

LNG Procurement in India

FOB or CIF?

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Shipping is a critical cost element in the LNG chain and the price and commercial terms of LNG purchases are influenced by the nature of the shipping contract: whether it is on a cost, insurance and freight (CIF) basis or as freight on board (FOB). CRISIL Infrastructure Advisory examines the impact of CIF and FOB contracts on the prices and risks for Indian LNG buyers.

Liquefied natural gas (LNG) imports are likely to emerge as the preferred means of bridging the domestic demand-supply gap of natural gas in the short to medium term. Yet, given that the main user sectors' (power and fertiliser) end-customer tariffs are regulated, LNG imports would have to be competitive vis-à-vis existing fuels both in terms of price and other commercial conditions to find a place in the power and fertiliser sectors. While new LNG pricing

mechanisms are being explored, it is imperative that all the elements in the LNG chain are optimised to provide a competitive price and reasonable commercial terms to buyers.

One of the critical elements in the LNG value chain is how shipping and procuring LNG on either a CIF basis or as FOB impacts the price (depending on the volume being contracted and whether the

buyer or the seller has the ability to optimise the shipping cycle) and commercial terms obtained by the buyer. CRISIL Infrastructure Advisory examines the pros and cons of procuring LNG on a CIF and FOB basis as well as their impact on the price and risks for Indian LNG buyers.

LNG procurement

When a seller contracts to ship LNG, it supplies LNG to the buyer on a CIF basis (or a variation of that) and bears the cost and risk of transporting the LNG to the buyer's port. But when a buyer contracts to ship LNG, the seller supplies it on an FOB basis. Around 70 per cent of the LNG currently traded across the world is done on a CIF basis while the rest is on an FOB basis (see chart 1).

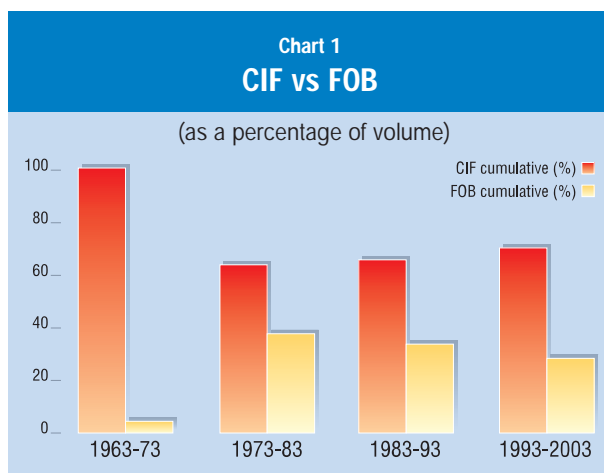
Since the only difference between procuring LNG on a CIF and FOB basis is the control of shipping, before analysing the impact of such contracts, let us take a quick look at the global shipping industry:

Global LNG shipping industry

Traditionally, LNG ships have been dedicated to long-term supply contracts. Also, LNG projects have integrated shipping within themselves to ensure maximum security of delivery (see chart 2).

But this is changing today. Not all the new LNG ships that are being ordered are assigned to any particular route or project. Also, old ships that which were dedicated to a particular route are being released from long-term commitments.

In 2003, 17 new ships are scheduled for delivery while a further 21



are expected in 2004, resulting in a 30 per cent fleet expansion over the next two years (see chart 3).

Of these, 15 ships are not dedicated to any specific long-term projects. Hence, uncommitted LNG shipping capacity in the next few years is expected to increase significantly.

CIF or FOB?

Procurement on either a CIF or FOB basis impacts certain key parameters important to the LNG business:

Delivered price of LNG

Ideally, LNG buyers would like to minimise the delivered cost of LNG. The primary elements of such delivered cost are:

- LNG FOB costs
- Insurance costs
- Shipping costs
- Regasification and transportation costs.

The transaction structure adopted for procuring LNG on either a CIF or FOB basis impacts the shipping costs and, consequently, the delivered cost of LNG. In general, the cost of shipping under procurement on a CIF basis may be steeper than the shipping costs incurred by the buyer under an FOB procurement. This is because the supplier would charge a premium for taking a higher risk in the case of CIF supply. But this may change if the supplier's access to shipping arrangements is better than the buyer's access to such facilities. This could be in terms of the following:

Flexibility in sourcing: The concept of aggregators is emerging in the LNG industry today. Here, a supplier having access to small quantities of LNG in different locations (there is close to 10 million metric tonnes per annum – mmtpa – of idle or uncommitted capacity in liquefaction terminals today) as well as access to shipping capacity can aggregate sup-

