



THE INDIAN ETHANOL PROGRAM

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Flow of presentation

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- Government of India's decisions on fuel ethanol blending
- Ethanol availability in India
- Implementation of the programme
- Any impact on world market?
- Current status and way forward

GOVERNMENT DECISIONS

Government decisions: important milestones

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- **2002:** Programme first initiated though not made mandatory
 - : Rates through tenders, but with a cap fixed by OMCs
 - : Did not take off, as the programme was not mandatory

- **Oct 2007:** Mandatory 5% ethanol blending with petrol
 - :With a fixed procurement price

- **Nov 2009:** Procurement price revised upwards

- **2009: National Biofuel Policy:** 20% ethanol blending by 2017

- **Aug, 2010:** Rs.27 per litre fixed as provisional price ex-factory
 - : Expert Committee formed for fuel ethanol pricing policy

Recommendations of Expert Committee on Pricing

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- Report submitted in **April, 2011**
- Direct linkage of ethanol price to petrol price
 - Ethanol price suggested at about 20% discount to petrol price
- Lower tax on ethanol
 - Benefits to be shared amongst consumers, producers and Oil companies
- Suggested price was close to provisional price

Ethanol Pricing Policy

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- Recommendations of Expert Committee for fixed pricing not accepted
- In Nov, 2012, Government of India decided to have a market determined price for ethanol, on the basis of tenders, between buyers and sellers of ethanol

