

F.No. 9-8/2005-EE-5(MDM)

Government of India

Ministry of Human Resource Development
Department of Elementary Education & Literacy
(Mid-day Meal Division)

24/7/05
19/12

Shastri Bhawan , New Delhi,
Dated 7.12.2005.

To

Smt. Mona Sharma,
Commissioner-cum-Secretary,
Government of Orissa,
Department of Women & Child Development,
Secretariat,
Bhubaneswar-751001

Subject:- Possibility of using Solid Biomass Fired Efficient Furnace (Sanjha Chullah) under the Mid-Day Meal Programme.

Sir,

I am directed to forward herewith a copy of D.O letter No.1723/VIP(MOS)(IC)S&T&OD dated 24th August, 2005 from Shri Kapil Sibal, Minister of State for Science & Technology and Ocean Development addressed to Minister of Human Resource Development on the subject mentioned above and letter dated 7th October, 2005 from Shri Sanjay Singh , Scientist 'F', Technology Information, Forecasting and Assessment Council, New Delhi to this Department together with a enclosures thereto to explore the possibility of using Solid Biomass Fired Efficient Furnace (Sanjha Chullah) and to request you to support as far as possible, Solid Biomass Fired Efficient Furnace (Sanjha Chullah) in community kitchens under the Mid-Day Meal Scheme. It is, however, clarified here that apart from the Central Assistance presently provided to State/UT Governments @ Rs.1.00 per child per school day as per provisions of NP-NSPE, 2004, any other budgetary support for this purpose under the MDM Scheme would not be available.

Yours faithfully,

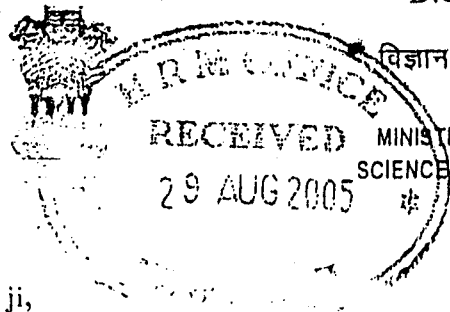
(S.S. Ahluwalia)

Under Secretary to the Govt of India

Tel. No. 23073780

encls: as above.

कापल सिबल
KAPIL SIBAL



D.O.No. 723/VIP/MOS(IC)S&T&OD
राज्य मंत्री (स्वतंत्र प्रभार)
विज्ञान एवं प्रौद्योगिकी तथा महासागर विकास
भारत सरकार, नई दिल्ली
MINISTER OF STATE (INDEPENDENT CHARGE) FOR
SCIENCE & TECHNOLOGY AND OCEAN DEVELOPMENT
GOVERNMENT OF INDIA,
NEW DELHI
24 August 2005

Dear Shri Arjun Singh ji,

I take this opportunity to seek your patronage for a novel environment-friendly technology supported by the Technology Information, Forecasting & Assessment Council (TIFAC), Department of Science & Technology under the Technopreneur Promotion Programme (TePP) of the Ministry of Science and Technology.

Under this Programme Shri Ramesh Kumar Nibhoria, Chandigarh has successfully developed a "Solid Biomass Fired Efficient Furnace (SANJHA CHULLAH)". The furnace is useful for places like canteens, community kitchens etc. and it uses briquettes made from biomass of agricultural wastes as fuel.

Biomass is a significant alternative source of energy for India, available in plenty and it has been used in this innovation to replace normally highly inefficient combustion of firewood, or costlier LPG burning systems.

The innovator has installed such systems in school canteens of several Jawahar Novadaya Vidyalayas, and we understand that the school authorities have experienced significant amount of savings as compared to LPG. Such efficient furnace would encourage use of biomass briquettes, which in turn will help curbing the use of fossil fuels like LPG. It also gives an option for utilization of locally available biomass/agro wastes in an environment-friendly manner.

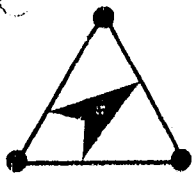
Recently the Ashden Foundation of Britain has recognized this innovation and conferred on Shri Nibhoria the prestigious Ashden Award (which is also known as the "Green Oscar") for the year 2005.

