



Roadmap for Ethanol Blending beyond 2025

Presented by

Grain Ethanol Manufacturer's Association

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ROLE OF EBPP IN RURAL DEVELOPMENT



1. Primary objective of EBPP:

- Increase farmer income – Regularly improving
- Increase in rural employment - Achieved
- Industrial development of rural region - Achieved

2. Subsequent benefits:

- Saving foreign exchange - Achieving
- Environmental benefits – Achieving

3. Well known facts:

- Ethanol for EBPP is primarily for farmer and rural welfare, whereas industrial-grade ethanol is not related to it, at present.
- Cost paid towards Ethanol is directly benefiting the farmers

PROJECTED DEMAND OF ETHANOL FOR EBPP



Assumed Projected Demand for Ethanol in EBPP

Year	Petrol @4% CAGR	Blending %	Ethanol Required Cr. Liter
2025	5200	18%	936
2026	5408	20%	1082
2027	5624	22%	1237
2028	5849	25%	1462
2029	6083	27%	1642

- **Increase in Petrol Consumption:** Assuming a growth @ 4% CAGR in petrol consumption, the ethanol requirement will grow correspondingly.
- **By 2029:** The ethanol demand will reach 1,642 crore liter, assuming a blending percentage of 27%.
- **Existing Capacity:** Current industrial capacity is capable of producing up to 1,200 crore liter.

KEY CONTRIBUTORS FOR BUILDING ETHANOL CAPACITY



ESY 24-25, C-1		Crore Liter	
	Offer	Allocated	Cut Allocation
Grain	580	525	55
Sugar Cane	391	311	80
Total	971	837	134

- **Excess Supply Capacity:** Offer has come more than tender requirement in ESY 2024-25.
- **Expansion by 2025:** An additional 200 crore liter of capacity will be available by 2025, supporting ethanol blending up to 22%.

Key Contributors for developing 800 Crore liter grain ethanol manufacturing capacity within short period of 3-4 years, are:

- **Assured Grain Supply:** Grain at fixed prices provided certainty for ethanol producers.
- **Incentives and Support:** Support from DFPD in form of ISS and State governments; though some incentives remain undisbursed.
- **Relaxation of MoEF Conditions:** Expedited ECs and relaxed conditions for establishing ethanol plants have facilitated rapid expansion.
- **LTOA's signed by OMCs:** Assured ethanol purchase agreement provided certainty to ethanol producers.

GRAIN (MAIZE + DFG) / ETHANOL FEEDSTOCK BALANCE



Year	Maize Production (LMT)	Maize for other industry (LMT)	Available Maize for Ethanol (LMT)	Available DFG for Ethanol (LMT)	Total Grain Available for Ethanol (LMT)	Projected Ethanol Blending %	Projected Ethanol Required (Cr. Liter)	Ethanol from Grain (Cr. Litre)	Projected Grain Required (LMT)	Shortfall of Grain (LMT)
2024	390	320.0	70.0	25	95.3	15%	750	400	96	0.7
2025	425	352.0	73.1	28	100.9	18%	936	600	144	43.1
2026	463	387.2	76.2	31	106.8	20%	1082	703.04	169	62.0
2027	505	425.9	79.1	34	112.8	22%	1237	804.3	193	80.2
2028	551	468.5	82.0	37	119.0	25%	1462	950.5	228	109.1
2029	600	515.4	84.7	41	125.4	27%	1642	1067.6	256	130.8

Feedstock Balance Assumptions:

- **Maize Growth Rate:** 5-6% YOY growth, with potential for 8-9% YOY with focused development.
- **DFG:** Growth assumed at 10% YOY.
- **Ethanol Requirement:** corresponding to growth in Petrol consumption @4% CAGR

Inference from Feedstock Balance:

- In 2024, shortage of merely 70,000 MT grain lead to abnormal spike in grain prices.
- **In and post 2025, the existing grain supply may not meet ethanol blending @18% and beyond.**
- **This shortfall must be addressed by introducing other feedstocks (e.g., surplus FCI rice).**

CHALLENGES IN ACHIEVING HIGHER BLENDING PERCENTAGE



- 1. Feedstock availability:** Grain corresponding to blending percentage is a challenge.
- 2. Engine Compatibility:** Compatibility of engines to accept 20+% ethanol-blended petrol is a limitation, requiring updates to existing vehicles and engines.
- 3. Fuel Station Compatibility:** Stations must be equipped to dispense different ethanol blends, including both blended and unblended fuels.
- 4. High Finance Cost for DEPs:** Establishing new infrastructure for DEPs is expensive, and with lagging feedstock availability, the cost-effectiveness of these plants is at risk.

STRATEGIES TO NAVIGATE CHALLENGES



- 1. Ensuring Grain Availability:** Ensure sufficient grain supply to meet ethanol demand projections. Surplus grains like FCI rice could be used to fill the demand-supply gap.
- 2. Linking Ethanol Pricing to MSP:** Procurement price of ethanol should be linked to MSP, to ensure cultivation of maize remains profitable for farmers.
- 3. Secure Existing DEP's:** Secure the DEPs in current supply channel by issuance EOI-3 and eliminate the un-executed LTOAs from EOI-1 and EOI-2.
- 4. Update MoEF Conditions:** Update Environmental Clearance conditions to allow the DEP's to produce by-products such as Corn Oil, Distillers' Grain Solid Cake, High-Protein grades of grain solids, etc.
- 5. Disburse Incentives:** Ensure all promised incentives by Center (ISS) and States are released on time to the entitled DEPs.

ROADMAP FOR ETHANOL BLENDING BEYOND 2025



- 1. Increase Blending Percentage:** Accelerate efforts to raise ethanol blending percentage to support existing and upcoming ethanol production capacity.
- 2. Secure Feedstock Supply:** Match feedstock availability with projections for ethanol blending, which requires availability of alternative grains, such as surplus FCI rice.
- 3. Prevent New Capacity Until Feedstock is Secured:** No further capacity should be encouraged until feedstock availability is compatible to demand.
- 4. Develop Flexi-Fuel Vehicles (FFVs) and Dispensing Facility:** Accelerate the development of flexi-fuel vehicles and supporting infrastructure to allow consumers to use different ethanol-blended fuels.

Action Plan:

- By adopting these strategies, India can increase ethanol blending to 27% by 2029 or before, boosting rural economies, supporting energy security, and advancing environmental goals.

REPRESENTATION ON ROADMAP ON ETHANOL BLENDING BEYOND 2025



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GRAIN ETHANOL
MANUFACTURERS ASSOCIATION

www.gemabharat.com

Contactinfo.gema@gmail.com ■ +91 99106 13300

G-81 Preet Vihar, Delhi – 110092, Bharat