ETHANOL AVAILABILITY

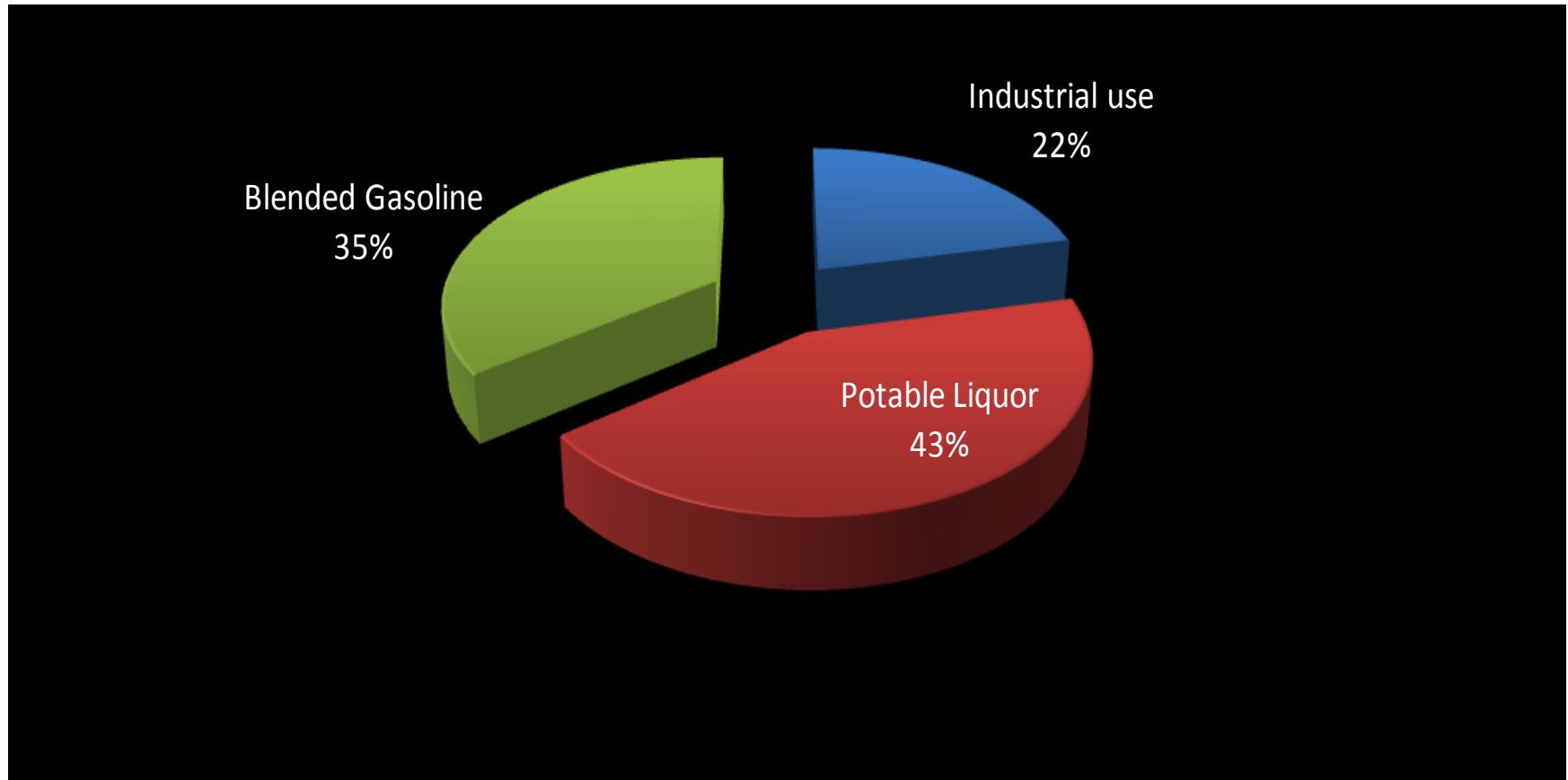
Distillation capacity in India

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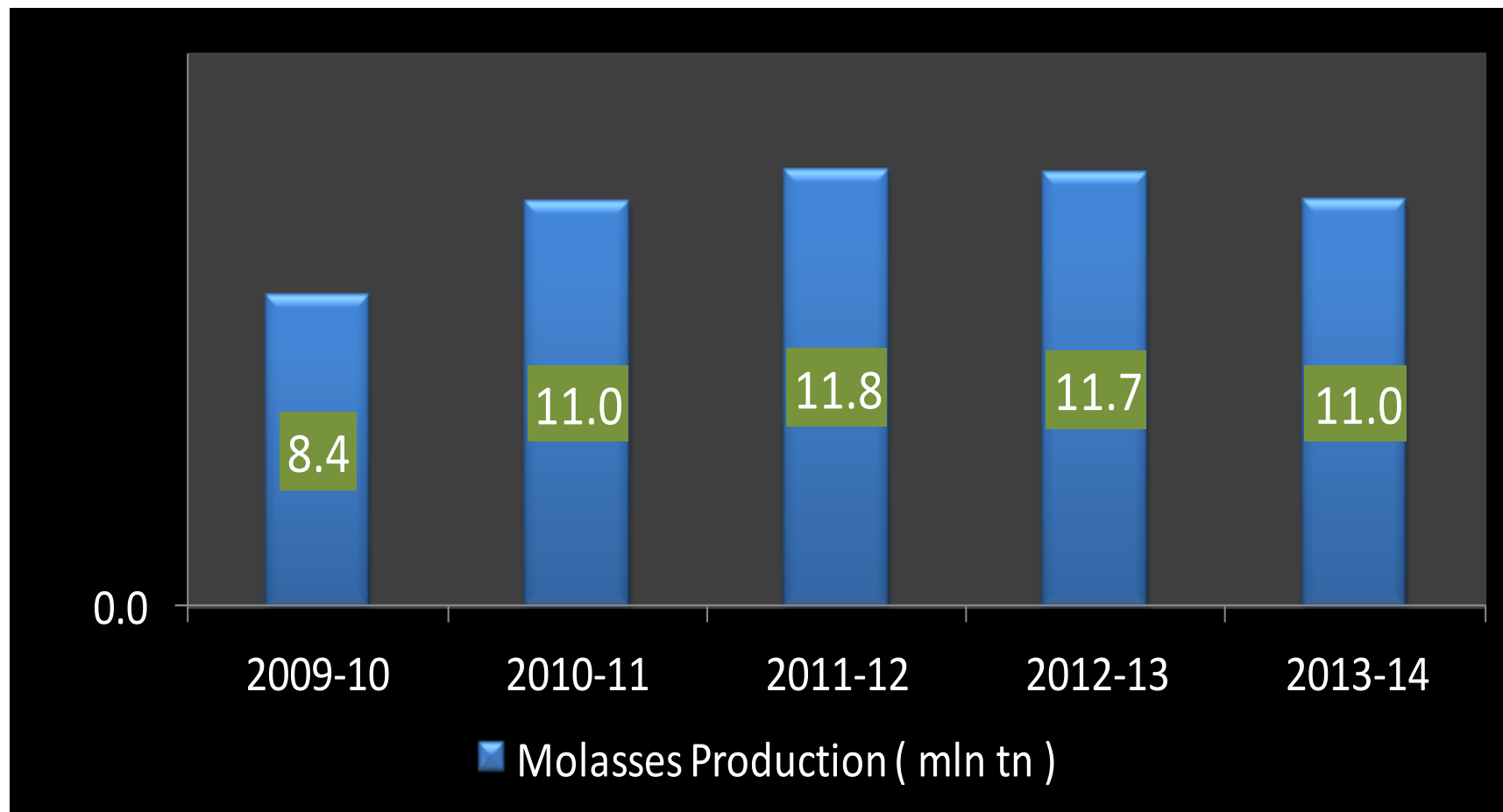
- 328 distilleries in the country including 160 sugar mills
- Installed capacity of 6 billion litres of alcohol production
 - 2.3 billion litres of distillation capacity with sugar industry
- Out of above, 2 billion litres capacity for production of fuel ethanol
 - 1.8 billion litres with sugar mills
 - 0.2 billion litres with stand alone distilleries

