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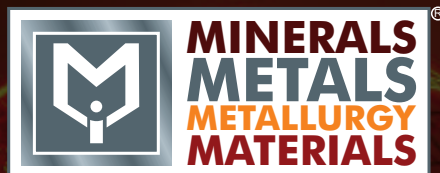
THE INDIAN INSTITUTE OF METALS - DELHI CHAPTER



VIEW OF AUDITORIUM OF DELHI CHAPTER

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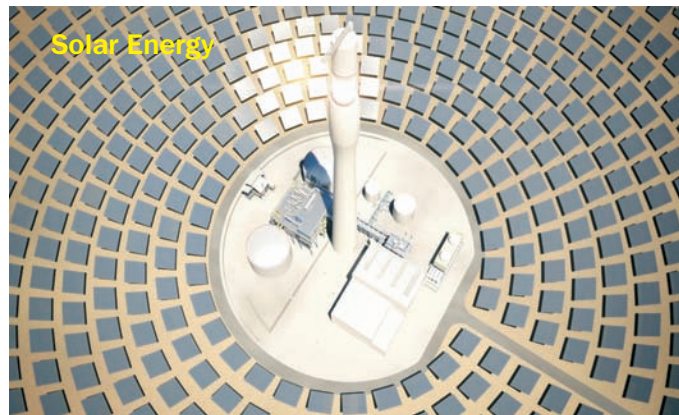
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## STEEL COMPANIES UNABLE TO RECOVER VARIABLE COSTS, IMPACT OF GOVERNMENT ACTION TO SHOW ON FINANCES NEXT YEAR: SAIL CHAIRMAN

*Prakash Kumar Singh, the new chairman of Steel Authority of India (SAIL), is an outsider to Delhi, having spent over 35 years at the public sector company's plants. In an interview to TOI, his first interview after taking charge in December, Singh outlines his strategy at a time when the steel industry is going through tough times and justifies the protection given to domestic producers battling an onslaught of imports. Excerpts:*

### **What will be your key focus areas and strategy for SAIL?**

We are currently focussing on completing our remaining modernization projects and ramping up our production from 13 million tonnes (MT) to 20 MT over the next two years. SAIL has invested over Rs 70,000 crore in its modernization and expansion programme (MEP), including modernization of the mines. At this point, ensuring cost reduction remains the prime focus of all our activities. The global steel industry is going through challenging times and competition has increased manifold. In a situation like this, it is crucial to consolidate our domestic market share. Manpower is our biggest asset and every employee has to align with the company's goal, think of themselves as the best employee in the industry and think like a global leader. This requires a massive communication exercise, which we have already initiated. An increase in volume with current available manpower would automatically bring the operational cost down thus improving company's margins.

### **How serious is the threat of cheap imports from China? By when do you expect the sector to emerge for this situation?**

Cheap imports from China are not only grave for the domestic steel market, which employs around 20 lakh people, directly and indirectly, but it poses a threat to the entire global steel industry. China despite contracting its output by 2.3% remained an aggressive exporter with exports of more than 112 million tons in 2015, which is more than the production of India or even Japan, registering 20% growth over 2014.

We have to realize that at this point we do not have any other choice but to be resilient and device cost-effective strategies to face the challenge. The last year saw a subdued growth in large economies and steel demand

in countries such as China, the US, Europe, Russia etc. started shrinking. China has created a huge overcapacity and is flooding the rest of the world with exports priced very low. This has affected the domestic steel market and cheap imports have disturbed the domestic demand-supply equilibrium bringing down the share of domestic produce in total consumption. Although domestic consumption has registered an increase of 4.2% over the previous year, expansion in demand was largely met through imports, which jumped to 9.3 MT clocking an annual growth of 24%.

Adequate policy framework has to be in place for any sector facing such threats. The government has announced several measures, such as safeguard duty on HR coils in September 2015 and more recently the minimum import price (MIP). They are expected to provide gradual improvement. At the same time, the government's thrust on growth including sectors such as infrastructure, automobiles and capital goods is likely to boost domestic steel demand. So, the sector will gradually pick up the growth and in coming years' country would see reasonable overall growth. The finances are expected to improve with stabilization of demand and that should be starting to show signs by next year, may be around the middle of 2017.

### **Steel companies have increased prices after MIP was put in place. Doesn't this protection adversely impact domestic consumers?**

Imports have impacted the margins of all domestic producers. All the companies are unable to even recover the variable costs. We have to understand that steel contributes to nearly 2% of GDP and its performance is an important indicator for growth. So, if this sector is ailing, the effects would be felt by the entire economy. The nation's 300 MT production capacity target by 2025 also depends on the performance and health of the domestic steel sector. A healthy steel sector can provide a conducive atmosphere for growth. Government's action in bringing in appropriate policies and measures for the sector is expected to bring some relief to the sector.

### **Are companies, including SAIL, selling their stocks at a discount?**

The global prices across product categories

are on a decline and have fallen from 50%-60% compared prices in 2012. Companies have to align themselves. As cheap imports are capturing huge portions of domestic steel consumption, there is a substantial build-up of inventory. There is a fair amount of inventory carrying cost attached with inventory pile up. So, companies need to optimize the situation.

### **Does the current situation impact your plans on joint ventures and efforts towards producing special quality steel for sectors such as automobiles?**

In view of the 'Make in India' initiative, India will be required to produce special steel to cater to various sectors. This is the best way of becoming self-reliant and cater to the specialized sectors like defence where now there is drive towards indigenization and automotive sector where huge potential for growth exists. Increased availability of domestic steel help save foreign exchange.

Several Indian companies are focusing on auto-grade steel production. We recently signed a MoU with Arcel or Mittal, world's leading steel supplier to the global automotive sector with approximately 17% market share, the work under the MoU is moving forward in the right direction.

Source: The Times of India

## **WE DON'T WANT TO WASTE A CRISIS: TATA STEEL MD TV NARENDRAN**

Tata Steel managing director TV Narendran seems unfazed by the challenges faced by the domestic steel industry and, particularly, his company. He is optimistic about demand picking up in India, even as Tata Steel's 3-million-tonne Kalinganagar project is getting ready for commissioning. In an interview to ET, he talks about China demolishing steel capacities, dumping of steel by foreign companies, the government's Make in India initiative as well as the company's efforts to remain a low-cost producer of steel. Edited excerpts:

### **Can Tata Steel retain its edge in cost competitiveness?**

Yes. Till December 2014, we were still the lowest-cost steel producer in the world. The last one year, the Russian steel producers have become cheaper because the rouble has become cheaper from 30 to 68 and now is 75 (against the dollar). We are still in the top five of the

world in terms of the cost of making hot-rolled coil. But I agree, that the India business is going through a difficult time. However, even in the last (December) quarter, our underlying EBITDA was 17%. So, from that perspective, I think we have done well compared to the rest of the industry. At the same time, I've to admit we cannot be insulated from steel prices.

### **For Indian steel producers, the cost of capital and price of steel have been a challenge...**

Yes. That's the overhang. The industry overhang in some sense. The industry goes through cycles ... The challenge in the industry is how to ride the down cycle. In the upcycle, everyone looks good. It is always about those who survive the down cycle. During every down cycle, there is a shake-up. Like in the early 90s, everyone thought steel was a gold mine and in the late 90s, the cycle changed. Many got burnt, some survived and became stronger. The challenge this time is that things change, so dramatically, in such a short period of time. If you look at the 2008 crisis, to some extent Asia did not suffer as much as the western world because very quickly China began spending its way out of trouble. And so the crisis eased significantly within a 12-month cycle. And demand never dropped. Demand continued to grow even when prices dropped. This time the demand in China is shrinking and the prices have dropped significantly in the 12-month period and are not likely to shoot up as it did because China can't spend its way out of trouble.

### **Are you seeing signs of stability returning to the steel industry or is it too early?**

There are a few things I've heard in different forums including the World Economic Forum, from China commentators. It is that China is not as bad as people outside make it out to be. The two-child policy (in China) is going to have a positive impact. There's going to be 2 million kids to be born this year and this is the first year of the new five-year plan. Then one sees a huge commitment in China to shut down some steel capacity. They are going to start around Beijing, where 30% of the country's steel production is located. This is also done because of pollution. They (Chinese) are talking about demolishing capacities. The language seems stronger. There seems to be lot more intent, this time. Maybe the bottom has been reached. Even in December, steel prices in China started moving up. This is different, as 12 months before it was unidirectional in its movement. At least now it

is moving up and down, and is trending upwards rather than downwards.

## **What are the immediate tasks before Tata Steel?**

We have to work on the costs. We have to keep planning for the down-cycle. We want to aspire to be in the top five of the cost curve. We (Tata Steel) are ranked in the top five or six companies globally, while measuring cost curve of steel companies. We have instituted a Shikhar 25 programme and Kar Vijay Har Shikhar (conquer every peak). That aims for a 25% EBITDA margin with raw materials and market prices. We set this target some two-three years back when the mines were closed. Since then the mines are open. This is more of a stretch goal we have set for ourselves. In this industry, the cost of capital is high and the capital required to grow is high. Tata Steel has always had a rich history of setting steep targets which we may not know how to achieve. But that is how innovation comes about. Because if we know how to achieve the target, then it is only about execution. If you want to get people to think out of the box, then you have to have those stretch targets. A whole set of actions are going on. Even in the last two years, we've gone through mine closures, a period of time when we had all the raw material imported and the steel prices dropped. But we still had the EBITDA - the lowest it hit was 16%, when the mines were all closed. And steel prices were the lowest around that time. So, we have managed to limit the fall of the underlying EBITDA to 16-17%.

## **That's on the cost side. What about the revenue side?**

On the revenue side, we already have a strong equity in the auto industry. We continue to have 40-45% market share. We'll continue to preserve that. We'll try to grow that when Kalinganagar comes on stream. We have a strong distribution franchise. About 20% of our business is from the B-to-C business (selling to consumers). We have set an internal target to take it to 30%, on an expanded base. The price volatility in this segment is less. Because the customer in this segment is buying the Tata brand and is not tracking prices in China. We have set a target to the services and solutions businesses, which today is 1.5%. We have set a target of 20% for that. Again this is one of those things that we don't know how to reach there yet.

About 20% of our business comes from the automotive business. From Kalinganagar, we

want to add oil and gas business. The advantage in the automotive segment is that it is an approval process. Oil and gas is similar. Kalinganagar allows us to get into that business. Over a period of time, we spent a lot on capex on Jamshedpur and Kalinganagar. To me, we don't want to waste a crisis. A lot of equipment manufacturers in China are looking at markets outside their country. That allows us to source cheaper equipment, without compromising on quality. The new coke-oven batteries we have built in Jamshedpur and in Kalinganagar are all from China. That's the strength of Tata Steel. We operate as well-oiled machines.

## **How do you address your finance costs, especially at a time when rating agencies have revised ratings downwards?**

It is like the steel price. You have to live with it. It is a function of what happens in the external world. We are conscious of the fact that India has a high cost of capital and that we are in a capital-intensive industry. So, even when we look good at the EBITDA level, after interest there is not much left. Within that portfolio, our team does a good job of making sure that we have the best cost of funds. The ratings will, of course, depend on the performance. If you don't have the financial numbers to comfort the agencies, then they rate us accordingly. So, from a business point of view, we have to deliver on the numbers. Obviously with high debt you'll have a high interest cost.

## **Do you believe that initiatives like Make in India will spur steel demand and improve pricing?**

On the basic level, I am more bullish on the demand than on the prices. Because we think India will grow at 7-8%. If India doesn't grow at that level, then we have a different problem to solve. Steel will be a minor problem to solve in comparison. Typically, any developing country, the multiplier on steel is 1.1 to 1.3 times the GDP growth. In China, it was 2, because they were spending so much on infrastructure. On the challenges of Make in India, the government has done a great job getting the states to compete with each other and address ease of doing business. Where we have given this feedback to the government is the cost of doing business. Ease is very important, but cost is also important. Some of the things, you mentioned of auctioning mines, land costs adds to the cost of doing business.

We are the happiest to have a transparent process of auctions, but we should be cautious



of front loading all the costs. The third is if the government opens up the market and we sign FTAs with Japan and South Korea, where they can sell steel in India at zero percent import duty, and Southeast Asia and China can sell at 7.5%, then you are allowing easy access to our market. Why would Indian steel producers go through the struggle of building a manufacturing base in India? After all, we are more capital-intensive than any other industry in India. If we look at the auto industry, which is not so capital-intensive, if you had said you can import cars from anywhere else in the world including Japan and Korea at zero-percent duty, I don't think there would be auto industry in India. Why is the government pushing Make in India? Because we have one million people joining the workforce every month. We have to incentivize people to invest. There is a need to manufacture in India.

## **Are you seeing things improving at the ground level?**

The problem earlier was society, government and industry, none of them trusted each other. Today, the government is in some ways trusting industry. They are looking at industry in a more positive manner. We can create jobs. Industry also needs to behave, in line with the environment, regulatory issues. I'm seeing a good start at the ground level.

## **The government has taken some measures to help the steel industry. Is that enough?**

Everything helps. Minimum import price (MIP) is a price at which steel has to be imported in India. Today, steel price is nowhere near the MIP. About 98% of the steel coming into India can be easily made in India. But it has helped. There was a lot of speculative imports into India. It became a trader's game. At its peak, it became 1 million tonnes per month of imports.

