

Shailesh Menon

Do not judge a company by its name. The Triveni Engineering & Industries in Noida has diversified into power transmission, defence and steam turbine manufacturing, but it still remains one of the largest integrated sugar manufacturers in the country. Its sugar brand Shagun has been sweetening the morning tea of many Indians for over 90 years.

Early this year, Triveni Engineering switched its focus yet again, to strengthen a line of business that has been in a limbo. The company, with a market capitalisation of over ₹6,500 crore, augmented its ethanol distilling capacities—from 320 klpd (kilo litres per day) in January to 520 klpd in April. It will now add another 140 klpd of distilling capacities to reach an aggregate of 660 klpd by July.

Why is Triveni Engineering more than doubling its distilling capacities in quick time?

The answer lies in the Centre's revised ethanol blending roadmap, which has advanced the deadline for blending 20% ethanol with petrol to 2025 from 2030. This means ethanol and petrol will be mixed in a 20:80 ratio. This category of blended transportation fuel would be called E20 petrol. Currently, around 10% ethanol is blended with petrol in several states. With this, the government intends to save nearly ₹40,000 crore on petroleum import bills. "Besides, ethanol is a less polluting fuel and offers equivalent efficiency at a lower cost than petrol," stated a note put out by NITI Aayog and the Petroleum Ministry last year.

While ethanol is expected to sweeten India's fuel import bill, what would be the extent of its impact? The policy would require sugar companies to ramp up production, oil companies to install infrastructure to store and transport ethanol and auto companies to calibrate engines for this blended fuel. After all this, what is the future of ethanol, especially with renewable energy becoming more popular? Is it sustainable if it calls for an increase in the cultivation of water-guzzling sugarcane?

Meanwhile, thanks to the May 18 announcement on "E20 by 2025", large sugar manufacturers like Triveni expect a massive surge in demand for ethanol in the coming months. If the government sticks to its mandate, the demand for ethanol could be 1,016 crore litres. The ethanol production capacity in India, according to the Indian Sugar Mills Association (ISMA), is currently just 440 crore litres.

"The new biofuels policy is vitally important. Mandated ethanol blending, which is happening for the first time, will help the country get a cleaner fuel. It will reduce our import bills, create more jobs and trigger ₹1 lakh crore of fresh investments," says Tarun Sawhney, VC & MD, Triveni Engineering.

BLOWING COLD & HOT

India's ethanol blending programme began way back in 2003 with a few states and Union territories laying ground rules for oil marketing companies (OMCs) and ethanol producers. Some more states and UTs joined the bandwagon a few years later. The blending ratio in the initial years used to be 5:95—where 5% ethanol was added to 95% petrol. But as years passed, and global crude prices cooled off, the government's focus on ethanol blending waned. Nobody spoke of it for a long time. But the price of crude is shooting up once again

environmentally conscious countries comply with. This has yet to be demonstrated on a commercial scale. But a lot of work is happening around the setting up of commercial scale plants that can work on non-edible feedstock," says Sanjukta Subudhi, senior fellow (advanced biofuels division), The Energy and Resources Institute (TERI). "Ethanol is a cleaner form of fuel. By blending it with petrol, you are effectively cutting down the consumption of fossil fuel. Since most companies use biological processes such as fermentation to produce ethanol, there is negligible greenhouse gas emission," says Subudhi. "The government's idea is to provide a basket of clean fuels... people can select an appropriate type of fuel."

There is a view among automobile manufacturers and energy sector analysts that ethanol

blending may lead to slightly more affordable petrol going ahead"

GAURAV MODA, partner & energy sector leader, EY

Is Ethanol a Sweet Solution?

The government's new roadmap for blending ethanol with petrol has cheered sugar manufacturers and could trim oil import bills, but its role in a renewable energy future needs more clarity

—from \$11 per barrel in April 2020 to \$119 in March 2022—and is currently hovering at \$109. This cruel spike in crude prices has hurt the purses of the government. Last fiscal, it settled oil import bills worth \$119 billion.