Sectoral demand of alcohol in India

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Production of Molasses by the Sugar Industry



Adequate availability of Molasses/Ethanol

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- Availability from around 11 million tons of molasses:
 - Alcohol from molasses : 2.6 billion litres
- Demand by the 3 sectors:
 - Potable liquor industry : 1 billion litres
 - Blending programme : 1 billion litres
 - Chemical Industry : 0.5 billion litres
- **Additional availability from B-heavy molasses and cane juice**
 - Diversion of 1 million tons of sugar into ethanol, gives additional 600 million litres of ethanol

IMPLEMENTATION PROBLEMS

Initial Problems faced

- Some States had earlier imposed import/export duties on inter-State movement of ethanol
- Restrictions/controls on inter-State movement of ethanol
- Tedious procedures for sale and movement
- Annual permissions required by distilleries in some States for making ethanol

Reluctance of States to allow ethanol production

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- Though molasses is a decontrolled commodity, but States control molasses, directly and indirectly
- Diversion of molasses from potable alcohol use
 - Meant loss of revenue to State exchequer and
 - Several States need molasses for own distilleries
 - Reservation of molasses for potable alcohol sector
- In few cases, ethanol supply permissions given only after supplies to potable alcohol fulfilled

Tendering process of procurement: delays and conditions have not helped

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- Two tenders floated in 2013
 - Delayed order finalisation; took almost 6 months
 - Offers rejected after 6 months
- Difficult conditions imposed in the tenders
 - Performance bank guarantee worth 10% of offers
 - Default penalty on the suppliers only
 - Proportionate monthly supplies
 - Payment delays
 - Suppliers need to get Government clearances

Problem of ethanol pricing

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- Uncertainty till Dec, 2012 on fixed pricing system
 - Provisional price from Oct, 2010 to Sept, 2012
- Decision for open market prices in Nov, 2012
 - Yet, Oil companies are following an internal ceiling price
- EOI floated in Jan, 2014 with a ceiling price of Rs.44 (\$ 0.70) per litre, delivered at various depots

ANY IMPACT ON WORLD MARKET

Molasses exports from India

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Export of Molasses in last three years (mln tons)

SS 2010-11	0.65
SS 2011-12	0.62
SS 2012-13	0.49

Import of alcohol by chemical industry

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Sugar Season	Imports mln litres
2009-10	250
2010-11	50
2011-12	100
2012-13	100

Global tender by Indian Oil Cos. (Mar, 2013)

- Tender for ethanol imports in March, 2013
 - Total requirement of 820 million litres
 - Offers received for 620 million litres from 4 suppliers
 - Price of offers ranged between Rs.69.50 – 92 (\$ 1.12 to 1.47) per litre landed at depot of oil companies
 - Offers not accepted
- Rates received about 68% to 109% above domestic supply rates (of Rs.44 or \$ 0.70 per litre)

