EXISTING SOLAR POWER BUSINESS STREAMS

The National Solar Mission is a major initiative of the Government of India and State Governments to promote ecologically sustainable growth while addressing India's energy security challenge. It will also constitute a major contribution by India to the global effort to meet the challenges of climate change.

In launching India's National Action Plan on Climate Change on June 30, 2008, the Prime Minister of India, Dr. Manmohan Singh stated:

"Our vision is to make India's economic development energy-efficient. Over a period of time, we must pioneer a graduated shift from economic activity based on fossil fuels to one based on non-fossil fuels and from reliance on non-renewable and depleting sources of energy to renewable sources of energy. In this strategy, the sun occupies centre-stage, as it should, being literally the original source of all energy. We will pool our scientific, technical and managerial talents, with sufficient financial resources, to develop solar energy as a source of abundant energy to power our economy and to transform the lives of our people. Our success in this Endeavour will change the face of India. It would also enable India to help change the destinies of people around the world."

The Jawaharlal Nehru National Solar Mission was launched on the 11th January, 2010 by the Prime Minister. The Mission has set the ambitious target of deploying 20,000 MW of grid connected solar power by 2022 is aimed at reducing the cost of solar power generation in the country through

(i) long term policy
(ii) large scale deployment goals
(iii) (iii) aggressive R&D and
(iv) Domestic production of critical raw materials, components and products, as a result to achieve grid tariff parity by 2022.

Mission will create an enabling policy framework to achieve this objective and make India a global leader in solar energy.

The aspiration is to ensure large-scale deployment of solar generated power for grid connected as well as distributed and decentralized off-grid provision of commercial energy services. The deployment across the application segments is envisaged as follows:

Sl. No	Application segment	Target for Phase-1 (2010-13)	Target for Phase-2 (2013-17)	Target for Phase-3 2017-22)
1	Solar collectors	7 million square meters	15 million sq. meters	20 million sq. meters
2	Off-grid solar applications	200 MW	1000 MW	2000MW
3	Utility grid power including roof-top	1000-2000 MW	4000-10,000 MW	20,000 MW

There are primarily three schemes for promotion of solar power projects under Phase-I of JNNSM. These are –

i)	5 MW capacity	Solar Photovoltaic
ii)	5 MW to 100 MW capacity	Solar Thermal
iii)	100 KW to 2 MW capacity	Rooftop SPV & Small Power Plants

1) JAWAHAR LAL NEHRU NATIONAL SOLAR MISSION (JNNSM):

SALE OF SOLAR POWER TO UTILITY THROUGH NTPC VIDYUTH VYAPAR NIGAM LTD. (NVVN) UNDER PREFERENTIAL TARIFF WITH LONG TERM PPA (20 to 25 years):

Solar PV & solar thermal Bench mark cost and Tariff:

Year	2010-11 Rs Cr/MW	2011-12 Rs Cr/MW	2012-13 Rs Cr/MW
SOLAR PV	15.20	14.42	10.00
SOLAR THERMAL	14.20	15.00	13.00

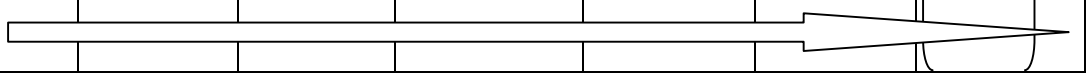
Solar Power Tariff:

Year	2010-11 Rs/KWh	2011-12 Rs/KWh	2012-13 Rs/KWh
SOLAR PV	17.91	15.34	10.39
SOLAR THERMAL	15.31	15.04	12.46

Introduction of competitive bidding (Reverse bidding) has brought down tariffs significantly, much below CERC bench mark tariffs and also lesser than Solar REC Floor Price.

Solar PV and Solar Thermal Tariff- Bidding:

STREAM	NSM-1Part-1	NSM-1 Part-2	Karnataka	Madhya Pradesh	Orissa	Gujarat (State FIT)
Solar Thermal	11.27	-	11.13	-	-	12.91
Solar PV	9.62	8.80	8.34	9.10	7.00	10.37
CERC Tariff	10.39	10.39	10.39	10.39	10.39	10.39
REC Floor Price	9.30	9.30	9.30	9.30	9.30	9.30



Average Bid Tariff

2) STATE GOVERNMENT INITIATIVES:

