



# Excellence for Common Good

## Vision

We aspire to be the global steel industry benchmark for Value Creation and Corporate Citizenship

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## Mission

Consistent with the vision and values of the founder Jamsetji Tata, Tata Steel strives to strengthen India's industrial base through the effective utilization of staff and materials. The means envisaged to achieve this are high technology and productivity, consistent with modern management practices.

Tata Steel recognizes that while honesty and integrity are the essential ingredients of a strong and stable enterprise, profitability provides the main spark for economic activity.

Overall, the Company seeks to scale the heights of excellence in all that it does in an atmosphere free from fear, and thereby reaffirms its faith in democratic values.



Tata Steel won the 'Prime Minister's Trophy for the Best Integrated Steel Plant' in the country for the year 2013-14.

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## MANAGING DIRECTOR'S STATEMENT

# A NEW CHALLENGING JOURNEY

### **Dear Stakeholder,**

Our pursuit of business excellence through Total Quality Management gives us deep appreciation of the importance of constantly re-evaluating all aspects of business, given that the environment we operate in is being dramatically reshaped.

During the year, two events impacting the ends of our value chain rapidly altered the previous normal. These were (i) the raw material crisis we faced in the first three quarters of the year, followed by (ii) the unprecedented, sharp decline in steel prices as the year drew to a close.

At our raw material locations, mining was suspended due to regulatory uncertainties for the first time in our 108-year history. We imported iron ore rather than sourcing it from our captive mines. A reduction in supply of 5.2 million tonnes of iron ore from the iron ore mines impacted cost, profitability and our economic performance. Nonetheless, we used it as an opportunity to explore several hypotheses on operational excellence.

Domestic steel demand in India was subdued due to muted growth in the underlying key steel sectors. Steel imports surged to an all time high with the slowdown in China along with excess capacity in its steel industry.

## Faith in the India growth story

We responded with remarkable fortitude to ensure raw material availability during the period, growing steel volumes by 3% over the previous financial year through steady deliveries and ramp up of production.

Hot Metal production crossed 10 Million Tonnes during the year. This was also for the first time that 10 MnTPA of hot metal production was achieved at a single site by any steel company in India. It may be pertinent

to mention in the context of sustainability that Tata Steel is among the few companies in the world to have continuously operated at the same site for over a century.

Going forward, I expect the government's efforts to improve investment, along with its focus on manufacturing and infrastructure resulting in growth in steel demand to help us realise our growth objectives.

## New Products and Innovative Solutions

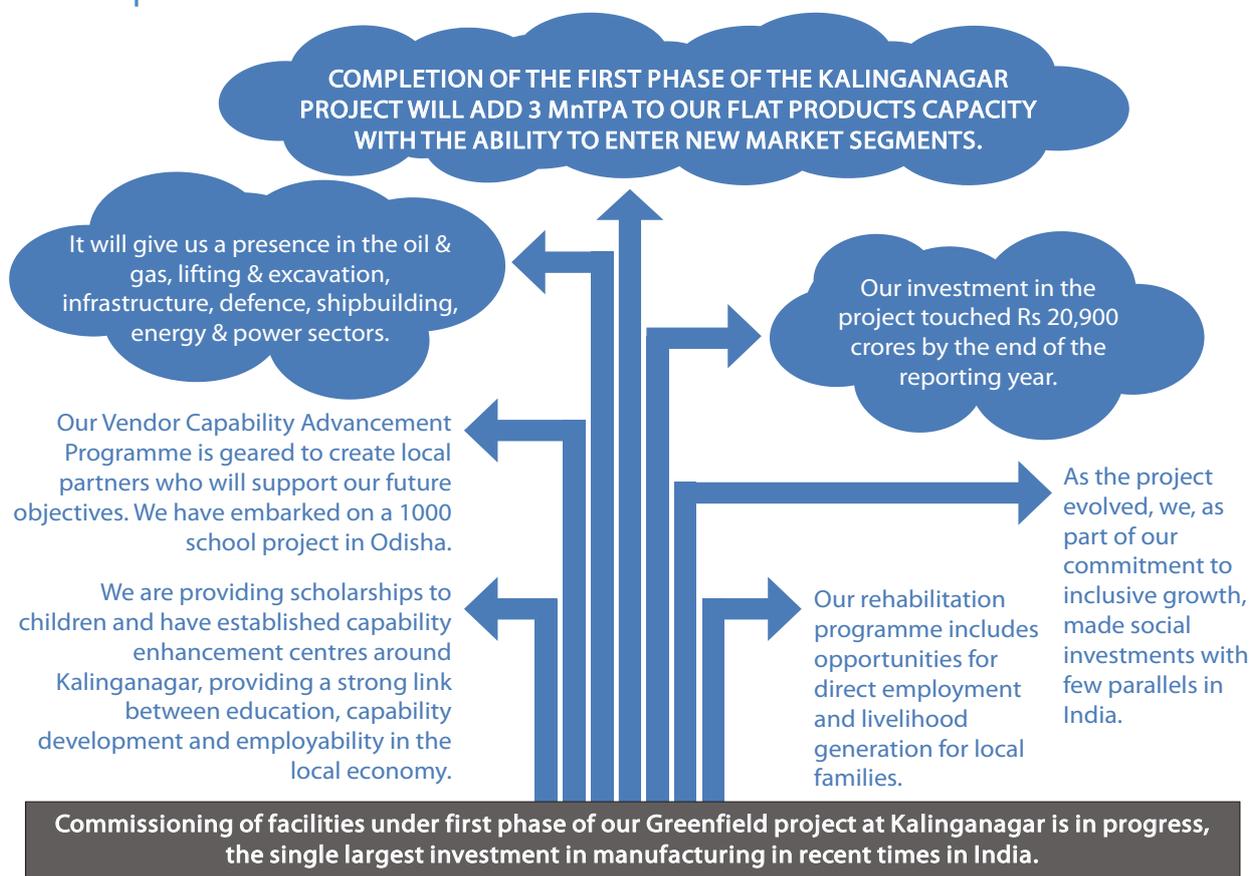
Year-on-year it is important for us to combine the strengths of our marketing team to spot opportunities with the capabilities of our researchers to provide innovative solutions to customers. The anticipated outcome is new products and process improvements. In 2014-15, our key OEM customers once again recognised our Product Applications Groups and our products for their excellence through awards.

In the retail market we focussed on maintaining and strengthening our leadership position in the market place offering services and new solutions. For rural markets the combination of Roof Junction, Nest-In and

Pravesh Doors provides a secure, cost effective home to people.

Our business growth strategy focuses on progressively enriching our product mix through a higher percentage of branded products from new capacities. This focus has ensured that revenues from the B2C businesses remained stable at 25% of income. We continued to leverage our retail network expanding it to over 100 distributors and 12000 dealers. The Industrial Products and Projects segment witnessed a jump in market share from 25% in 2013-14 to 33% in 2014-15.

## New capacities and social investments



We hope to look back on 2014-15 as a transformational year, when we tested new theories especially in establishing a new operating regime for iron making, including reduced consumption of raw materials, reduced fuel rates, with conservation of energy and water.

On several fronts we surpassed previous performance benchmarks. The most satisfying, perhaps, was a large improvement in Dust Emissions, significant reduction in energy consumption in iron making and the promise of better utilization of our wastes and by-products.

## A TRANSFORMATIONAL YEAR FOR THE CURRENT OPERATIONS

Corporate KPIs	Target	Actual	Comments
LTIFR	0.25	0.31	Lowest ever
Specific CO <sub>2</sub> Emission	2.43 t/tcs	2.42 t/tcs	Lowest ever
Specific Dust Emission from Stack	0.78 kg/tcs	0.57 kg/tcs (= 612 kg/h)	Largest improvement (~35%) and Lowest Ever Specific Dust Emission
Specific Water Consumption	5.48 m3/tcs	5.54 m3/tcs	Lowest ever
Solid Waste Utilisation (without landfill)	78%	80%	Highest ever

### In addition we achieved:

- Hot Metal and Crude Steel production of 10.15 Million Tonnes (MnT) and 9.33 MnT, respectively
- Breakthrough operating regime with Benchmark Coke Rates in the Blast Furnaces
- Recognition for the Pellet Plant as "Cleanest Pellet Plant " by the PM's Trophy team

## PERFORMANCE IN 2014-15

Our efforts to improve our Triple Bottom Line performance brought us the Economic Times Corporate Citizen of the Year Award and Business of the Year Award by CII - Centre of Excellence for Sustainable Development. It is an honour that the Company is rated the Global highest among steel companies in the CDP Climate Change Disclosure 2014 and was awarded the Prime Minister's Trophy for Best Performing Integrated Steel Plant in India over consecutive years. We were featured in the DJSI Sustainability Year Book 2015, the only manufacturing organisation from India to have found a place in it.

## Emissions and Environment Management

Embedded in our commitment to minimising our resource footprint is the understanding that our efforts positively impact both our business and the greater good of the communities in and around the areas we operate.

The strategy to abate GHG emissions and continuously improve Air Quality levels conserves fuel and energy. Reutilisation of all fine particles of iron ore, zero effluent discharge, maximise solid waste utilisation and others improve our environment performance and resource footprint.

## Safety

Despite our almost decade long Safety Excellence Journey we are still to achieve our targets. Our goal is to achieve Zero Fatalities in all operations, including our contractor workforce. In 2014-15, we launched a common health and safety management system in India, along with the rest of the Tata Steel Group. It includes a Safety Strategy with six strategic priorities.

A range of initiatives bolstered by communication campaigns is beginning to yield improvement with the fatality and LTIFR trends both showing a southward shift during the year. However, I still believe, it is only the initial days in our three-year journey that must definitely culminate in Zero Fatalities.

## Research & Innovation

Project Innovent and the Innovation Council launched last year are achieving greater alignment in the work of our researchers with potential market requirements. We developed a fire resistant structural steel tube, Ultra-light tipper body design for Tata Motors Limited, low-cost welding electrodes from mild steel, boron bearing tubes for door beam application, chrome-free polymeric coating on cold-rolled galvanized

steel for fuel tank application. Besides greater product responsibility, some of these products will assist in import substitution of these grades of steel.

In 2014-15, to strengthen the Life Cycle Analysis (LCA) of our products, a new vertical called the Environment Research Group was created, which includes a team of specialists to focus on LCA.

## Social Investments to improve the quality of life

Over its long history, Tata Steel has supported institutes of repute that have provided skilled manpower to industry. Today industry faces an acute shortage of skilled manpower. I believe that our sustained focus on Education, Employability through Skill Development and Employment in our communities will in the longer-

term further strengthen the sustainability of industry through the availability of a large, skilled talent pool of local youth. As youth find employment and livelihood opportunities, the quality of life of the communities we touch will improve further.