Current ex-mill price of molasses-based products

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- Rectified Spirit: Rs.34-36 (\$ 0.55) per litre
- ENA: Rs.40-41 (\$ 0.65) per litre
- SDS: Rs.33-34 (\$ 0.53) per litre
- Fuel ethanol: Rs.37-38 (\$ 0.60) per litre

WAY FORWARD

Present status of EBP

- National Bio-fuels Policy, 2009, targets for 20% ethanol blending by 2017
- Procurement of ethanol from indigenous molasses only
 - No cane juice, foodgrains or imported molasses to be used for ethanol
- Due to low prices, unviable to convert B-heavy molasses to ethanol
- Supply orders from OMCs for 660 million litres in current year
 - Another 55 million litres offered by suppliers; yet to be finalised
 - Total current blending would work out to almost 4% of petrol blending

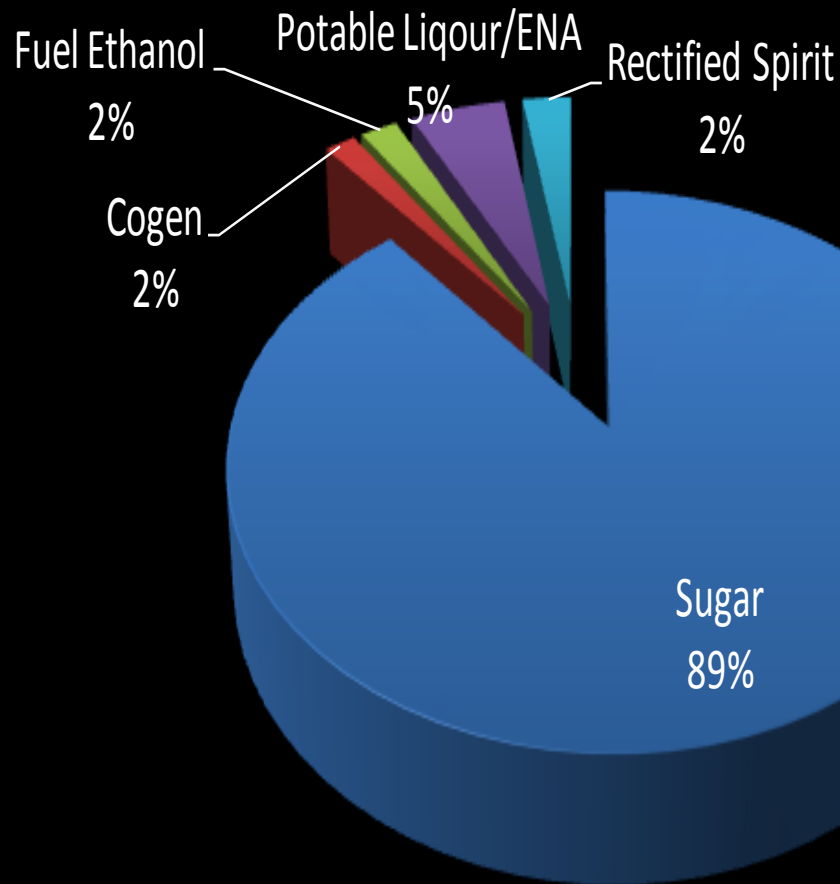
Ethanol blending: Advantages in India

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- Excellent oxygenate: burns balance fossil fuel better
- Reduces environmental pollution: ‘green, renewable fuel’
- **Saves foreign exchange, reduces imports**
- Contributes to energy security of the nation
- Fuel mileage of 5% ethanol blended petrol better than pure petrol
- **Boosts rural income & directly benefits 5 million cane farmers**
- Conversion of surplus sugarcane into ethanol: **can balance production of sugar**

Revenue generation of a typical integrated mill

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Indian Sugar Industry turnover of over \$12 billion

Demand and supply in future

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- ❖ Domestic demand of fuel ethanol is increasing
 - Annual demand of Fuel Ethanol in the country is about 1 bln litres at 5% blending
 - It will grow automatically with the growth in petrol demand
 - If mandatory blending is increased from 5% to 10%, the annual demand will double
- ❖ Domestic supplies can easily increase by diverting B-heavy molasses and cane juice into ethanol
 - ❖ But, for that the procurement price of ethanol needs to improve

Thank You