



# PUNJAB RENEWABLE ENERGY SYSTEMS

*February 28, 2022*





# Outline

- Company Overview
- Support from NEEV Fund
- Biomass sector in India
- Market Opportunity
- PRESPL's Growth plan





# About PRESPL

- India's Largest Biomass SCM Company.
- Unique Rural Entrepreneurship Model.
- Vertically Integrated Operations.
- Aligned to growth in next Gen Fuels.
- Sustainability and Social impact.



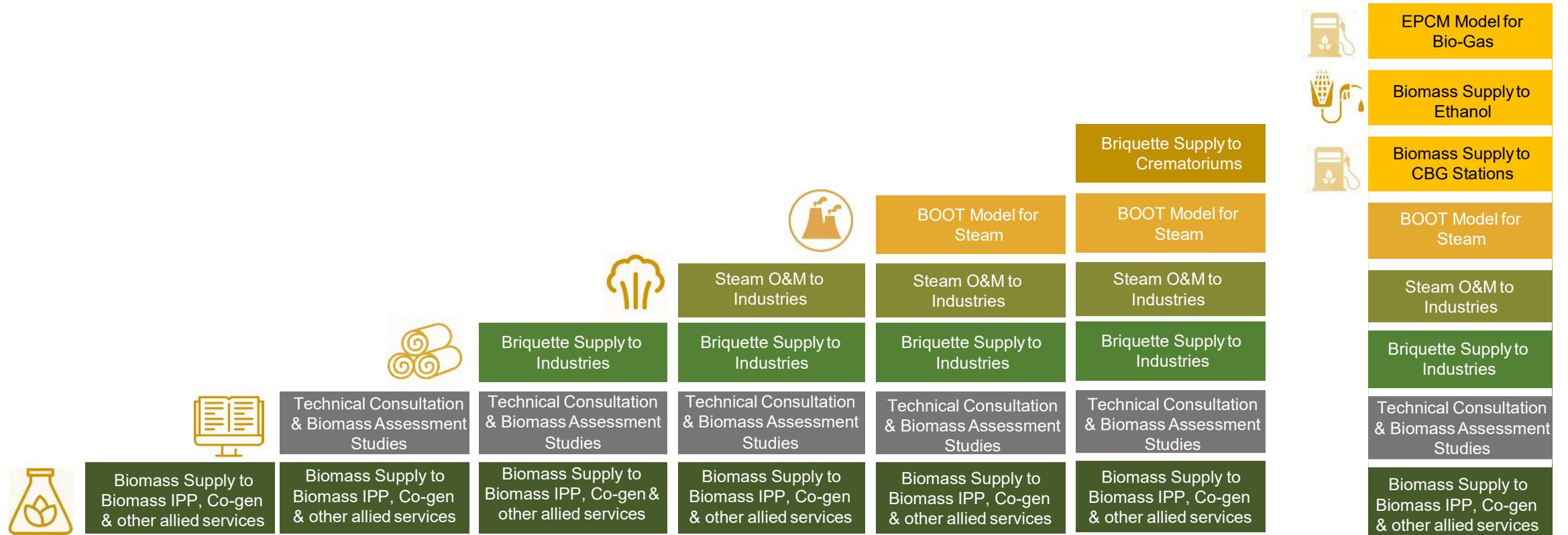


# Our History

Equity Investments

**responsAbility**  
Investments for Prosperity

NEEV FUND



FINANCIAL YEAR

2011 & 2012

2013 & 2014

2015 & 2016

2017 & 2018

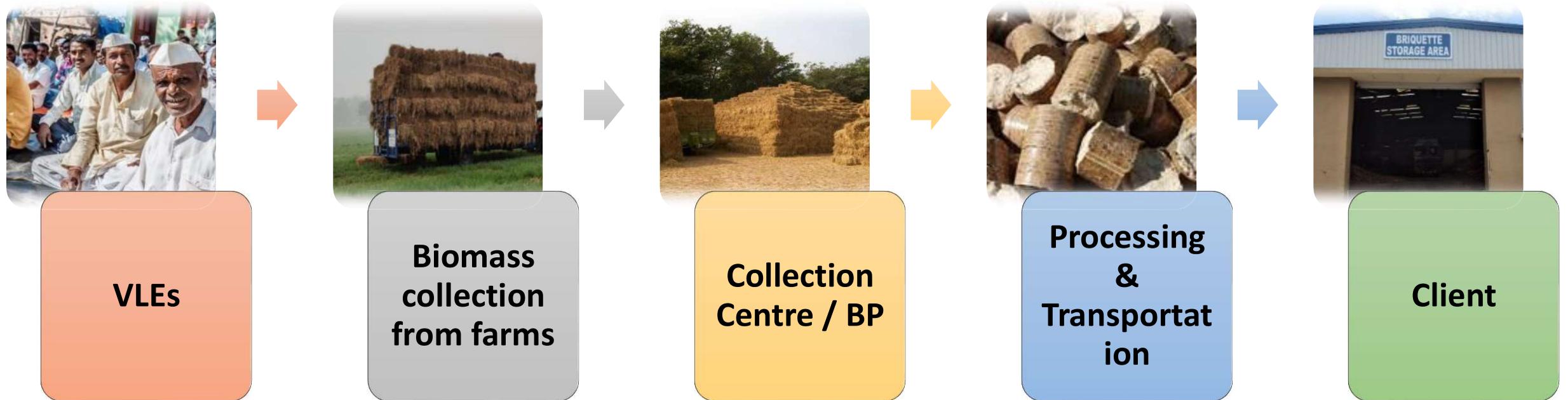
2019 & 2020

2021

2022 Onwards



# Business Model





# Business Verticals



Raw Biomass -  
Supply Chain  
Management



Manufacturing and  
Supply of  
Briquettes



EPC and O&M of  
Steam Boilers



Biomass  
Assessment  
Studies



New Initiatives  
- Wood  
replacement at  
Crematoriums  
- Coal replacement  
at Restaurants  
- EPC and O&M of  
Compressed Biogas  
plant





# Our Clients



**Cipla**

**glenmark**  
LIFE SCIENCES

Pharmaceutical



**PEPSICO**



*Coca-Cola*

Food &  
Beverage

**deccan**  
Fine Chemicals (India) Pvt. Ltd.

**OC Specialities**



Oil & Chemicals

**JSW Cement**

**JK Cement LTD.**

Cement

**L'ORÉAL**

**GOODYEAR**



**AURANGABAD MUNICIPAL CORPORATION, AURANGABAD**

Others

Other target segments – Steel, Rubber, Textile, OMCs, IPPs, Municipal Corporations, Restaurants.





# Social Impact

- Job creation
- Skills development
- Additional source of revenue
- Environmental benefits
- Awareness program for villagers
- Financial inclusion