## **What is it now? And why is the Indian steel industry seeking protection?**

It is about 7 lakh tonnes now. India used to export about 3-4 million tonnes and import about 6 million tonnes. China has a lot of excess capacity. Further, we have an FTA with Japan and Korea. The Chinese were selling steel by incurring a loss, and the Japanese and the Koreans were selling steel at prices lower than what they sold in their own country. So it was unfair. In all aspects, all we wanted is a level playing field.

Jamshedpur (Tata Steel's mother plant) has 10-million-tonne steelmaking capacity.

Kalinganagar is 3 million. It is a chicken and egg thing. If we let imports, then no one will set up steel plants in India. There was a projection made that if we don't add steel capacity, 10 years from now, after oil, steel would be India's biggest import. At that time, if you tell us to build steel plants, it would take at least five years. China used to export 60 million tonnes of steel. They started exporting 120-130 million tonnes. It is this extra 60 million tonnes which has disrupted the world's steel industry. If India can take care of the 60 million tonnes, everyone's problem is solved.

## **After Kalinga, will you look at new capacity creation?**

Building new capacity is not immediately on the horizon. Our immediate focus will be to get Kalinganagar to ramp up fast. In Kalinganagar, we have 2,000 acres. We are in the process of getting another 1,000 acres more that allows us the opportunity to expand, when the pricing, financials allows us that. Jamshedpur is 1,700 acres and we already have got to 10 million tonnes. Anyway, we didn't go through the pain, just to build a 3-million-tonne steel plant. The potential is 10-15 million tonnes. But we should be able to justify it financially.

## **There is talk that Tata Steel is scouting for stressed assets...**

There are many at different times. Some proposals come to us from bankers. We evaluate them, as and when required. We should first afford the growth. And then we'll look at the pros and cons of organic versus inorganic growth.

## **How's Natsteel, your subsidiary in Southeast Asia, faring?**

Southeast Asia has been an interesting journey for us. If you look at Tata Steel, people think we are 10 million or 13 million (tonnes a year). Actually, we are 16 million. We have 3 million tonne of long products in Southeast Asia. While we've been talking about MIP, we've been bringing steel from Southeast Asia to India - Tata Steel Tiscon rebars from Thailand and from Singapore. We have brought in 2 lakh tonnes steel from Southeast Asia. We expect Southeast Asia to work more seamlessly with India in the future. After India, Southeast Asia is one of the fastest growing markets in the world for steel. The region consumes 70 million tonnes, of which 30% arrives from Japan, South Korea and China. Southeast Asia has a consumption of 70 million tonnes but

has a production capacity of 20 million tonne. It is a huge gap. We want to grow that part. Our business has turned around. They will not seek any cash from the Indian business.

Source: The Economic Times

## THE STEEL INDUSTRY NEEDS HANDHOLDING, NOT PROTECTION: SESHAGIRI RAO MVS

If the government's ambitious Make in India programme is to succeed and if India has to become a manufacturing hub, the steelmaking sector will have to play a crucial role. However, for that to happen, the domestic steel industry needs to be protected from the trade imbalance caused by steel imports at unfair prices.

The government's recent decision to impose a minimum import price on steel imports is a welcome step for the industry. The government had earlier imposed a safeguard duty on imports and also enforced a quality order to prevent inferior steel from entering the country. But these measures were only imposed on limited grades of steel and were ineffective in countering rampant imports. This time, the minimum import price has been made applicable to 173 (out of 343) grades of steel that account for 80 percent of all steel imports. This will make it a far more effective step.

In the upcoming budget, the government would do well to propose some remedial measures to prepare a level-playing field for Indian steel producers, who are key stakeholders in its plan to ramp up infrastructure-creation and facilitate long-term economic growth.

India is the third-largest steel producer in the world after China and Japan and also the third-largest consumer of steel after China and the US. It is also the largest producer of sponge iron. The country has exported over 80 million tonnes of steel since 1991, competing with the same set of countries that are now dumping steel in India at predatory prices. This is adversely affecting the domestic industry. Unbridled imports from countries like Japan, South Korea and China are causing irreparable damage to the industry, despite the fact that we are the second-most competitive steel industry in the world.

Some of the global factors that have led to the current situation include severe contraction in steel demand in China due to a steep decline in construction, housing and infrastructure investments; falling investments in mining, metals and oil and gas due to a sharp fall in commodity prices; rapid deterioration of emerging economies like Brazil and Russia accentuated by the strength of the dollar; and free trade agreements signed by India with Japan, South Korea and others to allow steel imports at negligible to zero percent duty.

All these have led to a structural oversupply in the world market with Japan and South Korea offering high discounts on their domestic prices.

Major listed Chinese steel companies had a heavy operating loss burden in 2015. But, instead of cutting back on production, China, with the support of export subsidies and rebates from the government, increased steel exports to compensate for the fall in domestic demand.

The steel industry is characterised by high capital intensity, dependency on bulk raw materials like iron ore and coal and the cyclicity of commodities and geopolitical factors. In view of the complex problems faced by the sector and its strategic importance for nation building, this industry always requires government handholding.

When exports from China, Japan and South Korea surged, several trade remedial measures were initiated (441 interventions) by various countries across the world. When the imports of finished steel into India grew by 71 percent in 2014-15 and 30 percent in the current fiscal, the Indian steel industry sought the government's intervention to arrest the dumping.

After liberalisation in 1991, large investments of over Rs 5 lakh crore have been made to increase the installed capacity of steel production in India from 13 million tonnes in 1991 to 114 million tonnes at present with state-of-the-art facilities and technologies capable of producing advanced steel grades. Though the installed capacity is expected to reach 124 million tonnes by the end of FY2015-16, capacity utilisation has gone below 80 percent. Around 15 percent of domestic steel demand is being met through imports even as domestic capacity is lying idle.

Steel as an industry is capital- and labour-intensive. Lower capacity utilisation pushes up fixed and capital servicing costs, severely impacting viability.



When steel prices fell, the domestic industry was deprived of the competitive advantage of lower iron ore prices as regulatory action led to a shortage of raw material and kept prices high.

Furthermore, lower oil prices haven't resulted in lower freight rates in India. Railway freight rates went up by over 25 percent in the last two years, adding to the woes of the industry. Cost of capital for steelmakers in India is also higher compared to their peers globally.

What the industry needs is a level playing field to correct these imbalances, and not protection per se, as is perceived generally.

China, Japan and South Korea will continue to export steel into India as these exports are strategic for them to protect jobs and investments in their countries, but the Indian steel industry, which is the backbone for industrial development, will not remain viable if imports are allowed to continue at unfair prices. If the current status quo stands, India may have to permanently rely on steel imports.

In this light, the government should consider a few proposals in the budget. These include: Increase in import tariffs, initiate action to impose safeguards in the form of anti-dumping and countervailing duties on the import of steel products into the country; issue quality orders to comply with regulations laid down by the Bureau of Indian Standards; impose non-tariff barriers; exclude steel from free trade agreements; provide concessions on railway freight rates on a capital-intensive industry like steel; auction iron ore and coking coal mines by earmarking them to existing companies in the steel sector; increase duty drawback to compensate fully non-modifiable taxes; and provide access to capital at competitive rates.

Steel demand is driven by growth in the infrastructure, transportation, capital goods and packaging sectors. The recent amendment to the Mines and Minerals (Development and Regulation) Act has given a fillip to the mining sector, creating demand for earth moving equipment and commercial vehicles. The proposed investment of Rs 8.5 lakh crore in railways, and plans to create renewable energy capacity to the tune of 175 gigawatts as well as to increase outlays on public expenditure augur well for steel demand.

It is, thus, of paramount importance to initiate remedial measures to correct the trade

imbalance that exists in the steel sector and ensure the viability of this industry.

Source: [www.forbesindia.com](http://www.forbesindia.com)

## DETERRENTS TO THE INDIAN RECYCLING (SCRAP) INDUSTRY

Today, Metal Recycling is a globally recognized industry, valuing around USD 500 billion. Its economical and environment benefits have always attracted developed nations to use more scrap against virgin ores. Developed nations in the world have shown gradual increase in scrap production and consumption against natural resources. As per a study conducted, recycling rate in developed nation is around 75-90% whereas in India it's just 20-25%. So, for India it's a long way to go!

On a brighter side, scrap consumption in India has risen at a significant rate in the past few years. Total ferrous scrap consumption during FY15 was approximately about 15-16 mnt (compared to 12-13 mnt was generated domestically).

Talking of recent quarters, fall in global scrap offers to all time low levels in last few months have shifted interest of Indian mills towards scrap as a preferred feed over sponge iron. Few agencies have even forecasted metal scrap consumption in India at 39-40 mnt by 2020.

Contribution and Consumption of Various Metal Scraps in India		
Metal	Primary Production (mnt)	Scrap Consumed (mnt)
Steel	81	9.4
Foundry & Casting	9	7.8
Aluminium	1.9	0.95
Copper	0.75	0.245
Zinc	0.8	0.37
Lead	0.17	0.1

Today, the Indian scrap industry has grown wider, valuating annual scrap consumption at INR 750 billion. But, the sector still remains highly unorganized and unaccountable. Large volume of non-segregated scrap is inadequately utilized all over the country. Hence, some of the recycling associations in the country are taking efforts to make the industry more organized and accountable and earn recycling an industry status.

In the process to know further about the industry, Steel 360 learned that there are many issues, routine as well as capital that are continuously discouraging the industry's growth.

- (1) *Deficiency in PSIC Norms:* The Indian government introduced Pre shipment Inspection Certification norms to develop better trade practices among scrap participants in India. But, omissions and lack of clarity in policy has led to lot of criticism and demand for redrafting the same. Non-inclusion of disposal policy in the reform seems to have worried the importers to an extent. Similarly, installation of scanners at major Indian ports sanctioned in the papers, but delay in implementation has also annoyed the scrap importers.
- (2) *Discriminated Duty Structure under FTA with ASEAN Countries:* Import duties being charged on scrap; while nil duty on finished product from ASEAN under FTAs is another concern that is worrying the scrap users in the country.
  - (a) *Lack of Proper Guidelines in Shipping line and Stevedore Services:* Lack of transparency and non-uniform service charged from the importers has also come up as a constraint for the industry.
  - (b) *Inconsistency in Evaluation of Import Duty Charged:* As per the study, there is no standard pattern or methodology designed by the ports for assessment of import duty on scrap. It has been noticed that custom valuation for import duty does not consider the real time price or the actual prices that are mentioned in the invoice, rather charge a pre-determined monthly standard. Hence, over charged duties are adding up to the cost of imports and is a worry for the importers.
  - (c) *Lack of Domestic Shredding Unit:* Government needs to pay more attention towards setting up recycling zones in the outskirts of major cities in order to have better control over the domestic production and consumption of scrap. This would also limit imports of the material and provide for more organized trade domestically.

Metal Recycling Association of India (MRAI) along with Jamnagar Factory Owners Association has taken initiatives on behalf of the industry and

written a letter to the Honorable Finance Minister highlighting various industry challenges with a hope of creating more conducive business environment for the recycling industry in the country.

Source: Steel 360

## RECYCLING, A FORCE TO PRESERVE OUR RESOURCES AND PROTECT OUR ENVIRONMENT

The environmental benefits of recycling can be expressed in many ways, including saving in both energy and virgin materials. However, there appears to have been little attempt to express these benefits in terms of carbon footprint and particularly in terms of equivalent carbon dioxide emission savings.

With this in mind, BIR has commissioned a report to identify the savings that are being made by using recyclables as opposed to primaries, in order to establish the carbon credentials of the recycling industries.

The following facts summarise the finding of this study\*.

### Non-Ferrous Metals

#### Aluminium

- One third of aluminium demand is supplied by secondary production.
- CO2 emissions are reduced by 92% when aluminium scrap is used instead of bauxite.

#### Copper

- 30% of copper production comes from copper scrap.
- By using copper scrap, we reduce CO2 emissions by 65%.

#### Lead

- 50% of the world's lead production originates from secondary lead.
- Using secondary lead instead of ore reduce CO2 emissions by 99%.

#### Nickel

- About 1.44 Mt of nickel is production worldwide every year. Of this total production, 0.35 Mt is recycled nickel, made from 4.5 Mt of scrap.

- The carbon footprint of nickel using primary production is 90% higher than that of secondary smelting.

## Tin

- Global tin production amounts to 350,000 tonnes of which 50,000 tonnes is produced from scrap and other secondary sources.
- Primary production of tin requires 99% more energy than secondary production.

## Zinc

- Of a total worldwide zinc production of 11.4 Mt, 10.6 Mt was smelter zinc in which 4.97 Mt was categorised as either primary or secondary. The remaining 5.63 Mt (53%) was not differentiated. Production from secondary is estimated at 7.5% of the differentiated 4.97 Mt.
- Secondary production uses 76% less energy than primary.

## Ferrous Metals

- 40% of world steel production comes from scrap.
- CO2 emissions are reduced by 58% through the use of ferrous scrap.

## Paper

- 365 million tonnes of paper and board are produced globally every year and of this 46% comes from secondary sources.
- The carbon footprint for primary paper production is 18% higher than secondary production.
- The total estimated reduction in CO2 emissions obtained from the above data is approximately 500 Mt CO2 Per annum.