### Our social interventions touched 1.6 million lives. These include:

- Improving Maternal and Infant Health in Jharkhand along with touching lives of individuals through primary health care
- Setting up of 30 model schools in the state of Odisha
- Improvement in the quality of education in 1000 schools in Odisha
- Scholarships for meritorious students from socially and economically challenged families
- Training at Tata Steel Skill Development Centres
- Major infrastructure development projects to decongest Jamshedpur
- Adding new medical infrastructure at Company hospitals for the benefit of the larger community

## Maximising value across the value chain

To prepare for the future, we are conscious of the need for a judicious equilibrium between the old and new. We continued our 25 years journey of Total Quality Management. Our accelerated TQM initiative, Kar Vijay Har Shikhar (KVHS) delivered improvements in processes, products and services across the value chain resulting in savings in excess of Rs 1800 crores. We launched in 2014-15, Shikhar 25 to improve our EBIDTA in the short term.

Our considered attention on sustainability was heightened with the Triple Bottomline approach being reviewed as part of our apex objectives more rigorously. Improvement efforts are accelerating the pursuit of worldsteel's sustainability indicators, principles of the United Nations Global Compact, SA 8000 standards, Tata Sustainability Group initiatives which includes the Tata Engage programme for employee volunteerism.

## Outlook on the organization's main challenges and targets

In the years ahead, Tata Steel needs to aggressively unearth value and potential in the quest for new high ground. As always, we will leverage our capabilities – our offerings both from our existing facilities and those that Kalinganagar will add, our people and our culture of continuous improvement - to meet new challenges, especially those arising from changes in regulatory norms for raw materials and volatility in markets, to remain a dominant player in the markets we operate in.

operational excellence and find new ways to discover value.

**I share with you Tata Steel's comprehensive report as per the GRI G4 Guidelines.**

With Best Regards,



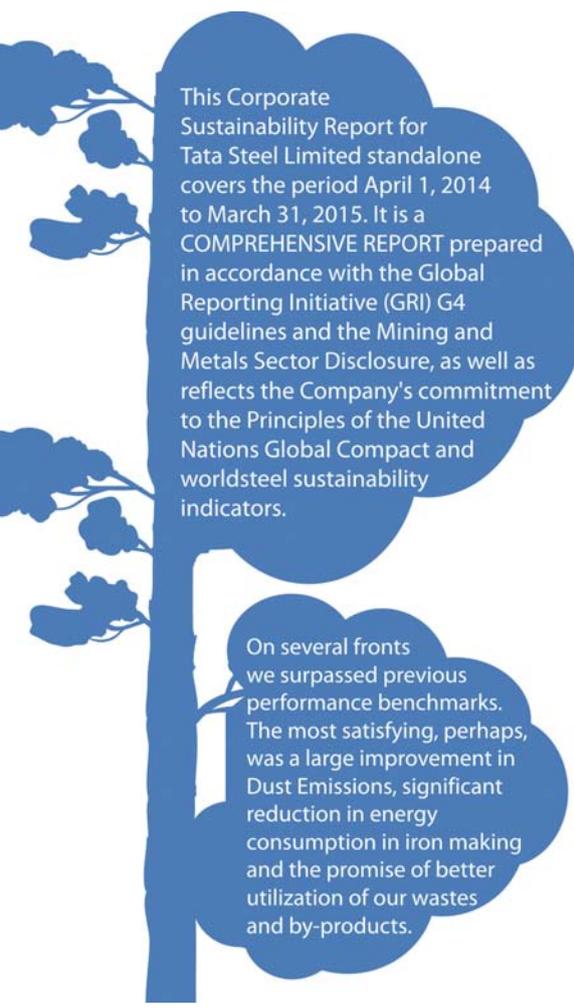
**T V Narendran**

Managing Director, Tata Steel Limited, India & SEA

We are constantly evaluating sustainability risks that may become greater or others that may emerge. We will pursue global benchmarks in processes for

## REPORT PROFILE

# ABOUT THE REPORT



This Corporate Sustainability Report for Tata Steel Limited standalone covers the period April 1, 2014 to March 31, 2015. It is a COMPREHENSIVE REPORT prepared in accordance with the Global Reporting Initiative (GRI) G4 guidelines and the Mining and Metals Sector Disclosure, as well as reflects the Company's commitment to the Principles of the United Nations Global Compact and worldsteel sustainability indicators.

On several fronts we surpassed previous performance benchmarks. The most satisfying, perhaps, was a large improvement in Dust Emissions, significant reduction in energy consumption in iron making and the promise of better utilization of our wastes and by-products.

## BOUNDARY

Disclosures under Economic, Labour, Human Rights and Social cover all locations for Tata Steel Limited standalone. Those for Environment Performance/ Operational Performance covers all locations within the boundary of the report.

## Entities in this report

Tata Steel standalone (the Company), its subsidiaries and jointly controlled entities constitute the Tata Steel Group. The list of related parties and relationships is available in the Annual Report 2014-15 – page 196-200. The consolidated financial performance of Tata Steel standalone or the Company reported here has two components based on the revenue streams – (a) the Steel Business Unit and Other Businesses (comprising Agrico, Bearings and Tata Growth Shop); (b) the Ferro Alloys and Minerals Division. The Steel Business Unit includes the Steel Works, Raw Materials, Global Wires, Industrial By-Products Management and Tubes Divisions.

This report represents the economic and social performance of Tata Steel standalone. The boundary for environment performance includes all sub-entities of the Steel Business Unit, aside from the Other Businesses.

This report covers Tata Steel's Metals and Mining operations, accounting for over 90% of all environmental aspects of the Company and over 97.5% of the Company's sales.

## Report Quality

The principles of Balance, Comparability, Comparability, Accuracy, Timeliness, Clarity and Reliability have been applied in preparing this report. For the purpose of comparison sustainability trends from two previous years has been provided.

## Report Content

The principles of Stakeholder Inclusiveness, Sustainability Context, Materiality and Completeness were applied in defining the report content. All stakeholder concerns and sustainability issues form inputs in the Company's strategic planning process and find place in this report.

Data for operational excellence has been separated for the mining and metals segments of the value chain for greater comparability across both sectors.

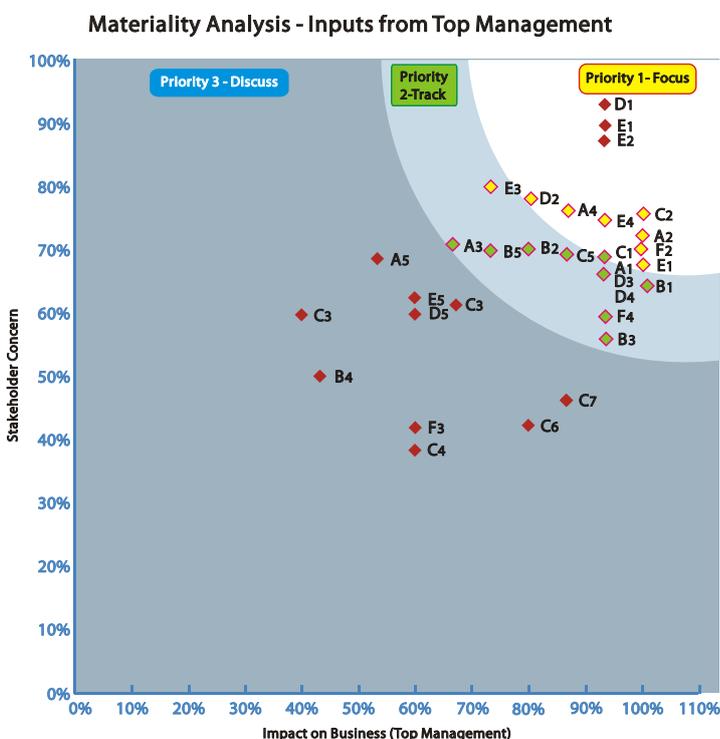
There have been no significant restatements from previous reports nor have there been any significant changes from previous reporting periods in the Scope and Aspect Boundaries.

## IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES

### Material Aspects

Tata Steel conducted a Review of Materiality in 2012-13 to obtain inputs from external stakeholders and peer companies on sustainability issues of concern to them, which assisted the Senior Management in defining material sustainability issues. This exercise covered Environmental and Social aspects as Economic performance is seen as a natural first step in sustainability. They form part of the Company's Long Term Plan. Additionally the Company considers worldsteel's Sustainability Indicators and the UNGC Principles as material aspects. Hence the identified materials aspects as per Priority -1 (Focus), Priority -2 (Track) and Priority-3 (Discuss) are identified as per issues in the Focus, Track and Discuss Categories.

### Materiality Map



### MATERIAL ISSUES IN FOCUS

- A2 Promoting Ethical Behaviour
- A4 Stakeholder Identification & Management
- F2 Resource Consumption
- D1 Emissions
- E1 Land Acquisition and R&R (Operations to be commissioned)
- E2 Community Engagement and satisfaction
- D2 Environment Performance Management
- C1 Occupational Health & Safety
- C2 Capacity Building of Employees
- E4 Local Infrastructure Development
- A 1 Leadership Policy and oversight on Sustainability

