh, India



Built World's first canal top solar project on Narmada canal in Gujarat



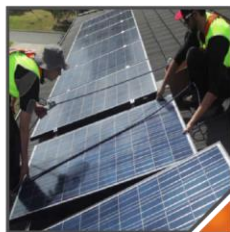
1st Private Rooftop PPA in India with Standard Chartered Bank, Chennai



1st Off Grid Solar Water Pump in India in Rajasthan



1st Airport rooftop solar project of 19 MW for Malaysia Airport



Acquired Energy Matters, Australia's #2nd largest residential solar rooftop company

1st Utility Scale Project in India

1st Micro Grid Project

1st Canal Top Project

1st Private Rooftop PPA

1st Solar Power Pump

Malaysian Airport

2nd largest residential rooftop in Australia

2010

Started Thailand Operations and secured largest project pipeline

2011

Started Malaysia and South Africa Operations

2012

ISO certification

Financial Closure for 58 MW solar projects in South Africa for \$314M

2013

24 MW project under NSM completed in record time

2014

Started Japan, China and Australia operations



# The Pioneer (2/2)



18 MW open access park in Tamil Nadu to wheel power to private customers

1st Open Access Solar in India



The Overseas Private Investment Corporation ("OPIC") presented Impact Award to SunEdison for its work on the Boshof solar project

OPIC Impact Award



The Renewable World International Convention in Delhi, India recognizes Mr. Pashupathy Gopalan as Solar Person of the Year.

Awarded Solar Person of the Year



SunEdison listed the first emerging market solar-yieldco, TerraForm Global (Solar Yield Co) in NASDAQ

1st Emerging Market Yield-co



World's 1st grid connected solar water pump pilot of 310 nos.

1st Grid Connected Solar Water Pump



Largest provider of Solar Water Pump solution to the Agariyas in Little Rann of Kutch

Largest supplier to Salt pan workers



India's 1st Solar Power Plant procured through innovative Annuity Financing resulting in lower procurement cost of Solar Power

Largest PSU portfolio

2014

Secures Non-Recourse Financing in Japan for 1st Solar Open Access 8 MW Project with Wheels India

2015

\$250Mn JV with JIC in China for New Energy Fund

2016

Open Access PPA with Tata Power Delhi for 198 MW of solar power

2017

Awarded 458 MW in South Africa

2018

2GW+ utility scale power plants/ pipeline sold to Greenko

2019



# SunEdison Company Structure





# Team Capability

## Education Background

The management team of SunEdison have received education from institutions of highest repute in the world



## Sector Experience

The leadership team has over 100+ years of management experience in solar and distributed energy; the team has a cumulative relevant experience of over 1500 man-years. Experience from several global and Indian companies like Cisco, Cypress Semi, Bloom Energy, PwC, Maersk, ICICI, ILFS, HCL, JSW, Maruti Suzuki, IBC Solar, SunEdison, Texas Instruments, Bell Labs and Ashok Leyland.

## Geographical Experience

Teams are present in 15 States and have built relationships with the local eco-systems of sub-contractors, energy administration and customers. Developed over 8GW of renewable projects in Asia, Africa & Australia in utility scale, distributed commercial & Industrial, residential & SME and rural electrification. Financed projects of ~\$3bn, built and operated ~2GW of renewable energy projects, including solar & wind. Has experience of managing over 5000 assets across 25 countries of total 5 GW portfolio.

## Execution Experience

The team has the experience of building more than a GW of distributed solar projects in 8000+ locations. The team also has experience of building varied solar projects, ranging from utility scale solar projects, rooftop solar projects, open access solar projects, mini grids for electrifying rural areas, on grid solar water pumps, off grid solar water pumps, solar street lighting, etc, with many firsts to its credit.



100+ years of Management Experience



1500+ years of Group Experience in Solar PV Industry



Experience in 16+ Countries  
Presence in 15+ States in India



8000+ distributed solar installations completed in India

Cumulative Leadership Experience in Solar PV Industry with 2GW Solar Projects at over 8000+ locations in 16 countries