In the context of growing concern over environmental pollution and increasing petroleum prices, we need to encourage such systems. Probably schools are the best places for spreading awareness about such environment-friendly technologies. Your support in encouraging adopting such biomass furnaces in Jawahar Navodaya Vidyalayas will go a long way towards energy conservation and curbing environmental pollution.

With kind regards,

Yours sincerely,
Kapil Sibal
(KAPIL SIBAL)

Shri Arjun Singh Ji,
Hon'ble Minister for Human Resource Development
Shastri Bhawan
New Delhi.



प्रौद्योगिकी सूचना, पूर्वानुमान एवं मूल्यांकन परिषद्

(विज्ञान एवं प्रौद्योगिकी विभाग)

विश्वकर्मा भवन, ए-ब्लॉक, शाहीद जीत सिंह मार्ग, नई दिल्ली-110 016 (भारत)

TECHNOLOGY INFORMATION, FORECASTING AND ASSESSMENT COUNCIL (TIFAC)

(DEPARTMENT OF SCIENCE AND TECHNOLOGY)

VISHWAKARMA BHAVAN, A-WING, SHAHEED JEET SINGH MARG, NEW DELHI-110 016 (INDIA)

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दिनांक/Date

Sanjay Singh

Scientist 'F'

Ph. 91-11-26864259

7th October 2005

Subject: Solid Biomass Fired Efficient Furnace (Sanjha Chullah).

Dear Sir,

This is in reference to your office Memorandum No. F. 9-8/2005-EE.5 (MDM) dated 26th September 2005 addressed to Ministry of Science and Technology & Ocean Development.

As desired please find **enclosed** the information on Solid Biomass Fired Efficient Furnace (Sanjha Chullah).

Thanking you,

Yours sincerely

(Sanjay Singh)

Shri S. S. Ahluwalia

Under Secretary to the Government of India

Ministry of Human Resource Development

Deptt. Of Elementary Education & Literacy

Shastri Bhawan, New Delhi - 110001

Pl. sent up
within a week.

AD (m/pm) 24/10/05
24/10/05
~~24/10/05~~

Dy No 731/mom/05
10/11/05

Information on Solid Biomass Fired Furnace

Cost of the Solid Biomass Fired Efficient Furnace

As informed by the innovator, the cost of the furnace is Rs.1.34 lakh

Details regarding capacity, quantity etc.

The furnace has been used in Navodaya Vidyalayas for cooking for about 500 students.

Biomass briquettes can be fired into the furnace @15 kg/ hr. Calorific value of briquettes are around 4000 kcal/ kg. As per the feedback obtained from the Jawahar Navodaya Vidyalayas where it has been installed, about 150 kg of briquettes is required per day. Previously, these schools required 3 LPG cylinders per day.

Source from where the furnace can be procured:

The furnace can be procured from the innovator whose address is given below:

Mr. Ramesh K Nibhoria
3521, Sector 38-D, Chandigarh-160 036
Ph: 09815609301
Email: nibhoria@id.eth.net

Source of supply of raw material:

Fuel briquettes are available from briquetting plants all over India. There is large number of briquetting plants all over India. M/s hi-tech Agro Projects Pvt. Ltd., the largest supplier of briquetting plants, has so far supplied more than 80 briquetting plants. There are three other major briquetting plant supplier. Total number of briquetting plants in India expected to be more than 100 and these are located in various states. The average capacity of the plants is 100-200 T/ month.

A list of briquetting plants (those supplied by M/s Hi-Tech Agro Projects) is attached herewith.

Any other details:

A detailed write-up including techno-economic analysis, efficiency and emission aspects is attached at Annexure-I.

Annexure-I

1. Introduction:

Biomass is a significant alternative source of energy for India. However there has not been enough efforts towards development of efficient combustion system for biomass in medium scale, like community kitchens etc. Normally highly inefficient combustion of firewood, or costlier LPG burning systems is used.

2. Biomass Furnace developed with TePP support:

Under the Technopreneur Promotion Programme (TePP) of the Ministry of Science & Technology, such an efficient furnace for community kitchens has been developed by Mr. Ramesh Kumar Nibhoria.