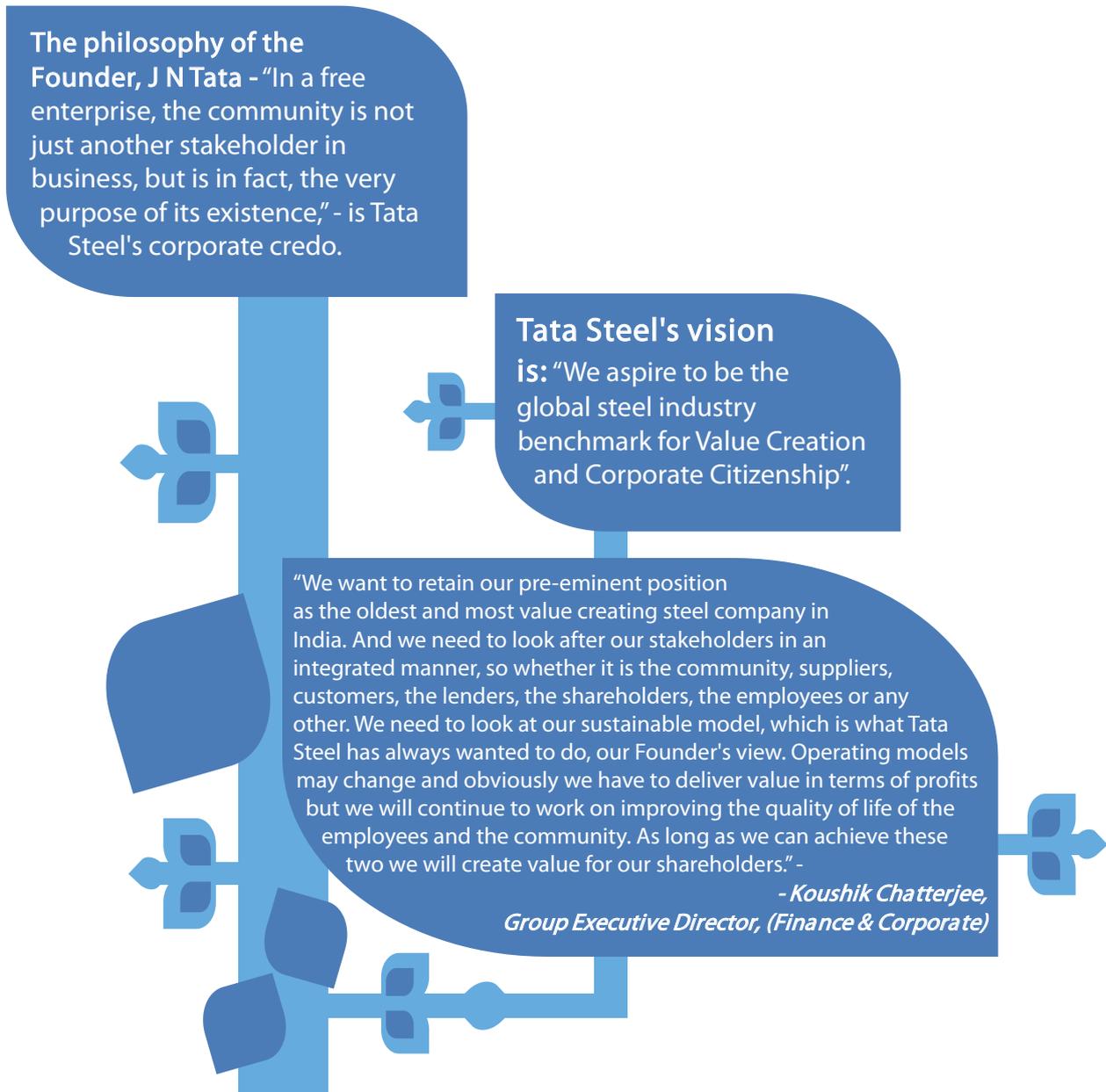
In addition, content selection for the current year's report has been based on the Tata Steel's vision, major challenges faced during the year and the opportunities arising thereof, beside requirements under the Material and Mining Sector Disclosure (MMSD), principles of the United Nations Global Compact and worldsteel sustainability indicators. Minimising the Resource Footprint of the steel industry is a worldsteel priority therefore Lifecycle Assessment has been included. Affirmative Action is a continuing Tata group mandate, to which Diversity has been added in 2014-15. The last two are also treated as material issues.

The top management reviewed the contents to ensure that the material issues reported presents a balance view of the critical areas for the Company and its stakeholders.

The Company sources its raw materials – iron ore, coal, chromite ore, dolomite and manganese ore from its captive ore mines, quarries and collieries hence the Aspect Boundary covers the mining and metals segments of its value chain.

STRATEGY & ANALYSIS

# SUSTAINED VALUE CREATION FOR ALL STAKEHOLDERS



## SUSTAINABILITY IMPACTS

Based on the two elements of the vision and its corporate credo the sustainability impacts for Tata Steel are:

Economic	Environment	Social
<b>CUSTOMERS &amp; MARKET SHARE</b> 1. Revenue 2. Market share	<b>RESOURCE CONSUMPTION</b> 1. Optimise use of raw materials 2. Lifecycle Assessment	<b>STAKEHOLDER MANAGEMENT</b> 1. Value creation for all 2. Responsible Public Policy Advocacy
<b>OPERATIONS</b> 1. Products 2. Cost	<b>EMISSIONS</b> 1. Consumption of Energy 2. Emissions - Carbon dioxide (CO <sub>2</sub> ) 3. Emission of sulfur oxides (SO <sub>x</sub> ), nitrogen oxides (NO <sub>x</sub> ) and dust to air 4. Transportation of products and services	<b>ETHICS</b> 1. Management of Business Ethics <b>OCCUPATIONAL HEALTH &amp; SAFETY</b> (Including Contractor's Employees)
<b>INDIRECT ECONOMIC BENEFITS</b> 1. Local Area Infrastructure Development 2. Local Vendor Capability Development	<b>ENVIRONMENT PERFORMANCE MANAGEMENT</b> 1. Water Consumption and Effluent Discharge 2. Solid Waste Utilisation 3. Biodiversity Management	<b>CAPACITY BUILDING OF EMPLOYEES</b> <b>COMMUNITY ENGAGEMENT AND SATISFACTION</b> 1. Quality of life of the community 2. Affirmative Action <b>LAND ACQUISITION AND R&amp;R</b>

TATA STEEL'S LONG TERM OBJECTIVES INCLUDE:		
Economic	Environment	Social
<ul style="list-style-type: none"> <li>Maintain leadership in profitability</li> <li>Maintain leadership position in chosen segments</li> </ul>	<ul style="list-style-type: none"> <li>Strive for raw material self-sufficiency and extract value from waste</li> <li>Be the Indian steel industry benchmark in environmental performances</li> </ul>	<ul style="list-style-type: none"> <li>Zero harm</li> <li>Deliver impact based CSR</li> </ul>

In 2014-15 Tata Steel's annual business planning process was further strengthened with better inclusion of Social and Environmental aspects, with anticipated changes in regulatory aspects.

Key actions under the 2014-15 Annual Business Plan were:		
Economic	Environment	Social
<ul style="list-style-type: none"> <li>Timely startup of Odisha project</li> <li>Ramp-up of Battery#11</li> <li>Contain Hot metal Cost (Rs/t)</li> <li>Enhance presence in select segments</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable resource consumption and mitigation of climate change through process optimisation, energy conservation, efficiency enhancement and R&amp;D</li> <li>Water efficiency enhancement to build resilience in business and address adaptation needs</li> <li>Reduction of the overall environmental footprint</li> </ul>	<ul style="list-style-type: none"> <li>Implement 30 Schools Project In Odisha</li> <li>Janagraha and Assistance to Govt. of Odisha towards development of a Bhubaneshwar-Cuttack Metropolitan Development Plan (BCMDA)</li> <li>Setting up of Skill Centres</li> </ul>

## SUPPLY CHAIN DISRUPTIONS

Raw material accounts for 60-70% of the cost of steel and disruptions in supply and volatility in the prices of raw materials poses a significant risk to operations and operating costs. Currently, Tata Steel has 100% integration in iron ore and ~ 50% integration in metallurgical coal.

The Company faced challenges last year in operating its existing mines due to regulatory interventions that caused temporary stoppages at some of its iron ore mines. As a result, the Company had to procure iron ore from external sources during this period, which affected its profitability. (Also refer Annual Report 2014-15; pages 10 and 13)

The Company was quick in responding to the challenge through a series of risk mitigation measures put in place in anticipation of such a scenario. **In addition improvements in operations and deployment of the following strategic initiatives mitigated the impact of the crisis in mining:**

- Setting up of a cross-functional task force for procurement of iron ore from domestic and

international sources

- Initiating appropriate steps on the logistics front to ensure delivery of raw materials from different locations
- All the major east coast ports were utilised to receive the imported iron ore
- Appropriately modifying the sinter and pellet plants to accommodate ore from different sources
- Utilising the opportunity to fine tune processes for Blast Furnaces and achieving benchmark fuel rate despite raw material constraints; and
- Working on product mix enrichment and value added products to ensure better realisation and delivery compliance in chosen segments

The Tata Steel Ferro Alloys and Minerals Division is the market leader in Ferro Chrome in India and is among the top six chrome alloy producers in the world. It too faced similar regulatory disruptions at its mines. The Division took proactive measures to protect supplies to its customers, ensuring that no customer suffered during the entire period of the suspension of mining operations nor did any of them shift away.

## OPERATING PROFITS

The strong Indian Rupee made imports competitive in 2014-15. The reporting year saw a surge in commodity grade steel from China and Russia as well as High Grade Steel from countries such as Japan and Korea. Despite being the lowest cost producer of hot metal in the world, Tata Steel has launched an accelerated TQM initiative SHIKHAR 25, with aggressive targets to improve savings, create benchmarks across the value

chain and positively impact its Triple Bottomline.

To mitigate the impact of the intense pressure on steel margins due to global excess capacity and overall low domestic demand growth in the last two years Tata Steel launched an accelerated TQM initiative Shikhar 25 in 2014-15 for Value Identification With Execution Certainty.

### Of the six differentiating factors two focus on:

<b>SPEED</b>	To enable the Company focus on resource prioritisation with support functions embedded in it
<b>HOLISTIC</b>	Act as an umbrella improvement programme, focussing on attaining benchmarks – drive structural changes as required

**An Impact Centre for areas of priority monitors EBITDA improvement via its projects on a weekly basis.**

## PRIORITIZING CHALLENGES AND OPPORTUNITIES

“We have to ensure implementation of best practices, which can be achieved through commitment and conviction, not merely by radical technical intervention. Initiatives should be driven from heart and not by cost and compulsion”.

– Anand Sen, President, TQM & Steel Business, Tata Steel Limited, India & SEA

Tata Steel has a four-tiered integrated Strategy Planning and Deployment process. The process consists of two phases: development and deployment.

The development phase consists of setting the Vision and the Long Term Strategy (LTS), the deployment phase consists of converting strategies into action plans through the Long Term Planning (LTP) and Annual Business Planning (ABP) process.

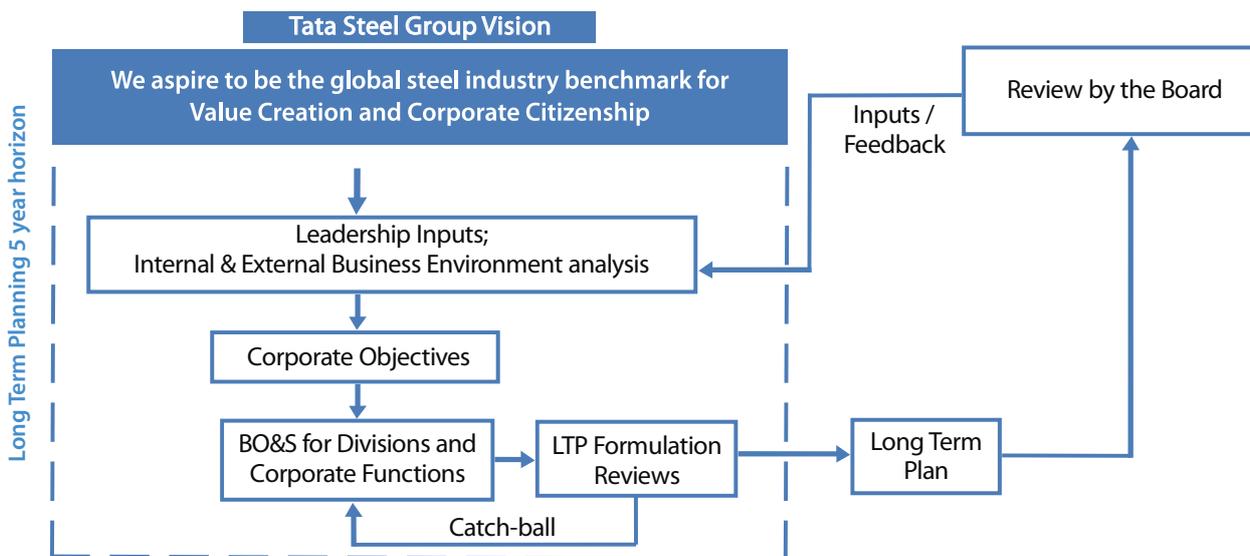
Tata Steel’s overall strategic priorities are determined through its “Strategy Management System”, which has three major components namely “Vision”, a rolling “Long Term Plan” (with a five year timeframe), and “Annual Business Plan” (one year timeframe). Aside

from guidance from the Committees of the Board, Tata Steel has Apex level forums to address performance including Quality, Ethics and Safety.