# MARKET OPPORTUNITY



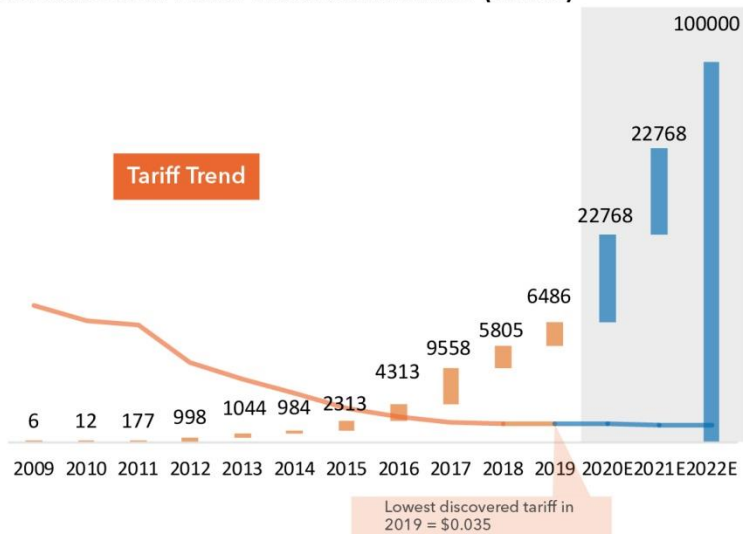


# Emerging Trend in Solar PV industry in India

While the solar PV industry in India is expected to sustain the growth momentum, an environment of low tariffs, and poor Distribution Utility health, is expected to set off a trend of accelerated adoption of de-centralized solar power generation. Distributed and de-centralized deployment is expected to grow strongly as part of the commitment to rapidly adopt renewable energy

Low tariff trend and poor DISCOM health is expected to continue in the medium term

Cumulative Solar Power Installations in India (in MW)

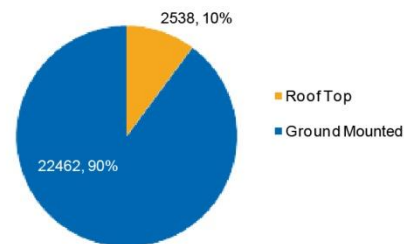


Source: Mercom's research report, Bridge to India; PIB 19 Feb 2019 on KUSUM scheme

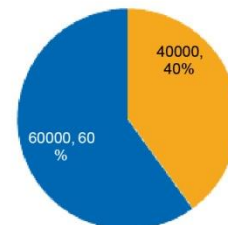
## Trend 1 - Distributed (On-Grid) Solar

Accelerated adoption of distributed (on-grid) roof-top solar driven by C&I segment and favorable DISCOM policies - 40 GW

Current Rooftop Installation



Target Rooftop Installation by 2022



## Trend 2 - Distributed (Off-Grid) Solar

Exponential growth of distributed (off-grid and on-grid) solar power driven by Government schemes like KUSUM

Decentralized Ground Mounted Grid Connected Renewable Plants

10 GW

Standalone Solar Powered Agriculture Pumps

17.5 lakh Pumps (52 GW)

Grid-connected Solar Powered Agriculture Pump

10 lakh Pumps (30 GW)

