



# INDIAN ETHANOL SCENARIO

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## Flow of presentation

- About ethanol as a fuel
- Blending levels of ethanol
- Maize as a feedstock
- Challenge from EVs

## Air Quality Index (AQI) : Sao Paulo v/s New Delhi

	Sao Paulo, Brazil	New Delhi, India
AQI	18	500
Ethanol Use	67 %	12 %
Vehicle population	8.8 million	7.8 million
Flex Fuel Vehicles (FFV)	90%	Nil

Thanks to ethanol, Sao Paulo's air is amongst the cleanest in the world

## Few more advantages of Ethanol

- In addition to: Farmers, Sugar production, Air Quality, Imports
- 34% oxygen: Best Oxygenate
- Octane rating of 110-113
- By-products: DDGS and CBG

## Demand projections for 20% blending in 2025-26

(In billion litres)

	Total	Sugarcane/ molasses	Grain-based
Requirement of Ethanol	10.16	5.50	4.66
Requirement for Other Uses	3.34	1.34	2.00
<b>Requirement for All Uses</b>	<b>13.50</b>	<b>6.84</b>	<b>6.66</b>

Source: Niti Ayog\*

## Blending levels of ethanol over the years

	Blending %	In billion litres	Achieved
2013-14	5%	0.38	1%
2021-22	10%	4.34	10%
2022-23	12%	4.95	11.8%
2023-24	15%	8.25 Tendered for by OMCs	
		5.60 Bid for	
		4.20 Reduced Offers	< 10%
<b>2025-26</b>	<b>20%</b>	<b>10.16</b>	

## Encouraging Maize

In Rs. per litre

Feedstock	Cane juice	B-molasses	C-molasses	FCI Rice	DFG	Maize
Price 23-24	65.61	60.73	56.28	58.50	64.00	71.86
Price 20-21	62.65	57.61	45.69	56.87	51.55	51.55

## **GOI strongly incentivizing maize for ethanol**

- Direct benefit to maize farmers
- Has massive potential of growth
- Broad based production across the country
- Much less water consumption
- Availability throughout the year
- High protein DDGS for animal/poultry feed



## 20% average blending by 25-26 very difficult

- By 25-26, only 25% of vehicles can be E-20 compliant
  - Therefore, user demand for ethanol can't be more than 15%
- Only way forward is to quickly roll out FFVs
  - Along with Ethanol-Battery Hybrids
  - Challenges of BS-6 compliance and costs thereof
  - Provide PLI, subsidies and/or lower GST

## Support from OMCs

- Stability in policies
  - State-wise reservation
  - Depot-wise bidding
- Current payment of 21 days be reduced to 7 days
- Decantation of Tankers: within 2-3 days
- Security Deposit return within 15 days

## Does ethanol face challenges from EVs in India

- Metals for battery
- Used batteries
- Charging facilities
- 60% energy from fossil fuel
- Auto repair mechanic
  
- Therefore Scaling up EVs big question

### **Ethanol-Battery Hybrids are better than EVs:**

Well to wheel pollution

Battery use in one Hybrid

Distribution network

EVs will compete with fossil fuel

Not with Ethanol

## Concluding ..... to achieve 20% by 2025-26

- Ethanol plants need more support to grow
- OMCs need to have stable policies
- Essential to quickly roll out FFVs with incentives/subsidies/tax concessions
- Public awareness and consumer education about ethanol and FFVs important
- **Otherwise, achieving 20% ethanol blending seems very difficult**