Innovator's name & address:

Mr. Ramesh K Nibhoria
3521, Sector 38-D, Chandigarh-160 036
Ph: 09815609301
Email: nibhoria@id.eth.net

The system developed by Mr. Nibhoria has taken care of the special requirements of primary and secondary air distributions for optimum combustion, optimum utilization of heat generated in different cooking chambers and also adequate insulation. Biomass briquette is used as fuel. The innovator has installed several such systems in school canteens, and the school authorities have experienced significant amount of savings as compared to LPG. Such efficient furnace would encourage use of biomass briquettes, which in turn will help curbing the use of fossil fuels like LPG. It also gives an option for utilization of locally available biomass/ agrowastes in an environment-friendly manner.

The furnace has the following features:

- Electric blower with regulator for providing primary and secondary hot air for complete and faster combustion.
- Provision of heat exchanger in hot flue gas path to get hot air.
- Provision of fire brick and glass wool insulation for less emission of heat from furnace body.
- Ash pot to hold ash more than 6 hours
- Temperature gauge in the flue gas chimney and provision of removable cast iron grate
- A timer to regulate primary and secondary air suitably so as to ensure proper combustion of volatiles considering that volatiles are significant constituents of biomass fuels.

Cooking with LPG stove				
No. of Cylinders/ day	LPG amount per cylinder (kg)	Total amount of LPG consumed	Cal Value of LPG (kcal/kg)	Total heat used for cooking per day (kcal)
3	14.2	42.6	12000	511200

Cooking with Sanjha Chullah using briquettes			
Amount of briquette used per day (kg)	Cal value of briquettes (kcal/kg)	Total heat used for cooking per day (kcal)	Efficiency as compared to LPG stoves used
150	4000	600000	85.2%

6. Emission characteristics:

Biomass based fuels are considered as carbon neutral. A test on the emission characteristics of the unit working at Jawhar Navodaya Vidyalaya, District – Fatehgarh Sahib, Punjab was carried out. Particulate matter emission was found to be negligible (37 mg/m^3). This emission is even better than the most efficient boilers.

7. Availability of biomass briquettes:

There is large number of briquetting plants all over India. M/s hi-tech Agro Projects Pvt. Ltd., the largest supplier of briquetting plants, has so far supplied more than 80 plants. There are three other major briquetting plant supplier. Total number of briquetting plants in India is expected to be more than 100 and these are located in various states. The average capacity of such plant is 200 T/month, i.e. enough to feed much more than 10 such furnaces.

8. Dissemination of the technology:

Mr. Nibhoria further reported installation of more Sanjha Chullahs in a total of 15 Navodaya Vidyalayas Punjab, Haryana and Himachal Pradesh.

9. Suggestion for further commercialization

The furnace has the potential to be used in kitchens of schools, religious places, jails etc. Incorporation of further improvements based on user feedbacks is also necessary. Such installations will go a long way towards energy conservation and curbing environmental pollution.

Dr. VVN Kishore of Tata Energy Research Institute and Shri MS Jaggi of Punjab State Council of Science & Technology reviewed and guided the project for the development of the furnace.

3. Successful completion and further achievements:

The innovator installed the prototype at Jawahar Navodaya Vidyalaya, Chandigarh. The prototype ran successfully in actual working condition and has been in use since installation. The school authority and the persons using it expressed satisfaction over its performance to the committee members. It was also informed that the replacement of LPG resulted in over 50% cost savings to the school. Subsequently, it has been installed at 15 nos. of Jawhar Navodaya Vidyalayas.

Mr. Nibhoria was conferred up on the prestigious Ashden Awards (know as Green Oscar) for 2005.

4. Economics:

As informed by the entrepreneur, currently each biomass fired furnace costs Rs.1.34 lakhs.

Average fuel consumption:

About 150-kg/ day of briquettes, replacing 3 numbers of LPG cylinders per day. The price of briquette is in the range of Rs.2.50 – Rs.3.00 per kg.

Electrical energy consumption:

Number of blower fans	Rating	Working hour/ day	Electricity consumption/ day	Cost
3	120 W	5 hr	1800 kWhr = 1.8 units	~Rs.10/ day

Thus average saving per day Rs.450-500/-.

The pay back period is about **10 months**.