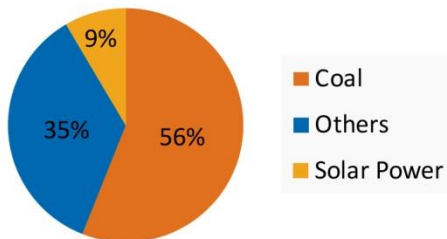


# Market Opportunity in Commercial & Industrial Segment

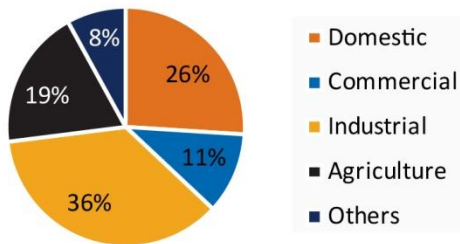
## Commercial & Industrial Demand

Installed power capacity of India still dominated by Coal

362.12 GW

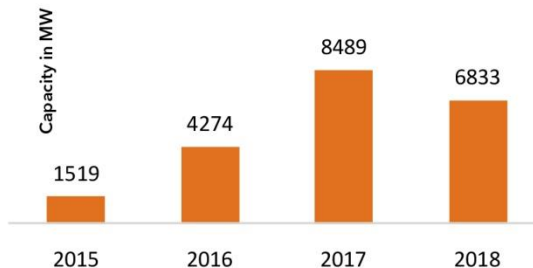


~50% of the electricity consumption is from Commercial & Industrial

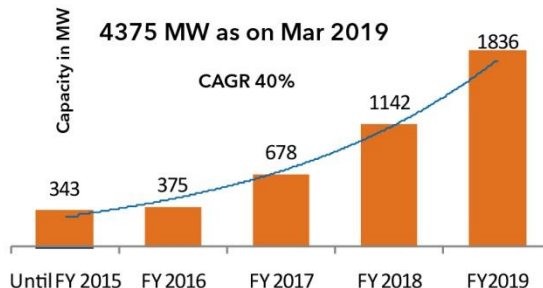


## Solar installation scenario

Utility Scale Solar installations is Saturating



Rooftop Solar installations expected to grow exponentially



Source: Bridge to India

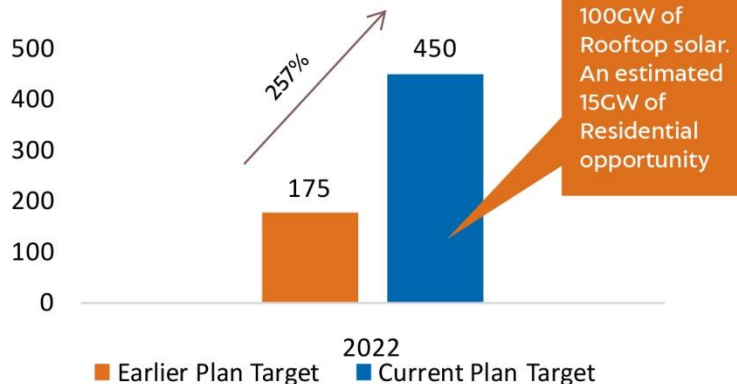
- India is the world's third largest producer and third largest consumer of electricity. At Present ~50% of the consumption is from Commercial and Industrial segments
- India is running one of the largest and most ambitious renewable capacity expansion programs in the world. In 2019 at UN climate summit, India announced that it will be more than doubling its renewable energy target from 175GW by 2022 to 450GW of renewable energy by the same year
- Low tariff regime, poor Distribution Utility Health is leading to saturation of utility scale solar installations.

In the backdrop of this scenario, it is expected that the commercial and Industrial installations will grow exponentially



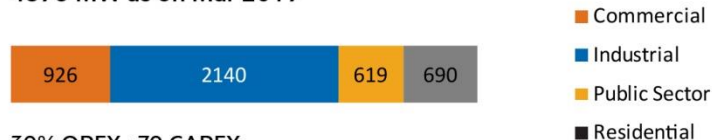
# Market Opportunity Residential & SME Business

India is running the largest Renewable Energy program in the world



Residential Solar contribution is expected to grow from 15%

4375 MW as on Mar 2019



30% OPEX ; 70 CAPEX

Source: \*BTI \*\*Proprietary survey of SMEs

Residential Solar contribution is expected to grow from 15%

**15 GW** Opportunity

- At 15% of the total Rooftop Installation target of 100 GW, Residential rooftop opportunity is 15GW.
- DISCOMs driven residential rooftop solar has been witnessed in States like Andhra Pradesh, Kerala, Assam
- Rising consumer awareness on rooftop solar.
- Line of credit available from MFI/DFIs to give a fillip to the sector

Sub 100kW SME segment is expected to grow exponentially

**15 GW** Opportunity

- 50Mn SMEs in India, around 40% have self-owned premises, and around 80% have a 10 kW rooftop space shadow free. At a 10% addressable size of the market it translates to an opportunity of **15 GW** (50Mn \* 3% \* 10 kW)
- Lack of reliable power supply, combined with a high tariff makes this segment a low-hanging fruit





# Market Opportunity in Off-Grid (Rural) Solar

## TOTAL OPPORTUNITY FOR PPP

Type	Number of Irrigation Pumps (in Million) as on Jan 2018
Electricity Grid Connected	21.00
Diesel Powered	8.80
Solar Powered	0.13
<b>Total</b>	<b>29.93</b>



**90 GW**  
**\$50 Bn**

30 million pumps @ 3Kw capacity pr pump translates to an opportunity of 90 GW in de-centralized grid-interactive application

## TREND IN MNRE'S POLICIES SUPPORTING SOLAR POWERED IRRIGATION

**2014**

Option 1: Central Financial Assistance of 30% of the benchmark cost of the pump.  
Option 2: 40% capital subsidy from MNRE, 20% beneficiary contribution, and the remaining amount extended as a loan through NABARD

**2017**

MNRE discontinued option 2 and revised the subsidy rates.  
The capital subsidy rates for 2017-2018 are 30% for pumps under 1HP, 25 per cent for 1-3HP, and 20% for pumps 3-5HP.

**2018**

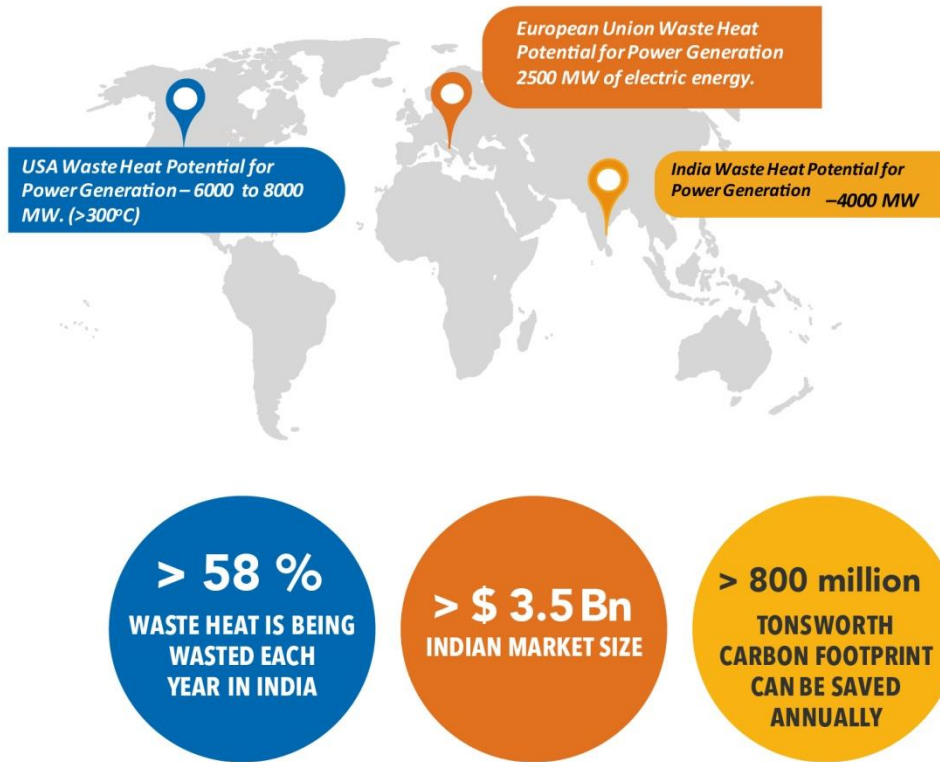
**KUSUM Scheme**  
Under the \$6.85 Bn scheme, 1.75 million solar pumps will be installed where the grid has not reached and 1 million solar pumps where the grid is available