In addition the process includes scenario planning, a Strategy Governance process and Enterprise Risk Management, among others.

To meet its strategies, sub-strategies and means are formulated as necessary.

## OVERVIEW OF STRATEGY MANAGEMENT SYSTEM AT TATA STEEL

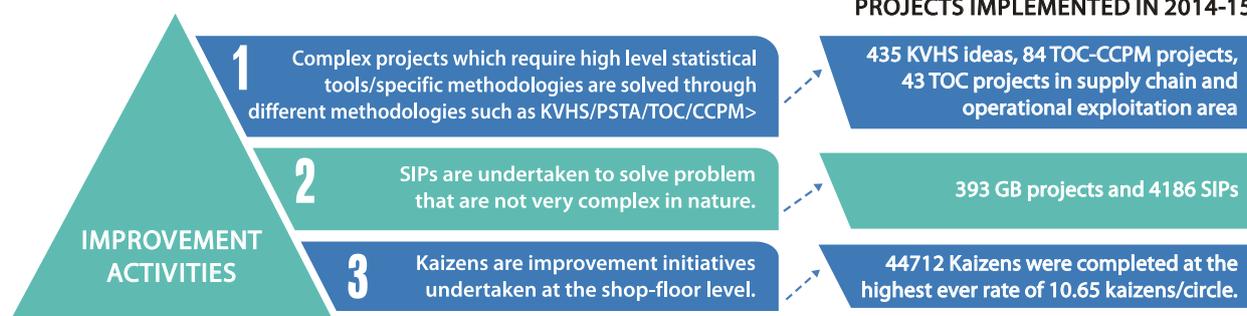


## CULTURE OF CONTINUOUS IMPROVEMENT

Tata Steel’s strong Total Quality Management culture drives improvements at all levels. The 4 Student analyses is the key indicator used to measure the effectiveness of action plans as well as guide deployment in the next cycle of PDCA. Key among its

improvement programmes are Kar Vijay Har Shikhar, which has contributed in excess of Rs 1800 crores in savings, and Shikhar 25 launched in 2014-15. The latter is expected to achieve 25% EBITDA in the next three to four years.

Improvement activities at Tata Steel are taken up at three levels:



The Daily Management (DM) process strengthens oversight on the top KPIs – those with the highest impact. In 2014-15 DM was deployed in eight new areas (Corporate Services, Pellet Plant, HMC, Bearings,

Katamati mines, Joda Dry & Logistics section, NRD, West Bokaro and departments under Group Corporate Functions, IBMD etc.)

## MEASUREMENT OF SUSTAINABILITY IMPACTS

Tata Steel has a quantitative, scientific methodology for its Triple Bottomline Approach.

**Life Cycle Assessments:** In 2014-15 the Environment Research Group was created with experts in life cycle assessment. The group will be responsible for Life Cycle Assessment of Tata Steel’s products as part of the effort to reach beyond the production and manufacturing process to include the triple bottom line approach.

**It will account for environmental impacts of Tata Steel’s products at relevant lifecycle stages:**

- Extraction of the raw materials used by these processes
- Manufacturing processes of a product
- Use and maintenance of the product by the consumer
- End-of-life (recycling, reuse or disposal)
- Various methods of transport occurring between every link of the chain

**Social impacts:** These are continuously evaluated through progress on the Human Development Index in the rural communities and Quality of Life (eQ) index in the urban communities.

## PROGRESS IN 2014-15

Sales volumes grew by 3 per cent in 2014-15. It is expected that the greater focus on new Life Cycle analysis of products will lead to a reduced resource footprint, improve cost competitiveness and the business objective of greater value creation.

Automotive and Special Products	Branded Products, Retail and Solutions	Industrial Products, Projects and Exports
<p>15% increase in sales in the Automotive segment</p> <p>30% growth in Hi-end automotive sales</p>	<p>9% growth in the branded segment</p> <p>Highest ever sales for the Tata Tiscon, Tata Shaktee, Tata Steelium &amp; Galvano brands</p> <p>Entry into the steel doors segment under the brand name Pravesh and launch of Steelium Neo – CR steel</p>	<p>~70% growth in the LPG segment</p> <p>A new solution – a ready-to-fix foundation rebar solution, 'Tiscon Footings' - was launched in 2014</p>

## RESOURCE CONSUMPTION

The Company successfully used its toughest challenge – disruption in raw material availability - as an opportunity, throttling production to test new, more fuel-efficient operating regimes for its blast furnaces.

**New R&D vertical:** Efforts by the Environment Research Group of R&D, created in 2014-15 to accelerate efforts to conserve resources, are aimed at improving material efficiency with operational excellence, while reducing the environmental impact of the Company’s operations.

The Industrial By-Products Management Division, created out of the erstwhile Secondary Products Division, was given the fresh mandate of “Sustainable value capture from By-products” especially solid waste.



## ENERGY & EMISSIONS

**India's benchmark in Energy Intensity & CO<sub>2</sub> Intensity:** As modern steel production processes are now very close to their theoretical minimum for energy and CO<sub>2</sub> intensity per tonne of steel output, it is challenging to reduce energy and CO<sub>2</sub>

intensity further.

Jamshedpur Steel Works maintained its lead as the Indian benchmark in Energy Intensity and CO<sub>2</sub> emission intensity, testing new operating regimes for fuel rates and energy efficiency.

## ENVIRONMENT PERFORMANCE MANAGEMENT

**Lowest ever Dust Emissions:** Fugitive and stack emission, effluent discharge and noise control - thrust areas for improvement - continued to receive attention with emission reduction projects to limit air contact with molten metal and slag being commissioned. These included the secondary emission control system at LD #1. Particulate matter emission was curtailed from 924 kg/hour in 2013-14 to 612 kg/hour in 2014-15, closing in on the Indian benchmark.

**Lowest Specific Water consumption:** Tata Steel accelerated towards its Zero Water Discharge efforts by operationalizing wastewater recovery and commissioning new treatment plants at the Steel Works, allowing Specific Water Consumption to drop to the lowest ever. At the raw materials locations a switch over to 100 per cent dry beneficiation is under review.

Sustainability Indicators	UoM	2012-13	2013-14	2014-15
Crude Steel Production	MnTPA	8.13	9.16	9.33
Material Efficiency#	%	90.8	91.2	91.3
Energy Intensity*#	Gcal/tcs	6.083	6.017	6.012
CO <sub>2</sub> Intensity*#	tCO <sub>2</sub> /tcs	2.53	2.43	2.42
Water Intensity	m <sup>3</sup> /tcs	5.92	5.57	5.54
Dust Emissions	Kg/tcs	1.00	0.88	0.57
Recycled Water	MGD	2.7	3.9	7.7

\* Indian Benchmark for energy and CO<sub>2</sub>; # worldsteel Sustainability Indicator

In the reporting year Tata Steel's investments in new products and processes include Rs 6959.32 crores in capital expenditure on acquiring or improving long-term physical assets such as property, plants, machinery and equipment, industrial buildings and warehouses, as well as Rs 133.80 crores on Research & Development.



## SOCIAL

**Safety and Health get top priority:** The Company developed a regional, longer term (3+ years), risk based safety strategy to assist with more effective planning of future safety activities. It also formally launched three regional safety competency networks (employee safety, contractor safety, and PSM) and initiated a comprehensive project to review and renew safety skills training as part of the competency improvement effort.

**Committed to Zero:** To drive Safety and Health priorities across contractor's employees with equal vigour, Tata Steel launched the "Committed to

Zero" campaign in 2014-15 to ensure zero harm for employees, contractors and the communities in which it operates. The "Find it-Own it-Fix it" initiative also launched in 2014-15 mobilises behavioural change among employees, expanding their engagement to looking out for hazards, assess risks and take proactive corrective actions.

Sustainability Indicators	2012-13	2013-14	2014-15
LTIFR#	0.60	0.56	0.31
Fatality	6	12	5
Health Index	12.63	12.82	12.34

## PROMOTING ETHICAL BEHAVIOUR

Tata Steel deepened its position on Zero Tolerance to corruption by introducing the Vigil Mechanism in 2014-15. The Vigil Mechanism comprises three policies viz., the Whistle Blower Policy for Directors & Employees, Whistle Blower Policy for Vendors and Whistle Blower Reward & Recognition Policy for Employees.

The Company also exercises zero tolerance towards

## AFFIRMATIVE ACTION & HUMAN RIGHTS

Besides maintaining oversight on Security Practices, Human Rights are promoted through collective bargaining and SA 8000 mechanisms. The Company progressively audits vendors for SA 8000. In 2014-15 a total of 60 high-risk vendors or those requiring a higher use of unskilled labour in their contracts were audited for compliance to SA 8000 clauses.



sexual harassment at the workplace and has adopted a policy to prevent, prohibit and redress sexual harassment at the workplace.



## COMMUNITY ENGAGEMENT AND SATISFACTION

Sustainability Indicators	Initiatives	UoM	2012-13	2013-14	2014-15
	2nd and 3rd Cropping	Acres	3177	5032	5510
	Increasing Paddy Yield	No of Farmers	250	2200	5948
	Wasteland Development	Acres	1015	1125	1339
	Adult Literacy (Nos.)		13570	16824	15612
	Scholarship for SC/ST candidates	Nos.	2477	3169	3460
	Pre-matric Coaching		5006	10372	13403
	Primary Healthcare	Nos	372000	419000	485384
	Eye Care Services		2890	5320	6198

## Skill Development

Skill development of youth aimed at gainful employment through Tata Steel Skill Development Society continued to see growth in 2014-15. A total of 3458 youth in the states of Jharkhand, Odisha and Chhattisgarh were enrolled in various skill development programmes under the operating model adopted by Tata Steel Skill Development Society.

The operating model has three levels of institutes to maximise impact::

- Tata Steel Skill Development Society (TSSDS) run institutes
- Institutes with Infrastructural support from Tata Steel
- Sponsorship to select institutes

## Improving the quality of education in Odisha

Tata Steel will assist the Government of Odisha in improving the quality of education in 1,000 Government primary schools under the 1000 Schools Project over the next five years. It has in addition

launched an ambitious project to construct 30 model schools in 30 blocks across Odisha at a cost of around Rs 135 crores to improve education infrastructure in remote areas of the state.