5. Estimation of the energy efficiency:

The following estimation was made based on the experience of Navodaya Vidyalayas

Briquetting Press

<u>S. NO.</u>	<u>NAME OF CLIENTS (POSTAL ADDRESS)</u>	<u>FACTORY ADDRESS & CST NO.</u>	<u>CONTACT PERSON</u>	<u>STD.</u>	<u>TELEPHONE NO.</u>	<u>NO. OF M/cs.</u>
1	Anand Fuel (P) Ltd. 24A, Kalyan Nagar Society, Near Bhut Nath temple Opp. Bahaddin College Junagarh 362001 (Guj.)	Anand Fuel (P) Ltd. Koyali Fatak, P.O. Shapur -362205 Dist. Junagarh (Guj.)	Mr. Jitu Bhai		285 2670715, 2676589 (B) 2872 257416, 257616 (F) 9825220016	7 1
2	Agni Briquettes Fuels Ind. Plot No. 40-C, KIADB B. Kattihally Ind. Area Hassan (Karnataka)		Mr. Venkatswamy		8172 240439(B) 240376(O) 9448140376	3
3	Azure Fuels (P) Ltd. 599, Shopping Comple Agarsen Market P.O. Sangaria, Dist. Hanumangarh (Raj.)	Azure Fuels (P) Ltd. Vill.-Manaksar P.O. Sangaria, Dist. Hanumangarh (Raj.)	Mr. Kapil Mr. Parvinder		1499 282491 (F) 220646, 220253(O) 220724, 220252 (B)	2
4	Alternative Energy Systems & Devices 11, Jagan Nath Nagar P.O. Deopur, Dist. Dhule (Mah.)	Alternative Energy Systems & Devices D-10, MIDC, Awadhan Dist. Dhule (Mah.)	Dr. R.D. Patel		2562 224316(B) 239309(F) 9422296310	1
5	Adhitya Agro Fuels c/o Mr. D. Ravindran 16/403, Oorachikottai P.O. K.N. Palayam Taluk Bhavani, Dist. Erode (T.N.)	Adhitya Agro Fuels Mettukadu Thotam, P.O. Krasarimangalam Chittar, Taluk Bhavani, Dist. Erode (TN)	Mr. D. Ravindran		4256 239141 (F) 234113(B) 9842790931	1
6	Agri Carb (P) Ltd. A-4, Jawahar Nagar, "A" Colony, Tirunelveli (TN)	Agri Carb (P) Ltd. Vill. Thottakudi, via Maruthakulam Taluk Nanguneri, Tirunelveli (TN)	Mr. R. Devdass		462 2552092, 2552529	1
7	Aditya Agro Ind. 426, Vakil Wadi, Govavasi sadan, Nasik (Mah.)	Precision Tools, C/o Aditya STD & PCO, P.O. Loni, Dt. Ahmednagar (Mah)	Mr. Anurudh		253 2573057, 2578746 (B) 2422 276165, 273611 (F)	1
8	Amruth Bhagini Mandal c/o Warna Dudh Co-op Society Ltd. Amruth Nagar, T K Nagar, P.O. Warna Nagar Tk. Panhala, dt. Kolhapur (Mah.)	Amruth Bhagini Mandal Amruth Nagar, T K Nagar, P.O. Warna Nagar Tk. Panhala, dt. Kolhapur (Mah.)	Mr. C.N. Gulave		2328 259158 (B) 222662, 222719 (O) 224181 to 86 (O) 9822500287	1
9	Aggarwal Fuels c/o Leela Brothers Chopasni Road, Jodhpur (Raj.)	Aggarwal Fuels H-2, 109, Phase I, Sangaria Ind. Area, Jodhpur (Raj.)	Mr. Surender Mr. Umesh		9414128049 9828213488 291 3092856 (F)	1
10	B.P. Products Panachikal House, P.O. Pulluvazhi Perumbavoor, Dt. Ernakulam (Kerala)	B.P. Products P.O. Pulluvazhi, Taluk Kunnathunadu Perumbavoor, Dt. Ernakulam (Kerala)	Mr. Shijo Jose		484 2528462 (B) 3278015 (F) 9846121962	1

