



With logistics costs sometimes equaling production costs, now is the time for producers shifting product out of the Middle East to reexamine their supply chain

## Consultant's corner

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THERE'S AN old Arabic expression: "Choose your traveling companion before the path." In a world of mile-high buildings and isocontainer carbon footprints, this ancient wisdom has a contemporary relevance for progressive petrochemical producers in the Middle East.

As a slew of new Middle East polymer capacity hits the global market this year, with an additional 2m tonnes of polymer production scheduled for 2009, producers are now reexamining their well-worn distribution models and reevaluating their strategic alternatives.

New "traveling companions," such as

major European third-party logistics specialists, have been quick to appreciate how their professional logistics capabilities, honed in the intensely competitive European market, can be leveraged among Middle East producers looking to outsource this hitherto under-managed and under-valued function.

Saudi Arabia-based SABIC, the region's largest polyolefins producer, is working with one of the leading supply chain management consultants on a global reassessment of its supply chain options. Elsewhere, logistics outsourcing is becoming more widespread.

"While companies have traditionally looked at the supply chain as a way to cut costs, they now look at it as a strategic and financially important part of the business and a way to generate value and revenue," says Christopher Lange, author of a sup-

ply chain study from global consultancy Accenture released earlier this year.

### LOGISTICS GETS A FRONT SEAT

Logistics, once viewed as the corporate packhorse, has now evolved into a vibrant function with better quality management, sophisticated tools and a responsibility for creating its own strategic vision as a vital contribution to a producer's long term competitiveness. It no longer relies on relabeling itself as "Supply Chain Management" to get decision-making attention at board level. And as the chemical cycle inexorably unwinds from its forecast 2008/2009 peak, logistics has worked its way up the strategic agenda.

Professor Michael Porter, a leading authority on international competitiveness, recently claimed that when the supply chain surplus hits in 2010/2011, there will be four

sources of competitive advantage for global chemical businesses:

1. Low-cost feedstocks
2. Economies of scale
3. Differentiated products
4. Distribution logistics

The Middle East petrochemical sector is defined by low-cost feedstocks and is busy leveraging its economies of scale – a fundamental tenet of basic economics is that a doubling of production decreases unit fixed costs by 20%.

The region is also developing differentiated products by exploiting proprietary process technology (such as the specialist *Borstar* bimodal polyethylene process at Borouge); by downstream product development driven by non-100% ethane feedstocks (in Saudi Arabia); and by acquisitions, such as SABIC's buyout of GE Plastics.

In the logistics sector, new distribution models are being explored as the scale of production rises dramatically in the region. The number of containers required to export Middle East polymer alone will rise from the current level of 350,000 TEU (Twenty-Foot Equivalent Unit) to 800,000 TEU in 2010. Were the uncertain Iranian polyolefin production included, the number would rise to over 1m TEU.

## LOGISTICS MAKES THE DIFFERENCE WHEN SUPPLY IS OVERBALANCED

With polymer supply forecast to be long in the next 2–3 years, producers are in the process of deploying their logistics assets to enable them to access all potential global markets. Producers are also actively building their supply chain capabilities to create routes to the highest margin end-uses and as product differentiation continues, will move into a broader range of end-use markets.

Logistics companies are increasingly being judged, and rewarded, for increasing the flow speed of product along the supply chain to converters as a part of a concerted strategy to realize product value as soon as possible. This performance metric has long been a performance criterion in fast-moving consumer goods supply chains.

Globalizing trade patterns are stretching supply chains, resulting in a greater volume of product in transit and a greater transport-intensity in the production and distribution of petrochemicals. This, combined with historically high polymer prices and high interest rates, has increased the working capital tied up in the bulging supply routes out of the Middle East. As a result, even relatively

small logistics efficiencies are being explored by producers and off-take partners. The bottom-line impact is much more significant than previously recognized.

Lower global growth will not fundamentally affect the logistics demand for most Middle East producers. The region's favorable production economics will essentially guarantee market demand, despite emerging self-sufficiency in some export markets, such as high density polyethylene (HDPE) in China.

A common perception is that in these times of high margins, Middle East producers are more preoccupied with finding the logistics capacity to ship their rapidly increasing output to Asia, rather than addressing structural logistics costs. However, given the significantly lower cash cost of production in the region, the focus on logistics costs is even more intense as these costs represent a higher percentage of

age silos built outside the plant's battery limits where "in-site" land, with its prized permits from local authorities or Royal Commissions, is expensive.

The biggest constraint to growth in the Middle East remains logistics infrastructure. With highly capital-intensive assets on the seas, shipping lines have long considered owning ports so they can control the landing infrastructure. This would guarantee prompt access to berths, ensure minimum turnaround times and enable greater participation in the overall distribution value chain.

For the Japan-Europe route, nearly 60% of a container's transport cost is land-based, not sea-based. Hence, the majority of the cost has been beyond the control of the shipper. However, even on the sea-based routes, the scope for differentiation by a single shipping line has been limited by their inclusion in "Conference" lines, where the entire busi-

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Koji Miyahara, president, NYK

the total delivered cost compared with other world producers.

As Hans-Joerg Bertschi, CEO of European intermodal and bulk-chemical specialist Bertschi has observed, "in chemicals, total supply chain costs are often higher than production costs." With world-scale production in the Middle East, logistics may well be the largest contributor to its variable costs.

Other service providers in the supply chain are squeezing out costs. NYK, a global shipping leader with three routes to and from the Gulf from Asia launched a Save Bunker Plus campaign to reduce fuel-oil costs and carbon dioxide (CO<sub>2</sub>) emissions from its 740-strong fleet.

"A 10% slowdown of voyage speed will produce more than a 25% saving of fuel oil," says Koji Miyahara, president of NYK. With fuel oil costs for container ships up to \$100,000 a day, "a drastic change is occurring in the traditional business model of marine transport."

CO<sub>2</sub> has leapt up the corporate agenda among logistics suppliers; NYK Logistics (UK) has been routinely monitoring the carbon footprint of its containers for the past 18 months, according to CEO Ian Veitch.

In another distribution-cost-minimization move, UK producers are using stor-

ness model is based on different shippers offering an identical service and equivalent prices to others in the same Conference.

While European petrochemical companies seek to move chemical distribution from road to rail and sea, encouraged by the €740m (\$1.18bn) Marco Polo II program, 93% of Middle East production is exported by sea. As a result, all ports in the region are undergoing expansions, although Abu Dhabi has just canceled plans for a major port complex at Mussafah. A study concluded that there would be insufficient demand for major ports at both Mussafah and Khalifa, where development will now focus. Saudi authorities have opened final bids for the Landbridge rail project, linking the key petrochemical sites at Al-Jubail and Dammam on the Gulf coast with Riyadh and the Red Sea port of Jeddah, with a later connection to Yanbu.

For all its joys and unique frustrations, the region offers opportunities along the entire length of the supply chain. ■



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