"There is a lot of economic sense with ethanol blending. It is a form of import substitution—and if implemented well, it will trim the country's oil bills," says PS Bhagavath, senior director, CareEdge, a ratings firm.

Ethanol, used across sectors like cosmetics, alcoholic beverages, pharma and plastics, is a byproduct of the sugar industry. It is manufactured from sugarcane juice or syrup and molasses and, to a lesser extent, from grains such as rice, wheat, sorghum and corn. In some countries, even potatoes and other starchy vegetables are used to ferment ethanol.

Nearly 65% of India's ethanol production originates from sugar mills and molasses distilleries, while the rest comes from grain-based plants. The use of agri produce to manufacture ethanol raises concerns in a world of rising poverty and hunger. So producers are now encouraged to use non-edible raw materials such as agricultural waste and biomass to extract ethanol.

"The use of non-edible inputs ensures adherence to a zero waste policy that most

blending is an archaic technique, especially when there is a concerted effort by the government to popularise renewable energy and electric vehicles (EVs) in the country.

But for Triveni Engineering's Sawhney, EV is "an urban solution". "EVs will provide a solution to the pollution problem (caused by transportation fuels) in cities, but not in rural India. It will take many years for EVs to reach the hinterland. Till that time, ethanol-blended petrol is a great option for people living in rural India. Both technologies (EVs and ethanol-blended fuels) can coexist to serve different sets of customers," he says.

Even though ethanol-blended petrol is projected as critical in solving big problems such as the burgeoning oil import bill and environmental pollution, its share will be relatively small when it comes to application. India imported over 212 million tonnes of crude oil last fiscal. A large part of it was used as transportation fuel. In transportation fuel, diesel accounts for over 50% of use case, followed by pet-

rol which forms 25%, with aviation fuel, CNG, LPG and EV forming the rest, according to analysts tracking the energy sector.

Ethanol blending is only applicable to petrol, which has just one-fourth share in the transportation fuel basket. Breaking it down further, two-wheelers consume more than half the petrol sold in India, and the rest flows into cars.

"Ethanol blending is mainly for petrol and, therefore, contributes up to 2-3% of overall transportation fuel. So a higher demand for ethanol can indeed be absorbed. Ethanol blending may also lead to slightly more affordable petrol going ahead," says Gaurav Moda, partner & energy sector leader at EY, a consulting firm.

Petrol—and, therefore, ethanol-blended petrol—will be relevant even when EV hits the roads in huge numbers. Just about 10% new cars hit the road every year in India. At this rate, there would be only 25-30% new cars (possibly EVs) on our roads in 2030—the target year in which the government hopes to see EV sales accounting for 30% of all new private cars and 80% of two-wheelers.

"We have gained momentum though there is some way to go before the country turns fully EV. Our view is that India may take time to reach peak oil—up to 2040—though the portfolio is expected to increasingly become green in due course. This makes ethanol-blended petrol a critical initiative," says Moda.

OILING THE ENGINES

The government's blending targets are stiff—E10 by 2022 and E20 by 2025. Ethanol producers will have to double their output in

just three years. That apart, the ecosystem—OMCs, auto manufacturers and banks—will have to work in tandem to achieve targets.

"To achieve the E20 target, the government will have to ensure adequate feedstock, facilities to manufacture ethanol have to be set up, OMCs will have to expand storage capacities and auto manufacturers will have to recalibrate their engines," says Ravleen Sethi, associate director at CareEdge. "There's a lot of activity on the supply side: most sugar companies are expanding their ethanol capacities and a lot of standalone ethanol distilleries are coming up across the country," she adds.

Oil companies such as Bharat Petroleum, Hindustan Petroleum and Indian Oil Corporation have already started signing long-term supply agreements with sugar com-

panies and individual ethanol distillers. The banks, especially PSU banks, are now willing to lend to ethanol producers on the back of their agreements with OMCs. At the retailer level (petrol/diesel pumps), E20 will be dispensed from a separate kiosk/nozzle at prices cheaper than petrol, possibly ₹8-10 per litre.