11 Bio Fuels Products, c/o Mr.Suresh Shih B-1, Shweta apartment 221, Tara Bar Park, Kolhapur (Mah.)	Bio Fuels Products, Vill. Murshnee, Unchhagaon, Hapri Road, Dist. Kolhapur (Mah.)	Mr. Suresh Bhai	9822044860 231 2656595,5683559 @ 3092315 (F)	1
12 Bajrang Kr. Satya Prakash Saboo Jhalawar Road Baran (Raj.) 325205		Mr.Bajrang Saboo Mr.Sudharshan Saboo	7453 230213,230243 (O) 230269 @ 231501,02,03 (F)	3
13 Bharath Agro Fuels, Samayatharanur, P.O. Mukasipudur Poonachi, Tk.Bhavani, Dist.Erode (TN)			4256 261831@ 257545(F)	1
14 Batti Briquettes c/o Sri Sai Finance, Bangalore Road Challakere (Karnataka) 577522		Mr. Basava raj Mr.B.Umash	8195 223195(O) 250361(F) 223286@	1
15 Shree Balaji Industries, Plot No.22-25, Chht. Sahu Co-op.Ind.Estate Shirol, Dist.Kolhapur (Mah.)		Mr.Prathiviraj Mr.Rahul Yadav	9823036435 9423270514 2322 236435 @	1
16 Crown Ceramics c/o Vishal Bhai Manoj Bhai A-92, Chanakaya Apprtment, P.O. Rajkot (GJ.)	Crown Ceramics National Highway, Near Railway Station Wankaner, Dist.Rajkot (Guj.)	Mr.Kint Bhai	2828 220512,220783 (F) 281 2441073 @ 9825216554	3
17 Cadila Fuels Industries opp. Empire Floor Mill, Vill. Shapar (Veraval) Dist. Rajkot (Guj.)	Capital Industries 112, Hirapanna Complex, Dr.Yagnik Road, Rajkot (Guj.)	Mr. Praful Bhai Mr. Manshuk Bhai	9824506126 9 825,413,352 281 5541057 (O)	2
18 Deepak Industries Plot No.33/4, Kanazari, Ta.Vanthali Dist.Junagarh (Guj.)		Mr.Deepak Bhai Mr.Mansukh Bhai	9426077144 9426992972	
19 Ecofree Agro Fuel Ind. c/o Mr.VRP Senthil 6,Jameenuthkuli Main Road, Pollachi Ciombatore - 2 (TN)	Ecofree Agro Fuel Ind. Shed No.2, SIDCO Ind.Estate P.O. Mallumichampatti Dist. Ciombatore (TN)	Mr.VRP Senthil	422 2422097 9843080506	1
20 Gayathri Bio Fuels (P) Ltd. Gayathri Krupa, Near Market Yard Banglore Road Challakere (Karnaka)	Gayathri Bio Fuels (P) Ltd. Vill.Nagaramgere Banglore Road Challakere (Karnaka)	Mr. N.Sudhakar	8195 222314,223736 (F) 222350 @ 9845283086	3
21 Green Earth Bio Fuels 689/3, Udyam bagh Belgaum 590008 (Karnataka)		Mr.P.Patel	831 2441990,2440753 (F) 2441047 @	1
22 Girraj Briquette Plant	Girraj Briquette Plant Vill. Nepari, The.Kailarash Dist.Morena (MP)	Mr.Ashok Sharma	7532 222738 @ 9827008394	1

