



## Impediment for implementation of ethanol blending programme in India

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### ABSTRACT

In the last twelve months, petrol prices have been hiked 19 times, making the life of common man miserable. It seems certain that, this crisis will sooner or later put a spoke in a riding Indian's Life Wheel. The use of Ethanol blended fuel in automobiles is the only 'spark of hope' for minimizing vehicular emissions as well as to reduce the exponentially increasing oil import bills.

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### Introduction

The Ethanol Blending Programme, started in 2003, is yet to gain momentum for various reasons. It was never implemented with 'full throttle' since its inception. The schedule and reschedules occurred as frequently as the hike in petrol prices, raising doubts of its implementation. It started with 5% blending of ethanol in nine states and four union territories as it was found that there were adequate 'surplus' supplies of ethanol to meet the initial demands of blending. But was partially implemented for low sugarcane production. In spite of importing ethanol in 2004 and also in 2005, the EBP was still deferred in 2006. Again in 2008, the GOI deferred its implementation due to low production of sugarcane and sugar molasses [1]. Everytime, EBP was deferred, the reason for 'short supply of ethanol' has been put forth. It is quite well known that, India remained to be one of the largest sugar manufacturing countries for many years. In such case, does the reason of short supply hold the truth? For the last eight years, 5% blending could not be achieved. Now with a new target of 20% blending by 2017, it will be courageous to predict the possibilities of a successful EBP.

#### Supply of fuel ethanol

The Government of India in its Biofuel Policy has decided to focus on the use of non-food resources, namely sugar molasses for the production of ethanol and non-edible oils for the production of biodiesel. The EBP in India thus evolves around the production of sugarcane as it is the only source for the sugar molasses. This makes the supply of ethanol linked with the production of sugarcane. It is believed that, the success of EBP is only in the hands of availability of Ethanol. In such situation, it will be interesting to observe the production of sugarcane for the last decade, especially after the launch of EBP in 2003. This will throw some light on the efforts taken by the 'energy policy makers'.

The Figure 1 indicates the sugarcane and sugar production in India since 1990-91 till 2010-11[2].

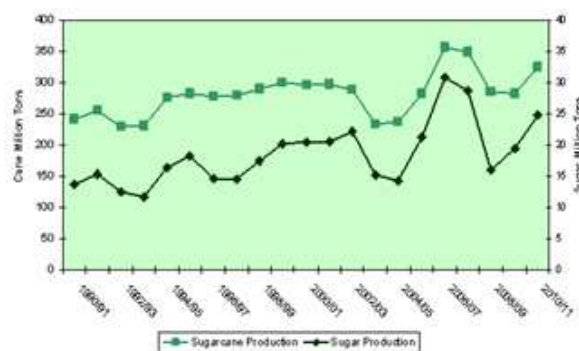


Figure 1: Sugarcane Production

From the above figure, it can be easily observed that, the sugar production in India during last decade has been cyclic. After every 3 to 4 years of high production, there are 2 to 3 years of low production. This cycle has supposed to make it difficult for EBP to survive. Politically and culturally, 'sugar' is the most sensitive issue. The politicians, by and large has shown excitedly great involvement in it. This has further made life difficult for survival of EBP.

The non-availability of ethanol was always singled out for the non implementation of EBP. However, it will be more appropriate if the potential is assessed in its true measure.

#### Availability of Ethanol

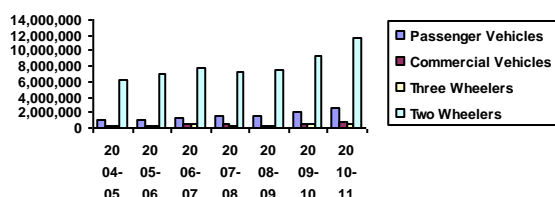
The blame for the repeated postponement of EBP has always been with the non-availability of ethanol. Let us consider the Table 1 which illustrates the conventional bioethanol production [3].

Table 1 is indicative of the availability of ethanol since the inception of EBP. During the years 2007 and 2008, there was high production of ethanol. This made the Government to mandate 5% blending across 20 states and 8 union territories. Oil Marketing Companies (OMC) contracted for 1.4 billion liters of ethanol from November 2006 to November 2009 but only 540 million liters of ethanol was supplied till April 2009 citing the reason of 'short supply of molasses', even if the sugar

cane production during these years was at its peak, the available ethanol for blending never reached beyond 280 million liters during last eight years.