## FUTURE CHALLENGES

### Regulatory trends and challenges

The Mines and Minerals Development and Regulation (MMDR) Amendment Act 2015 was passed by the Indian Parliament and notified in the Gazette on March 27, 2015. The amended Act addresses regulatory requirements on new allocations, transition provisions, etc.

The MMDR Amendment Act, 2015, has provided regulatory clarity on both captive and non captive mining in India and should help resolve disruptions to mining due to regulation, albeit at increased royalty

and related costs. With the increase in royalties and the new DMF charge, taxes in India are highest globally.

In the long term it is expected to benefit end use sectors like steel, cement and power etc., through improved access to raw materials via auctions for an increased duration. It should increase private participation in mining, resulting in increased competition when the existing Tata Steel captive mines are auctioned.

### Future cost competitiveness

Tata Steel is among the lowest cost steel producers globally and has the best EBIDTA% in the steel industry globally.

The Company's competitive position could be impacted by the following changes in the business environment:

- Stringent regulatory policies affecting access to mines and cost of mining
- Capacity expansion in the steel industry
- Increasing competitive parity
  - Increasing imports

### Long-term prospects and financial performance

Key sustainability topics prioritised as risks due to their relevance for long-term organizational strategy and competitive position are:

1. Macro environment – (a) stagnant steel demand; (b) De-growth in China; (c) Low global Steel prices; and (d) Margins under pressure
2. Raw Materials Security and Price volatility in global markets
3. Regulatory Environment & Compliance – (a) Increasingly stringent mining regulations in India; and (b) Captive mine closure
4. Growth Projects
5. Health, Safety & Environmental Risks
6. Social license to operate
7. Human Resource and Productivity
8. Foreign exchange rate volatility

## LESSONS FROM THE CURRENT REPORTING PERIOD

In 2014-15 the Company embarked on a fresh exercise to envision the future, looking at economic, regulatory and stakeholder scenarios, as well as identify

sustainability projects. Post evaluation and approval by the Strategy Committee, the projects will flow into the Company's long-term plan.

Tata Steel's long-term targets for FY20 are as follows:

Material Issues	LTP targets for FY 20
1. Raw Material Security	Strive for raw material self sufficiency and extract value from waste
2. Community involvement, engagement & satisfaction	<b>CSR spend:</b> Rs. 255 crores <b>No. of lives to be impacted:</b> 2.50 million
3. Occupational Health & Safety	<b>Safety:</b> Committed to Zero (Zero injury)

## IDENTIFICATION AND MANAGEMENT OF RISKS AND OPPORTUNITIES

After the constitution of a Risk Management Committee in 2013, Tata Steel adopted the Enterprise Risk Management (ERM) framework in 2013-14 to manage risks. It typically involves identifying particular risk events or circumstances relevant to the organization's objectives (risks and opportunities), assessing them in terms of likelihood and magnitude of impact, determining a response strategy, and monitoring them on a regular basis. By identifying and proactively

addressing risks and opportunities, the objective is to protect and create value for stakeholders, including shareholders, employees, customers, regulators, and society.

*(Annual Report 2014-15 – pages 26-29 and 118 - 121)*

Of the 18 Class A risks identified in 2013-14, three have already been eased out.

ORGANISATIONAL PROFILE

# ABOUT TATA STEEL

## The future is multi locational

Tata Steel Limited, headquartered in Mumbai, is a public limited company as defined under Companies Act, 2013. Its Indian operations cater to the domestic steel industry. Approximately 98% of its steel value chain products are sold in the domestic market.

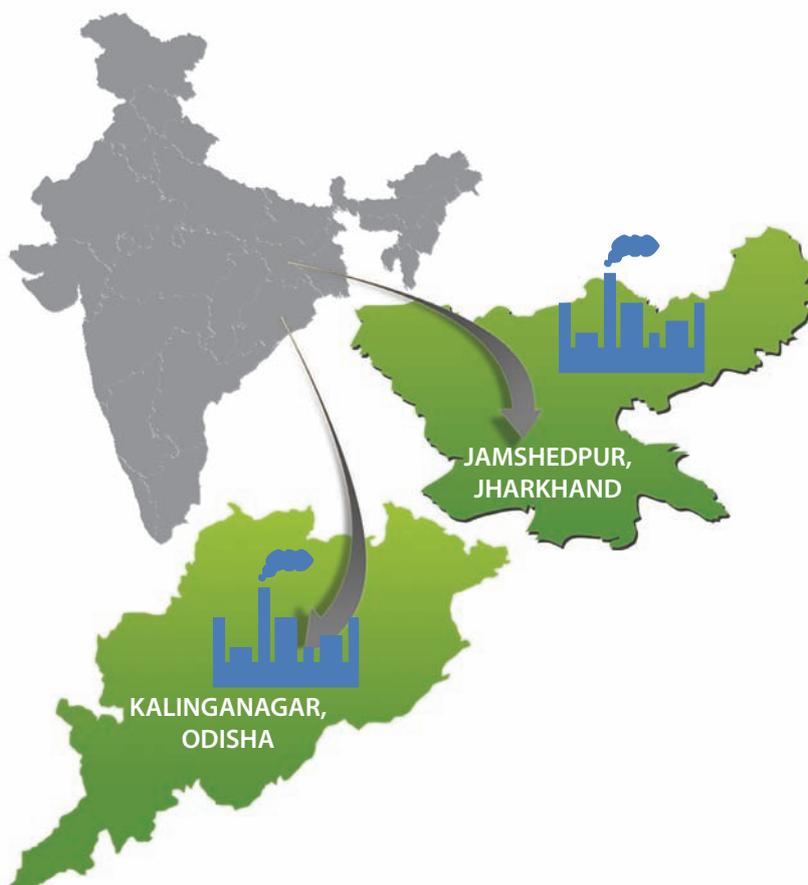
While the Company has customers and customer groups all across India, the concentration of the overall sales is mostly in the eastern and northern parts of

the country. The Company has operations spread across the eastern states of Jharkhand and Odisha. Its Value Chain comprises three components, the Steel Value Chain, the Raw Material Value Chain and Other Businesses. These account for 93%, 6% and 1%, respectively from a revenue driver perspective. The Steel Manufacturing Works, with a capacity of 10 Mn TPA, is located in Jamshedpur, Jharkhand

*(Annual Report 2014-15 - Major Plant Locations – Page 136).*

The first phase of Tata Steel's greenfield project in Kalinganagar, Odisha, the single largest investment in Asia in recent years, is expected to be completed in FY16. The Company has invested Rs 21,000 crores apart from investments in social infrastructure.

The Company's Ferro Alloys and Minerals Division (FAMD) exports ~49% of its chrome and 27% of manganese products to countries including Japan, Korea and China.



The Indian operation produces both Long Products and Flat Products at a single site, consuming raw materials from its captive Ore Mines & Quarries and Collieries.



The Company has 280 direct customers and 3.5 million retail customers. Direct customers, comprising the Automotive & Special Products as well as Industrial Products verticals, are served by the Outbound Logistics team while retail customers are served by a network of channel partners comprising 147 distributors, ~12000 dealers, 1300 distributor's fleet on street, service partners and project distributors.

Particulars	UoM	2012-13	2013-14	2014-15
Total No. of permanent employees	Nos	35,905	36,199	36,957
Total number of operational units	Nos	39	39	39
Gross Revenue	Rs Crs	42,889	46,749	46,645
Net Turnover	Rs Crs	38,199	41,711	41,785
Crude Steel Production	Mt	8.13	9.16	9.33
Saleable Steel Production	Mt	7.94	8.93	9.07
Iron ore Production	Mt	15.01	17.36	13.69
Coal Production	Mt	7.30	6.97	6.04
Employee Compensation	Rs Cr	3,609	3,673	4,602
EBITDA	Rs. Crs.	11,698	13,281	10,102
EBITDA	%	31%	32%	24%
Exceptional Income (Expenses)	Rs. Crs.	-675	-142	1,891
Profit Before Tax	Rs. Crs.	7,837	9,714	8,509
Profit After Tax	Rs. Crs.	5,063	6,412	6,439
Net Fixed Assets	Rs. Crs.	36,107	44,175	49,066
Capital Employed	Rs. Crs.	86,836	93,379	99,388
Net Worth	Rs. Crs.	57,485	63,423	68,939
Debt	Rs. Crs.	27,508	27,917	28,198
Equity #	Rs. Crs.	3,246	3,246	3,246
Net Debt Equity	Ratio	0.44	0.41	0.4
Research & Development	Rs. Crs.	59.73	80.51	133.80
Market Capitalization	Rs. Crs.	30,383	38,261	30,763
Basic Earnings Per Share	Rs/share	50.28	64.21	64.49
Dividend Rate	%	80%	100%	80%
P/E Ratio	times	6.21	6.13	4.91

# Equity means Share Capital + Hybrid Perpetual Securities

Tata Steel's investments in new products and processes in 2014-15 include Rs 6959.32 crores in capital expenditure as well as Rs 133.80 crores on Research & Development

Tata Steel has 26 workers' unions across its locations, which cover all non-officers or ~86% of its total workforce. 99.5% of Tata Steel's workforce and contract workforce are employed in OHSAS certified locations.

**MARKET SEGMENTS    MARKET SUB SEGMENTS    OUR SPECIFIC PRODUCT AND SERVICE OFFERINGS**

<b>Construction</b> 	Individual House Builders (B2C)	a) TOC- replenishment c) CSEs	b) Superlinks & footing d) experience zones & e-selling
	Rural Roofing (B2C)	a) TOC- replenishment	b) Roof-junction c) Nest-In
	Infrastructure (B2B)	a) VAP: CRSD, CL, higher dia rebars b) Tiscon Readybuild	c) New Product Development (NPD)
	Housing & commercial (B2ECA)	a) SYD based sales c) BBS (pilot)	b) Tiscon Readybuild
<b>Automotive</b> 	Auto OEMs (B2B)	a) Hi-end products to support localisation (HSS, Skin panel, GA) b) JIT / VMI supplies c) Dedicated AEs to all key accounts d) Shaled blanks/ EPA support e) EDI service f) VAVE g) New investments (e.g. TSCR, CAPL, KPO)	
	Auto ancillaries (B2B, B2ECA)	a) Segment specific TDCs for auto segment b) Material from ACE certified service centres c) Availability >95%	d) Development of EDD grade
<b>Gen. Engg</b> 	Panel & appliances (B2ECA)	a) Segment specific TDCs for Panel & appliance segments b) Replenishment based supplies c) Value-in-use	d) ROHS compliant product
	Fabrication & Capital Goods (B2ECA)	a) Products with specific TDCs b) Service centre for customised products c) PAGs	d) New investments
	Furniture (B2ECA)	a) Thinner and narrow products b) Fabricator meets for knowledge dissemination c) Higher hardness material from JCAPCPL	
<b>Industrial</b> 	LPG (B2B)	a) VMI c) LPG blanks	b) HRC in 1680 mm width d) Single cast supplies
	Welding (B2B)	a) EWNr for stick electrodes and WR3M for CWE b) VMI	c) Wire-2-win d) NPD
	Process industries (e.g. Cement, power, steel) (B2B)	a) Quality c) LT Contracts e) Ware house based supplies	b) On-time delivery d) Customised Packaging
<b>Agriculture</b> 	Agri equipment (B2B)	a) Replenishment based supplies b) NPD c) Involvement with customers R&D d) EVI	
	Fencing, farming & Irrigation (B2C)	a) Differentiated products for each segment b) Replenishment System for supplies c) Small coil supplies d) Internal Quality check e) Amritdhara (borewell pipe with seamless socket) f) Barbed Wires	

### TATA STEEL'S SUPPLY CHAIN CONSISTS OF:

- In-bound raw materials
- Intra-works material movement
- Out-bound logistics
- Jamshedpur town logistics

#### In-bound raw materials

The principle raw materials in steel making are iron ore and coal. All In-bound raw materials arrive at the Steel Works by Rail from the Company's captive Ore Mines & Quarries and Collieries within the state of Jharkhand and Odisha.

