Editorial

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THE HINDU **BUSINESS LINE**

Feedstock prices, energy costs

Can Indian urea win on global turf?

Almost the entire urea industry in India is at a substantial disadvantage *vis-a-vis* the exporting countries, the main reason being the exorbitant cost of feedstock, particularly for plants based on naphtha and fuel oil. While some reduction in production cost may be possible by further improvement in efficiency, without lowering feedstock cost to internationally comparable levels, it will be virtually impossible for Indian industry to compete with urea producers in exporting countries, says Uttam Gupta.

IN SOME quarters it is felt that the cost of producing fertiliser in India is high primarily because of the retention pricing scheme (RPS). It is alleged that the RPS covers up plant inefficiency and fails to reduce cost. If the system is dismantled, it is argued, efficiency will improve and costs decline. The industry will, thus, be able to compete with free imports after the removal of QRs in April 2001. This is an over-simplistic and short-sighted approach.

The issue requires objective and dispassionate analysis. The cost of feedstock and capital-related charges (CRC) are two major elements in the overall cost of producing urea (others, including conversion cost and marketing/selling, account for just 10-15 per cent). Therefore, by focussing on the former two, one can get a fairly clear idea of the fertiliser industry's position *vis-a-vis* the major exporting countries.

Plants in India are based primarily on three feedstocks — naphtha, fuel oil/LSHS and natural gas. In the naphtha category, except three newly-commissioned plants, all the others are fully depreciated. For the former, despite low energy consumption, production cost is high due to the high CRC, as also the high cost of feedstock, that is, about $7 per million Btu. For the latter, despite low CRC, the production cost is high, primarily due to high feedstock cost, on the one hand, and high energy consumption (due to the age factor), on the other.

In the gas group, the majority of the plants are newly commissioned. These plants pay for gas at about $2.5 per million Btu. Due to the shortage of gas, they have to use high-cost naphtha/fuel oil to ensure optimum capacity utilisation. This results in significantly higher effective cost of feedstock at about $3.5 per million Btu. Apart from this, the overall production cost is high due to the burden of the CRC. On the other hand, the old/depreciated plants are able to keep the costs low due to low CRC.

All the plants based on fuel oil/LSHS are old and fully depreciated. Consequently, even as the CRC is low, their production cost is high, primarily because of the stiff feedstock cost — about $6.0 per million Btu — and the high energy consumption (apart from fuel oil being an inferior feedstock, the age factor also contributes to this).

How do the above costs in India compare with the corresponding numbers in the major urea-exporting countries? For instance, West Asia, from where a substantial portion of India's imports are sourced. Comparison on a like-to-like basis — a newly commissioned plant in India vs one in West Asia — reveals that the CRC and other fixed costs in the former are lower than in the latter. This is despite the high interest rate and burden of taxes and duties in India.

As regards energy costs, at the outset, it is important to note that 100 per cent of production capacity in West Asia is based on gas. Due to its abundance, gas is supplied at a throwaway price of less than $1.0 per million Btu. For the proposed joint venture in Oman, in which IFFCO/KRIBHCO are equal partners with Oman Oil Company (OOC), the agreed price is $0.77 per million Btu. Perhaps, other plants in the region pay a still lower price.

How, then, is a gas-based plant in India placed *vis-a-vis* one in West Asia? Taking a fairly tight energy consumption norm of 24.0 million Btu per tonne of urea, the energy cost for the former would be $84.0, against just $18.5 for the latter (this would be much lower for plants paying less, at $0.77 per million Btu). The Indian plant is, therefore, placed at a disadvantage of $65.5, or about Rs 3,000, per tonne.

In the context of pricing gas, the Government is contemplating a slew of measures in the near future. This year, it proposes to remove the cap of Rs 2,850 per thousand cubic metres on the basic price of gas and increase its linkage to the international parity price (IMPP) of internationally traded fuels from the existing 75 per cent to 85 per cent; next year, this is proposed to be raised to 100 per cent. Consequently, the cost of gas to plants in India is expected to increase to about $4.0 per million Btu. The effective cost of feedstock will, however, be still higher at about $5.0 per million Btu (due to the supplementary use of high-cost naphtha/fuel oil). The handicap for plants in West Asia will, therefore, increase to about $102.0, or Rs 4,700, per tonne.

For a newly-commissioned plant in the naphtha group, taking energy consumption as 24 million Btu for a tonne of urea (same as for a gas-based plant) and delivered cost at a minimum of about $7 per million Btu, the energy cost is about $168 per tonne. This is a whopping $150, or Rs 6,900 per tonne, higher than the cost for a plant in West Asia. For a plant paying more than $7 per million Btu of naphtha, the disadvantage would be still higher.