Source: Solar for Irrigation: A comparative Assessment of Deployment Strategies,  
[https://www.ceew.in/sites/default/files/CEEW-Solar-for-Irrigation-Deployment-Report-17Jan18\\_0.pdf](https://www.ceew.in/sites/default/files/CEEW-Solar-for-Irrigation-Deployment-Report-17Jan18_0.pdf)

Assumption : \$570,000/MW of grid connected de-centralized solar PV project without the pump replacement

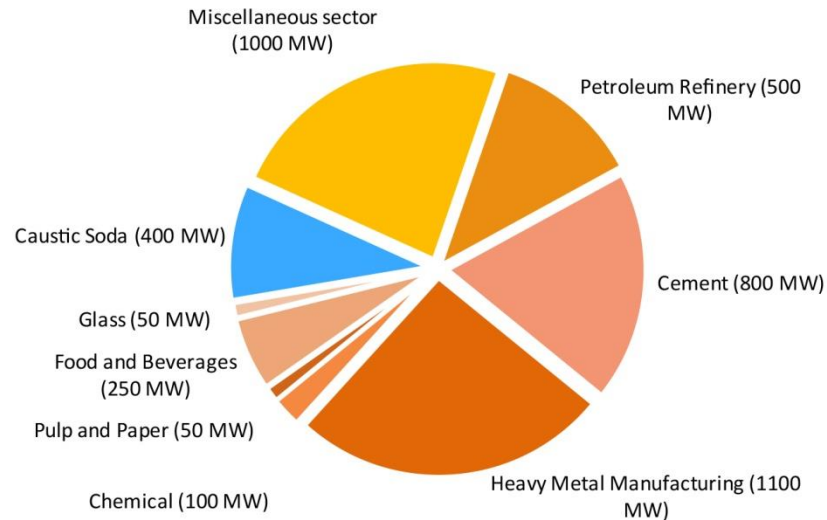


# Waste Heat Recovery Potential



Source: MNRE

## Sectoral Waste Heat Recovery Market Potential in India



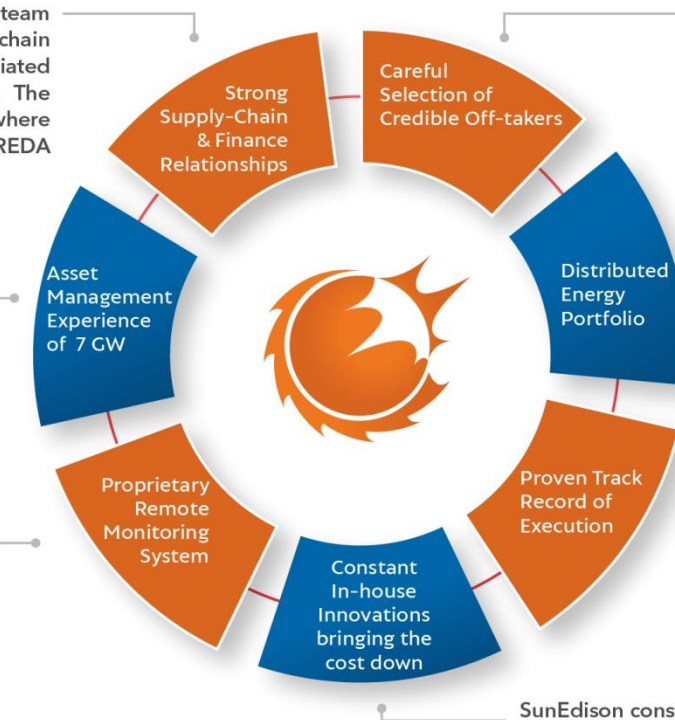


# SunEdison uniquely positioned to become a leading energy services platform

SunEdison has very strong supply chain team which efficiently manages the supply chain requirements of a project at highly negotiated price without compromising the Quality. The group also enjoys confidence of lenders where prominent lenders like L&T, SBI, PFC and IREDA have been appraising the portfolio.