# Support from NEEV Fund

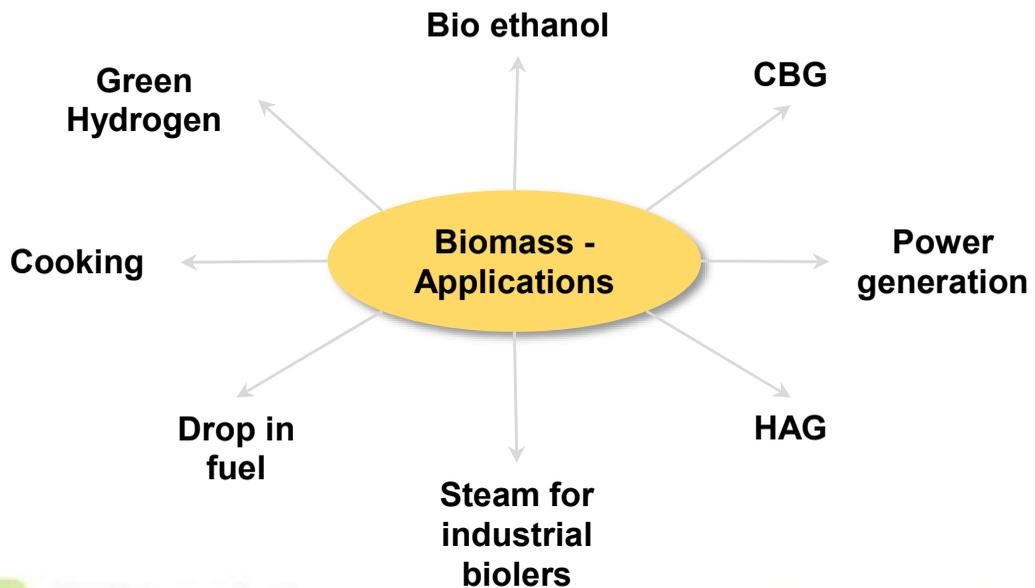
- Catalytic role in getting new investors (Shell and Mitsui) on board
- NEEV's role in Mitsui investment
  - Guiding PRESPL in having Strategic investors to help business growth
  - Active engagement in the identification and shortlisting of Mitsui
  - Taking lead in proposing and convincing existing investors for the bring Mitsui on board
- Active engagement by NEEV Team in business strategy - both in existing lines of business and in evaluating new opportunities
- NEEV Fund supported PRESPL during covid by extending financial support



# Biomass Comparatives

## Biomass – A cleaner fuel alternative

-  **Biomass is a Carbon neutral fuel**
-  **Cost savings of ~ 30 to 40%**
-  **Energy savings of ~ 10 to 15%**



## Biomass briquettes are cost efficient fuels

	Diesel Oil	Furnace Oil	Natural Gas (PNG)	Electricity	Wood Pellets	Coal	Biomass	
							Briquette	Loose
Heat Value Units (kcal/kg)	10200	9600	8500	860	4100	6000	3700	3400
Unit Price of Fuel (INR)	95	33	62	8.7	10	10	6.50	4.00
Equivalent quantity of Loose Biomass for Same Heat Value (kg)	3.00	2.82	2.50	0.25	1.21	1.76	1.09	1.00
Equivalent Price of Loose Biomass for Same Heat Value (INR)	12.00	11.29	10.00	1.01	4.82	7.06	4.35	4.00
Net Saving Using Loose Biomass in lieu of Fuel	83.00	21.71	52.00	7.69	5.18	2.94	2.15	0.00
The Savings Energy Rate (Loose Biomass compared to other fuel)	87%	66%	84%	88%	52%	29%	33%	0%
Specific CO <sub>2</sub> emission kg(of CO <sub>2</sub> ) / kg (of Fuel)	3.15	3.11	2.75	NA	1.83	2.38	0	0





# Environmental Context

- Among the top 50 most polluted cities in the world (PM 2.5) 36 are in India.
- India's GHG emissions is about 3.4 Bn MT and is expected to rise to 7 Bn MT by 2030.
- As part of Paris Climate Agreement India has committed to produce 40% of its installed electricity capacity from non-fossil fuel sources by 2030.
- India has an estimated agri-residue surplus of 1,547 MMT in the year 2020-21
- To promote use of biomass as a clean fuel, Govt. has taken several initiatives like
  - Replacing 10% of coal in thermal power plants with biomass pellets
  - Targeting 20% blending in Bio-ethanol and 5% blending of Biodiesel by 2030
  - Using Agri residue for various types of Energy generation in the form of Steam, Biogas, CBG, Heat and Cooling.
  - Set target to be carbon neutral by 2070





# The Challenges of Biomass Aggregation

- Farmers have equipment for cultivation and harvesting but not for collecting biomass.
- Biomass is available for 1-2 times a year depending upon crop pattern and thus has to be stored for ensuring continuous supply.
- Biomass is voluminous and requires significant space to store. Each acre can store about 3-5 MT of biomass. Also storing requires significant working capital.
- Biomass is a very localized commodity; in comparison to other fuels, it becomes uneconomical when transported over 50-70kms and thus needs to find end use nearby.
- Formal capital from banking channel for setting up biomass supply chain and storing it is not available today.