Chart 2
Ownership pattern of LNG vessels

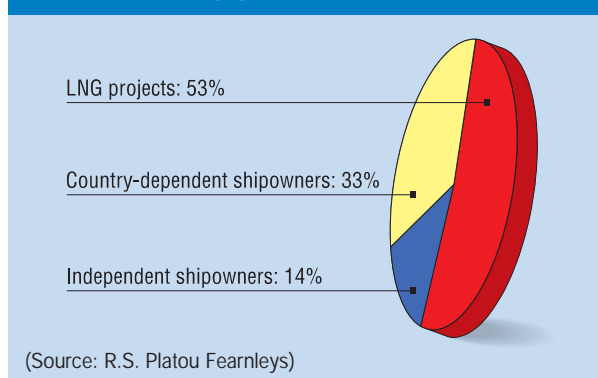
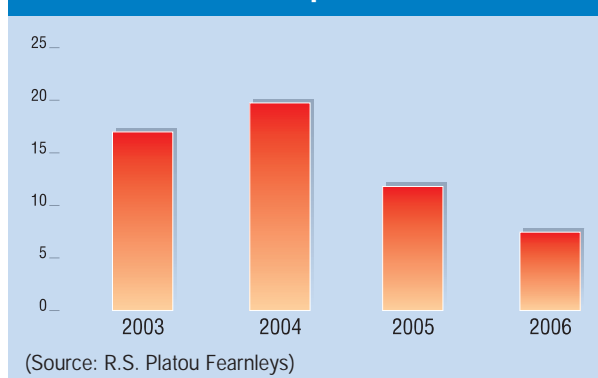


Chart 3
Fleet expansion



plies from various sources and pass on the benefit of the same to the buyer in terms of lower prices. On the other hand, if a buyer decides to make his own shipping arrangements, he will have to undertake extensive fleet management as well as aggregate small quantities on his own. Indian LNG buyers are unlikely to have such competence.

Thus, because of his flexibility in sourcing, the seller has the ability to provide a bundled price of LNG CIF, which might

be more competitive than the individual price of LNG FOB and shipping that a buyer would obtain if he were to contract for shipping and LNG separately.

Flexibility in optimising ships: Unlike in the early days of LNG shipping, more ships are now being built on a non-dedicated basis. Surplus LNG shipping capacity is also expected in the near future. Both factors would enable LNG suppliers to optimally employ LNG ships. Besides, Indian shipping companies do not have any LNG vessels today. In such a scenario, if a domestic buyer procures LNG on an FOB basis and transports it through Indian flag vessels alone, it may mean building a dedicated ship. Since the buyer will not be taking advantage of the existing LNG fleet, it may result in higher shipping costs.

Experience in LNG shipping: Typically, Indian LNG buyers have no experience in LNG

shipping. Hence, established LNG suppliers would be better positioned to contract for shipping and secure a competitive price.

Thus, for an Indian buyer, the risk premium charged by a seller in the case of CIF LNG supplies is likely to be neutralised by the other advantages that a seller enjoys in terms of flexibility in sourcing, ship optimisation and greater experience. These may be passed on to the buyer in the form of cheaper LNG

CIF delivered to Indian shores (see table).

Influence of various parameters on LNG CIF procurement price for Indian buyers

Parameter	Price pressure on CIF procurement
Premium for risk	Upward
Seller's flexibility in sourcing	Downward
Seller's flexibility in optimising ships	Downward
Seller's experience in LNG shipping/contracting	Downward

Risk mitigation

In CIF procurement, the supplier bears the risk and cost of tying up shipping and insurance on behalf of the buyer for transporting LNG up to the delivery port. Thus, the risk of events like non-availability of ships or unforeseen escalation in shipping and

Korea LNG shipping industry – A case study

South Korea has a well-developed LNG shipping industry. The first LNG contract in Korea was a CIF contract between Indonesian LNG and Kogas. It appears that this may have been made to gain LNG experience. All of Kogas' subsequent contracts were FOB. The subsequent FOB deals were a result of a well-developed shipbuilding industry in Korea. Kogas, the state-owned gas company, used Korean vessels to ship LNG. This established the Korean LNG shipbuilding industry in the early stages and today the country is the largest builder of LNG carriers.

Split of contracts between FOB and CIF in South Korea

Exporting countries	Liquefaction	Volume	Duration	Delivery
Indonesia	ARUN	2.3	1986-2007	Ex-ship
	KOREA	2.0	1994-2014	FOB
	BADAK	1.0	1998-2017	FOB
Malaysia	MLNG	2.0	1995-2015	FOB
Qatar	RAS LAFFAN	4.8	1999-2024	FOB
Oman	OLNG	4.1	2000-2024	FOB
Brunei	BLNG	0.7	1997-2013	Ex-ship
Total		16.9		

Source: Kogas

insurance costs is borne by the supplier. The control of shipping by either the supplier or buyer would impact the risks associated with each of them:

Supplier's risks: By controlling shipping, a seller would be able to minimise the demand risk. That is because in case it produces excess volumes of LNG or in case of a dispute with an existing buyer, the seller, by virtue of having access to shipping, would be able to ship LNG to alternative buyers and thereby minimise demand and price risk.

So, control of shipping would put sellers in an advantageous position at the end of the initial contract as they can find alternative customers without having to invest in new shipping and therefore be competitive in the market because of lower shipping costs.

Buyer's risks: Indian buyers, on the other hand, would be either regasifying companies or end-users like power utilities and fertiliser units. If end-users procure LNG themselves, they would like to take minimum risks in fuel supply, preferring to pass them on to the seller.