Two-wheeler manufacturers such as Bajaj Auto and TVS have started tuning their engines to make them E20-compliant. Passenger car manufacturers such as Hyundai and Maruti have some models that can take in E10 fuel but they have yet to start work on E20-compatible engines. Both Hyundai and Maruti were not available for comment.

CANE GAINS

The last two years have been good for Indian sugar companies, thanks to two successive bumper cane crops, stable domestic demand and voluminous exports. Higher prices in domestic and global markets have helped Indian sugar companies immensely. That apart, ethanol prices (fixed by the government) have gone up by over ₹1 to ₹1.25 per litre across various grades of molasses.

"The mandated ethanol-blending programme will help the sugar sector a lot. It will help sugarcane farmers get a better price for their produce. Manufacturers need not worry about excess sugar inventories or a glut situation anymore," says Aditya Jhunjhunwala, president of ISMA and MD of KM Sugar Mills.

"This was needed for the survival of the sugar industry. This programme is helpful because there's an immediate offtake of ethanol from our premises, the price is fixed by the government and the supply contracts are drawn for a longer time horizon," he adds.

In the current sugar season (October 2021 to September 2022), sugar mills are expected to divert 34 lakh tonnes towards ethanol production. In the last sugar season, this was just 21

lakh tonnes. To reach the government's target of E20 by 2025, the sugar industry will have to divert at least 60 lakh tonnes of sugar.

"To achieve E20 in three years, we will have to increase ethanol production from 440 crore litres now to 900 crore litres. Sugar manufacturers are working towards this target. Many are adding capacities that can take in both sugarcane and grain-based feedstock (for off-season ethanol production)," says Jhunjhunwala.

Will this earnestness to bulk up ethanol production cause a shortfall in our sugar and food grain buffers? Most likely no, say most ethanol manufacturers. "Our country is producing a lot more sugar than it can consume. There is no harm in diverting some of it for fuel needs," says Sawhney of Triveni Engineering.

The government is encouraging grain-based ethanol production to reduce the dependency on the sugar industry for feedstock. Sugarcane is a water-intensive crop and attempts to increase cane production acreage

will deplete groundwater levels. "There's a need to do more R&D around alternative feedstocks. This may reduce the presence of water-guzzling sugarcane in the feedstock mix," says Amit Kar, former head of agricultural economics at the Indian Agricultural Research Institute. "The use of sugarcane (to some extent) and food grains as feedstock is perfectly fine as we are now a food and sugar surplus country. There won't be much reduction in our food buffer stocks because of ethanol blending," he says.

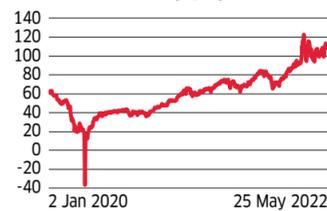
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WTI Crude Oil (\$/b)



KEY HIGHLIGHTS

India has 19% share in global sugar production | But the country has only 2% share in ethanol production

To achieve E20-by-2025 target, distillers will have to manufacture 1,016 crore litres of ethanol per year

Current ethanol production capacity from sugar mills is 440 crore litres a year

Ethanol production capacity of grain-based distilleries is over 260 crore litres a year

Nearly 65% of ethanol is sourced from sugar and sugar industry byproducts

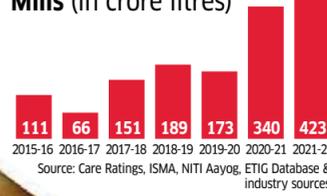
From Oct '21 to Sept '22, mills could divert 34 lakh tonnes of sugar for ethanol

