

Reviving the Solar Mission

An Idea to accelerate the "ENERGY ACCESS to all by 2020" Dream

"Harnessing affordable and low cost energy at Taluka / Village level administration with an authenticate Energy Potential Study with Innovative Funding and Mentoring for sustainability"

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Under the national solar programs, the current installation plans of India stands at 1761 MW with JNNSM target of 20 GW by 2020.

Sunny future or Darker State - The Reality?

Solar is the most secure of all energy sources, since it is abundantly available in India.

The lack of access to energy is a key challenge in India's growth story, with approximately 400 million people having no access to electricity and another 400 million having limited access.

There is a need for serious intervention from various regulatory agencies (government, quasi-government and non-government) to alter current behavior by removing specific policy and other barriers and introducing measures to make solar energy affordable and viable by creating large number of Local Entrepreneurs with Millions of rural Job creation with Energy potential study along with transparent business and financial plans as part of the Policy for sustainability and improved Economy and GDP.

A possible solution: Reaching millions with backward integration of resources

Across India, there are still thousands

of villages with plenty of sun but not enough power. INDIA has 4500 Talukas with 1.5 MU/year/kw generation capacity, thus, there is a huge business potential for Solar PV energy generation based on Decentralized Energy Generation (DEG) of around (4500 x 15 = 62.5 GW) with Millions of rural job creation through new and first generation Entrepreneurs which will ensure uniform growth across the nation, and utilizing the most of the existing grid for this 2 to 4 hours of INFIRM Solar PV energy, without much electrical Substation capacity redundancy. Hence, there is a need to embrace the administrative benefits of Taluka (Taluka is a cluster of villages with its revenue collection administration in INDIA), to attract the Domestic and International Investors to reduce the Cost and Time of Project Development in any State of Indian Union.

However various key problems have been identified today, which are preventing the way forward.

1. The Central Government has Ministry of New and Renewable Energy Dept (MNRE) and the State government has Renewable Energy Dept Ltd (REDL) as their nodal agencies but, none of these agencies have the authenticated information on the potential studies made in Each Taluka .

2. Many International Agencies like EBTC (European Business Technology Centre),

GIZ Germany, kfW, USAID etc provide assistance to the Centre Government through MNRE or DST (Department of Science and Technology), but, the benefits are not reaching to the Village level as one can infer from the Government statement that 40% of Indian Villages do not have access to the Energy.

3. Centre Government makes policies and State Governments implement with enabling policies, riders or restrictions, hence, the domestic and international investors find it difficult to ensure the Investment risk mitigating action plan to offer sustainable solutions.

4. Many private market survey or project survey, technical surveys have been done (both by domestic and international consultants), but in reality the studies are not authenticated by any external agency. UN has already warned on PPP model on infrastructure projects and its quality, which may pose disaster risks, casting a doubt on the present model of Privatization without accountability, which may increase burden on the Common Man.

Furthermore, despite international companies involved through EXIM bank funding, the Solar Thermal Energy plants are delayed to due improper study on DNI (Direct Normal Radiation) or such Irradiation study including the water or HTF availability issues.

5. Government institutions have the

Approval authority through various agencies and the approvals are taking years to be authenticated and passed, which are hampering the growth of Infrastructure.

Many Approved Biomass power projects are not functional despite subsidy given due to improper study and Debt is not paid, hence, huge blow on Debt collection. Poor Debt (not recovered) is around whopping 40 Billion USD!!

Creating transparency In policies and accountability of nodal agencies

1. Every institution and their officers have to be made accountable and responsible for their timely actions through policies framed by MNRE and REDL for the growth and sustainability.