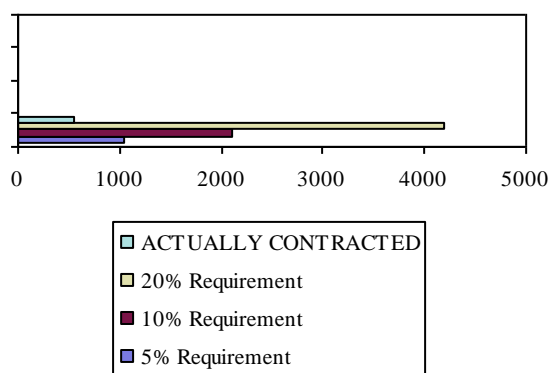
#### Requirement of Ethanol

With rapid growth of economy, rising population and increased vehicular traffic, India is the fourth largest petroleum consumer in the world. The Figure 2 shows the exponential increase in the vehicles for last few years [4].



**Figure 2: Automobile Domestic Sales Trend**

The figure 2 shows the rapid growth in 'two wheelers' every year and hence the requirement for ethanol is almost getting doubled every year. In view of this growth, it is quite difficult to cope with the demand. Since 2009, when the EBP was deferred, it will be more interesting to know what progress was made for the implementation. Referring to the Table 1, it can be seen that 3304 million liters of ethanol was available during 2011, of which 1970 million liters was consumed for different sectors. The remaining ethanol of 1224 million liters was available. But the OMC could only contract 550 million liters of ethanol till 31<sup>st</sup> July 2011[5], which is not sufficient for even 5% blending. Figure 3 illustrates this scenario.



**Figure 3: Ethanol requirement in million liters**

In such situation, when the surplus ethanol is available and still not used for the EBP, can it be said that the Ethanol Blending Programme is suffering from the short supply of ethanol? Another interesting example will ensure this statement. India had to import 447 million liters of ethanol from Brazil in 2004 to meet the E5 blending target. India continued importing ethanol to meet its blending targets and became the largest importer of Brazilian ethanol in 2005 importing 411 million liters [6]. And to rub salt on wounds; this imported ethanol was used for chemical manufacturing rather than for fuel blending. This clearly suggests that, the success of EBP never evolved only around the supply of ethanol but many more other factors also.

#### Undermining Impediments

To provide, uninterrupted supply of Ethanol, a procurement and distribution policy must be laid out. It is indeed essential that the sugarcane production should be maintained as Ethanol availability totally depends on it. Support system for the farmers should be developed which will encourage them to take sugarcane crop even in adverse conditions. The oil companies may be encouraged to run sick sugar mills. The uniform taxation policy should be adopted. It should be always kept in mind that, once the EBP is implemented we should not switch back and forth between petrol and ethanol blended petrol.

Many of the automobile manufacturers in India do not recommend blended fuel. Also, the existing two wheelers having carburetted engines are not suitable for 20% blending. Society of Indian Automobile Manufacturers (SIAM) has also approved blending upto 10% in existing vehicles. Considering this, if 20% blending is to be implemented then, all automobile manufacturers should issue the certificate along with the vehicle clearly mentioning the maximum percentage of blending, for which the vehicle performance will not be affected. The apex body involved in testing and certifying automobiles should clear its stand on percentage of blending and its use in existing vehicles. If the vehicles manufactured today are not compatible for 20% blending, then the adverse effect on vehicle performance will give rise to social unrest.

To avoid this, the blending should not be made mandatory. There should be free market and let the customer decide the fuel he wants for his vehicle. All pumps dispensing ethanol blended fuel must display the percentage blending and the fuel properties.

All other ministries using ethanol should work in cohesion and decide on policies involving the base price, allocation and priorities to avoid the midway chaos.

#### Conclusion

The energy security of the country undoubtedly lies in the success of Ethanol Blending Programme. By 2017, an indicative target of 20% blending has been set. Though it looks ambitious and more often courageous, it seems to be the only way to reduce oil import bills, reduce the vehicular pollution and allow the common man to breathe free from nearly monthly increase in petrol prices. The EBP, so far has been pathetic. The strategies for implementation have either not worked or lost the *spark*. It is the time to realise the real reasons for non-implementation of the programme. It is indeed necessary to rethink on the strategies. This will avoid the future confrontation and social unrest. After all the efficacy of any system not only depends on its aim but on the community to which it is applied.

#### References

1. GAIN Report India Biofuels Annual 2009
2. GAIN Report, India Sugar Annual 2010
3. GAIN report, India Biofuels Annual 2011
4. <http://www.siamindia.com/scripts/domestic-sales-trend.aspx>
5. Economic Times Bureau Sep 2, 2011
- ADB Report "India: Study on cross-sectoral implications of Biofuel Production and use" Chapter 2, pp 8-10.