E20 petrol could be cheaper than normal petrol by ₹8-10 per litre

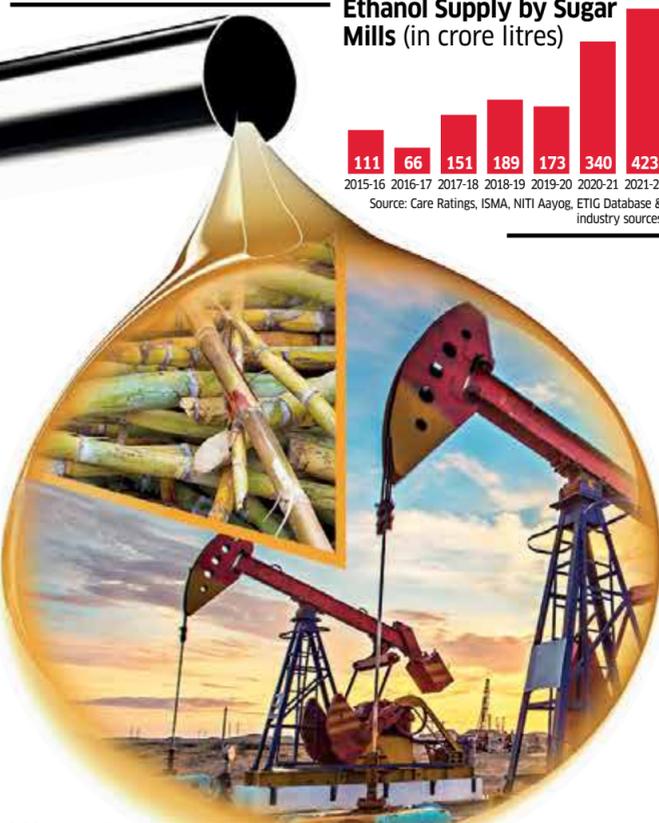
India's transportation fuel mix: Diesel 50%; Petrol 25%; LPG, CNG, ATF, etc 25%

E20-compliant two-wheelers could be costlier by ₹1,500 to ₹3,000 per unit

Ethanol Supply by Sugar Mills (in crore litres)



Source: Care Ratings, ISMA, NITI Aayog, ETIG Database & industry sources



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Bigger Hatchbacks on Village Roads

Pushed by higher prices for entry-level cars, rural India is going for premium hatchbacks and MPVs

Shobha Mathur

Guess what India's villages are buying these days? Cars—and in good numbers. Small, basic, pocket-friendly ones? Nah. Maruti Suzuki will bear testimony to that. It has witnessed a shift in customer preference in the rural areas in the last three years.

For India's largest carmaker, the share of rural sales through its Arena network of showrooms has risen from 43.4% in FY19 to 47.9% in FY22. Interestingly, during this period, its Nexa showrooms that retail premium models, have clocked a higher contribution from rural sales—almost doubling from 14.7% to 28.5%. While the majority of Nexa sales still comes from urban markets, the rural share has been steadily increasing, signalling a preference in the hinterland for more premium vehicles.

RC Bhargava, chairman of Maruti Suzuki India, was aware of this changing market dynamics. He said at the company's annual results video conference last month: "Small cars used to be bread and butter for us, but now no butter is left in the small-car market anymore. That's the way it's going to be, and that is something we have to live with. We have to adjust to the market conditions and do what we can to the best of our abilities in the circumstances in which we exist."

The pandemic, frequent price hikes (almost 40% in the last five years) and chip shortages have changed the complexion of the car market. Having to pay a higher

price for entry hatchbacks, which used to be the main draw in rural India, the consumer preference is tilting in favour of premium hatchbacks and MPVs/SUVs (mid-to-top variants).

While the Alto800, S-Presso, Ertiga, XL-6 and the Eco van continue to be top sellers for Maruti, the share of hatchbacks in total rural sales has gone north from 57.5% in FY19 to 60.2% in FY22. This is primarily due to the rise in contribution from mid- and premium-hatchback segments—Swift, Celerio, Ignis and WagonR. Meanwhile, the entry hatches have experienced a slight dip from 22.1% to 21.3% during the same period.

