



**Infrastructure development  
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# STEEL PIPES

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## Infrastructure development to drive steel pipe demand

Energy transportation through economical means and for long term sustainability is a greater concern for global economies, especially when all major means of energy including oil and gas constitute major chunk of the country's gross domestic products (GDP). Steel pipes and tubes play a dynamic role in transporting energy like oil and natural gas leakage-free and possess the ability to conserve the natural resources for future uses by economical means of transportation. The maintenance-free in major cases help boost company's and the country's economic position thereby, raising profitability.

Growing oil and gas demand across the world and the zeal with which the oil companies are investing on adding pipeline infrastructure promises higher revenues for Indian steel pipes makers. A huge pent-up demand for pipes has cropped up over the last few months. For the refining industry, pipes are the most economical way to transport oil and gas.

Though a large number of major players are engaged in the

production of steel pipes in organized and unorganized sector yet major infrastructure projects depend on following five companies to source pipes and tubes: Steel Authority of India (SAIL), Tata Iron and Steel, Jindal Vijaynagar Steel (JVSL), Essar Steel and Ispat Industries.

## Uses of steel pipes

Pipes of all types and sizes are critical in building, construction, chemical, energy, and other industrial applications. The pipe industry is expected to experience considerable change and varying growth rates in these uncertain economic times. The global export market of the steel pipes is stated to be close to \$27 billion a year with the US, Western Europe, Australia, and Japan being the biggest importers. India is one of the major exporting nations including Indonesia, Malaysia and Thailand.

Steel pipe industry in India consists of firms mainly engaged in manufacturing seamless or welded steel pipes or tubes or ferrous metal pipe or tube fittings. The five primary steel producers in India are, namely Steel Authority of India (SAIL), Tata Iron and

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Steel, Jindal Vijaynagar Steel (JVSL), Essar Steel and Ispat Industries. Major industry bodies like the Cold Rolled Steel Manufacturers Association (CORSSMA), the All-India Cycle Manufacturers' Association (AICMA), the Federation of Industries of India, which represent the tubes and pipes makers and a large number of white goods makers, have joined hands to sort out the matters concerning the future of steel pipe industry.

The building & construction industries along with the oil & gas sector are the major marketplaces for pipe. With the construction market booming and further development of new markets for steel pipes ranging from commercial framing to water pipes, the future of steel tubing industry certainly looks bright. Significant consolidation and rationalization of excess capacity has occurred in some segments, while cost containment and improved process and quality control measures have led to productivity gains and quality improvements across the entire pipe industry.

### The urgent need

The setting up of transportation infrastructure in the wake of burgeoning crude prices is increasing the demand for SAW pipes. SAW pipes' demand is likely to remain robust due to diverse point of uses of crude and concentration of source of crude in the Middle East. Indian pipes manufacturers have the advantage of being in the close proximity to Middle East vis-à-vis other major pipe manufacturers in Japan or Europe. Transportation cost is a major cost for the pipe manufacturers to ship the pipes to Middle East, which is around half as compared to that from Japan. Moreover, the domestic demand is also high with various organizations that have put their plans to lay pipeline infrastructure for oil transportation. Seamless pipes' demand is also likely to take a leap on account of depleting reserves and rising complexity in the oil exploration and production (E&P) process.

SAW pipes are large diameter pipes, which are manufactured by welding the edges of plates or by spiral welding of hot rolled coil (HR coil). The SAW pipes manufactured from plates are called LSAW pipes as they are rolled and welded to form a pipes shape. There is longitudinal welding in LSAW pipes. HSAW pipes are made from HR coil, where in the coil is welded spirally to give a shape of pipe. In HSAW pipes the length of welding is larger as compared to that in LSAW. Depending on the length of welding, the HSAW pipes are perceived to be weaker as compared to the LSAW pipes. But now, due to substantial advancement in the welding technology, there is almost negligible difference in the pressure-bearing strength of the two types of pipes.

Indian pipe sector is set to capitalize on the booming global demand for pipes. Around US\$118 billion global opportunity is likely to unfold in next five years. Urgency to create oil & gas transportation infrastructure due to burgeoning crude oil prices and rising depletion of global crude reserves is stimulating global demand for SAW (submerged arc welded pipes used in oil & gas transportation) and seamless pipes (used in oil & gas exploration). Indian pipe manufacturers are set to benefit from the

global demand-supply imbalance and their participation in the global demand boom is visible from their expanding order book. Tight supply situation is likely to prevail for FY08 & FY09E would keep realizations firm.