SunEdison has experience of asset management of 7GW of projects in 5000 locations in 30 countries. It has a wide network of O&M team having local presence around the project site throughout India.

SunEdison has another business vertical which solely develops asset monitoring hardware & software including IoT/ Sensors, predictive maintenance using Artificial intelligence for distributed solar



The strategy of the company is to target highest rated sovereign backed Public Sector Undertakings for this business unit. The current portfolio of ~230 MW with off-takers having very high credit rating

The focus of the team is to build on highly distributed and fragmented solar project portfolio, thus avoiding any concentration risks. The current portfolio comprises of projects to be set up at ~1000 locations

SunEdison has over 400 employees with diverse experience in the field of solar energy. The group has experience of building 2GW of renewable energy portfolio in 16 countries.

SunEdison constantly strives to bring the cost down through innovations developed in-house. Some examples to this endeavour are: finding right tilt angle for each installation, reducing cable usage, etc.



# CURRENT STATUS



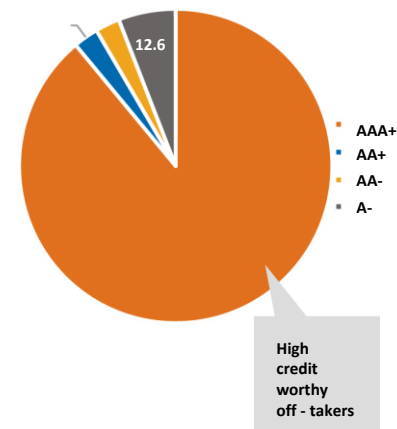




# Commercial & Industrial solar portfolio

PROJECT	CAPACITY	OFF-TAKER CREDIT RATING	PROJECT TYPE	PROJECT STATUS
GUVNL	5	AA-	GM	Commissioned
MESCOM, CESCO, BESCOM	15	A+	GM	Commissioned
Northern Railway Zone	3.63	AAA	RT	Under Construction
North Western Railway	8.68	AAA	RT	Under Construction
West Coast Railway Zone	7.63	AAA	RT	Under Construction
Central Railway Zone	9.51	AAA	RT	Under Construction
Indian Railways	90.2	AAA	RT	Under Development
East Coast Railway	65	AAA	GM	Under Development
Nagpur Municipal Corp	12.6	A-	RT, GM, SL	Under Development
Heidelberg	5.5	AA+	GM	Under Development
Indian Railways	2	AAA	GM	Under Development
NREDCAP	5	NA	RT	Under Development

Project Status	MW
Operating:	20.00
Under Execution:	44.05
Under Development:	165.7
<b>Total</b>	<b>230.00</b>



USD/INR = 70



# Three-Pronged customer acquisition strategy for C&I portfolio

## 1 High Credit Public Sector Undertaking

Our primary focus is to build portfolio with off-take arrangement with credit worthy Public Sector Undertakings.

We have a dedicated team to participate in any such tender/ bidding process as may be invited by any of the PSU, whose credit rating is high.

With this, we have secured 185 MW of Power Purchase Agreement with Indian Railways which is AAA rated by all the rating agencies and have an established track record of honouring their payment obligations.

Having established such relationship with the Indian Railways, we believe should be an added advantage for any future bids that Railways may invite.

We believe that Indian Railways is expected to invite tenders for bidding for projects upto 1 GW. Indian Railways is expected to come up with 4GW target of solar energy in next 5 years

## 2 High Credit Municipal Corporation

We also plan to build on our portfolio with Municipal Corporations. There are approximately 30 such Municipal Corporations which have received a very high credit rating from Credit Rating Agencies, which we plan to target.

We plan to use our current experience in the Nagpur Municipal Corporation for participating in such tenders by other municipalities.

We have the ability to offer solar projects along with solar street lighting solutions and operations & maintenance package for managing such high level of distributed and fragmented projects.

We believe we have an advantage over our competitors in this segment as we have the ability to provide end-to-end energy solutions to these Municipal Corporations, as we did in case of Nagpur Municipal Corporation.

## 3 High Credit Private Off takers

There is a two way approach that we plan to undertake to turnaround the opportunity of private off-take arrangement with credit worthy entities.

1. Through our network of channel partners: We currently have on-board a wide network of channel partners who enjoy exceptional relationship with some of the highest credit worthy private off-takers.

2. Through our network of employees: the group currently has presence in 15+ states and the manpower is spread across the length and breadth of the country helping the group manage the distributed solar portfolio.

Using both these approaches, we believe that we shall have access to one of the highest credit worthy off-takers.