Source: Bureau of International Recycling

## GOVERNMENT SPEAKS ON STEEL INDUSTRY TROUBLES

As the Indian steel sector is going through a very challenging situation due to slowdown and Chinese dumping, the government has indicated that it may take more measures to protect the sector. Indian steel and mines minister Narendra Singh Tomar has said that there has been some positive impact on the industry after the measures taken in December last year. However, he did

not give a time line for more safeguard measures. Here is an excerpt from his interaction with the media during his visit to Bhubaneswar in the first week of January.

*Q. The steel sector is going through a very challenging phase. How do you read the situation and what steps is the government taking to protect the domestic industry?*

*A. The steel sector is under tremendous pressure due to slowdown in world economy and dumping from China, but the government is well aware of the situation. With a view to provide relief to the domestic steel industry, the government has announced some safeguards and issued quality control orders. The sector has got some relief due to these steps, but we have many things still to do. The concerned departments are working on more measures in this regard and the government will take its next step at the right time.*

*Q. There are reports that the government is considering imposition of minimum import price (MIP) on steel to protect the domestic industry from cheap imports. Is there any progress in this regard?*

*A. As I have said earlier, the government is well aware of the situation of the steel industry and the concerned departments are working in this regard. If any decision is taken, it'll be informed.*

*Q. Is there any plan to cut export duty on iron ore?*

*A. We have received some proposals regarding this. But no such proposal is under consideration as of now.*

*Q. What is the progress in the mineral block auction?*

*A. As per the amended MMDR act, we have decided that auction is the only way for mineral block allocation. So far 35 blocks have been put on auction by several states including Odisha and the process has been started. I have asked the state governments to speed up the auction process and bring more blocks under auction. The Odisha Chief Minister has informed me that few more blocks will be auctioned after completion of the exploration works by MECL.*

*Q. Is there any plan to restructure the Geological*



*Survey of India (GSI) in order to meet the growing demand of exploration activities in view of the mineral block auction?*

A. In India, lots of exploration activities are yet to be carried out. Of India's total 3.2 million sq km geographical area, 0.8 million sq km is potential mineral bearing area. The GSI has surveyed and fixed Obvious Geological Potential (OGP) area of 508,000 sq km. However, so far exploration work has been carried out only on 10% of the OGP area and currently mining activities are being carried out only on 1% of the total are. So my point of view is that, after so many years we are yet to do lot of work on exploration front. In some of the mineral rich countries, 90% or even 100% areas have been explored. So we have a long way to go. In the amended mining law, we have laid emphasis on the exploration sector also. A National Mineral Exploration Trust has been set up and the trust along with state governments will formulate policies to meet the growing challenges in exploration.

Q. *Is there any plan to hire international exploration agencies for the purpose?*

A. The Mineral Exploration Trust will sit with experts and various stake holders in the private sector to formulate relevant policies for the exploration sector. We have also finalized the draft of the National Mineral Exploration Policy after deliberations with various stakeholders. The draft has been uploaded on the ministry's website to get suggestions from stakeholders and I believe the policy should come up in the next couple of months.

Q. *Is there any progress on the POSCO project?*

A. No. There is no proposal from POSCO in my office.

Source: Steel 360

## CAN MIP PROTECT THE INDIAN STEEL INDUSTRY?

The Indian steel industry has been reeling under immense pressure from import glut and predatory pricing for last more than 2 years. The inbound shipments from China, Japan and South Korea have been persistently hampering the domestic steel business. In order to safeguard them, the

Indian government has taken several initiatives such as increasing import duty, levying safeguard duty and making BIS norms mandatory on steel products, among others.

As another protective measure, the government in Dec'15 announced imposition of Minimum Import Price (MIP) on certain steel products, giving a ray of hope to the distressed Indian Steel industry.

### What is MIP?

MIP is defined as the equivalent to the weighted average global price of a product and price before injury was caused, whichever is lower. In simpler terms, it can be stated as the price below which import should not be allowed into the country. Sections 3 & 5 of the Foreign Trade (Development & Regulation) Act and Section 11 of the Customs Act enable notification of such price.

Under the MIP system, even though import prices move further down, all the duties imposed to arrive at landed cost of imports (customs duty, countervailing duty etc) will be calculated on MIP. However, import of products meant as input for manufacturing of products for export purpose will be exempted from MIP mechanism.

### Who Proposed the Idea for MIP Imposition?

Looking at the critical condition of steel makers, Indian steel ministry had sent a proposed minimum import price list of 14 steel categories to the commerce and industry ministry in the 1st week Dec'15. The list consisted of about 40 products including Pig iron, semis, CRC, coated flat steel products, bars & rods among others.

Products under 14 Categories for Base and Special Grades		
Category	Base Grades	Special Grade
Metallics	250	NA
Semi Finish Products	400	460
Hot Rolled Products	450	510
Hot Rolled Universal/quarto Plates	505	565
Cold Rolled	555	615
Coated Flat Steel	660	720
Colour Coated, Pre-painted	760	NA
Cold Rolled Non-grain oriented	915	NA
Steel Pipes & Tubes	515	580
Seamless Tubes & Pipes	775	925
Stainless Steel Tubes & Pipes	2,417	3,404
Stainless Steel Ingots, Other Semi Finished Products	2,117	3,104

Flat Rolled Products	1,772-2,217	3,204-3,435
Bar, Rods & sections of Stainless Steel	1,871	2,759

However later in the first week of Jan'16, the commerce minister – Nirmala Sitharaman postponed the decision for MIP imposition. Although, the steel ministry is strongly in favour of its imposition. It appears to be the case of a two faced coin. Albeit, levying MIP on steel import will provide a layer of protection to domestic industry, it may widen the area of illegal trading and generating black money. However, after much discussion during the second week of Jan'16, commerce secretary Rita Teatota left the decision on the government in this context.

## How has Import Glut Hit Financial Status of Indian Steelmakers?

In Q2 FY16, India's largest steel companies like SAIL, JSPL, Bhushan Steel and Monnet Ispat reported huge losses of INR 10.55 bn, INR 2.03 bn, INR 7.33 bn and INR 3.95 bn respectively. Huge debts on steel makers, weak global and domestic sentiments, rising steel import from China and constantly subdued demand from end-users have significantly plunged the margins of Indian steel makers.

Source: Steel 360

## SCRAP IS NO LONGER A WASTE

The Metal Recycling Association of India (MRAI) recently organized its ceremonious annual summit in Gurgaon which was attended by its members from all parts of India and other nations including steel & mines ministry officials, office bearers of many associations such as AIIFA, BIR, BMR, CMRA etc. Mr. Sanjay Mehta, President, MRAI led the proceedings underlining that the Indian government should lay more emphasis on recycling as an industry and promote its existence by disposing off duty of 2.5% on import of scrap.

Mr. Mehta emphasized on the need for using more and more recycling material in a growing country like India. According to him, recycled materials supply 40% of the global raw material needs. Today, recycling is a USD 500 billion industry globally and out of that metal recycling alone accounts for around USD 200 billion. In India, metal recycling is about INR 750 billion industry. Every country is promoting use of recycled metals

as it preserves natural resources and provides sustainable development to the economy, and has extremely low emissions compared to primary production.

Another speaker, Mr. Liu Wei, who represented China Non-ferrous Metals Recycling Association (CMRA), highlighted the various initiatives taken by the Chinese Government in China's recycling sector. The country gives tax rebate of 30% to recycling processors to promote recycling. It has zero percent duty on imports of metal scrap. The government has established recycling zones in almost all provinces totally at their cost.

Mr. Surendra Borad, Chairman, Gemini Corporation also made some very interesting facts about the recycling industry worldwide and urged the need to change the mindset into a belief that 'Scrap is no longer a waste but a valuable resource'.

A Bank of America Merrill Lynch Study in 2013 brought out the following.

- Total Waste Business in 2013 – USD 1 trillion and projected to be worth USD 2 trillion by 2020.
- Industrial Waste Business – Estimated USD 1 trillion in 2016 and growing @ 7% to 13%.
- Municipal Waste Business - An opportunity worth USD 400+ billion.
- Waste to Energy (WtE) business approaching over USD 80 billion in next 5 years.
- The upcoming Electric and Electrical e-waste business – Estimated worth USD 50-100 billion.

He talked about the huge potential in Metal Recycling in India when he claimed, "Currently, India has about 9 million End-of-Life Vehicles every year and projected to be 22 million annually in next 10 years." Similarly, he mentioned the potential of other recycling businesses such as plastic, food, furniture, aircraft, shoe, construction and demolition waste, and solar panels & wind turbines. The steel ministry officials in their addresses thanked MRAI and other speakers for their insightful and thought provocative presentations and assured that the government think-tank will address the issues of the industry soon.

Source: Steel 360

## ALUMINIUM FIRMS LOOKING FOR SAFEGUARDS FROM CHEAP CHINESE IMPORTS

An unprecedented downturn in the global commodity cycle and persistent rise in steel and aluminium imports from countries such as China have forced the government to examine ways to safeguard these industries. WHAT'S PUTTING PRESSURE ON THE ALUMINIUM INDUSTRY> Steep rise in cheap exports from China> Higher taxes on coal which accounts for big input costs> Inverted duty structure that allows China to import bauxite from India and sell back finished goods With the northern neighbour sitting on huge excess capacity in both these sectors, it is looking at ready markets, and India happens to be one such market. The government has already imposed safeguard duty twice to protect the steel industry, and the aluminium industry is hoping for a similar concession.

The steel industry, before the safeguard duties were imposed had seen imports rise 69 per cent in the last financial year. Just like steel, the aluminium industry has seen a steep rise in cheap imported finished products cutting into its market. AND WHAT THE INDUSTRY WANTS> Raising import duty on aluminium finished products from 5 per cent to 15 per cent> Reducing import duty on raw materials from 7.5 per cent to 2.5 per cent> Increasing export duty on bauxite from 20 per cent to 50 per cent> Increasing Duty Drawback "Dumping by China is a big reason. They are selling for lower than their production cost. It may be their strategy but it is damaging us," says Narendra Singh Tomar, Union Minister for Steel and Mines. The government has increased the import duty on steel on more than one occasion. It also imposed anti-dumping and safeguard duties. The odds are that more action is in the offing to shelter the metal producers.

The aluminium industry is currently reeling under not just cheap imports but also rising costs, largely due to higher taxes on coal, and a steep decline in aluminium prices. India consumes around 3.5 million tonnes aluminium every year, of which 1.5 million is imported, mostly from China and West Asia. Since 2011, the import surge has been a steep 159 per cent. In the first half of the financial year, the share of imports in total consumption

was 56 per cent. Over the past few years, the domestic aluminium industry has witnessed significant capacity addition, and is currently operating at only 50 per cent capacity, making debt servicing more difficult.

Continuous fall in global aluminium prices -40 per cent from \$2,474 a tonne in November 2014 to \$1,479 a tonne in January 2015 - has impacted the profitability of companies. Hindalco reported a 33 per cent decline in operating margin in the July-September quarter while Vedanta reported a loss in its aluminium business - which contributes 18 per cent to overall revenues - in the October-December 2015 period.

The government says it is actively considering the industry's wish for raising the import duty on aluminium from 5 per cent to 15 per cent. The aluminium industry also faces inverted duty structure where the duty is 5 per cent on imported finished products and 7.5 per cent on raw materials. It is trying to convince the government to reduce the import duty on raw materials to 2.5 per cent. THE INDUSTRY IS PITCHING FOR INCREASING THE EXPORT DUTY ON BAUXITE TO DISCOURAGE CHINA AND OTHERS FROM BUYING IT CHEAP FROM INDIA AND THEN SELLING BACK VALUEADDED MATERIAL Meanwhile, bauxite exports to China have surged 52 per cent in the past one year. There, value addition takes place and finished aluminium is exported back to India. The industry is pitching for increasing the export duty on bauxite from 20 per cent to 50 per cent to discourage China and others from buying it cheap from India and then selling back value-added material, which competes directly with what is produced by the Indian players.

Other commodity players are also watching keenly if the government extends the same safeguards to the aluminium industry that it has provided to the steel industry. Solar panel manufacturers, the electronic hardware industry and tyre manufacturers are all clamouring for protection saying they are threatened by cheap imports. However, their case might be weaker than that of steel and aluminium industries because their domestic production is still below demand. But they are all waiting to see exactly what action the government will take on aluminium before ramping up their lobbying efforts.

Source: [www.in.finance.yahoo.com](http://www.in.finance.yahoo.com)



## YOU CAN'T MAKE IN INDIA IF YOU CAN'T MAKE STEEL

The Modi government's 'Make in India' campaign is aimed at transforming the country into a global manufacturing hub and creating millions of jobs for those who will join the workforce in the coming years. With the global industrial powerhouse China moving towards consumption-led growth, the time is ripe for India to raise the profile of its manufacturing sector. But a high-cost domestic steel industry does not augur well for the 'Make in India' initiative. Out of the nearly two dozen sectors identified by the government as focus areas under the campaign, the cost of steel is crucial to the competitiveness of manufacturing in at least nine industries – automobile, automobile components, construction, defence manufacturing, electrical machinery, railways, renewable, thermal power, and oil and gas.