One reason is that rural incomes have risen.

In the last three years, India has had good monsoons and the kharif and rabi crops have got a higher minimum sup-

port price. A lot of road-infrastructure investments have been made by the government. Growing incomes have led to faster growth and recovery in rural areas than in urban pockets especially after the second wave of Covid-19.

Shashank Srivastava, senior executive director-sales and marketing, Maruti Suzuki, tells ET Prime that the rural contribution for Maruti has increased over the last three years from close to 40% to about 43.5% at present. "That means rural growth is faster than urban growth," says Srivastava. He adds that the percentage of sales in the urban areas is down, while it is up in rural areas. While the penetration of entry hatches and vans is higher in rural areas, the transition to premium models is being increasingly seen.

In the last five years, the entry hatchback market has shrunk almost 32% pan-India while premium hatches have enjoyed 20-23% of market share. The price elasticity for consumers in the latter segment is a little higher.

"So, let's say a 5% increase in price in an SUV may not have so much effect, as the price sensitivity is different," says Srivastava, explaining the shifting preference for premium models.

The same is the case with Tata Motors. Its rural market share has increased by 3.5-4% over the last year to 38% at present. Its popular models such as Tiago, Nexon, Safari and Altroz are pushing the cart. Rajan Amba, vice-president—

marketing, sales and customer service at Tata Motors Passenger Vehicles Ltd, says the rural market has been growing due to the push by industry and various product choices on offer. The rural buyers now demand more tech features. They have rising incomes from agricultural produce and good savings due to less purchases during the second wave of the pandemic.

The consumer has graduated from entry variants to the mid and top variants of Tata Motors' models. Better distribution networks, repositioning and bigger size of showrooms to house the full range of Tata models have increased access to buyers.

For Mahindra & Mahindra, the rural share in passenger vehicles sales is around 47%, with models such as Bolero and Scorpio, along with XUV300 and XUV500, being favourites.

Som Kapoor, partner—automotive at EY, says large families in rural areas have shown a preference for SUVs in which a family of six can be easily accommodated. But he says rather than new car sales, pre-owned cars have done well across segments.

In rural markets, the trends in the two-wheeler and passenger-vehicle space are moving in opposite directions. Kapoor says cost consciousness in the rural market has affected the sales of two-wheelers. Frequent price hikes, rising raw material costs, new regulations related to mandatory third-party insurance and safety and emission norms have been drags for two-wheelers.

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Maruti Suzuki's Rural Sales: Segment-wise Contribution (%)

Year	HATCH			Total
	Entry hatch	Mid hatch	Premium hatch	
2018-19	22.1	15.5	19.8	57.5
2021-22	21.3	15.9	23.1	60.3
SEDAN				
Year	SEDAN		Total	
	Entry sedan	Mid sedan		
2018-19	15.1	0.7	15.8	
2021-22	9.9	0.5	10.4	
SUV / MPV				
Year	SUV / MPV			Total
	Entry SUV	Mid SUV	MPV	
2018-19	9.2	0.9	3.5	13.6
2021-22	8.1	0.8	9.2	18.1
VAN				
Year	VAN		Total	
	Entry van	Mid van		
2018-19	13.1	0.0	13.1	
2021-22	9.9	0.0	9.9	

Source: Maruti Suzuki India

the performance of passenger vehicles and two-wheelers in the rural areas.

So, can rural markets take the Indian auto industry out of the choppy waters? Vinkesh Gulati, president, Federation of Automobile Dealers Associations, says numbers are still not that bright. "Overall vehicle sales are down by 20-25% in rural markets since the second wave of the pandemic compared with pre-pandemic days."

He points out that in rural areas lower-income customers have deferred vehicle purchases while buyers with larger budgets are moving to more premium vehicles. In the urban markets, the customer preference is for high-end vehicles in both two-wheelers and passenger vehicles.

No wonder Bhargava cautioned about the future of entry-level small cars in his recent remarks.

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