

NOTE ON RICE STRAW STUBBLE MANAGEMENT

1. With the environment & health issue looming at large across North India & NCR, we are yet again at DECISION making point for the country.
2. Govt of India & the states of Punjab, Haryana, UP & Rajasthan together need to pay and create a self sustaining market mechanism for the rice straw management.
3. The crux of the matter is DEMAND side projects to come up for the use of rice straw & create a market pricing mechanism for the farmer to not burn it in the open fields.
4. This can happen with certain short term, medium term and long term goals & targets to be set by Govt of India.
5. Bermaco group, Mr Vini Ahuja has shown the way by setting up a 100% rice straw based power plant in Patiala Punjab which is successfully in operation since 2010 and it is the only such plant in the world. Lessons to be learnt are that 120,000 MT of rice straw is utilised in a controlled environment and hence not burnt in the fields. This plant has been visited by Govt of India (MNRE, MOPNG, Forum of Regulators, CERC committee, Govt of Punjab and Haryana many times in the last decade).
6. A Biomass fuel Management Company **Punjab Renewable Energy Systems Pvt Ltd (PRESPL)**, promoted by Lt Col Monish Ahuja (Retd) has successfully shown the aggregation & storage of rice straw since the last 6xYears. This has been reviewed many times by MNRE, MOPNG, Ministry of Power, Govt of Haryana and Punjab, however, yet to model for replication has been initiated by Govt. **This model is the basis of the solution to the problem and can be replicated by FPOs, Local bodies, Farmers, Other such companies and create the market ecosystem to collect, store, transport and create value for the rice straw and hence STOP its open field burning.**
7. The scale up is required with attention to projects coming up on the demand side & market DEMAND has to be created.

8. Suggestions/ Recommendations:

Short term:

- (a) The 20 Million MT of rice straw can be all utilised to produce 2000 MW of power. Please open this up for global tenders (launch Biomass Mission akin to Solar & Wind Mission).
- (b) The power can be purchased by NTPC as off-take PPA and sold to the the affected states and bundled and sold to consumers.
- (c) There is a huge requirement of Working Capital in short time of 45xDays and this can be met by NTPC / Govt Financial Institutions providing this Working Capital @ Rs 2000 per MT upfront on the aggregation of the rice straw to the collection company. **Costs break-up for each of the activity involved is attached please. Key point to note is that WORKING CAPITAL has to be made available within 45xDays and the conversion to value added product (Power, Ethanol, Bio-CNG, Bio-Fertilizer) can take place over the year.**
- (d) NTPC to set up 100% rice straw based biomass IPP either independently or in PPP mode and hence the finance for such projects can be available, else ENSURE that finance for setting up the projects for 100% rice straw based power projects is made available from banks as PRIORITY SECTOR LENDING and it has to be done.
- (e) Upfront incentive to be provided for person(s) or companies which collect the rice straw and ensure that a favourable market mechanism is established and hence ensure no burning of rice straw in the districts.

Short to Medium term:

- (f) **NTPC:** Setting up of Briquettes manufacturing plants & NTPC to CO-fire Biomass Briquettes up to 10% with their Coal plants. NTPC tenders are already out for the same and

needs to be up-scaled and expedited. As of now this is only for 2xProjects with requirement of approx 1800-2000 MT which is very small.

(g) A BIG BANG announcement of 10% mixing on NATIONAL LEVEL as policy is required and hence create the DEMAND SIDE. This will again create HUGE demand and prevent burning of the rice straw.

(h) Process has been extremely slow with no concern for timing and there could have been some affect in this season which was missed out by NTPC. Let's not waste the opportunity for the next year onwards as well. Setting up of briquetting units will require huge capital and short time period of 5-6 months which can be done if NTPC funds working capital and does demand contracts on minimum 5xYears basis, so that capital can be mobilised.

(j) Storage of the briquettes should be in NTPC scope, as this can be stored alongside the coal storage yards, since there will be a continuous supply from the briquettes manufacturer.

(k) Slowly BIS standards for briquettes can be set up and hence demand side will take care of quantity, quality and price.

(l) Power to be purchased by NTPC and PTC for & on behalf of Govt of India and sell the power as bundled power to the 7-8 states of North India. The preferential tariff as given by CERC to be adopted for the initial 2000 MW.

(m) FUNDING: NTPC can provide Mezzanine Equity which can be returned over a long term period, thus enabling the project developer to raise debt for the projects. Debt to be provided by REC/ IREDA/PFS/PFC and other banking institutions.

(n) MNRE to launch the long pending BIOENERGY MISSION and Hon'ble PM can announce the scheme. This will bring International funding into the bio-energy sector in India in a big way and reduce the cost of power generation.

Long term:

(o) Bio-Ethanol plants to be set up by OMCs which is currently underway and it is a slower process.

Off-take is by the OMC itself for its blending program with petrol (again here the consumer is bound to pay the higher price). The Bio-ethanol from agri-residues to be given a higher preferential price and incentive so that both public and private sector sets up these projects.

(p) **EXPORT:** Open up the export of rice straw made briquettes and pellets, thus there will be an opening of the demand side and this can be exported to the global markets which are paying a much higher price for biomass based power and heating system energy.

9. Technology Development Board, under Ministry of Science and Technology has come out with a call for technologies & processes for utilisation of rice straw in Jan 2017. Till now no funds have been disbursed under this scheme. Rice straw supply chain management and process innovation to be considered as technology innovation and enhancement and such projects to be funded by Govt to bring more awareness and in this process. Low cost funding support will enhance the process to stop burning in the fields. Action point for Ministry of Science & Technology.

10. MISSION mode each of these is taken up under a task force & project implementation takes place, I am sanguine that positive impact will be seen over the next 3-5 years.

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