### Declining competitiveness

Yet the news here is not good. The domestic steel industry has lost its export competitiveness in recent years and as a result, India has now become a net importer of steel. For instance, in 2003-04, India's steel imports were 1.5 million tonnes and exports 4.5 million tonnes, but in 2014-15, the country's steel imports were 9.3 million tonnes and exports had increased barely to 5.5 million tonnes. The steel sector's global competitiveness has further eroded, with exports falling 29.7 per cent in 2015-16 up to December, from the same period last year, according to the Joint Plant Committee, an agency mandated to collect data on the steel sector. A tonne of reinforcement steel produced in India for use in buildings can cost up to 15,000 rupees more compared to China, according to industry sources. Unsurprisingly, with the declining competitiveness of the sector, the steel industry has lost ground to global suppliers in the domestic market too. The domestic steel industry is pushing for the basic customs duty on steel products to be raised up to 25 per cent, the maximum permissible under WTO guidelines, to curb imports. Under pressure from domestic manufacturers, the government has raised import duties and imposed anti-dumping duty to discourage steel

imports. However, steel manufacturers are still unhappy and want the government to do more to check imports. In the Union Budget 2015-16, the tariff rate of basic customs duty on iron and steel, and articles of iron and steel, was increased from 10 per cent to 15 per cent. No change was made to the effective rates of basic customs duty on these goods at the time. However, the government later raised the applied rates on long and flat steel products by 2.5 per cent.

### Trend in Steel Output, Imports

Year	Production (mt)	% increase	Imports (mt)	% increase
FY12	74.29	5.1	6.86	
FY13	78.42	5.6	7.93	15.5
FY14	81.69	4.2	5.4	-31.9
FY15	88.12	7.8	9.3	72.2
FY16 (upto December)	67.229	1.1	8.389	29.2

Source: Joint Plant Committee; mt – million tonnes

The government has also levied a 20 per cent ad valorem safeguard duty for 200 days on certain hot-rolled flat products effective from September 14.

The per capita consumption of steel in India currently stands at the low level of 60 kg as against the world average of 220 kg. But this figure could increase significantly in the coming years if the Modi government's flagship programmes, such as the 'Smart Cities Mission' and the 'Housing for All by 2022' besides 'Make in India', gain traction. India's steel imports jumped 29.2 per cent in the current 2015-16 up to December, after a 72.2 per cent spike in the previous year. According to the World Steel Association, India's steel demand will likely grow at 7.3 to 85.8 million tonnes in 2016, the highest growth rate for any country in the world. Vishnu Deo Sai, the minister of state for steel, has told parliament that steel imports from Japan and Korea have become cheaper after the free trade agreements with those countries became operational, and surged on the back of new-found price competitiveness. Deo, however, was quick to clarify that domestic capacity addition and production have not been impacted by the import surge. Free trade agreements with Korea and Japan became effective in 2010 and 2011, respectively.

Steel suppliers from China have also stepped up exports to India in recent years. Steel imports

from China have surged from 1.7 million tonnes in 2013-14 to 3.5 million tonnes in 2014-15. Unfazed by its eroding competitiveness, the domestic steel industry is adding capacity. Last year, India overtook the US to become the world's third largest producer of steel after China and Japan. This despite the fact that the industry saw its capacity utilisation level fall from 91 per cent in 2010-11 to 77 per cent in 2013-14, mainly due to the shortage of iron ore. Fed up with persistent lobbying by steel manufacturers for protection from imports, Finance Minister Arun Jaitley has asked the steel industry to be more competitive. "You have also to enable your own self for cost competitiveness. In the eventual race, hand-holding can take place up to a point. Beyond that point, one has to stand up on your own strength, run the industry on your own strength," Jaitley said, while inaugurating an industry conference last August.

## What lies ahead

The steel industry's stand is clearly out of sync with the government's broader goal of promoting manufacturing. The industry is clamouring for protection as it cannot compete with imports. It is raising the China bogey to create a nationalistic appeal. However, the fact remains that steel consumers are as Indian as manufacturers and that former's interests cannot be sacrificed to shield producers from market competition. A case is being made that public sector banks have given 50 billion dollar in loans to the steel industry, which could become duds if manufacturers are not protected against imports. The questions remains – should the government choke steel imports just to protect the narrow interests of the steel industry? Is that a realistic option? If the government chooses to do so, there is a risk that this could provoke retaliatory action against our exports from the affected trading partners. Under the latest national steel policy, the Centre has envisaged raising steel manufacturing capacity to 300 million tonnes by 2025-26 from the level of 101 million tonnes in 2013-14. That would entail an investment of Rs 8 lakh crore. Banks are already reeling under the steel sector's stressed loans. Given the domestic industry's non-competitiveness, the government will have to take a view if such a huge capacity expansion is worthwhile.

Source: [www.thewire.in](http://www.thewire.in)

## DOMESTIC STEEL COMPANIES HIKE PRICES BY UP TO 4%

Following imposition of a minimum import price (MIP) on a range of steel products recently, leading domestic primary steel producers such as JSW Steel, Essar Steel and Jindal Steel & Power have raised product prices by up to four per cent. Some of these companies have hinted at gradual but marginal price hike going forward. "We have raised prices by less than 4 per cent in the retail segment for both flat as well as long steel products," Seshagiri Rao, managing director and group chief financial officer at Sajjan Jindal-led JSW Steel told Business Standard. "Since we are in long-term contracts with OEM (Original Equipment Manufacturers), it's not possible to raise prices for these customers," he added. On February 5, the government announced MIP of 173 steel products to curb dumping of cheap steel by countries like China, Russia, Japan and South Korea. "We have marginally raised product prices but our overall price hike is going to be a gradual one," said Ravi Uppal, chief executive officer of Delhi-based Jindal Steel & Power.

Domestic steel companies had been selling products at distressed prices owing to cheap imports that flooded the market. "Steel prices in India had fallen by over Rs 8,000 per tonne over the last year, severely impacting the operations of steel companies. Though the government has fixed MIP at \$445 per tonne for hot-rolled, keeping in mind interests of customers, we have increased prices by 4-5 per cent only," said a spokesperson of Essar Steel, the unlisted giant. While the query sent to Tata Steel, India's largest steel producer, were not answered, Steel Authority of India Ltd (SAIL) said it was yet to decide on the price hike. "So far, we have not raised product prices since our meeting on pricing is yet to be held," spokesperson of state-owned SAIL said. According to industry insiders, product prices are not likely to go up drastically because soon domestic production will catch up with the demand. "With imports of 5-6 million tonnes out of market, there is place for domestic steel producers to raise capacity utilisation and produce more. Since production will jump from all producers, it will allow only marginal hike in steel products going ahead," said Rao of JSW Steel.

Rating agency Fitch holds a similar view. The agency estimates that MIP will allow domestic producers to raise product prices for most products by \$50-\$70 a tonne from current levels. The rating agency says because of weak domestic demand, capacity utilisation is unlikely to improve significantly. Hence, additional price increase, if any, would be similar to the current levels (4-5 percent) but spread out over the next three months. Consequently, Fitch expects profitability of steel producers to remain weak compared with FY15 level. "We believe that further steel price increases and a significant improvement in steel producers' profitability will depend on a strong revival in domestic demand growth," the report states. The agency continues to consider the increased government spending on infrastructure to be the key catalyst for acceleration in Indian steel consumption growth, which was at 4.7 per cent in the first nine months of FY16. This followed weak demand from key end-user industries, such as real estate. Globally, supply continues to outstrip demand. The recent announcement by China, the world's largest steel producer, that it would cut its steel production by 100-150 million tonnes fails to adequately address concerns. China's capacity is close to 1.2 billion tonnes, with an output of around 800 million tonnes in 2015.

Source: Business Standard

## INDIA STEEL OUTPUT TO GROW BY 7% IN 2016: PLATTS

Steel production in the country will continue to grow by almost 7 per cent in 2016, according to Platts. The statement comes in the wake of latest data by World Steel Association (WSA) which shows India is the only country among major steel producing nations such as China, Japan, South Korea and the US, that witnessed growth in production in 2015. Production in the world's third largest steel producer -- India -- rose by 2.6 per cent to 89.6 million tonnes (MT) in 2015 as against 87.3 MT in 2014, according to WSA data. "In 2015, out of the 10 largest steel production countries in the world, nine saw production cuts, the exception was India. In 2016, we continue to see Indian steel production growing by almost 7 per cent," Editor-in-Chief, Platts Steel Business Briefing, Henry Cooke said recently. Platts sees long desired and much needed new investments

in infrastructure projects such as roads, railways, ports, power and water infrastructure are a key driver for steel consumption. The consumption of steel per head of population in India is extremely low. "The consumption of steel per head in India is around 65 kg per year against 235 kg as a global average," Cooke said.

While growth of 7 percent in Indian steel production is impressive in the current environment, it is hardly comparable to the booming steel production that China underwent over the last 20 years, he added. As per Steel Ministry also, India is the only country among major steel producing countries which recorded a positive trend in steel production and consumption last year. "India became the third largest producer of steel in the world in January 2015, leaving behind the US as the fourth largest producer," the Ministry has said in a note.

According to WSA data, crude steel output in China -- the world's largest steel maker -- fell by 2.3 per cent to 803.8 MT in 2015 compared to the year-ago period. Platts further said, "The big question is what will happen to Chinese steel production given the current huge overcapacity and the ongoing move from an investment led economy to a more consumer led one." About the US, it said steel production is set to rebound after a double digit cut in production in 2015. The recovery is partly as a result of keeping imports of steel out of the US market and because of improved demand from the construction sector and the car industry. This is tempered by a continued slowdown in steel demand from the oil and gas industry. In 2015, the US produced 78.9 MT of crude steel, a decline of 10.5 per cent compared to 2014, whereas Russia showed a decrease of 4.3 per cent in 2015 with an output producing 101.5 MT of crude steel.

Source: The Economic Times

## STEEL PRICES WILL FIND THEIR OWN LEVEL: T V NARENDRA

Tata Steel will start commercial production at its three million tonnes (mt) capacity plant at Kalinganagar, Odisha, from April 1. The production will start at a time when the domestic industry has been facing one of the toughest years in recent year that led to the government imposing a



minimum import price. T V Narendran, managing director, Tata Steel India and Southeast Asia, tells *Abhineet Kumar* about how the company and the industry are coping with this challenge. Edited excerpts:

**Is the steel industry well protected now, with the government imposing a minimum import price (MIP) in response to industry's demand?**

It is supported. We cannot say protected. Steel industry has never asked for protection. Steel prices have been going up and down for the past 10-15 years. The reason why the industry started making a noise is that prices went back something like 12 years in the matter of 12 months. So, when the industry went through such a rapid deterioration in prices and one of the major producing and exporting countries is having a slowdown, then we need to respond. And all economies of the world, whether the US or Europe, have responded. We are a capital-intensive industry, investing in a country where cost of capital is high. And it takes a long time to build a steel plant. So, it would be unfair to say the industry would not be affected by what is happening. It cannot be left to sort out its own problems. India is one of the most open countries from an investment point of view. India allows you to set up a steel plant with 100 per cent foreign direct investment (FDI). Anyone who wants to participate is welcome to come and build a steel plant in India.

**But this is not helping bring down the input cost for many industries that use steel to make their products.**

I respect the view of the consuming industry. All of us are under pressure of input cost. I do not want to undermine their issues. First, there is a noise that exports will be uncompetitive. Anyone who is exporting can bring in steel duty free; the government allows that. Second, how much is the steel as a percentage of cost for many of these industries? Prices have dropped 40-50 per cent, but it has not gone to the customers. We are the most capital-intensive part of the value chain. Nobody else has spent Rs 20,000 to Rs 30,000 crore to set up a factory. Steel prices are today less than what they were was one and half years back. It is not that prices are unusual. MIP is not at which the input cost would be, MIP is only a part of input. There is enough capacity in India that is more than demand. Prices will find their own level. All that has happened is import has slowed down. There are enough players who will fight tooth and

nail to get their share of the business. May be the reaction is a bit more than meeting reality. Prices will be determined by market forces and there is enough supply. The industry needs to make some return to justify cost of capital.

**Does the current demand-supply gap in the domestic market worry you, especially when you are expanding at Kalinganagar?**

Tata Steel has a view that we should always be competitive. Very often it is said that the Chinese steel industry is more competitive than the Indian industry. I beg to differ. You can call the Chinese industry competitive if they are making money at these prices. With losing money you cannot call them competitive. Tata Steel is one of the lowest cost producers in the world. That does not mean that I have to sell cheap, that will be unfair to shareholders and unfair to requirements of Tata Steel to grow. From the market position, we continue to be one of the lowest-cost producers in the world. When we expanded Jamshedpur from seven to 10 million tonnes, gross domestic product growth was 7.5 per cent. The auto industry was sinking, but even then we did not have problem in what we produced.

**What are the expectations of industry from the coming Budget?**

We would like government to spend on infrastructure. Private sector investment has not been good so far. There is no better way to spur growth than public sector investment. Infrastructure investment has been good for demand. In the past year, we have seen a lot of movement on roads and railways and I hope that there is more of it. Then we are talking about ports, power plants - if the government continues to invest on these then it is good.

Source: Business Standard

## STEELMAKER ARCELORMITTAL TO REPLACE PLANNED STEEL MILL WITH 500-600 MW SOLAR POWER PLANT

The world's largest steelmaker, ArcelorMittal, has announced plans to set up a large-scale solar power project in India. ArcelorMittal has backed out of plans to set up a 6 million tonne steel mill in the southern state of Karnataka.