# Off-grid portfolio (1/2)



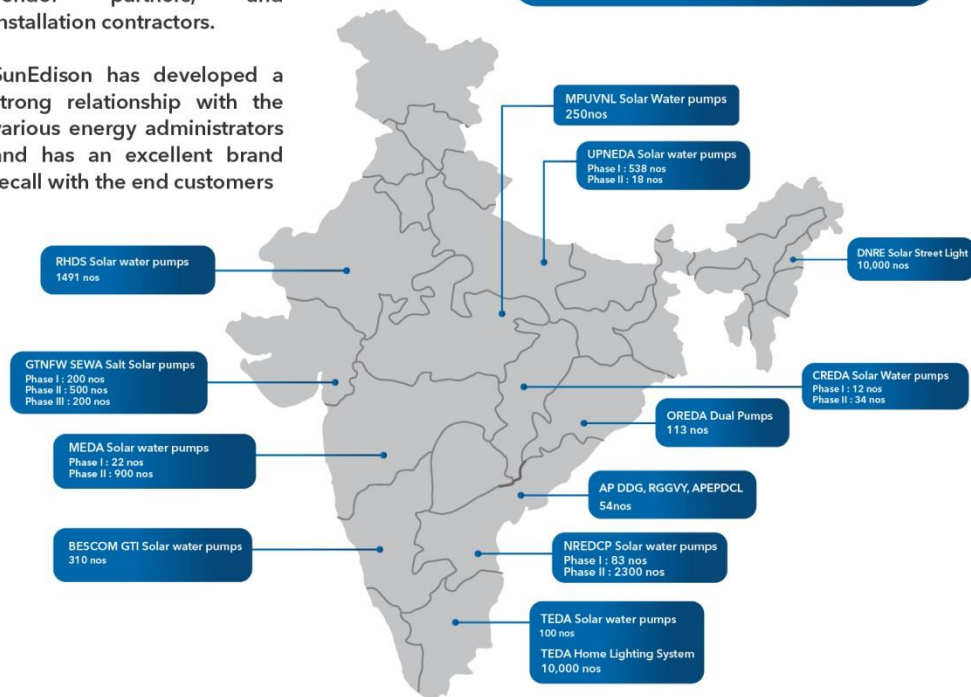
SunEdison has been passionately working with a mission to positively impact the lives of economically weaker and unreached sections by providing sustainable solutions

- SunEdison has been one of the leading Solar Power Developer and has been tirelessly working on Innovation and Development in the field of Solar.
- Solar Water Pumps and Rural Electrification has been prime area for Innovation for SunEdison in India for the last 7 years. In this duration, we have been a pioneer in India and have installed more than 50 micro-grids and over 5000 installations of solar irrigation pumps.

- SunEdison has installation and presence across the country in 15 States, and has built a strong network capability of vendor partners, and installation contractors.

- SunEdison has developed a strong relationship with the various energy administrators and has an excellent brand recall with the end customers

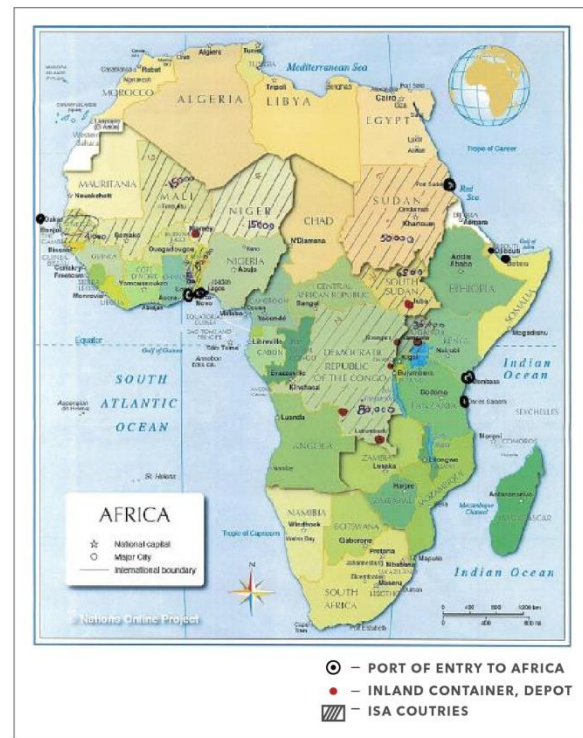
5000 Installations of Solar Irrigation Pumps  
50+ Micro grid installations