34 M R Fuels (P) Ltd. c/o Kashmiri Lal Mahinder Pal Anaz Mandi, P.O. Maur Mandi Dist. Bhatinda (PB)	M R Fuels (P) Ltd Vill. Ramnagar, Bhatinda Road P.O. Maur Mandi Dist. Bhatinda (PB)	Mr. Surendra	1655 230913 (F) 230413, 230450 @ 9417230913	4
35 Shri Murugan Agro Fuels 28, Naicker Street, P.O. Kollam Palayam Dist. Erode (TN)	Shri Murugan Agro Fuels Vill. Malayakara Palayam, P.O. Periyapuliya Main Road, Dist. Erode (TN)	Mr. C. Sekharan	424 2535732 (O) 2253832 (R)	1
35 Mahavir Snquettes Ind. c/o Dr. Darshan Pal Bansal Puraa Vihar, Opp Dimple Cinema Near Sachdeva Nursing Home P.O. Jagadhari, Dist. Yamuna Nagar (HR.)	Manavir Snquettes Ind. Vill. Cheen, Near Sabhanwal Brick Ind. Dist. Ambala (Haryana)	Dr. Darshan Pal	1732 231838, 234064 @ 1731 278300 (F)	2
37 Majha Energy Centre	Majha Energy Centre A-1, Inder Ind. Estate, Mehta Road, Amritsar (PB) CST - 1560415, DT. 25/03/87	Mr. M. S. Dhanju	183 2231456, 2230299 (O)	1
38 Nitin Bio Coals C/o Prakash Textile Printery Behind Oil Mill, Nayagarh Main Road Via - Jetpur, Dist. Rajkot (GUJ.)	Nitin Bio Coals Opp. Junagarh Wayer Pumping Station, K.m. Brothers Compound, KHADIA Dist. Junagarh (Guj.) CST - GUJ-6670292, DT. 31/12/90	Mr. Kishore Bhai Mr. Rakshesh Bhai	2823 220544, 220944 (O) 220912, 223212 @ 9825220544	2
39 National Fuels Products 10/201, Teen Batti, Char Rasta P.O. Ichalkaranji, Dist. Kolhapur (Mah.)	National Fuels Products Gat No. 543, P.O. Hatkanangale, Dist. Kolhapur (Mah.) CST - 416109-C-93, DT. 19/09/97	Mr. J. P. Poddar	230 2421474, 2433983 (O) 2427631 @	1
40 Nimala Industries c/o Sri Channabasaveswara Home Ind. Plot No. 41, 1st Phase, KIADB Ind. Area, Antharasanahalli, P.O. Tumkur (Kar.)	Nimala Industries Plot No. 77, 1st Phase, KIADB Ind. Area, Antharasanahalli, P.O. Tumkur (Kar.)	Mr. Channabasavaiah	816 2211389 @ 2280214 (F) 9448080214	1 1
41 Natural Agro Energy Products, c/o Mr. Muru Bhai Odadra "Deep Jyoti", Maha Laxmi Society, Near Girnar Society, Moti Bagh, Junagarh (Guj.)	Natural Agro Energy Products, Dhoraji Road, Near Vinay Solvent, Vill. Sukhpur, Dist. Junagarh (Guj.)	Mr. Muru Bhai	9825221571 285 2680610 (F) 2670384 @	2
42 Ocha Pine Fuels (P) Ltd. 16 to 19, Ind Area, Phase II P.O. Nagrota Bhagwan, Dist. Kangra (HP)		Mr. A.N. Dhanush	1892 253810 (F) 252139 @	1
43 Pratap Industries c/o Krishana Weight Bridge Bhagwati Mill Compound, Jadeshwar Road P.O. Jam Khambhalia, Dist. JamNagar (Guj.)	Pratap Industries Plot No. 15 & 16, GIDC, Salaya Road, P.O. Jam Khambhalia, Dist. JamNagar (Guj.)	Mr. Sachin Bhai	2833 235775, 234214 (O) 234247 @ 9825214247	8
44 Punjabi Agro Energy Centre 163-D, Model Town, Patiala (PB)	Punjabi Agro Energy Centre Vill. Baran Dist. Patiala (PB)	Mr. Amrik Singh	175 2215498 @ 1766 272201 (F)	1