The company will instead set up a 500-600 MW solar power project at the land earmarked for the steel mill. The decision to set up solar power project instead of a steel mill comes at a time when demand for almost all commodities is falling across the globe. Steel prices have fallen sharply on concerns about low demand from China. It will be more meaningful for the company to use the land to set up a solar power project, and participate in one of the fastest emerging solar power markets in the world. Recently, an Indian power generation company, RattanIndia Power, announced similar plans to replace a planned coal-fired power plant with a 200 MW solar power project. The company dropped plans for the coal-based power plant after it failed to receive assurance of domestic coal supply. India offers huge market opportunity for even non-renewable energy companies as it has among the most ambitious installed capacity targets. The Indian government has plans to have 100 GW of solar power capacity by March 2022, up from 5 GW installed capacity at the end of December 2015.

Source: [www.cleantechnica.com](http://www.cleantechnica.com)

## NEW RECORD GLOBAL STAINLESS STEEL OUTPUT FORECAST FOR 2016

Annual global stainless steel production for 2015 is estimated to have totalled just below 41.5 million tonnes. This is approximately 0.5 percent less than the all-time high figure, achieved in the previous year. MEPS predicts that worldwide output will increase by around 2 percent, in 2016, to a new peak figure of 42.3 million tonnes. Production during the second half of 2015 fell slightly short of earlier predictions. The outturn in all of the traditional stainless steel making regions, with the exception of South Korea, was lower than in 2014. The rate of growth in China slowed but output from the countries classed as Others continued to expand strongly, reaching a total of more than 4.1 million tonnes. After years of rapid development, Chinese production in 2015 is estimated to have fallen back, a little, from the previous year's total. Following extensive capital investment, during the twenty-first century, production capacity far exceeds domestic consumption. Global demand is sluggish and several governments have imposed import tariffs on Chinese material. Consequently, some private steelmakers are withdrawing from stainless steel production and further closures of less efficient facilities are foreseen. Nevertheless,

China continues to produce more than 50 percent of the world's crude stainless steel. MEPS predicts a moderate, year-on-year, increase of around 1.7 percent in the country's output for 2016.

Japan's outturn in 2015 is estimated to have been just over 3 million tonnes, which is substantially lower than the previous year's figure and represents a drop of around 25 percent from the all-time high achieved in 2006. However, we forecast that the outturn in 2016 will equate to a rise of more than 5 percent, year-on-year. South Korea's production grew strongly, by around 9 percent, year-on-year, in 2015. However, we do not anticipate any significant, further increase in the coming year. Stainless steel output in Taiwan fell back, slightly, in the last twelve months. A small increase, of around 2.7 percent, compared with the previous year, is forecast for 2016. Producers in the United States recorded a marginal decrease in output, in 2015 compared with the year earlier figure. A moderate recovery is predicted, in 2016, to a figure of around 2.4 million tonnes. Despite applying antidumping duties to some imports from the Far East, European Union production slipped by around 2 percent, year-on-year, in 2015. MEPS expects output, this year, to return to around the 2014 figure, at 7.25 million tonnes.

Source: [www.worldsteelnews.com](http://www.worldsteelnews.com)

## STATISTICS REVELATION

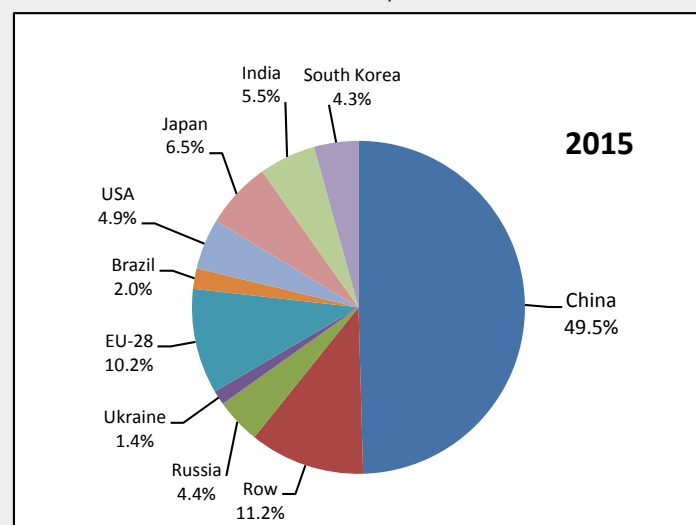
(a) World crude steel production – Summary (Mt)

Region	2015	2014	Change, %
Europe	303.9	313.8	-3.2
EU (28)	166.2	169.3	-1.8
CIS	101.5	106.1	-4.3
North America	110.7	121.2	-8.6
USA	78.9	88.2	-10.5
South America	43.9	45.0	-2.5
Africa	15.0	15.0	0
Middle East	29.8	30.0	-0.5
Asia	1113.8	1139.8	-2.3
China	803.8	822.8	-2.3
Japan	105.2	110.7	-5.0
India	89.6	87.3	2.6
Australia/NZ	5.7	5.5	4.6
World	1622.8	1670.2	-2.8

## (b) Top 10 steel-producing countries

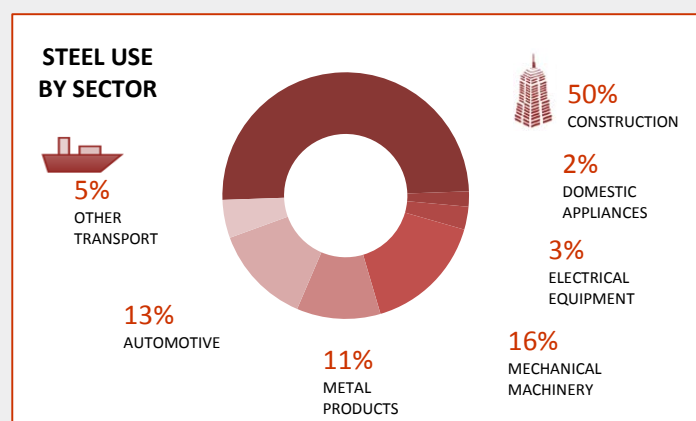
Rank	Country	2015 (Mt)	2014 (Mt)	Change, %
1	China	803.8	822.8	-2.3
2	Japan	105.2	110.7	-5.0
3	India	89.6	87.3	2.6
4	US	78.9	88.2	-10.5
5	Russia	71.1	71.5	-0.5
6	S. Korea	69.7	71.5	-2.6
7	Germany	42.7	42.9	-0.6
8	Brazil	33.2	33.9	-1.9
9	Turkey	31.5	34.0	-7.4
10	Ukraine	22.9	27.2	-15.6

## Share of world crude steel production 2015



Source: Steel Tech

## Steel is needed in all sectors of the economy



## Life Cycle Assessment in Steel Industry

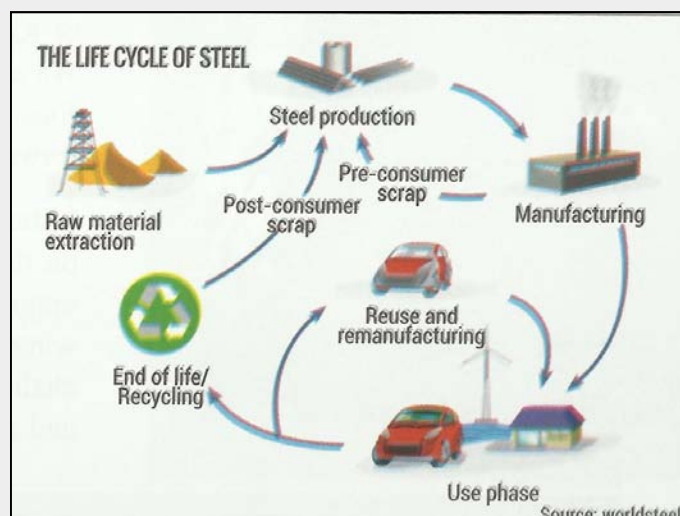
Climate change and the sustainable use of natural resources are among the big challenges of the society today. This puts them at the top of the political environment agenda where they are likely to remain for the foreseeable future.

There is a realization that product design and consumer behaviour can affect the overall environmental performance and efficiency of a product. Companies making the products are paying closer attention to the manufacturing process, utilization and end of life which is an increasingly important factor of material specifications. Among the tools and methodologies available to evaluate the environmental, economic and social performance of materials and consumer product (including their impact on climate change and natural resources), life cycle assessment (LCA) provides a holistic approach that considers the potential manufacturer, product use and end of life.

Key to this work is the recognition that a life cycle approach is the best way to assess a product's impact on the environment; it's also, therefore, the best way to help the society make informed decisions on the use of materials and their economic importance. LCA, based on sound methodology and transparent reporting is an important tool to assist policy making.

## Life Cycle Assessment

LCA is a part of the international standard organization (ISO) 14040 series of standards. LCA takes into account the impact on environment of the manufacturing processes, the use and maintenance of the product by the consumer, its end of life (recycling, reuse or disposal) as well as the various methods of transport occurring between every link of the chain.



The use of LCA is becoming more widespread. There is an increasing number of national or regional data bases which cover major industrial sectors. Many manufacturing organizations have LCA departments and there are more and more



LCA software packages on the market. It is now also a subject taught at universities.

## **LCA in World Steel**

As the global body for steel, world steel association (WSA) is in a unique position to provide the most consistent and accurate information about LCA in the steel industry.

WSA has been collecting life cycle inventory data from its member companies worldwide since 1995, with the launch of the Worldsteel life cycle inventory (LCI) methodology and study. The Worldsteel methodology provides a common basis of measurement of environmental and efficiency performance around the world. The LCI data quantifies 'cradle to gate' inputs (resources use, energy) and outputs (environmental emissions) of steel production from extraction of resources and use of recycled material, production of steel products to the steelworks' gate and, end-of-life recovery and recycling of steel.

Steel is a major constituent material for a wide range of market applications and products, such as in the automotive, construction and packaging sectors. At a very early stage, the steel industry recognized the need to develop a sound methodology to collect worldwide LCI data, to support the markets and customers.

## **The third Worldsteel LCI data collection was completed at the end of 2009. Its aim are:**

To provide up-to-date and consistent LCI data for steel products around the world

To increase the coverage of steelmaking sites within the new data world

To determine global LCIs for additional steel products

As the exercise is repeated and improved over time, the LCI framework can also be used as a powerful tool for measuring progress by the steel industry. Approximately 30 companies worldwide participate in the data collection exercise.

## **Worldsteel's LCA methodology and LCI data help the industry to:**

Provide information to our customers, as well as their customers

Understand the contribution of steel to the environmental performance of product systems in different applications

Support technology assessment (benchmarking, determination and prioritization of

environmental improvement programmes)

Carry out impact assessments to reduce the impact of its own processes on the environment and to work closely with its customers to gain knowledge about the total impact of steel-using products on the environments, over their complete life cycle.

Increase public knowledge of the life cycle environmental benefits of using steel in applications and where it can be effective in improving environmental performance.

LCA also plays a vital role in companies' environmental and greenhouse gas reporting requirements, marketing and sales support, and ensuring compliance with regulations and voluntary initiatives such as environmental product declarations.

## **Steel's Global Approach**

The Worldsteel LCA Expert Group was established in 1998. It undertakes a work programme to improve worldsteel's methodologies and to align them with other regional initiatives. The forum also aims to:

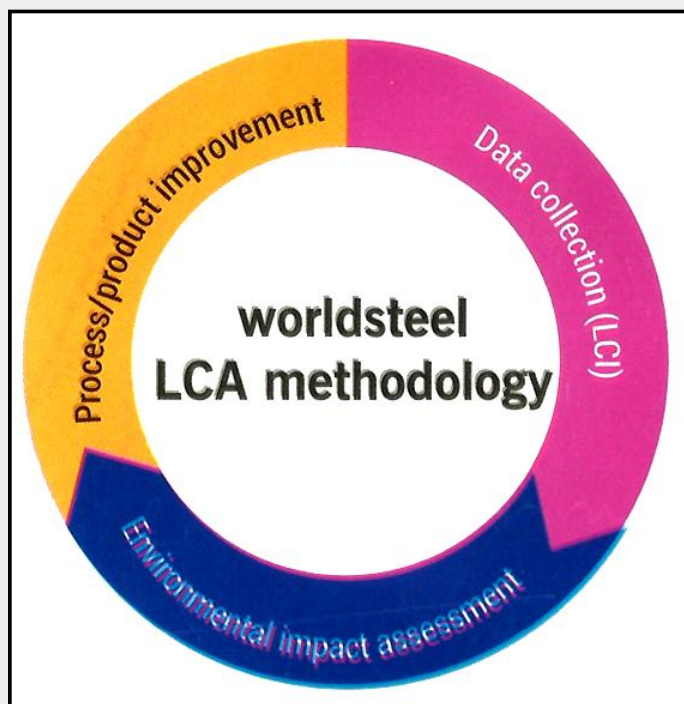
- Collect and provide industry-wide LCI data for steel products.
- Inform member companies about developments in LCA and related fields.
- Provide information to customers and markets.
- Demonstrate the benefits of steel by using LCA which could lead to environmental improvements and
- Promote good practice in the use of LCA

The expert group engages all stakeholders in the LCA process, to make better use of LCA as a tool in inter-material competition and steel promotion.

## **How the LCI is used?**

The LCI results consist of approximately 800 flows which can be simplified into a smaller number of flows depending on how the data is to be used. Worldsteel produces worldwide and European averages only.