The In-bound Supply Chain is geared towards meeting the needs of internal customers. In-bound suppliers are managed by Procurement. During the year Process Integration was implemented to transform the function from a commodity 'buying role' to 'category strategy procuring role'. The key objective is value creation and EBIDTA improvement through savings arrived from category strategy formulation.

The Company has 5000 active vendors, with 158 strategic vendors and challengers (in the target strategic bucket) accounting for a Spend of Rs 4568 crores from a Total Spend of Rs 10,293 crores.

#### Out-bound logistics

**The key focus areas for Tata Steel in the Outbound and logistics landscape are:**

- Road Transportation
- Rail Transportation
- Sea Ports Development

Customer Service Division (CSD) is responsible for handling Out-bound logistics. Tata Steel's distribution network consists of 29 External Processing Agents (EPA), 20 stockyards located in five zonal hubs, enabling it to customize its distribution strategy. The Company delivers 25% of its finished goods by road directly to its customer while 75% of it is transported via rail to its hubs.

TATA STEEL'S SUPPLY CHAIN Sustainability Indicators	UoM	2012-13	2013-14	2014-15
Total number of suppliers	Nos.	~5000	~5000	~5000
A. Total monetary value and/or volume of materials, products and services purchased directly from suppliers	Rs crores	-	-	9315
i. Raw Materials consumed	Rs crores	9877	9678	11708*
ii. Stores and Spares consumed	Rs crores	2091	2611	2305
iii. Repairs to machinery	Rs crores	1381	1734	1864
C. Location of suppliers by country and/or region.	Iron Ore Mines: Noamundi – Jharkhand, India; Joda East, Odisha, India Coal Mines: Jharkhand, India			

*\*(Annual Report 2014-15 page 112)*

#### Precautionary Approach

Aside from pre-existing internal control and risk management processes, Tata Steel constituted a Risk Management Committee (RMC) in December 2014 for framing, implementing and monitoring the risk management policy of the Company. It uses the worldsteel Sustainability Charter and Principles of the UN Global Compact as the touchstone for following a precautionary approach.

## ECONOMIC, ENVIRONMENTAL AND SOCIAL CHARTERS AND PRINCIPLES SUBSCRIBED TO

- WSA Sustainability Charter
- Principles of the UN Global Compact
- SA 8000

## MEMBERSHIPS OF ASSOCIATIONS

Organisation	Position on the governance body
• worldsteel Association (WSA)	Member
• Confederation of Indian Industry (CII)	Member
• Federation of Indian Chambers of Commerce & Industry (FICCI)	Member
• Global Compact Network India (GCNI)	Member
• Indian Steel Association (ISA)	Member
• Federation of Indian Mineral Industries (FIMI)	Member
• Sustainable Mining Initiative (SMI)	Member

	Projects or committees
• worldsteel Association	Life Cycle Inventory data collection exercise
• Confederation of Indian Industry	India Business Biodiversity Initiative (IBBI)

## Enriching the Product Portfolio with downstream facilities

With the aim to become the most preferred supplier of high grade Cold Rolled Automotive Steel in India, Tata Steel Ltd. and Nippon Steel & Sumitomo Metal Corporation (NSSMC) came together to form a Joint Venture Company, Jamshedpur Continuous Annealing & Processing Company Pvt. Limited (JCAPCPL). The venture will help Tata Steel improve its overall market share and expand its customer and product base.

The facility has been set up within the Jamshedpur Steel Works and includes a Continuous Annealing and Processing Line (CAPL) with a capacity of 6,00,000 tonnes per annum along with two inspection lines. The facilities are capable of producing High Strength Steel up to 590 MPa, along with various categories of mild steel for Automotive Skin and Inner panels.



Inauguration of the Continuous Annealing and Processing Line on September 1, 2014

MATERIAL ISSUE

# ECONOMIC PERFORMANCE

Our profits should be sufficient to support our growth aspirations. In order to grow, we need to increase our rate of productivity faster than the rate at which we increase our labour costs. Besides incremental growth, we need to focus on breakthroughs in order to keep pace with the changing external scenario. We need to look into global benchmarks in different processes across different industries. This is the beginning of a challenging journey".  
 – TV Narendran, Managing Director, Tata Steel

## Raw Material Security

Tata Steel has for over 100 years been self-sufficient for its iron ore needs, with assured access to reserves from its captive mines. Raw materials accounts for 60-70% of the cost of steel making.

In the latter half of the year global iron ore prices saw a sharp decline losing almost two-thirds of its value over the year, followed by sharp falls in steel prices. Both imports of the raw material and finished steel therefore became cheaper in the Indian markets adding further pressure to its margins.

Regulatory headwinds resulted for the first time in over a century of operations at Tata Steel the purchase of both iron ore and ferro chrome from domestic and international sources, adversely impacting costs and adding significant pressures on the supply chain.

## Response based on preparedness

Despite this unprecedented situation, Tata Steel had anticipated such a risk and had mobilised internal resources effectively. Measures related to sourcing, logistics and manufacturing were taken to reduce costs. Relationships with domestic ore suppliers, evaluated by the Company ahead of time, were quickly established

and the ore stacking capacity at the plant ramped up to minimise disruptions to the supply chain. By designing a coastal network, opening seven ports and providing inland rail transport for imported ore Tata Steel was able to control logistics related costs. Measures were also undertaken to reduce manufacturing costs, like increasing the variability of input fines in the pellet plant and scrap charges in steel making.

*(Annual Report 2014-15/ pages 10/13/ 35)*

## Future Mitigation Strategies

To address future sustainability challenges arising out of potential threats due to mismatches between the trends in prices for raw materials and steel, as well as disruptions in the supply of raw materials, in 2014-15 Tata Steel began work on attaining a sustainable EBIDTA of 25 per cent on the basis of purchased raw materials.

In March 2015 Tata Steel launched Shikhar 25. This accelerated improvement initiative will focus on adopting the best methodologies and vehicles, engaging people at every level, across all operational locations towards finding new high ground in operational excellence and achieving its EBIDTA goal. The key differentiator of this TQM initiative is in ownership. The top management will define KPIs, a three-tier Governance structure has been put in place for speed, holistic focus, resourcing and sustainable through capability building.

"We constantly have and need to raise the bar, redefine the limits and constantly test ourselves. We need to analyse if what we are going is enough, because the EBITDA margin is gradually shrinking. Customer expectations are changing and we need to realign ourselves constantly to the changing needs."  
 – TV Narendran, Managing Director, Tata Steel

## OUR PERFORMANCE IN 2014-15

Rs Million

Key Economic Indicator	2012-13	2013-14	2014-15
<b>Economic Value Generated (A)</b>	<b>4,43,600</b>	<b>4,85,011</b>	<b>4,83,853</b>
a) Revenues [Note 1]	4,43,600	4,85,011	4,83,853
<b>Economic Value Distributed (B)*</b>	<b>4,04,690</b>	<b>4,33,924</b>	<b>4,31,422</b>
a) Operating Cost	2,40,058	2,55,813	2,46,505
b) Employee wages and benefits	36,085	36,731	46,019
c) Payment to providers of capital	25,893	27,094	25,299
d) Payment to government	1,00,946	1,12,165	1,11,884
e) Community Investments	1,708	2,121	1,715
Economic Value Retained (A-B)	38,910	51,088	52,430

**Note - 1: Revenue figure includes sales tax**

Rs Million

Taxes and payments to the Government	2012-13	2013-14	2014-15
Corporate tax	21,657	25,708	22,132
Sales tax	14,714	17,526	17,144
Excise duty	41,178	45,983	47,923
Customs Duty	6,998	7,265	9,121
Others	16,399	15,682	15,565
<b>Tax paid to government</b>	<b>1,00,946</b>	<b>1,12,165</b>	<b>1,11,884</b>

Tata Steel's operations span the mining and metals sectors. Mineral extraction activities are a part of the Company's business with it operating captive coal, iron ore and other mines. Tata Steel wholly consumes the products from its extractive activities. India is not a signatory to the Extractive Industries Transparency Initiative (EITI) but Tata Steel reports all taxes, royalties, fees and land use payments paid to individual governments, as per the Mines and Minerals (Regulations & Development), Act, 1957 of Govt. of India.

## Operating costs

Total expenses as per Profit & Loss Account increased from Rs. 32,643 Cr in 2013-14 to Rs. 35,750 Cr on 2014-15. However, operating cost decreased mainly due to higher exceptional item credit in 2014-15 of Rs. 1891 Crores. (Annual Report: Exceptional Items - page 113/117/184)

## Community investments

In 2013-14 Companies Act 2013 was not applicable. Hence expenditure on Jamshedpur Municipal Area, maintenance of parks and gardens, water supply, expenditure on Tata Main Hospital, etc (expenditure incurred under land lease agreement) was treated as CSR. Once CSR provisions under Companies Act 2013 came into effect from 2014-15. As per the CSR provision

these expenditure being statutory in nature did not qualified as CSR. Hence, reported CSR expenditure was lower in 2014-15.

## Increase in employee wages and benefits

The increase due to staffing for the Kalinganagar project led to an increase of only Rs. 82 Cr over 2013-14. Apart from annual increment in wage cost, due to annual increment and DA, additional charge for actuarial valuation for drop in discount rate from 9.25% (March 2014) to 7.75% (March 2015). This has resulted in higher charge in 2014-15 on account of Retirement Gratuity by Rs 173 Crores, post-retirement medical benefits by Rs 185 Crores and Leave liability by Rs 102 Crores.