45	Punjab Hydro Carbon & Products Khosa Dal Singh Road, Vill.-Sadhuwala P.O.Talwandi Bhai, Dt. Bhatinda (PB)		Mr. Avtar Singh	1632 241227,241366(R)	2
46	Shree Rajkot Lodhika Shakan Khand sangh L 29/33, Karampara Road, Shankar Triveni, Behind Bus Stand, Rajkot (Guj.)	Shree Rajkot Lodhika Shakan Khand sangh L P. O. Kasturbadham -360020 Dist. Rajkot (Guj.)	Mr. Mailabh Bhai	261 2228175,2228414 (O)	1
47	Ram Krishna Bio Coals Ind. c/o Mr. P. N. Patel Mahalaami Street, Danapith Junagarh (Guj.)	Ram Krishna Bio Coals Ind. Dhoraji Road, Opp Vinay Solvent, Vill. Makhiyala, P. O. Junagarh (Guj.) CST - GUU-6670616, DT. 15/12/95	Mr. Nilesh Bhai	265 2652577 @ 2660568 (F) 9824249676	4
48	Raj Fuels & Feed c/o Paras Mal Kothari, Dara ka Bas, opp. Chief Minister Mr. Ashok Ghanlot House Maha Mandir, P.O. Jodhpur (Raj.)	Raj Fuels & Feed F 22/A, Mandore Ind. Area, Jodhpur (Raj.)	Mr. Raj Kr. Dugar	141 3117500	1
49	Rathi Fuels c/o Garg, 78, Bank Colony, Near Chahal Circle Sri Ganga Nagar (Raj.)	Rathi Fuels E-342/343, Phase II, RIICO, Udyog Nagar Sri Ganga Nagar (Raj.)	Mr. Kailash Rathi	154 2420558 @ 2494928 (F)	2
50	Ramit Bio Coals C/o Prakash Textile Printery Behind Oil Mill, Navagarh Main Road Via - Jetpur, Dist. Rajkot (GUJ.)	Ramit Bio Coals Opp. Junagarh Wayer Pumping Station, K.m. Brothers Compound, KHADIA Dist. Junagarh (Guj.)	Mr. Kishore Bhai Mr. Rakshesh Bhai	2823 220544,220944 (O) 220912,223212 @ 9825220544	4
51	Siddhrtha Fuels 406, Hukam Singh Road Amritsar (PB)	Siddhrtha Fuels Valla Bypass, Batala Road Amritsar (PB)	Mr. Amrish Mahajan	183 2263527 (F) 2263468 (O) 2426446,2246447 (R)	2
52	Sri Nivasa Khadi Gram. Sangh Park Road, Gandhi Nagar P.O. Challakere (Kar)	Sri Nivasa Khadi Gram. Sangh Plot No.3B, KIADB Ind. Area, Kekegote, P. O. Chitradurga	Mr. Girish Mr. hippeswamy	8195 223004 @ 230609 @	1
53	Swastik Fuels c/o Mr. Harish Arora Sunder Nagari, Gali No.11, 1st Cross Abhohar (PB)	Swastik Fuels Vill. Saidwali, The. Abhohar Dist. Ferozpur (PB)	Mr. Sanjeev Mr. Harish	1634 227770@ 226782 @ 9814469770, 254969 (F)	3
54	Saboka Fuels (P) Ltd. c/o Kundan Lal Tarsen Chand Main Bazar, P. O. Talwandi Saboo Dist. Bhatinda (PB)	Saboka Fuels (P) Ltd. Vill. Talwandi Saboo, Dist. Bhatinda (PB)	Mr. Tarsen	1655 220233 (O) 220216 @	2
55	Sourastra Industries Jadeshwarr Road, P. O. Wankaner, Dist. Rajkot (Guj.)		Mr. Chirag Bhai	2628 220011 (O) 9825374099	1
56	Salasar Balaji Briquetting Ind. c/o Manju Kirana Store, Near Police Post Bara Nata, P. O. Jodhpur (Raj.)	Salasar Balaji Briquetting Ind. RIICO Ind. Area, Jodhpur (Raj.)	Mr. Amar Chand	9414217028	1