There are many different kinds of LCA studies relating to steel. For example, LCI data is used in comparisons for material selection and to determine a manufacturer's environmental impact and for benchmarking. LCAs are carried out on products declarations (EPDs) before they can be used. In several countries, for example, the construction sector can only use materials that come with an EPD.



A total of 140 steel LCI data requests from all over the world were received in 2013. Almost 20% of the total LCI requests are from the United States, 12% from the United Kingdom and 7% of them from Canada. Regionally, most of these LCI data requests come from Europe, followed by North America and Asia.

In total, over half of Worldsteel LCI data are requested for academic purposes, followed by consultants and then industry. Worldsteel LCI data has been used extensively for many different market sectors.

Nearly 40% of the data requests come from the construction sector. 27% of the steel LCI data requests are applied for metal industries. This is followed by the automotive, machinery, and packaging sectors which are each responsible for 7% of the data requests.

### The future

In the future, Worldsteel has a clear mission to achieve the following objectives in the coming years.

- Provide detailed information so that the environmental implications of the use of steel within different sectors can be quantified and understood as well as to support responses to environmental claims against steel.
- Build the LCA Expert Group's position as

the most authoritative source for steel LCI data and LCA methodology

- Advocate for LCA to be used to promote life cycle thinking, to support policy and decision-making.
- Continue discussions and harmonization with other industries, particularly the metals industry, to help improve the credibility of LCI data and LCA methodology, whilst ensuring that elements that truly reflect steel's positive position are maintained.
- Provide our customers with accurate information as they analyze the environmental impacts of their products that contain steel.

There are LCI data and related documents available on Worldsteel.org. If you are carrying out an LCA study, you can also fill in a request form for world steel's LCI data on the website.

Source: Steel 360

## INDIAN STEEL SECTOR MAY TAKE 18-24 MONTHS TO REVIVE: ABBASI

India's steel sector is passing through a global oversupply crisis and may take another 18-24 months for revival, Ministry of Steel Joint Secretary Syedain Abbasi said.

"With imported Chinese steel flooding the Indian market and a global surplus generated in the sector. We have assessed the steel situation within the ministry and, according to that assessment, the industry is expected to remain under stress for the next 18-24 months," Abbasi said at "Metals 2015" organised by the Bengal Chamber of Commerce & Industry in Kolkata.

He said the central government has taken measures to curb steel imports to help the domestic steel manufacturers during the ongoing stressed period.

According to Abbasi, demand for steel in India is likely to remain strong in the ongoing fiscal.

"The government is there to help out the industry in these difficult times. We have imposed a safeguard import duty on steel and have taken up the issue of easing the external commercial booking norms for the steel industry with the

finance ministry," he said.

Indian steel demand is expected to remain robust in the current financial year (2015-16) with consumption expected to increase 5-6 percent a year, he said.

"I can understand the industry is facing unfair competition from the Chinese producers. But 5-7 percent steel import is healthy for the domestic industry. Imports are necessary for fair pricing of steel in the country," he said.

Despite the stress in the sector, India's total steel production is seen rising to 300 million tons by the year 2025, Abbasi said. Meanwhile, Steel companies were optimistic about long term and adding capacity.

JSW Steel said its steel capacity will increase to 18 million ton by December 2015 and 30 million ton by 2020.

Speaking about Salboni steel project, JSW Group Chairman Sajjan Jindal said that the project will depend on iron ore availability.

"We will bid for iron ore mines in Odisha and Jharkhand and if we win and states allow to ship it out of the state, then it will help the Salboni project," Jindal said.

Currently, the 10-million tons steel plant in Bengal is on hold for lack of iron ore linkage.

## **Steel firms seek safeguard duty on CR imports too**

India's steel ministry is also considering a request of the industry for additional safeguard duties on CR imports after imposition of a safeguard of 20% on HR coils, Abbasi said.

"After HR coils, there has been a presentation from cold rolled products manufacturers. First, the industry has to make a case. If there is injury, based on that we might take action," he said.

"If somebody is doing unfair competition, you have safeguards like anti-dumping as well as countervailing duties. While these are there, the industry also needs to equip itself with the knowledge of WTO norms and make a case as per those regulations," he said.

The government earlier this month imposed a 20 percent safeguard duty on hot-rolled coil imports following a recommendation by the Directorate General of Safeguards to protect the interest of

the domestic industry from cheap imports from China, Russia and others. The safeguard duty is for a period of 200 days, after which a market study would be conducted to decide whether further protection is needed.

Source: Steel Insights

## **ALUMINIUM, STEEL VIE FOR AUTOMOBILE PIE**

Steel and aluminium are engaged in an increasingly fierce competition to protect and raise their application in the transport sector, which is growing at the fastest rate in the manufacturing sector. Globally, 28 percent of primary aluminium production of 58 million tonnes (mt) is used by the transport sector, including manufacture of automobiles and passenger and fighter aircraft. Similarly, the automobile industry has traditionally accounted for a good portion of flat steel consumption. Some varieties of long steel products such as bright bar and special bar also find wide application in auto components making.

Leading constituents of aluminium and steel industries continue to invest heavily in research and development (R&D), both independently and jointly with automobile groups for weight reduction in the case of steel and new alloys development for aluminium. ArcelorMittal chairman Lakshmi Mittal claims steel can provide all the weight reduction that automakers must achieve to conform to increasingly stringent fuel efficiency norms. For steel, the essential requirements are to offer a 25 percent reduction in the weight of body-in white of automobiles. Mittal claims "steel can already do this" in a more cost-effective and environment-friendly manner than any other material.

The world steel industry has the burden of low capacity use of about 65 percent, thanks mainly to the reported 300 mt surplus capacity in China. Therefore, compulsion to protect every segment of the market is so critical that the steel industry must remain in pursuit of offering innovative high-strength, low weight metal to facilitate making of auto components that will be lighter and thinner. The lighter a car is, the lower will be its fuel consumption and carbon emissions. It is precisely on weight consideration and government glare on pollution that automobile makers in the US



have continued to step up the use of aluminium every year over four decades. According to a survey of North American automakers by Ducker Worldwide, aluminium's share of the average automotive materials mix is likely to double to 16 percent by 2025. The share of silvery white metal in auto application may, however, well exceed the projection if the success of Ford Motor in turning one of its best selling models in America F-150 pickups into an all-aluminium body encourages others to follow suit.

Seeing steel's success in achieving weight reduction and strength improvement going hand-in-hand, aluminium industry leader Alcoa of the US is perfecting a new way of sheet-making for the automobile industry. The company has discovered money is to be made by developing new alloys and not in commodity aluminium; so, it is investing heavily in new plants based on R&D results. Its newest alloy 'Micromill,' which allows "easy and quick intricate formability" is replacing steel components in F-150 pickups. Alcoa is readying a system that will allow casting of molten aluminium on to a conveyor belt for flattening into coils for use by the auto industry. The system dispenses with one major step in traditional production process of first turning raw materials into slabs before rolling. As a result, metal producers will have greater control of alloy chemistry besides significant energy and water saving. Hindalco-owned Novelis, the world leader in aluminium rolling and recycling, commissioned a breakthrough automotive heat treatment line in Germany's Nachterstedt in November following its automotive related major expansions in North America and Asia. The company claims "Novelis remains the only manufacturer of automotive aluminium sheet in the three major auto-producing regions in the world."

Whether it is a steelmaker or an aluminium producer, the big investment consideration is identical – offer the automobile industry an improved version of the metal that is to lower vehicle emissions. In most of their pursuits to make better alloys, aluminium groups have got automakers as partners. Novelis works with Britain's largest auto group, Jaguar Land Rover, and Alcoa is in partnership with Ford to make next-generation automotive aluminium alloys, which are design friendly and have greater degrees

of formability. New alloys to be rolled out by Alcoa are supposed to be "30 percent stronger and 40 percent more formable" than mass produced aluminium. The use of new auto steel or aluminium alloys will raise the cost of vehicles. But, over the lifetime of vehicles, users will save on fuel cost and that will more than compensate for higher acquisition price in the first place. Now competition for both steel and aluminium is slowly but surely emerging from new material carbon-fibre composites.

Source: Business Standard

## NALCO TO INVEST RS 20,550 CR FOR EXPANSION OF ALUMINA REFINERY

Odisha-based Navratna PSE Nalco has announced investment of Rs 20,550 crore for expansion of its alumina refinery at Damanjodi and setting up an aluminium park at Angul in the state. "Since the entire value chain of Nalco, starting from bauxite mining to aluminium making is based in Odisha, our major focus is to strengthen the investment climate of the state thereby boosting Odisha's industrial upsurge," said TK Chand, CMD, Navratna PSE Nalco. Claiming that Nalco played a major role in Odisha Investors' Meet at Make in India Week in Mumbai, the aluminium major said it was committed to boosting industrialisation in the state. Addressing representatives of different industries, entrepreneurs, bureaucrats, delegates from within and outside the country at the investors' meet recently, Chand said, "Besides being rich in mineral and water resources, Odisha has good road, rail and port connectivity. On the ease of doing business index, the state is bracketed with the best."

"Moreover, the entire state is dotted with engineering and management colleges, diploma and ITBSE -0.63 % institutes to source skilled manpower. At the same time, the recent 'smart city' tag pinned on Bhubaneswar by the Centre is an added advantage," Chand said. Stating that the current slump in international metal market is likely to continue for some time due to structural adjustment factors in different economies across the globe, Chand said, adding Indian industries need to review their cost structure to remain

competitive. "Given the tough going in the market, Nalco has developed a new corporate plan with a new business model that will withstand market onslaughts and keep the company afloat with profitability even in the slump cycle," he added.

Source: The Economic Times

## VEDANTA TO INK PACT WITH ODISHA TO SET UP ALUMINIUM PARK

Mining and metals major Vedanta Ltd said a few days back that it will sign a pact with Odisha government to set up in the state an Aluminium park, which is likely to create 17,000 jobs and attract over Rs 1,000 crore investment. The plug-and-produce park will be set up across 240 acres of land, near Vedanta Aluminium's Jharsuguda plant, providing an ecosystem for industries dependent on and manufacturing aluminium conductors, extrusions, castings, foils, powder and paste. Besides, the park will facilitate easy transport of the metal in liquid form, resulting in cost savings that will act as a game-changer for downstream industries. With a holistic ecosystem in place, the aluminium park will attract large number of aluminium and related industries generating huge revenues and employment in the region, Vedanta Aluminium CEO Abhijit Pati told reporters in a con call. "This will create a win-win situation for all. The park has potential to attract over Rs 1,000 crore of investment, which can be operationalised within a relatively short timeframe," he added.

In full capacity, the park can generate direct and indirect employment for around 17,000 people. With this kind of infrastructure, Odisha can become the aluminium hub of the world, Pati said. On the linkages for bauxite, used in manufacturing of Alumina, Pati said Odisha government will provide two mines to the state government-run Odisha Mining Corporation (OMC), which will provide the mineral to the park through a long term supply pact. When asked about the reasons behind entering such a pact even as domestic primary producers are battling cheap imports and weak prices, Pati said the medium to long term outlook for aluminium demand in India is very strong. The proposed park will be adjacent to Vedanta's 1.6 MTPA smelter along with 3,600 MW of power generation facilities. Odisha government will provide necessary infrastructure

for setting up the industries with incentives in the form of land, electricity and others. The cost of this investment will be recovered from investors who shall establish their units. Odisha and Vedanta will organise road shows to attract investors in setting up facilities at the park.

Source: The Financial Express

## MINES MINISTRY TO AUCTION 100 MEGA BLOCKS IN 22 STATES

The government will auction 19 gold mines, three diamond mines and eight iron ore mines along with 70 other mega blocks with a minimum area of 100 square kilometre each for exploration to Indian and global firms. The Geological Survey of India (GSI) has handed over a list of 100 mega blocks in 22 states to the mines ministry for auction to exploration agencies, mines secretary Balvinder Kumar told ET. "We had asked GSI to identify blocks for exploration. The agency has identified 100 blocks of around 100 square kilometre or more for carrying out exploration on revenue sharing model. We expect to finalise a policy for mineral exploration soon, which will give details about the revenue sharing model," he said. The government expects the exploration policy to transform the Indian mining industry as the country has been able to carry out only 10 per cent regional mineral exploration while countries like Australia that have similar geological endowment have completed 100 per cent of exploration. Among the large mines identified for auction are 27 base metal mines, eight iron ore and eight limestone mines and nine tungsten mines. Five manganese, six nickel and five rare earth metal mines will also be put up for auction. The mines ministry has begun informal consultations with other ministries on the proposed policy, after which the ministry will circulate a note and put up the policy for consideration of the Union Cabinet.

The new exploration policy provides for identification and auction of the blocks to exploration agencies that are registered in India. The government will conduct an online reverse auction among technically qualified agencies. The companies will have to quote share of royalty that accrue to state governments throughout lease period of the mine once it begins operations. Companies seeking lower share in royalty will

win the blocks for exploration. If the reserves are established post exploration, the blocks will be auctioned to miners who will pay royalty to the exploration agencies and state governments for 50 years of the mine life. The government will work out normative cost of exploration works for different minerals to compensate mineral explorers in case reserves are not found. The compensation will be made through a fund set up to enhance exploration activities. The policy proposes to incentivise private explorers in case reserves are established and indemnify them when reserves are not found. The policy aims to replace the earlier method of awarding reconnaissance permits by the government to private firms for preliminary prospecting of a mineral through regional, aerial, geophysical or geo-chemical surveys and geological mapping.