## Climate Change Risks

Risk analysis based on environmental factors like carbon taxes, climatic conditions, government regulations, etc - potential impacts, financial implications and management methods are mapped.

weather such as delays in receiving raw material due to heavy rain or excessive moisture requiring drying of raw material like coal, coke, etc, which adversely affect production and energy efficiency.

Tata Steel operations are often affected by extreme

## CUSTOMER SATISFACTION

In its quest to be a global steel industry benchmark in Value Creation Tata Steel's apex corporate objective is to "create differentiation through services and solutions in existing and new segments". Its Growth and Portfolio Restructuring objectives support this aspiration. The Company has progressively been expanding its product portfolio so that it can serve distinct and newer market segments in a manner that is satisfying for them.

The focus of its efforts to improve its relationship with its customers is on customers-connect programs and new product-service offerings. For its Flat Products business, where production capacities are being continuously added, the strategy is to address of all three dimensions of the customers requirements, thickness, width and strength of materials.



For instance, the soon to be commissioned Kalinganagar Plant has been designed after the requirements of the top 10-15 customers in every segment was mapped to understand the limits that should build into the plant to afford it the flexibility of meeting their needs.

## NEW PRODUCTS DEVELOPED

During the reporting year the Company developed an ultra-light tipper body design for heavy-duty commercial vehicles, boron bearing tubes for door beam application, steel grade of steel for wheel rims, a fire resistant structural steel tube, low-cost welding electrodes from mild steel and chrome-free polymeric coating on cold-rolled galvanized steel for fuel tank application. These will facilitate greater product responsibility, while in some cases assist in import substitution of these grades of steel.

For Industrial Products and Projects as well Tata Steel has developed high strength steel bars.

### High Impact Innovations

Bake-hardened, High-Strength, Low-Alloy steel (BHSLA) developed

Reduction in moisture content of iron ore fines.

New operating regime for Blast Furnaces

Sponge chrome route for low cost ferrochrome production

GrafLacca-Graphene from Natural Sources

Ultra-high lime alumina (UHLA) for desalination of process water

Reduction in the amount of synthetic coagulant required for treating wastewater

### High strength 'Tata 800' for heavy automobiles

Tata Steel has developed Tata 800, a superior Advanced High Strength Steel (AHSS), for the high strength components of heavy-duty commercial trucks. It will lead to significant reduction in weight while increasing the payload. It has an Ultimate Tensile Strength (UTS) > 800.

Metallurgical design and processing parameters for steel have to be carefully tailored for critical load bearing components such as long members and tipper body base. A unique chemistry and processing parameters were selected.

### Special steel grade 'SPFH 590' for wheel rims

A new grade of steel SPFH 590 meant especially for use in wheel rims was developed after the commissioning of Tata Steel's Thin Slab Casting and Rolling (TSCR) mill. Steel used for such applications must be weld-able and should possess high enough strength to carry the load of the vehicle. At the same time, it must have good formability to produce the round curvature. Use of high strength steel for wheel rims permits the design of lightweight vehicles, a requirement of the automotive sector.

### Value Analysis & Value Engineering (VAVE)

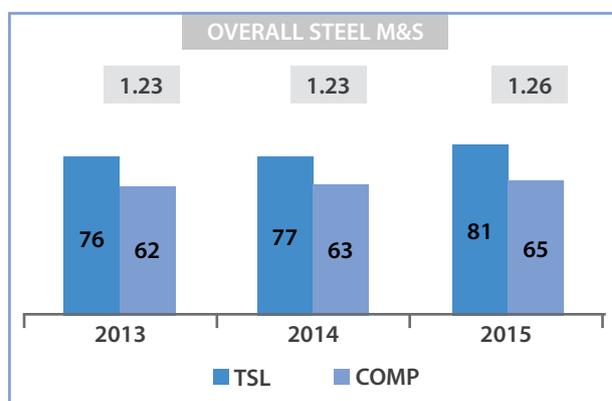
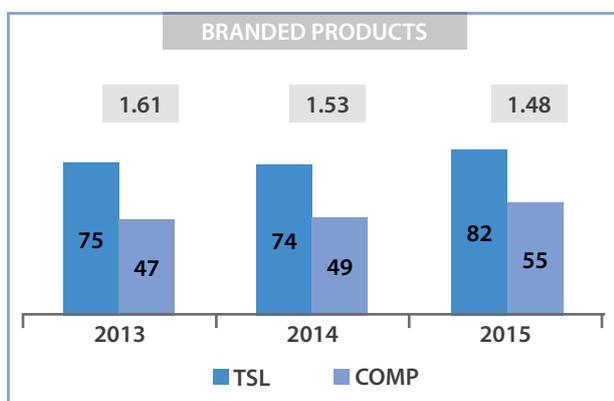
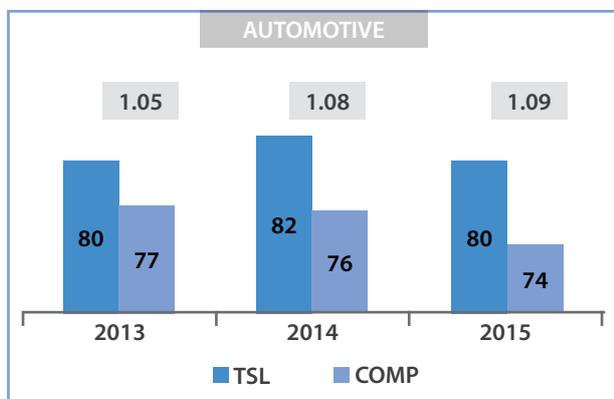
Value creation through enhanced offerings for automotive customers includes Thinner High Strength Steel (HSS) that are lighter than conventional grades, thus reducing the overall kerb weight of the vehicle and its resource footprint. Tata Steel's Value Analysis & Value Engineering (VAVE) solution enables automotive consumers to light weight vehicles and reduces the cost of production. The objective is a reduction in the weight of the vehicle and improved fuel efficiency, reducing the resource and carbon footprint of the vehicle during its life cycle.

## RESULTS OF CUSTOMER SURVEYS

Every year Customer Satisfaction - for the three verticals of the steel business and the overall steel

business - is measured through a third party CSAT study. CSAT study measures customers' satisfaction

on PQCDMS parameters and their attributes for Tata Steel vis-a-vis competition.



Relative Score

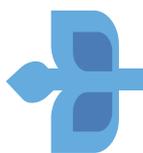
FAMD	2011-12		2014-15	
	Tata Steel	Competition	Tata Steel	Competition
Overall Customer Satisfaction	90	95	82	93
* The disruption in production resulted in lower Customer Satisfaction levels				

	2014-15	
	Tata Steel	Competition
<b>TUBES</b>		
Conveyance Tubes	81	79
Structural Tubes	74	70
Precision Tubes	72	79
<b>WIRES</b>		
Institutional	4.09	NA
Retail	4.12	NA
<b>Overall CSI</b>	<b>4.12</b>	<b>NA</b>

Tata Steel adheres to the Tata Code of Conduct to ensure that all Customer Privacy provisions are met.

## SHARING ECONOMIC BENEFITS

Tata Steel's major operational activities are located in the socio-economically backward and underserved states of India - Jharkhand and Odisha. These very areas however have the richest reserves of natural resources such as coal and iron ore – vital raw materials in steel making.



There is an urgent need for quality infrastructure including roads, water, land, power, schools, etc. to help the states develop and industrialise further and also improve the overall quality of life of the people. During the last three years, the Company has spent over Rs 550 crores on CSR activities (Rs 171 crores in Financial Year 2014-15), a substantial proportion of which was on local infrastructure development.

## OUR APPROACH

### Policy and Commitment:

Tata Steel has for over a century voluntarily delivered all civic amenities to the city of Jamshedpur. These services, now managed by its wholly owned subsidiary Jamshedpur Utilities & Services Company Ltd, cover water, power, infrastructure, public health and horticulture services. Service Level Guarantees provided by JUSCO to its consumers in Jamshedpur are a part of Tata Steel's commitment to the citizens. The performance track record of service delivery in Jamshedpur places the city among the best in the country. Its Power and Water services have been recognized with National awards.

### Resources and Responsibilities:

The Company instituted the position of Chief, Town Infrastructure and Logistics in 2014-15 responsible for overseeing this aspect and reporting on progress of specific projects to the Managing Director and the Tata Steel Board. In 2014-15 the Tata Steel Board approved the construction of 30 model schools in Odisha, along with Eastern and Western Corridors in Jamshedpur and the strengthening and widening of 22 arterial roads.

### Goals and Targets:

Tata Steel's objective is to impact a **2.5** million lives by serving its rural and urban stakeholders. In Jamshedpur, where its urban stakeholders are concentrated the Company has adopted the quality of life index as an indicator.

Local civic bodies govern areas contiguous to its leasehold in the raw material locations. These are primarily rural in nature. Here the Company extends pro bono services to improve the Human Development Index and supports local infrastructure development based on requests by the state governments and other stakeholders. It conducts yearly consultations with local communities to augment local infrastructure in a planned manner. For the first time in 2014-15 the top management participated in these consultations.

## Model Schools in Odisha

At the request of the Government of Odisha Tata Steel will be constructing 30 model schools in seven districts of the state to make quality education infrastructure available to students. Once constructed under Tata Steel's social responsibility commitment to the state, the schools will be handed over to the Government of Odisha.

The foundation stone for a Model School at Gohirapatuli in Ranipada Panchayat under Danagadi Block of Jajpur district was laid at the end of the reporting year. It will comprise two floors with a built up area of 25,000 square feet.



## Availability and Reliability of Power

Power reliability and availability at competitive tariffs has allowed Jamshedpur and the industrial estate of Adityapur, in the neighbouring Seraikela Kharsawan district, to develop rapidly. JUSCO's Power Services Division caters to 45000 customers, supplying 2400 million units of energy to Jamshedpur and the industrial belt, including industrial customers. Tata Steel continuously improves and augments power infrastructure to distribution efficiency with JUSCO committing to Service Level Guarantees.

## LOCAL VENDOR CAPABILITY DEVELOPMENT

Percentage of total budget spend on local suppliers

Purchase Category	2012-13		2013-14		2014-15	
	Total	Local Vendor*	Total	Local Vendor*	Total	Local Vendor*
Capital Purchase	1247	95%	1731	97%	1365	86%
Spares	1445	29%	1606	28%	1405	28%
Services	873	66%	1168	71%	1020	93%

**"Local Vendors" (\*) are the vendors registered under the country name India.**

Capital Purchase pertains to Strategic Project Procurement at Jamshedpur pertaining to Capital Projects at Jamshedpur and Iron Ore Mines (at Noamundi, Joda and Khondbond).

### Business Volume of AA vendors\*

2012-13	2013-14	2014-15
20.3	29.5	30.8

\* AA vendors are those belonging to scheduled castes and scheduled tribes

Currently Tata Steel does not capture the total payment made to suppliers as required by GRI as it captures the value of job contracts to vendors. It has initiated the process to capture this information.