	c/o Saraswati Krishi Udyog, Karnal Road, P.O.Assandh, Dt.Jind (Hr.)		Mr. Satpal Garg Mr. Krishan Garg	1749 278250,278612(O) 278620@ 278660(F)	1
58	SUF Rubbers F-154,Udyog Nagar Sri Ganganagar (Raj.)		Mr. Pawan Singla	154 2429042, 2428764	1
59	Surya Agro Energy Products c/o Shri Dhan Laxmi Sizing Ind. 22/225, Ganesh Nagar, Gali No.6, Ganga nag Dist.Kolhapur (Mah.) P.O. Ichalkaranji (Mah.)	Surya Agro Energy Products Vill.Tardai,	Mr. Abhay Mr. Sanjay	230 2440152 @ 9422044814 9422044730	2
60	Shri Sai Nath Ind. Plot No.9 to 13, Chatrapati Shahu Co-op Ind.Area P.O. Shirol, Dt. Kolhapur (Mah.)		Mr. Askok Tare Mr. Avinash	2322 221417 (F) 2237127 @ 9822602811	3
61	Shiv Shakti Bio Cools Bhaini Majra, karnal Road, Kaithal -136027 (Hr.)		Mr.Madhu Sudan	1746 226270(O) 224443,223876@	2
62	Shivam Industries c/o H.P. Electricals 1, Deep Mandir Complex, Vanzara Chowk, M.G.Road, Junagarh -362001 (Guj.)	Shivam Industries Bye Pass Road, Opp.Hingraj Hotel Vill. Saragwada, Dist.Junagarh (Guj.)	Mr.Chandresh bhai	9825850625 285 3090629(F) 2653889,2657793 (S)	2
63	Shreenathji Whitecoal Ind. Sultanbad (Khambhala), Tal.Manavadar Near Yatva Petrol Pump, Dist.Junagarh (Guj.)	Shreenathji Whitecoal Ind.	Mr.Joyesh Bhai	9825074690 2827 287220,287742 (O)	2
64	Sunil Shekar s/o Shri Shiv Kumar 66/4, Jagrati Vihar, Meerut (U.P.)		Mr.Sunil Mr.Ashu	9837493165 9412432923	1
65	Shri Sanwariya Enterprises F-12, Mandore Ind.Area, 9th Mile, Nagaur Road, Jodhpur (Raj.)		Mr.Kundan Gandhi Mr.Ram Vilash Mr.Jeth mal	291 3110336 3100339 9829172693	1
66	Shree Bio Fuels Jodhapura, Sagar Tall Gwalior (MP)	Mr.Ajay Bhonsle 771, Kailash Vihar, City Centre Gwalior (MP)	Mr.Ajay Bhonsle	9893054433 751 3090357 @	1
77	Shruti Briketing Industries, 106, Sondarda, Kesod (sorath) Dist.Junagarh (Guj.)	Maruti Enterprises Shop No.80, Sarad Chowk, Haveli Gali Kesod, Dist.Junagarh	Mr.Kanti Bhai Mr. Vipin Bhai	9427243107 9427243106 2871 231078(O), 237625@	2
68	Travancore Bio Fuels PMC - 11/297, Royan Puram P.O.Perumbavoor, Dt.Ernakulam (Kerala)		Mr. C.Y.Meeran	484 25269006,07,259209 9846023606	4
69	Vijay Ind. Varla Road, P.O. Upleta Dist. Rajkot (Guj.)		Mr.Kanti Bhai	2826 220835 (F) 2824 220968 @	2
70	Vishal Briquettes (P) Ltd. 1603/1 1st Floor, Giverdhan Chamber Dhabhan Bhagal, Nadiad (Guj.)	Vishal Briquettes (P) Ltd. Mehamdabad Road, Behind Water Tank Vill. Kamla, Dist.Nadiad (Guj.)	Mr. Ketan Patel	268 268130 (O), 2569215 221676 @ 9825280228	2

71 Vasal Agro Products (P) Ltd. c/o Chopra Studio Near Railway Station & P.N.B. Jalandhar (PB)	Vasal Agro Products (P) Ltd. c/o Raghav Charam kanta Hazipur Road, P.o. Dasua Dist. Hoshiyar Pur (PB)	Mr. Sanjeev	1883 285073 (S) 285170 286213 (Kanta)	2
72 Ved Agro Fuels Ind. c/o Mr. Ved pal Choudhary 88, M.C Road, Ward No 1, Loharu Road, P.O. Charkhi Dadri, Dt. Bhiwani (Hr.)		Mr. Jasbinder	1250 220379 (S) 221471 (F) 9812287422	1
73 Vikram Bio Fuels c/o Vikram Choudhary 916/24, Mision Road, Opp. Co-op bank Sonepat (Hr.)	Vikram Bio Fuels Tazpur Road, Vill. Murthal Sonepat (Hr.)	Mr. Vikram	130 2241030 (S)	1
74 Vinod Bio Coals Ind. 185/5, Gandhi Nagar, P.O.Jind (Hr.)	Vinod Bio Coals Ind. Vill.Jhangaklam, P.O.Jind (Hr.)	Mr. Vinod Jain	1681 257058,251905(S) 233326(F)	2
75 Vinayaka Bio Fuels P.O. Mannam, N.Parur - 683520 Parumbavoor, Dt. Emakulam (Kerala)		Mr. Prabhu G. Mr. Sudhesh	484 2344049(S) 9447289997 9447578214	2
76 Yamuna Fuels Briquettes Ind. c/o Mr. Praveen Kr. Mittal 209, Old Subzi mandi P.o Yamuna Nagar (Haryana)	Iris Bio Briquettes Ind. P.O.Jagadhari, (Mittal B.K.O.) P.o Yamuna Nagar (Haryana)	Mr. Kamal Mittal	1732 223920, 220020 (S) 1735 240852 (F) 9812019792	4