Source: The Economic Times

## INDIA TO AUCTION THREE GOLD MINES THIS YEAR

India is planning to auction at least three gold mines in 2016, Mines Secretary Balvinder Kumar said, opening up the sector to private firms for the first time ever in a bid to slash imports of the metal that cost the government \$36 billion last year. Economically crippling shipments of up to 1,000 tonnes of gold, accounting for about a quarter of India's annual trade deficit, have already prompted the government to hike import duties and launch a scheme aimed at mobilising a pool of over 20,000 tonnes of the metal lying idle in homes and temples. But still the government has failed to curb imports by the world's second-biggest consumer, where gold is regarded as the highest form of gift for gods and humans alike. The absence of local production has scuppered efforts further. India now plans to auction at least three gold mines in 2016 with billions of dollars worth of estimated reserves, including Kolar in the southern state of Karnataka that was shut 15 years ago on high costs, Mines Secretary Balvinder Kumar told Reuters. Kumar said several local and multinational companies had shown interest in the mines, but declined to identify them.

"We're importing so much of gold, so a lot of people are interested," he said. "That goes without saying." Local media reports say Indian billionaire Anil Agarwal's Vedanta Resources and mining major Rio Tinto could be interested

### Amusing Irrelevant Facts

- Kotex was first manufactured as bandages, during WWI.
- About a third of all Americans flush the toilet while they're still sitting on it. (Who studies this and why? LOL).
- An average person laughs about 15 times a day
- In Los Angeles, there are fewer people than there are automobiles.
- Penguins can jump as high as 6 feet in the air.
- A Saudi Arabian woman can get a divorce if her husband doesn't give her coffee. (Ah! Women's liberation!).
- In 1980, there was only one country in the world with no telephones – Bhutan.
- Women's hearts beat faster than men's.
- You can only smell 1/20<sup>th</sup> as well as a dog.
- Even if you cut off a cockroach's head, it can live for several weeks.
- The world population of chickens is about equal to the number of people.
- Every time Beethoven sat down to write music, he poured ice water over his head.
- In 75% of American households, women manage the money and pay the bills.
- About 70% of Americans who go to college do it just to make more money.

*Compiled by Shri K L Mehrotra*

*Chairman – IIM-DC & Former CMD – MOIL*

*E-mail: klmehtrotra48@gmail.com*

in the auctions. A Vedanta spokesman said the firm has previously shown an interest and was waiting for more details from the government, while Rio Tinto's India head, Nik Senapati, did not immediately respond to a request for comment. Of the mines to be auctioned, two are new and located in the eastern states of Jharkhand and Chhattisgarh, with combined gold ore reserves estimated at up to 3 million tonnes, Kumar said. The Chhattisgarh mine will be auctioned next month, he added. Gold ore typically yields 0.0005-0.001 percent of primary metal. As for Kolar, steel and mines minister Narendra Singh Tomar has cleared a proposal to restart production there and has written to Karnataka's chief minister regarding this.

Source: Hindustan Times



## INDIA TO SAVE RS. 30K CR IN FY16 BY CUTTING DOWN COAL IMPORTS

*Govt aims to completely eliminate the import of the variety of coal that is available domestically.*

India will save Rs. 30,000 crore in 2015-16 by cutting down on coal imports as domestic production has picked up, coal secretary Anil Swarup said. The government is aiming to completely eliminate the import of the kind of coal that is available domestically, he added. Coal India, the state-run company that is the largest coal producer in the country, plans to double its production to 1 billion tonne by 2020. In the current year through March, it would have scaled up production to 550 million tonne which is likely to increase to 600 million tonne next year. "Imports have already started coming down. This year, imports are already down by 16% resulting in savings of Rs. 22,000 crore so far. We would probably save Rs. 30,000 crore by the end of this year," Swarup told ET on the sidelines of the Edelweiss India Conference. Typically, Indian coal is almost 40% cheaper than imported coal. So, far, India has been importing coal as Coal India was unable to match growing demand. "We will eliminate import of such quality of coal which is available in India in two years," he said.

Power plants in the coastal areas are designed to run on high-grade coal, which has higher calorific value and low ash content as compared with the local coal and, to that extent, the country would continue to import this grade of coal. Of the total 212 million tonne of coal imported last year, around 30-40 million tonne were of the quality that is not available locally. "We have so far focused on increasing quantity and its showing results. Now, the focus is on improving quality of coal. We want to ensure only crushed coal moves out of mines and from January 1st, it has already started happening. This ensures that power plants don't receive coal with high amount of stones as they did in the past," Swarup said. The ministry has also set up a mechanism for third-party coal sampling to avoid slippages and has pushed for setting up 15 coal washeries to ensure quality.

Swarup said of the 29 mines that were in

production were de-allocated and then bid out, 10 have started production again. "These 10 mines are producing 8 million tonne so far. Other mines had issues and some are in court. But we are hopeful that over two-three months, other mines will also start (production)."

Swarup said the power ministry's Ujjwal Discom Assurance Yojana initiative will benefit power distributors, increase power demand and subsequently boost coal production.

Source: The Economic Times

## PM MODI HAS BROUGHT A PARADIGM SHIFT IN DEFENCE; 'MAKE IN INDIA' AN IMPERATIVE: BRAHMOS' SUDHIR MISHRA

*PM Narendra Modi has brought a paradigm shift in India's defence sphere, says Sudhir Kumar Mishra, MD & CEO, of BrahMos Aerospace. In a wide-ranging interview with [EconomicTimes.com](http://EconomicTimes.com)'s Smriti Jain and Ruchi Bambha, Mishra talks about the importance of integrating the BrahMos missile on Sukhoi-30 MKI fighter aircraft and the future of India-Russia defence ties. Mishra also emphasizes that any country that can manufacture air ..*

### What is your take on the government's 'Make in India' push?

India missed the industrial and automobile revolution. Automobile revolution was very important because it would have given way to engineering know-how. In the 1980s we realised that the way to move forward is to get into the service sector. The then Prime Minister Rajiv Gandhi knew the power of information technology (IT) and the need to promote it. IT is less capital intensive and thus pursuing it was a very good move. In the meantime, China was witnessing an industrial manufacturing revolution. Both the countries became successful in their chosen fields. However, after 10-15 years, we realised that we have reached a level of incompetence. The present government realized that we bypassed something which was important for India to become strong in the field of manufacturing. It is a compulsion for us to go for 'Make in India'.

Manufacturing is essential for a nation's build up and sustenance. We cannot become a well-to-do nation without it.

## **What steps should be taken to aggressively push the 'Make in India' initiative for defence?**

Unlike the past, under 'Make in India', we do not pay the transfer-of-technology (TOT) fee or licence fee. Foreign companies are asked to find a strategic partner in India or setup their own subsidiary and carry out the manufacturing activity here. When these companies want to export arms, they should source items from India, and then only the 'Make in India' policy will become successful. The strategic partner (Indian), who has absorbed the technology, would be able to use that technology in some other product and independently sell it all over the world. For 'Make in India' to be a success, it has to firstly meet the defence requirement of our country. In the second phase, the government will have to come out with an exports policy, so that the strategic partner (Indian), which has absorbed the technology, will start designing a product from day one, with exports in mind. My suggestion is that under 'Make in India' policy, we should also have 'Make by India', as it would be economically sustainable and will be a financially viable proposition.

## **PM Modi has brought a paradigm shift in India's defence sphere. India will now extensively manufacture ships and helicopters. It is said that any country which can manufacture aircraft, submarines and tanks is a superpower.**

PM Narendra Modi recently concluded his visit to Russia. Where do you see India-Russia defence ties headed?

Russia is our first strategic partner. Historically, Russia has proved that it is India's friend. India has received Russia's help in setting up a wide range of infrastructural projects. Based on this historical perspective, I feel that the future is going to be as eventful as the past. There are talks that India will buy the S-400 missile system, which is one of the best systems in the world. Russians have always given us their best product. S-400 will be able to serve India for at least 30 years. Also, Russia will set up their Kamov manufacturing plant in India. That would be a complete game changer, because Russians do not believe in such ventures where

they source defence equipment from abroad.

## **BrahMos missile will be test-fired from Sukhoi 30MKI fighter aircraft very soon. Tell us the significance of this integration...**

The launch of BrahMos missile from Su-30MKI comprises several phases. BrahMos is a very heavy missile and such class of missiles has never been integrated with Su-30MKI. Structural modifications have been carried out in the aircraft to integrate BrahMos on to it. This task was completed on the first Su-30MKI aircraft by HAL Nashik, and the modification of the second aircraft is under progress. After that, certain theoretical studies were carried out; such as Computational Fluid Dynamics (CFD) analysis, which tests whether an aircraft launcher and missile are able to fly in the air without any hindrance. Also, a wind-tunnel test has been conducted at NAL Bangalore. Apart from this, launcher design development and certification have been done. Currently the qualification testing of the launcher is in progress at BATL Trivandrum - a subsidiary unit of BrahMos Aerospace. This is one of the heaviest launchers one can design and develop in the whole world.

Around three-to-four varieties of missile will be flown on Su-30MKI to testify the integration. Dummy and technology missile tests will be carried out along with a pure drop test of the missile. Finally, in the fourth stage, the actual test of the missile would be against land and ship targets. We should be able to reach to that stage in the second part of 2016. I want to highlight that this missile is the heaviest-ever flown on Su-30. The day the missile flies from the aircraft and hits the target; the whole aeronautics community would be saluting BrahMos Aerospace for achieving a very, very difficult milestone in missile and aeronautical technology.

## **How many trials of the missile are likely on the Sukhoi 30-MKI, before it is inducted by the IAF? Has IAF placed any requirement of the number of BrahMos missiles it wants?**

The missile has already been inducted in the Indian Army, Indian Navy and Indian Air Force (land version). The land version of the missile has been tested more than 50 times. We are 100% confident that there is no problem with the missile. Therefore, we will conduct only one flight test each against land target and ship targets.

The Indian Air Force has placed an order, but I cannot share the number with you.

**The underwater trial of BrahMos missile has been carried out successfully. However, Indian Navy does not have a submarine from which you can test fire the BrahMos...**

BrahMos has been successfully flight tested from a pontoon. As a system, pontoon behaves very similar to a submarine. It has been demonstrated that the missile can be launched from sub-water. We are in touch with many submarine manufacturers in Russia (Rubin Design Bureau), Germany (HDW) and Spain (Navantia). These submarine manufacturers have confirmed that it is possible to integrate BrahMos with their submarines. BrahMos is one of the credible weapons in the inventory of Indian Navy, so we are very confident that the test will happen in the future.

**What is the update on the Mark II version of the BrahMos? What are the production and trial timelines and how does it improve on the existing missile system?**

BrahMos Mark II or Hypersonic BrahMos will be able to fly much faster than the existing one. The speed of the existing BrahMos missile is 2.8 to 3 Mach. In order to make a pure hypersonic missile, one has to make a scramjet engine. Our study suggests that the present engine can be improved if we redesign some components and do proper thermal management, after which the missile can travel at a speed of 5 Mach. At 5 Mach speed, the engine cannot be called pure hypersonic. In fact it is just beginning of the hypersonic regime. There are some problems in making a pure hypersonic engine. As of now, we are conducting research completely in the theoretical region. To test a pure hypersonic engine, we will have to make electronics which can withstand very high temperature. We have to make it shock proof so that it can withstand speed of 8-9 Mach. My estimate is that we will be standing at the door of hypersonic engine in about three to four years, and pure hypersonic in about seven to eight years.

Source: The Economic Times

## MOODY'S PEGS INDIA'S GDP GROWTH AT 7.5% IN 2016, 2017

Indian economy will grow at 7.5 per cent in 2016 and 2017 as it is relatively less exposed to external headwinds, like China slowdown, and will benefit from lower commodity prices, Moody's Investors Service said few days back. The firm, however, warned the generally robust economic environment is constrained by "banks' balance sheet repair and elevated corporate debt, and corporate pricing power being limited by the impact on food price inflation and household budgets of two consecutive droughts." In its report 'Global Macro Outlook 2016-17 — Global growth faces rising risks at time of policy constraint', Moody's said growth will fail to pick up steam over the next two years as the slowdown in China, lower commodity prices and tighter financing in some countries weigh on the economy. "Together with Turkey and China among the G20 emerging markets, India benefits from lower commodity prices: in 2014, net commodity imports amounted to 5.9 per cent of India's GDP, compared with net exports worth 1.3 per cent, 3.3 per cent and 4.3 per cent for South Africa, Brazil and Indonesia respectively," it said.

### Services export sector

Amid low growth in global trade in goods, India's large services export sector (IT services account for around 18 per cent of total exports) provides another source of resilience. "Moreover, India is relatively less exposed to external factors, including China slowdown and global capital flows. Instead, the economic outlook will be primarily determined by domestic factors," it said. Moody's forecast "stable GDP growth at around 7.5 per cent in 2016 and 2017".

### Growth rate gap

The growth rate gap with other G20 emerging markets will be unusually large. "In the five years to the end of the decade, we expect GDP per capita (at market exchange rates) to increase by 34 per cent in real terms in India, compared with only 3.6 per cent in the G20 emerging markets excluding China and India," the report said. Moody's said



India's economy is powered by sustained growth in consumer spending, fostered by moderate inflation and still favourable demographics, and strengthening investment, in particular FDI.