## Off-grid portfolio (2/2)

S NO	GOVERNMENT AGENCY	DESCRIPTION	RECEIVED / EXPECTED ORDER QUANTITY	INSTALLATION COMPLETED
1	BESCOM	Grid connected Solar irrigation Pumps	310	310
2	CREDA	Off Grid Solar Irrigation Pumps	34	34
3	NREDCAP	Off Grid Solar Irrigation Pumps	83	77
4	TEDA	Off Grid Solar Irrigation Pumps	100	100
5	UPNEDA	Off Grid Solar Irrigation Pumps	638	634
6	RHDS	Off Grid Solar Irrigation Pumps	1,512	1,498
7	GTNFW	Off Grid Solar Salt Pumps	1,327	827
8	MEDA	Off Grid Solar Irrigation Pumps	22	22
9	OREDA	Off-Grid Solar Irrigation pumps	113	111
10	MPUVNL	Off-Grid Solar Irrigation pumps	213	213
11	NREDCAP	Off-Grid Solar Irrigation pumps	2,080	554
12	MEDA	Off-Grid Solar Irrigation pumps	900	551
13	KREDL	Off-Grid Solar Irrigation pumps	1,266	61
14	ISA	Off-Grid Solar Irrigation pumps	135,000	-
		<b>Sub-Total Solar Irrigation Pumps</b>	<b>143,598</b>	<b>4,992</b>
1	APEPDCL	Village Electrification	51	51
2	TEDA	Household Electrification	10,100	3,500
3	DNRE (Nagaland)	Solar Street Light	9,810	-



SunEdison has won the world's largest aggregated solar water pump tender. ~135,000 order in 15 countries is expected in the next 1-2 years

International Solar Alliance





# Emerging Technologies product portfolio

"EnRePower-S"

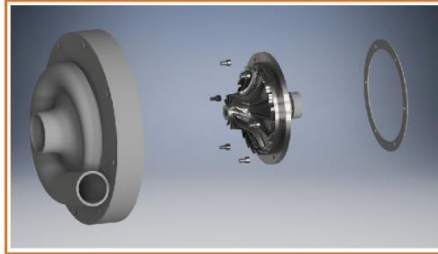


DEVELOPED IN  
IN PARTNERSHIP  
WITH TATA STEEL



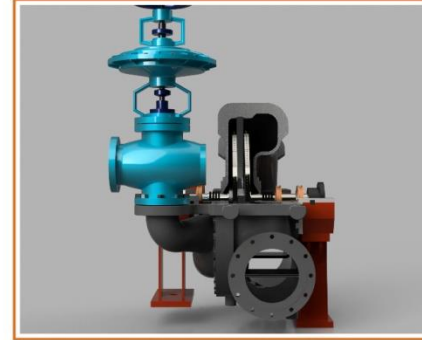
THERMOELECTRIC GENERATOR

"EnRePower-T"



WASTE HEAT TO POWER USING  
ORGANIC RANKING CYCLE

"EnRePower-P"



PROCESS WASTE TO POWER  
USING PRESSURE REDUCTION



# ENGINEERING PROCUREMENT & CONSTRUCTION





# Engineering Procurement & Construction Capabilities



## ENGINEERING



## PROCUREMENT



## CONSTRUCTION



### MARKET LEADER

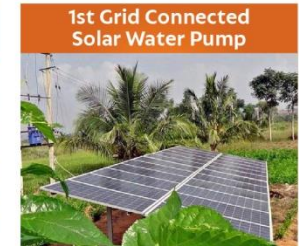
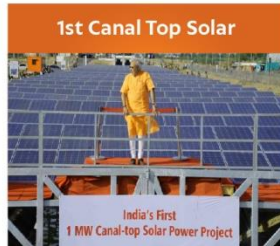
SunEdison over the last decade has been a leader in design engineering with many pioneering and innovative projects such as 1st Canal Top Solar, 1st Airport Solar, 1st Car Park in Asia, 1st Grid Connected Solar Water Pump deployment, 1st solar battery storage micro grid, 1st grid connected utility plant in Gujarat. SunEdison pioneered the Levelized Cost of Energy reduction process that constantly innovated and deployed many technologies 1st time in India like Single Axis tracker, Dual Axis tracker, Module cleaning Robots, 1000 & 1500 volt design, string inverters, Micro inverters, etc

SunEdison has built a strong network of Tier-1 suppliers in modules inverters and local installation partners. We have a strong network in China with on site quality management processes. We have a team of highly experienced professionals who have been in the industry for over 2 decades and have excellent relationship with all the tier-1 manufacturers. This not only helps us to procure the industry's best equipment's, but also helps us meet the timelines required for commissioning the project.

In addition to Industry Standard project management techniques, we pioneered the use of Toyota Production Systems and Lean techniques in eliminating waste and driving productivity gain unparalleled in the Industry. The team has the experience of bringing project to light in 74 days (the 1st Utility Scale Project in Gujarat) 80 days (1st Canal Top Solar Project in Gujarat).