The old naphtha-based plants can, at best, achieve an energy consumption of about 30 million Btu per tonne of urea. This is for a unit that has a captive power plant, operates single-stream and continuously attends to the replacement of essential equipment, achieving high standards of maintenance. With this and the cost of naphtha at the minimum $7 per million Btu, the energy cost works out to $210 per tonne. This is about $192, or Rs 8,800, per tonne higher than the cost for a plant in West Asia. For a unit paying more than $7 per million Btu, the handicap would be even greater.

The fuel oil-based plants, too, are seriously handicapped. For these, energy consumption of anything less than 34 million Btu per tonne of urea is unrealistic. With this, and the cost of fuel oil being about $6 per million Btu, the energy cost would be about $204 per tonne. This, again, is a whopping $186, or Rs 8,500, per tonne higher than the cost for a plant in West Asia.

Though the possibility of significantly reducing the energy consumption of naphtha and fuel oil-based plants beyond the levels indicated above is not ruled out, this would require heavy investment on revamp and modernisation. Resources of the required magnitude cannot be generated under the existing unit-wise RPS dispensation. Under the contemplated Long-Run Marginal Cost-based uniform NRP system — proposed in the Background Paper on the Long-Term Fertiliser Policy — far from yielding any surplus, there could be a serious threat to plant viability.

Notwithstanding the above, and even assuming that the energy consumption could be reduced to 24.0 million Btu per tonne urea — this being the level achievable by a brand new naphtha- based plant —the energy cost would still be high in view of the prevailing exorbitant cost of feedstock. Thus, the handicap of an old revamped/modernised naphtha-based plant in India (which can achieve energy use of 24.0 million Btu) *vis-a-vis* a plant in West Asia would still remain at a high, at about Rs 7,000 per tonne.

Thus, almost the entire urea industry in India is at a substantial disadvantage *vis-a-vis* the exporting countries. And, the predominant reason for this is the exorbitant cost of feedstock, particularly to the plants based on naphtha and fuel oil. While some reduction in production cost may be possible by further improvement in efficiency, without lowering feedstock cost to internationally comparable levels, it will be virtually impossible for Indian industry to compete with urea producers in exporting countries.

Much will depend on how the Government acts on the feedstock front. In this context, even as the Background Paper identifies high feedstock prices as a major problem area, it does not propose any measures for reducing the cost of naphtha and fuel oil/LSHS. Instead, it recommends that all such plants should switch over to LNG. The Paper also predicts that domestic gas will progressively be in short supply, and that the gas-based plants may be forced to switch over to LNG.

This brings us to the question of LNG supply and price. The total supply promised by various LNG projects under implementation is far short of the likely demand. The Government's recent decision to put on hold fresh projects will only lead to a further widening of the gap. Clearly, we are heading for a suppliers' market in LNG, where the gas is likely to be priced high. Some time back, Petronet LNG hinted at pricing the gas at 85 per cent of the prevailing price of naphtha.

The emerging scenario clearly points to the possibility of broad convergence in the price of key feedstocks — domestic gas, LNG and naphtha. Further, as per current indications, the price would remain high, in the range of $5-6 per million Btu (price to individual plants would also vary due to differential effect of freight and local taxes). In the absence of any proactive move to bring down/contain the feedstock prices, the huge disadvantage for the domestic industry *vis-a-vis* exporting countries will, therefore, remain.

The Government should see the writing on the wall. If its perception is that feedstock prices cannot be brought down, the only way domestic industry can be protected is by imposing a reasonably high import duty.

If, on the other hand, it feels that feedstock prices can be reduced to internationally comparable levels (this may include the possibility of Government directly subsidising supplies to fertiliser units), it could opt for a lower rate of duty. These aspects need to be carefully considered by the WTO Task Force on Fertilisers while finalising its recommendations, particularly in regard to the bound rate of duty on imported urea.

Variable cost of a tonne of urea, based on feedstock

Year	Gas	Naphtha	FO/LSHS	Coal
1991-92	1797	2724	2252	3461
1992-93	1930	3183	2655	4351
1993-94	2024	4076	3393	4904
1994-95	2168	4154	3493	5081
1995-96	2242	4308	3672	5421
1996-97	2307	4371	3733	6216
1997-98	2518	5394	4527	7814
1998-99*	2806	6160	5045	7904

* All units measured in Rs.

(The author is Chief Economist, The Fertiliser Association of India, New Delhi. The views expressed are personal.)