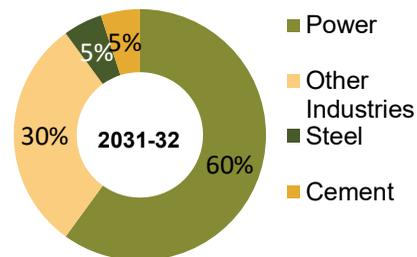
# Market Opportunity

## Coal Replacement



Integrated Energy Policy estimates Coal demand in India b/w **1600 – 2500 Mn tons**; Replacement of coal in IPPs by 10% and Other Industries by 25% by 2030 would require **at least 300 million tons** of Agri residue on a conservative basis

### Sector wise coal consumption

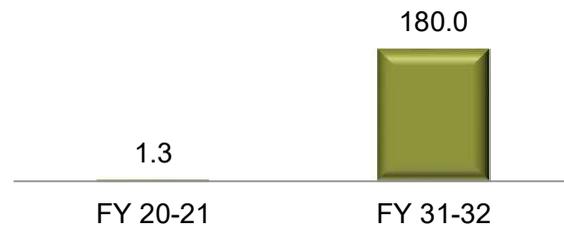


## CBG



Demand for CBG from Agri residue to touch **180 MMT by 2031-32**  
Push from Ministry of Petroleum & Natural Gas launched SATAT initiative and is keen to **set up 5000 CBG plants by FY24** – minimum requirement biomass for each CBG station to be about **100 tons/day**

### Demand for CBG from Agri residue (in MMT)<sup>3</sup>

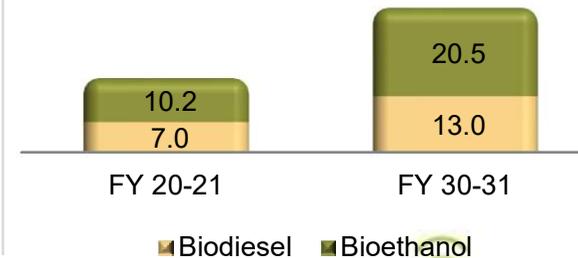


## Biofuel



With target blending, the total demand for Biofuel is **expected to be 33 billion ltrs** by 2031 requiring more than **100 million tons** of Agri residue

### Demand in Bn ltrs



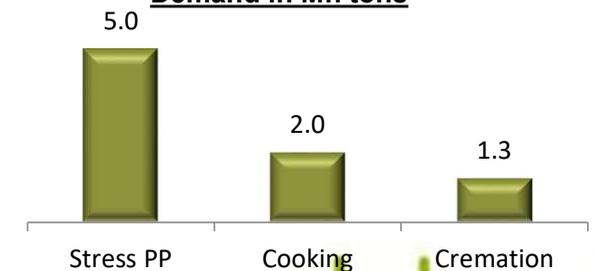
## Others



Opportunities in other segments:

- 1) Stressed power plants** which presents an opportunity of **USD 0.3 Bn**
- 2) Cooking** presents an opportunity of **USD 0.1 Bn**
- 3) Cremation** presents an opportunity of **USD 0.1 Bn**

### Demand in Mn tons



#### Notes

- 1) Assumed 1 ton = INR 4000 for Coal, CBG and Biofuel and INR 5000 for Others
- 2) Exchange rate : 1 USD – 75 INR
- 3) Source: <https://www.downtoearth.org.in/news/energy/clean-push-why-compressed-biogas-has-an-edge-over-cng-74874>





**NEEV FUND**



**Thank You**

<https://www.prespl.com/>

<https://neevfund.com/>