2. Many International Agencies like EBTC (European Business Technology Centre), GIZ Germany, kfW, USAID etc can provide assistance for doing study at each village and advise with responsibility and

accountability to the Centre Government through MNRE or DST (Department of Science and Technology), and such agencies or even better agencies can be hired for taking up studies with local agencies as partners for the Capacity creation and also to have Transparency at the highest level to avoid any concealing (like what is seen in case of Nuclear Power Installations esp the exorbitant Commissioning and Decommissioning costs and Risks of nuclear waste disposal, the real cost of energy per kwh etc)

3. When the study and the market opportunity is made with credentials and uploaded on web sites, the policies made by either Centre Government or / and State Governments implement with enabling policies riders or restrictions, will be checked for correctness and feasibility, sustainability with transparency, so that successive government need not indulge in change of policy, hence, the domestic and international investors will NOT find it difficult to ensure the Investment risk mitigating action plan to offer sustainable solutions.

4. Wherever possible, the business and financial models with energy potential in each taluka shall also to be uploaded to promote new, small and first generation entrepreneurs and also to make the policy makers to realise the impact of policy or its changes, if any, by any successive government and if the change of policy impacts the business model, then, the government can compensate the Project Developers, thus, a sustainable action plan taking care of the force d majeurs can be incorporated in the policies.

5. The Approval agencies must be made accountable with competent people with necessary training and the Energy Potential Study made with business and financial model will enable them to approve with due diligence at their end.

6. Such transparent studies, business and financial model will help Finance institutions to fund due to implied education with accountability by the qualified and learned Study team on open book policy.





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Actions to be taken to create a dynamic growth in this sector:

1) In order to do an extensive and credible study to explore renewable energy potential in each Taluka, State and Central Government need to hire well qualified, credible National and International Consultancies with Video Documentation with GPRS mapping.

The recent disaster in the State Uttarakhand exposed lacuna on the study conducted by various agencies for infrastructure projects in the state.

The costs of the preliminary studies can be recovered in the form of Bid document charges. Thus we can eliminate, the Equity selling proxy promoters, who have access to the power corridor and bid with Net worth Financial capacity, but, not worthy of any Renewable energy promotion in the National Solar Mission wherein a large corporate bought equity from the other bidders and later an investigation had to take place.

2) A lot of data needs to be collated For Power evacuation, as the existing data can't be used. There is a need to know the following:

a) Distance from the Power generation site, which normally comes under REDL (Renewable Energy Development Ltd or such single window agency) i.e where one can put up the plant by undergoing Non Agriculture purpose or REDL has identified land bank, but, how many km is the Substation from these sites, is difficult to ascertain due to patch lands and the distance was over 10 km in certain cases.

b) Whether these substations can accept 20 MW or 10 MW or 5 MW of intermittent Solar PV load (non firm power which at times may create grid related disturbances etc).

Therefore, there is a need to write to agencies involved to come out with a common approach, wherein the policies identify clearly the SLDCs where the Project Developer can upload (evacuate) the energy generated with an in principle approval (with location MAP with transmission distances etc) from SLDC and ESCOM to accept such Renewable

energy as the States are bound to buy the RE under RPO.

3) If the investor or RE Generator has to run around to know the fundamentals, then considerable amount of man hours and money get wasted, pooling for the same data and resources.

A holistic study with authenticated document will solve many of these problems and hasten the project development by reducing time to run around .A Single window agency such as REDL should provide such VITAL information in their bid documents thereby facilitating ease in the flow of information.

4) Further, any new substations are under development, the same with a clearly identified MAP with distances will help the people to understand the grid network to ensure the grid sustainability, reduction in transmission lines and hence the losses can be planned while making the bids, which otherwise will be a wasteful exercise if after PPA the land can't be acquired.

5) A single agency such as REDL should authenticate Solar Irradiation maps, and make it mandatory to achieve the desired CUF and the energy generation firmness while designing the Solar Power Plants.

6) The Biomass availability can also be uploaded with a proper study with type of biomass, so that this can be harnessed too with Hybrid RE generation to ensure the grid stability.