### DIVERSIFIED EXPERIENCE







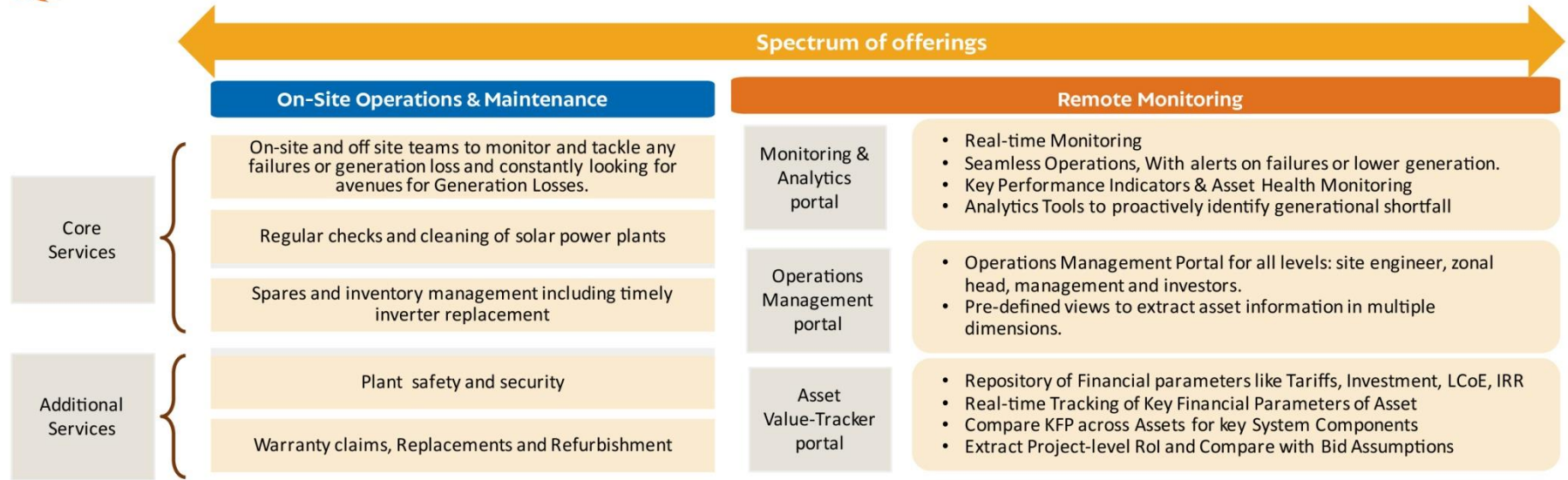
# ASSET MANAGEMENT CAPABILITIES

ASSET  
MANAGEMENT



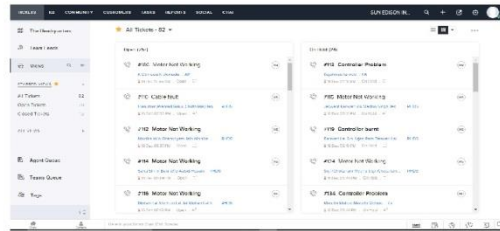
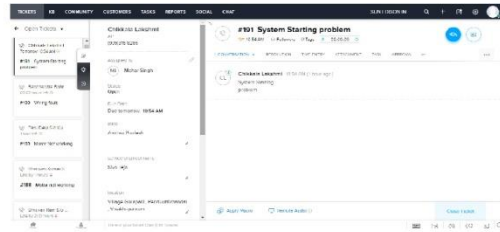
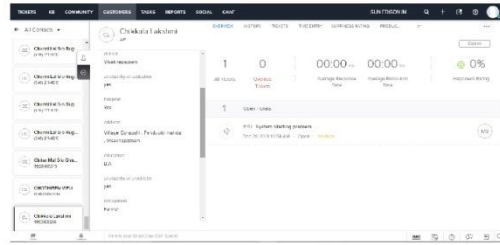


# Asset Management Capabilities

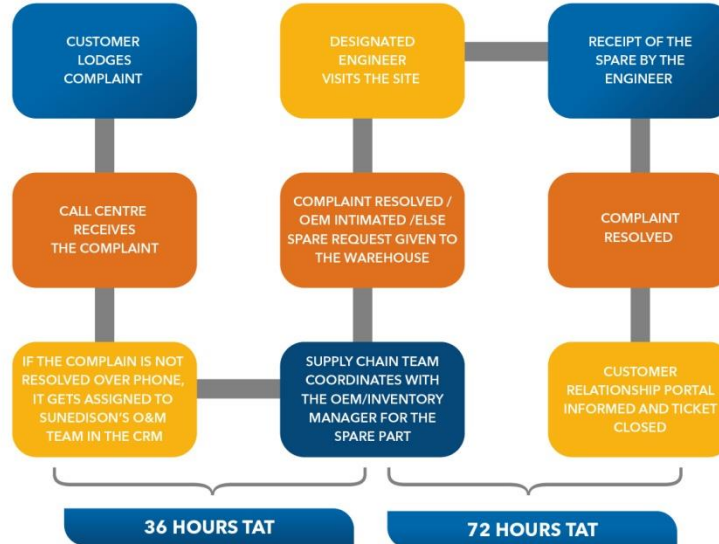




# Business process for distributed asset management



CUSTOMER RELATIONSHIP AUTOMATED





Transforming lives through innovation