Also, procurement of fuel would be only an ancillary activity for Indian buyers like power generation utilities or fertiliser units, which would rather focus on their core business. Such buyers are unlikely to have skills to contract for LNG shipping and so may not wish to manage the risks associated with such activities.

For an LNG importing and regasifying company in India, on the other hand, FOB procurements would minimise the demand risk. Control over shipping through FOB deals would provide better risk management to such companies in terms of having access to spot markets, relaxed destination clauses and the like.

On the whole, it can be argued that CIF procurements may offer considerable advantages to Indian LNG buyers who are end-consumers of LNG in terms of both a competitive delivered price and lower procurement risks.

Government initiatives

While the Indian LNG buyer deliberates over procuring LNG through the CIF or FOB route, in order to achieve the best price and other commercial terms, the

government, in a bid to promote the Indian LNG shipping industry, has mandated that Indian shipping companies participate in LNG shipping. This is evident in the government's draft LNG policy.

Following this draft policy's stipulations, Petronet LNG Limited (PLL) finalised deals to import LNG on an FOB basis, roping in an Indian company in LNG shipping with a minimum stake of 26 per cent. On the other hand, for the National Thermal Power Corporation's (NTPC) procurement process, the government had originally stipulated that the LNG should be imported only through an Indian flag vessel. But it is understood that in view of the significant issues raised by the bidders, this condition has been relaxed.

In stipulating this condition, the government aimed to ensure that the Indian shipping industry did not miss an opportunity to enter LNG shipping. It is being argued that since most LNG shipping contracts are long term in nature, it would be difficult for Indian shipping lines to enter this business once the deals for LNG supplies to India are frozen. Although its objective may be well intended, the means that the government has chosen to achieve this end may be debatable.

Before analysing the impact of such a stipulation on the delivered price of LNG, let us take a look at the status and preparedness of the Indian shipping industry.

Indian shipping industry

The Indian shipping industry is not the most attractive investment destination for foreign investors today. This is amply demonstrated by the fact that despite allowing 100 per cent foreign equity, the sector has failed to attract any foreign direct investment (FDI). Also, Indian tonnage has registered a negative compounded annual growth rate (CAGR) of 1 per cent over the last five years compared to a CAGR of 3 per cent for the world fleet in the same period. The

prominent reasons for the unattractive state of the industry are:

- **Taxation policy:** With an effective tax rate of 22 per cent, Indian shipping companies are amongst the highest taxpayers in the global shipping industry. Compare this with about 60 per cent of the global fleet that operates within a zero-tax regime and another 20 per cent with tax rates of 2-3 per cent, and it becomes evident that the fiscal regime in India is not conducive to easy inflows of foreign investment. Although suggestions have been made to introduce tonnage tax, the proposal is still pending and was ignored in the Union Budget of 2003.

- **Unavailability of financing for ships:** Shipping is a capital-intensive industry with an LNG ship having 138,000-m³ capacity costing about \$150 million. Traditionally, domestic financial institutions have shied away from the shipping

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industry with only ICICI Bank (erstwhile ICICI Limited) having a specialised division to appraise investments in the shipping sector following its merger with the Shipping Credit and Investment Company of India (SCICI). Consequently, Indian shipping companies must look at foreign shores to borrow money. But with a 20 per cent withholding tax on interest on external commercial borrowings and a low sovereign credit rating, such borrowing costs would be quite high for Indian companies.

Thus, in the absence of favourable government policies, the Indian shipping sector has become uncompetitive globally. In such a scenario, the government's stipulation of Indian participation in LNG shipping could be met in two ways:

- Indian shipping companies could purchase LNG ships from abroad and enter shipping contracts with Indian LNG

buyers. Given their difficulty in financing new ships, Indian shipping companies would have higher borrowing costs than global shippers. These high costs would be translated into higher delivered LNG costs. Hence, to keep prices of delivered LNG down and to bring the Indian shipper's borrowing costs in line with those of global shipping companies, the government needs to develop a dedicated institutional financing mechanism for the shipping sector. This can act as an investment backbone for developing the sector.

- The second option could be joint ventures between Indian and foreign companies to procure LNG ships, which could enter into shipping contracts with Indian buyers. Given the high tax rates and other hurdles of investing in the Indian shipping industry, such a joint venture company would have higher shipping costs than a company that has

a vessel registered in a flag-of-convenience country. Such high shipping costs would again be translated into a higher delivered price of LNG.

Before stipulating any conditions then, the Indian government needs to take some necessary fiscal incentives like tax rationalisation and easing the FDI approval process to lure foreign investors and to make the Indian shipping industry globally competitive.

Thus, procurement of LNG on a CIF basis seems to offer considerable advantages to Indian buyers in the near future, which could be translated into a lower delivered cost of energy into Indian homes. It will, however, be critical to build up LNG import volumes and evolve favourable government policies to promote the subsequent participation of the Indian shipping industry in the LNG business. ■

Indian Infrastructure