7) Hybrid power Generation will reduce the land acquisition related issues as the capacity increase can be made by using the existing common facilities, thus, boost the capacity through another resource with less investment on the concurrent infrastructure facilities too. Thus, the state gets the much-needed capacity addition with assured kwh supply with less interruptions which will also reduce the Transmission and Distribution losses.

8) Though the Project Developer has to recheck what Govt agency provides the information for his investment safety, but the evacuation related issues, land availability with Capacity can be made

clear from the day 1 to plan

in a more systemic way to plan transmission grid and to educate the farmers on whose land the transmission line has to pass through. This kind of detailed study with analysis will also eliminate in diverting the Water from the Dams to Industry to make many farmers to suffer, which in turn will also throw light on additional water arrangements to be made, which will be additional cost to the system.

Conclusion :

1) With each of 4500 talukas touting its potential to the investors, to finance the infrastructure and develop solar, biomass or hydro energy, India will no longer be energy deficient but an energy surplus country. However to make this dream true, there is a need of accountability in the current policies and administration to bring transparency in the working.

2) Accelerated Depreciation provide to boost RE project development has made huge dent of Indian Economy due to huge loss in tax collection apart from a NON LEVEL Playing field, which avoids the creation of rural entrepreneurs who can't access funding to develop their native Taluka. Capital subsidy provided to Biomass project developers has been a failure as many plants have been closed after availing the Capital subsidy due to non-availability of biomass or increased cost of biomass vis-à-vis tariff signed by them during PPA.

Viability Gap Funding and Accelerated Depreciation are free Equity (i.e public money given to private promoters at once, which will cause the creation of low quality project), hence, shall not be promoted, instead, we propose an INTEREST SUBSIDY to have low cost solar, biomass or wind energy tariff and to be paid only against assured energy generation with good quality equipment with 100% debt funding with complete pledge of the plant to the Financing Agency, till the debt is completely repaid. Thus, we can have sustainable project development through rural, local entrepreneurs with Mentoring as necessary.

Let us SOLARISE with transparent policies with business and finance models to

make entrepreneurs to have sustainable business plans to pay equity and debt for the improvement of the Economy of a COUNTRY. When the COUNTRY does not exist with good economy, then, where from Subsidies come or sought

Key advantages of Interest subsidy:

- a) No risk of FOREX fluctuations as the Funding is in Rupee and only at one point the Hedging is needed, if Government funds the debt through kfw or such low cost international funding agencies. However, the interest subsidy can be paid from NCEF, Green cess, Rural Development fund, Minor irrigation due to irrigation related activities, Rural job creation support funds, Diversion of Diesel subsidy due to less consumption of Diesel or Gas, reduced Kerosene subsidy due to few projects in rural area etc.
- b) Collection of more taxes due to a big NO TO ACCELERATED DEPRECIATION, Viability Gap funding can be diverted to pay the interest subsidy. Nepotism to promote only few companies who

avoid paying tax due to the existing policy guidelines, balance sheet funding to promote few EXIM bank promoted companies, will be eliminated and a level playing field will be created for the uniform infrastructure development in each Taluka.

- c) Holding Project Promoters responsible for 10 to 12 years for energy generation, as no Quick money siphon through Accelerated Depreciation or Capital subsidy or Viability Gap funding, thus, no reselling of projects after taking such wind fall benefits. Thus, a level playing field with the creation of many entrepreneurs with mentoring to pay Equity and Debt without default through transparent business plans.
- d) EXIM bank funds to get business to their country origin products and services, through our proposed Interest subsidy, we will be buying the Indian made goods (if offered at par to International prices) and the Services. Hence, the increase in Industry GDP of Solar PV or other renewable energy projects development.

e) Based on this kind of authenticated and transparent study in Each Village / Taluka of State, the IAS officers (i.e District Collector or SDM) including the state administration shall invite investors to their Taluka / district with such well prepared DPR / studies and it can be made as a measure to promote IAS officers or local Governance of having invited the Investor for the local area growth within the frame work of existing policies or enabling concurrent policies to address the local issues or challenges ■



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