### Favorable global demand – supply

Depleting oil reserves have led to an increase in exploration efforts resulting in more wells. Demand for seamless pipes is directly proportional to the increase in number of wells. As per estimates, about 35 million tonne of seamless pipes demand is likely to come up in next 5 years. USA, Middle East and domestic market would be key volume driver for Indian pipe players. The three geographies account for over 40% of the total global demand of around 75 million tonne of SAW pipes. Globally, Indian pipe companies are expected to corner around 19% of total demand. Current order book position of industry players of US\$4.15bn suggests that Indian companies are well on course to garner the share.

Global demand for SAW and seamless pipes is likely to remain firm over the next five years due to rising crude prices and depleting oil reserves. Developed world's rising energy requirements and emergence of industrial powerhouses in developing countries like China and India are the major catalysts of growth in the oil country tubular goods (OTCG) and line pipe (SAW pipes) markets. The expectation of a long-term bull market in oil and gas prices has resulted in an extended upturn in demand for SAW and seamless pipes. Global demand is said to be around 67 million tonne, with around 66% flowing from the Middle East, Asia and the US. Although demand in Europe and Russia is likely to be met from the internal supplies, demand in Middle East and the US are likely to be met through imports due to supply constraints. The supply constraints and higher demand is expected to keep the prices firm for at least two years through CY08 and CY09 escalating to mid 2010, where after it may start softening due to improved supplies.

Booming oil & gas exploration and production (E&P) activities have lead to a surge in demand for line pipes and tubular products. With expectation of a long bull market in oil and gas prices, previously unviable oil fields are being explored. Increased demand for steel pipes would continue in the medium term on account of increased exploration activities and thrust on setting up infrastructure to transport oil and gas. In India, rapid economic growth faces an urgent need to develop and improve water supply, which would also increase demand for SAW pipes.

According to industry sources, 189 line pipe projects involving 17.55 million tonne of SAW pipe are coming up in the next 5 years in North America accounting 23% of the total global demand. Inadequate supply would increase imports to the US markets. US imports will rise till new capacities go onstream. Indian pipe manufacturers are foraying into the US markets to give them a local presence. After ending its joint venture with Loan Star, Welspun Gujarat is putting up its own manufacturing facilities at a cost of US\$ 100 million. PSL is also putting up a 300,000 tonne

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plant as a joint venture. Man Industries is scouting for JV partners. Exports to the US would be one of the major revenue drivers for Indian pipe manufacturers.

### Domestic demand

India's steel pipes and tubes demand largely depends upon the proposed Iran-Pakistan-India gas pipeline project. If the project, under various stage of negotiation, comes through then the pipe manufacturing companies in the country would become full of orders. Domestic demand for line pipes, therefore, is expected to grow faster with increasing cross-country creation of oil & gas transportation network. One of the major factors to increase the demand is the creation of gas transportation infrastructure. Most of the demand would emerge from the natural gas segment. Pipeline infrastructure in India is likely to almost double in next 5 years to 39,000 km from existing around 20,000 km. The total demand for SAW pipes is likely to be around 12mn tonnes in next 5 years. Worldwide, consumption of natural gas rose from 19% of global primary energy in 1980 to 24% in 2002. Demand for natural gas is expected to grow at 3.9% per year between 2001 and 2025. The Indian natural gas market is relatively underdeveloped compared to other regions of the world. By 2024-2025, the share

of natural gas would increase to 20% of total primary energy consumption, according to Hydrocarbon Vision 2025. With growth in consumption, the transportation infrastructure would also see traction. Higher usage of natural gas requires better & economical transportation medium and thus more pipelines.

The major gas pipeline companies such as Gail (India) and GSPL plans to put up major gas pipelines. Gail is setting up a national gas grid and has planned 5,052 km of pipelines. Water resources management – another key area Water resource management is another major area where huge demand is likely to kick in. Rapid economic growth in India has thrown up an urgent need to develop and improve water supply systems in urban areas. Water resources management has been one of the major focus areas of the government in the last few budgets. According to the World Bank, projects worth around US\$5.20 billion are either under execution or in the pipeline. Assuming a price realization of US\$1,000 per tonne (mostly HSAW pipes are used in water management), there is an opportunity of 5.2 million tonnes (US\$2.41 billion).



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