## 100% FDI

The recent measures that now allow 100 per cent foreign ownership in a number of sectors will foster further increases in FDI, it said. "The 23.55 per cent increase in public sector salaries proposed by the 7th Pay Commission is worth 0.7 per cent of GDP. It is not yet known how this proposal will be implemented but higher public sector wages will most likely contribute to strong consumption growth. "The pay increase will also probably raise inflationary pressures. However, we assume the government will cut spending in other parts of the budget to maintain the deficit broadly in line with the 3.5 per cent of GDP objective, thereby mitigating some of the inflationary effects," it said. Moody's said headline inflation in India will depend on the weather during the planting season, determining food prices. "Overall, without particularly unfavourable weather conditions, we estimate that inflation will rise from last year's levels (4.9 per cent on average) but will fall back to the central bank's target of 5 per cent by early 2017." Another year of moderate inflation would help anchor inflation expectations and foster both consumer spending and investment.

Source: Business Line

## NEW DEFENCE INDUSTRY BODY TO PROMOTE R&D

In a first, over two dozen defence companies have come together to form a new industry association that focuses on indigenous design and development, taking a cue from the new procurement policy of the government that promotes domestic R&D with special incentives. Defence Minister Manohar Parrikar, who is currently finalizing the new procurement policy that could be released in March, is set to speak on self-reliance in defence through design and development at the first event of the new association. The association does not have the big names in defence manufacturing but is a grouping of smaller companies that have been in

the sector for several years and have a functioning research department. Companies include Centum electronics, Kinenco Private Ltd, Avantel Ltd and Zen Technologies Pvt Ltd. While industry associations like FICCI and CII have strong defence departments that focus on the sector, DIIA would be the first to focus exclusively on indigenous R&D. "The focus was always on how to manufacture components or equipment in India. But the IP has always been owned by someone else. DIIA's will engage the Government to ensure a policy that encourages design and development of defence equipment with IP ownership in our own hands," Ashok Atluri, Chairman, DIIA told ET.

Source: The Economic Times

## INDIA'S ENERGY NEED

An interesting feature emerged as the COP21 meet progressed. Ministry of Power-GOI launched the live portal under Deendayal Upadhyaya Gram Jyoti Yojana (<http://garv.ddugjy.in/dashboard>). This is precisely to track the status of 18,452 non-electrified villages in India. Government of India made a 1000 day's timeline starting from taking office, to light every house hold in the country. Another flag rose, as the Ministry of Coal informed that Approach Paper for Commercial Mining will be out soon. This contract gives us a different perspective to understand energy scenario in developing nations. What is important to learn is that coal will still remain the primary source of fuel in developing countries. Coal still caters 68% of primary energy requirement of India. For any developing nation, it is very important to take people out of energy poverty first before making any paradigm changes. The question remains how fast can we switch to renewable energy? In this regard I think India's stand during the COP21 was very prominent. India's mention of the need to incorporate 'sustainable lifestyles' is quite meaningful. Developed countries should take initiatives to cut down their energy requirement and that fund may be deployed in developing countries for various R&D work for efficient implementation of renewable energy.

It should be understood that with the rising energy demand of developing nations, they

cannot turn back on coal but with the support of developed nations, use of clean energy and clean technology can be increased.

India is in fact working to achieve 40% of installed capacity for electric power from non-fossil fuel by 2030. India has also pledged to create an additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover by 2030. While rolling out Intended Nationally Determined Contributions (INDC), environment minister categorically mentioned, "Our INDCs are comprehensive, ambitious and progressive, adaption, finance, technology transfer and capacity building."

It also says, "India's goal is to reduce overall emission intensity and improve energy efficiency of its economy over time and, at the same time, protect the vulnerable sectors of economy and segments of our society."

Source: Steel 360

## INDIA MUST BE GLOBALLY COMPETITIVE TO SUSTAIN GROWTH MOMENTUM

India must improve efficiency of its economy by boosting productivity and ensuring productive use of resources; so that, production cost of Indian goods and services are globally competitive. This does not depend upon the producers alone, but upon a host of factors influenced by government policies and regulations. An efficient economy will boost export and keep inflation in check. This will ensure consistent growth without hiccups and keep Rupee stable. All these factors will attract entrepreneurs and investors, which will keep the nation growing. Isolated reforms might push growth for a short-while, but growth momentum will not sustain without global competitiveness.

A modest recovery in growth by 0.4% in FY15 (7.3%) compared to FY14 (6.9%) should not be construed as reversal of decline. Current year (FY16) growth is also expected to be almost static. More so, new series of GDP reflects growth numbers higher by about 2% compared to old series. India has to do lot

more for sustaining the growth momentum which started in the year 2002, but is now losing steam.

As per World Economic Forum (WEF), Global Competitive Index (GCI) of India has slipped from rank 48 in 2007 to rank 71 in 2015 among 144 countries. While comparing BRICS nations, we find that India is far behind China. India's rank was to an extent comparable to China in 2011-12, which has been on continuous decline after 2007. Hence, the growth momentum, which started in 2002, could not sustain after 2010. India must acknowledge and take remedial measures.

Year	India	Brazil	Russia	China	South Africa
2014-15	71	57	53	28	56
2013-14	60	56	64	29	53
2012-13	59	48	67	29	52
2011-12	56	53	66	26	50

Most economists agree that continuous growth of GDP is the only route of bringing prosperity to a nation. WEF has identified 12 pillars that influence GCI index and GDP growth. First four pillars are Institutions (Government), Infrastructure, Macroeconomic Environment and Health & Primary Education; these are the basic requirements for any nation as per WEF.

The other six pillars viz Higher Education, Goods Market, Labor Efficiency, Financial Market, Technological Readiness and Market Size are termed efficiency enhancers. Remaining two pillars viz Business Sophistication and Innovations are more relevant for the developed countries. For India, the weightage of first four pillars is 60%, next four pillars 35%, and balance two pillars is 5%. This differs for other countries depending upon their current status. Ranking of BRICS nations on these sub-indexes (pillars) is tabulated below.

The above data reveals that India should improve on multiple fronts. Current regulations by Institutions (government) detract entrepreneurs and craft barriers on new entries. Instead of improving productivity and efficiency, entrepreneurs are engaged in protecting their businesses from regulatory and tax hazards. Business laws must be simple, compliable and conducive for growth

with efficiency. They must deliver developmental outcome and not cause hindrances in economic activities. For this, mindset must change at all levels. This alone will initiate changes in GCI ranking of India.

Protective labor laws are hampering productivity and efficiency. They are hindrances in generating new jobs. Principle of job security must be replaced with need based employment. Wages and promotions must be linked with productivity. By this, young work force will surge productivity and take India to new heights instead of engaging in agitations.

Logistics cost in India is exorbitant. Road transport is based upon the imported and costlier fuel. Old dated MV Act, too many check posts and bad roads are aggravating problems. Truck unions and cartels are compelling industrial consumers to pay high freight. Right choice is Railway transport. But Railways is investment hungry and not increasing capacity. Its efficiency is remarkably low. On top of it, goods tariff is loaded with cross subsidy. India must bring radical change in Railways by encouraging private participation and bringing competition; somewhat similar to the aviation industry. Logistics cost must be reduced severely, making Indian economy competitive. Eventually, this will also improve goods market efficiency.

Importance of energy in modern economy is well known. High dependency on the imported energy like coal, oil and gas is indeed worrisome. This is causing shortage and high price. Cost of power (secondary energy) is also prohibitive. Frequent and long interruptions in power supply are idling capacity of productive assets. But alas! These sectors are not yet fully open. With shortage and high cost, production cost is shooting up. Then, how will India compete?

Needless to say that high interest policy in India is the biggest impediment for commercial viability of any infrastructure project, may be logistics, energy or others. It amplifies production cost in spiralling manner. India must revisit its monetary policy; they must support productive activities and ensure low cost funds so that India can compete globally.

India's policy for allocation of natural resources like land, water & minerals has crafted artificial shortage. Industries use below 3% of country's land and water. Mining uses barely 0.06% of country's land. Their sizeable contribution to GDP is ignored. Mineral and coal production is curbed by several restrictive laws. Royalty and other levies are increased many folds. As a consequence, mineral based industries are becoming non-competitive and inviting imports.

Macro-economic stability of any nation contributes to efficiency of economy in the indirect manner. The combined budget of central, state and local government is about 28-30% of GDP. Consumption spending by government can be equated with overhead expenses of country. This adds to the cost of every goods and service. But infrastructure spending improves efficiency and cuts production cost. Therefore, budgetary resources must be deployed in a judicious manner. Multiple and high taxation must end. Consumption spending must cut and infrastructure spending must escalate. However, there should be no compromise on basic education, primary health and sanitation. For developing higher education, private and global investments may be promoted.

India is reasonably placed in financial market development. But our financial resources are not adequate to meet investment needs of the nation. Savings (domestic and corporate) must be increased by reducing direct taxes. Physical savings must be curbed through innovative schemes. We must channelize these savings in productive use. India must cut consumption funding; such funding is adopted by developed countries to generate demand. India doesn't need this considering the adequate market size here. Rather, adequate funds at lower cost must be ensured for productive sector.

By improving on these fronts, Indian products will be competitive and export will surge without any fiscal incentives. Inflation will be under check. Rupee will strengthen, which will boost confidence of global investors without persuasions. Thereafter growth momentum will sustain without hiccups.



## SUB INDEX RANKING OF BRICS NATION

Item	India	Brazil	Russia	China	South Africa
Basic Requirements	92	83	44	28	89
Institutions	70	94	97	47	36
Infrastructure	87	76	39	46	60
Macroeconomic Stability/Environment	101	85	31	10	89
Health & Primary Education	98	77	56	46	132
Efficiency Enhancers	61	42	41	30	43
Higher Education & Training	93	43	39	65	86
Goods Market Efficiency	95	123	99	56	32
Labor Market Efficiency	112	109	45	37	113
Financial Market Development	51	53	110	54	7
Technologies Readiness	121	58	59	83	66
Market Size	3	9	7	2	25
Innovation and Sophistication	52	56	75	33	37
Business Sophistication	57	47	86	41	31
Innovation	49	62	65	32	43

Source: Steel 360

## 15 STEPS TO TAKE INDIA TO THE TOP

*The steps needed for the country and its managers to make India strong.*

- Developed India is powered by economic strength.
- Economic strength is powered by competitiveness.
- Competitiveness is powered by knowledge power.
- Knowledge power is powered by technology.
- Technology is powered by resources investment.
- Resource investment is powered by revenues.
- Revenues are powered by volume and repeated sales.
- Volumes and repeated sales are powered by customer loyalty.
- Customer loyalty is powered by the quality and value of products.
- Quality and value of products is powered by employee loyalty.
- Employee loyalty is powered by employee satisfaction.
- Employee satisfaction is powered by working environment.
- Working environment is powered by management stewardship.
- Management stewardship is powered by invisible leadership.

"Invisible leadership" is exercising the vision to change the traditional role from the commander to the coach, manager to mentor, director to delegator and from one who demands respect to one who facilitates self-respect.

Source: Souvenir of MOIL

## THE MOST DANGEROUS PLACE TO BE IS IN THE MIDDLE OF THE ROAD

My decision is maybe-and that's final!" Is this you? Have you ever noticed that some of the most miserable people in the world are those who can never make a decision? Being decisive is an absolute key to a successful life. Every accomplishment, great or small, starts with a decision. Nothing great was ever done without a decision.

If you commit yourself to being indecisive, what kind of life will you live? "There's nothing in the middle of the road but yellow stripes." The truth is that the most dangerous place to be is in the middle of the road.

"There is a time when we must firmly choose the course which we will follow, or the relentless drift of events will make the decision for us." Being indecisive affects every area of our lives. "A double-minded man is unstable in all his ways." Too many people go through life not knowing what they want, but feeling sure they don't have it.

Don't be like a wheelbarrow, trailer. They need to be pushed, pulled or paddled to get anywhere. Realize that you're either moving other people to decisions or they're moving you. "Every human mind is a great slumbering power until awakened by a keen desire and a definite resolution to do". Decide to do something now to make your life better. The choice is yours.

"If you have the will to win, you have achieved half your success; if you don't, you have achieved half your failure." "If you don't make a total commitment to whatever you are doing then you start looking to bail out the first time the boat starts leaking. It's tough enough getting the boat to shore with everybody rowing, let alone when a guy stands up and starts putting his life jacket on."

There is a difference between thinking and deciding. When you are thinking about something, you only do it when it is convenient. When you are decisive about something, you accept no excuses, only results. Lack of decisiveness has caused more failures than lack of intelligence or ability.

The moment you definitely decide, all sorts of things happen to help you that never would have otherwise occurred. There is no question that you create opportunities by being decisive. Lack opportunities? Make some decisions.

"You seldom get what you go after unless you know in advance what you want." Indecision often gives the advantage to the other person because they did their thinking beforehand. "Science may have found a cure for most evil, but it has found no remedy for the worst of them all-the apathy of human beings." "Nothing is so exhausting as indecision, and nothing is so futile."

"Not what we have, but what we use, not what we see, but what we choose-these are things that mar or bless human happiness." Remain indecisive and you will never grow. To move from where you are, you must decide where you would rather be.

This is the 'Twenty First' of series of "Nuggets of Truth" which are our sound food for soul. Get ready to blow the lid off our limited Thinking & Create your recipe for happiness & success.

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