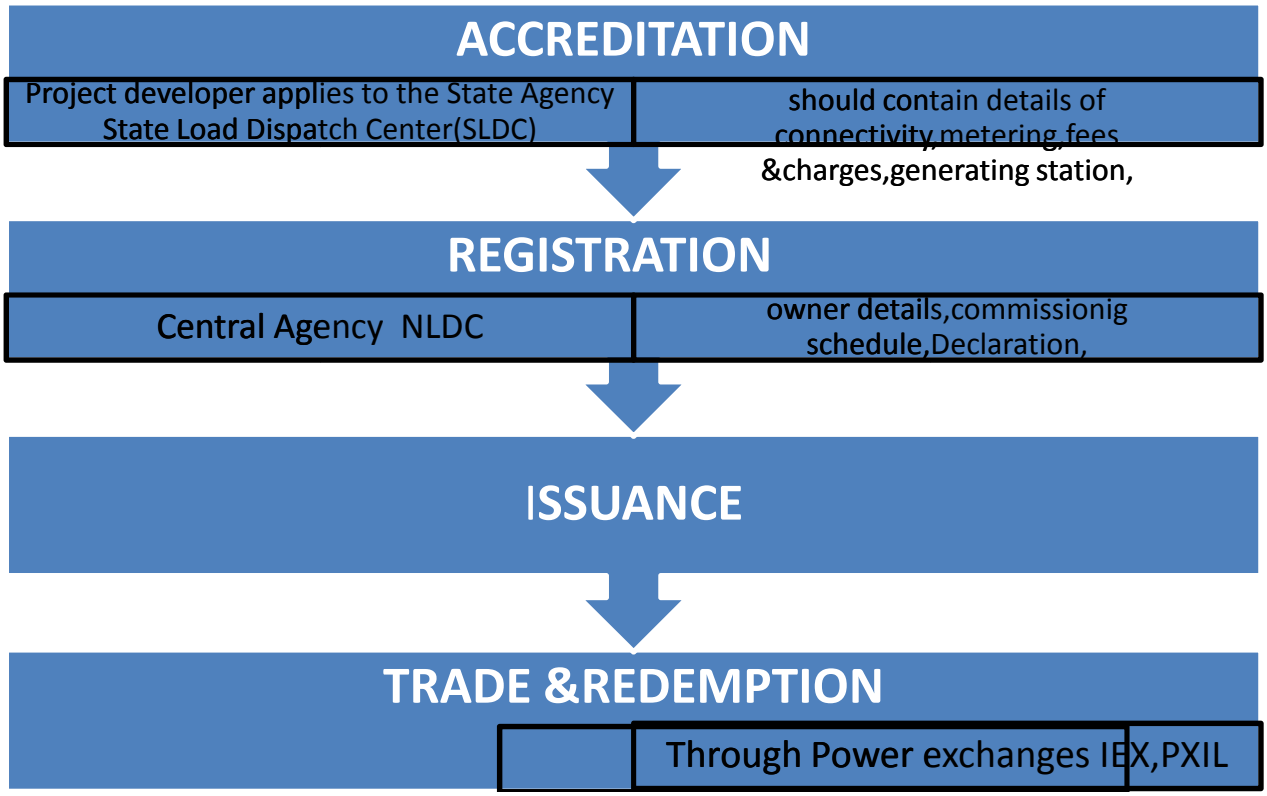
Recently, Andhra Pradesh State Government has floated for 1000 MW solar power under competitive bidding through APTRANSCO.

The responsibility of the successful bidders is to supply solar power to the procurers as per the term and conditions of the PPA to be valid for a period of 25 years.

However, the developers are not eligible, in any way, for seeking R.E.Cs.

3)REC ROUTE (SALES THROUGH POWER EXCHANGES):

REC PROCESS:



Floor and Forbearance Price

(W.e.f. April 2012 to 2016-17)

Category	Non-solar REC (Rs/MWh)	Solar REC (Rs/MWh)
Forbearance Price	3,300.00	13,400.00
Floor Price	1,500.00	9,300.00

The solar power developers will get AVERAGE POOLED POWER PURCHASE (APPPC) COST of utility+REC PRICE, as revenue.

At present, the APPPC of APSPDCL for 2012-13= Rs 3.14/-

4) THIRD PARTY SALES/Open Access:

Solar power sales at mutually agreed price by entering PPA.

The Solar Power Project Developers are eligible for REC benefits.

5) CAPTIVE POWER ROUTE:

Self consumption/Captive use

Not eligible for Promotional wheeling, Banking, & electricity duty exemption.

Eligible for R.E.C.