MATERIAL ISSUE

# RESOURCE FOOTPRINT (LIFE CYCLE ASSESSMENT)

“The procedures of LCA are part of the International Standards Organisation (ISO) 14040 series of standards. LCA takes into account the environmental impacts of the manufacturing processes of a product, the extraction of the raw materials used by these 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.”

– Source: worldsteel Position Paper



## LIFE CYCLE ANALYSIS

Tata Steel has adopted the worldsteel LCA methodology for carrying out LCA studies of its products, as a measure of environmental impacts, is paramount for the implementation of sustainability practices.

**Past LCA studies were conducted on:**

- Coal Mining and Washing at West Bokaro
- LCA Study for Cold Rolled Sheet
- Coal Mining and Washing at Jharia
- Development of Environmental Product Declaration (EPD) for Rebars through LCA study

These had formed the basis for several improvement projects including a key one on: “Identification of enablers to reduce coke plant emissions”.

In 2014-15 Environmental Research Group, a new vertical was created in R&D and three specialists were assigned to carry-out Life Cycle Assessment (LCA) studies. It is also leveraging the expertise of TSE, a global leader in LCA for the Steel Industry.

## Learning from previous LCA studies

### 2004- LCA Study for Coal Mining and Washing at West Bokaro

- The study recommended reporting methane emissions on a periodical basis. Other suggestions include separate reporting of particle size less than 100 micron.

Tata Steel’s Research & Development and Scientific Services Division (R&D and SS) constitutes three major departments, ‘Research & Development’, ‘Scientific Services’ and the ‘Refractory Technology Group’ (RTG). This Division supports the Tata Steel Group’s Indian operations by working broadly under ‘process improvement’ for better environmental performance, improved sustainability and ‘new product development’ to create competitive advantage at market place. This division also offers numerous solutions & services to improve the cost competitiveness, quality and environmental performance of the company.

## 2006 – Life Cycle Assessment (LCA) Study for Coal Mining and Washing at Jharia

- To measure methane emissions at low levels in the ventilation air, the study recommended use of capable instruments like Exotector
- The study also recommended exploring the opportunities for utilizing fly ash in high-end applications instead of using as fillers in low lying areas.

## 2010 – Identification of enablers to reduce coke plant emissions by 20%

- The key suggestion, of controlling gas pollutants like SO<sub>2</sub>, NOx and CO<sub>2</sub> by gas scrubbing, analysis of N compounds and use of gas blanketing through some operational changes was implemented
- The study also carried out analysis for energy recovery options, which included Coke Dry Quenching, Coal Moisture Control Process and Sensible heat recovery, technologies implemented by Tata Steel

## 2013 – Development of an Environmental product declaration (EPD) for rebars

- As an outcome of this study internal and external benchmark on the environmental impact of manufacturing rebars was established
- Internally it made a comparison between two different mills manufacturing rebars and externally it was compared with the global average data taken from worldsteel Association

## Roadmap for LCA studies

The Company has drawn up a LCA roadmap to progressively develop Life Cycle Inventory (LCI), Product-wise LCA Study, EPD Development, Customer Collaborated LCA studies for Use Phase of products (Cradle to Cradle).

The road map for the LCA studies outlines the strategic purpose of these studies.



### The projects to be undertaken for the studies are:

1. Development of LCI for Tata Steel Works
2. Development of LCI for Iron Ore Mines
3. Development of LCI for Coal Mines
4. Development of LCI for Ferro Alloys Mines

ISO 14040, ISO 14044 and the worldsteel methodology will serve as guiding documents for the study.

A Gate-to-Gate LCI development project for Jamshedpur Steel Works was completed recently. Currently, the Cradle to Gate LCI development projects for raw material mines that is under way (Iron Ore, Coal and Ferro Alloys) is to be completed by March 2016. LCI projects and datasets will serve as the base for carrying out “Cradle to Gate LCA Study” for selected steel products.

Tata Steel has also joined worldsteel’s LCI data collection exercise (2014), which is carrying out LCA studies for global steel industry. Tata Steel has deputed a researcher as a LCA fellow at worldsteel.

### Life Cycle Assessment is expected to yield the following benefits:

- Marketing & Sales - Enhance brand differentiation through EPDs/Eco labels for our Products
- Operations - Initiate process improvement through process wise benchmarking
- Customers - Meet their responsible buying needs & provide support on sustainability issues
- Corporate - Brand enhancement

**Product and Service Labelling:** The EPDs/Eco labels, to be developed by the LCA team, will further supplement the standards and Technical Delivery Conditions that all Tata Steel products meet.

**Life Cycle Inventory Development is expected to offer improved:**

- Process understanding
- Data collection and Monitoring system
- Data checks and validation
- Internal and External Benchmarking

**Customer Health and Safety**

Over the last two reporting years Tata Steel has adopted sustainability assessments in any New Product Development during the following four stages:

- Raw material supply & Steel manufacturing
- Down-stream processing

- Usage of finished product
- End of Life recycling of the product

This process is now being developed as a stage-gate in the New Product Development process.



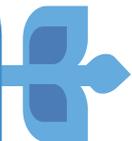
Steel for retail customers are all certified to BIS standards. In the case of galvanized sheets the GSM code is provided to indicate the thickness of the sheet. In the B2B segment Tata Steel’s Product Application Groups are responsible for communicating all product information to customers, including on ROHS compliance and compliance to Technical Delivery Conditions. Holograms have also been developed for white goods industries, where customer do not want any branding to be visible to the naked eye, to ensure that customers are able to identify products of Tata Steel.

Procedures required for Product and Service information labelling over customer segments	B2B Customers	B2C Customers
The sourcing of components of the product or service	X	X
Content, particularly with regard to substances that might produce an environmental or social impact	X	X
Safe use of the product or service	X	Yes
Disposal of the product and environmental/social impacts	X	X
Others	X	X

**Work is also in progress to develop high speed marking on products.**

**IMPROVED PROCESSES**

The work done by the scientists in the R&D Division has resulted in around 100 original research papers, of which almost 65% were submitted in the top 27 peer-reviewed international journals. A total of 42 patent applications were filed and 28 patents were granted in 2014-15.



**Improving the quality of metallurgical coke produced in the Coke Plants**

Researchers in the Raw Materials and Coke Making Group have devised several new techniques such as shear crushing, addition of coal fluidity enhancers

and zero heating after carbonisation to improve coke quality. Successful plant scale trials have taken place.

## Surfactants to reduce moisture content of iron ore fines

Washing results in moisture content of 12-14 per cent in iron ore fines and ~4 per cent in sized ore. Moisture content is as high as 16-18 per cent in the fines during the monsoon season. High moisture content of fines poses problems in conveying, stockpiling and stacking of fines.

Exploratory studies were carried out and surfactants suggested for use. Based on laboratory results of the selected surfactant, one surfactant was recommended for plant scale trials. Addition of surfactants not only reduced the absolute moisture content by 2-4 per cent but also the alumina content of iron ore fines by 0.2- 0.4 per cent (absolute).

## NEW R&D FACILITIES

### Mould Powder Research Centre

The Mould Powder Research Centre for the Steel Making and Casting (SMC) Research Group will cater to various continuous casting units in Tata Steel,

developing new mould powders for different grades of steel. The centre has state-of-the-art instruments to characterise mould powders.

### Surface Engineering Laboratory

This laboratory is primarily used for interface and surface characterisation of coatings and coated products.

### Thin Slab Caster Water Model

Visualisation of water flow patterns that correspond to steel flow patterns in the mould is an excellent tool for investigating various phenomena. The Thin Slab Caster Water Model will greatly augment Tata Steel's research capability and will help in understanding and resolving various issues of the plant, besides optimising the process window for further improving operations.



Researchers at Tata Steel share their achievements with Mr Anand Sen, President, Tata Steel India & SEA

## Progress in 2014-15

Area	Project	Achievement
<b>Resource Footprint</b>		
Coke	Improving the quality of metallurgical coke	Successful plant trails
Iron making	Reduction in moisture content of iron ore fines	2-4 per cent
	New Operating regime for blast furnaces	Significant reduction in fuel rates
<b>Investments in New Products &amp; Processes</b>		
New product	Novel high strength steel 'Tata 800'	Commercialised
	Special steel grade 'SPFH 590' for wheel rims	Commercialised
	Fire resistant grade tubes	Commercialised

MATERIAL ISSUE

# IN SEARCH OF THE NEW HIGH GROUND IN RESOURCE CONSUMPTION

A primary steel producer, Tata Steel's presence extends across the steel life cycle from Raw Material extraction to Steel Production, Rolling Product Design and its applications. Guided by the worldsteel Life Cycle Inventory (LCI) methodology Tata Steel evaluates the footprint of its products from the cradle to gate and beyond on the basis of significant inputs (resources use, energy) and outputs (environmental emissions) of steel production along the value chain from extraction of resources, reuse of by-products and production of steel products.



Levers to reduce the resource consumption are operational excellence, resource conservation, managing assets investment, its maintenance, operational cost and equipment life.

## First in India to produce 10 Mn TPA of Hot Metal at a single site

Tata Steel India, which uses the Blast Furnace-BOF route for steel making, is the first integrated iron and steel producer in India. It became the first to produce 10 Mn TPA of Hot Metal at a single site in 2014-15. Its capacity at inception in 1911 was only 0.16 MTPA ('A' Blast Furnace). The Steel Works has been producing iron and steel continuously at the site a growth of 63 times in terms of production capacity since its inception.

The increase in production capacity at the Steel Works was supported by increase in production at its iron ore mines and collieries with the Ore Mines & Quarries Division producing 16.7 MnT of iron ore and the West Bokaro and Jharia collieries supplying 3.27 MnT of Clean Coal.



## Material Efficiency

Tata Steel's process efficiency, technology improvements and innovation programmes focus on material efficiency during ore extraction and raw material beneficiation as well as energy intensity during iron and steel making.

over several months in the reporting year 2014-15 due to closure of its iron ore mines. Production was throttled to sustain the impact of reduced supply of 5.2 million tonnes of iron ore. The throttled levels were converted into an opportunity to test several theories to achieve a better production regime.

This was the toughest challenge faced by Tata Steel

## Recycled Input Materials

India is a developing economy where new infrastructure is being created. Hence demand for steel with reuse of products currently does not necessitate end-of-life recovery of steel. To serve the needs of the market it operates in, Tata Steel produces steel from virgin ore.

Tata Steel's focus on creating value from its by-products and waste led to the formation of its Industrial By-products Management Division in 2014. The by-products generated across the entire steel value chain include coal rejects from the Washeries, coal tar, slags, scrap from steel making and rolling mills.



Non-Metallic products, which are sources of Lime and Magnesium Oxide (MgO), are being used in the Sinter Plant and Blast Furnace. Metallic by-products go to the Sinter Plant while scrap is used to the Steel making process along with pooled iron.

## Using the Ore Crisis as an opportunity to institutionalize new ideas

Four key areas to improve material efficiency were:

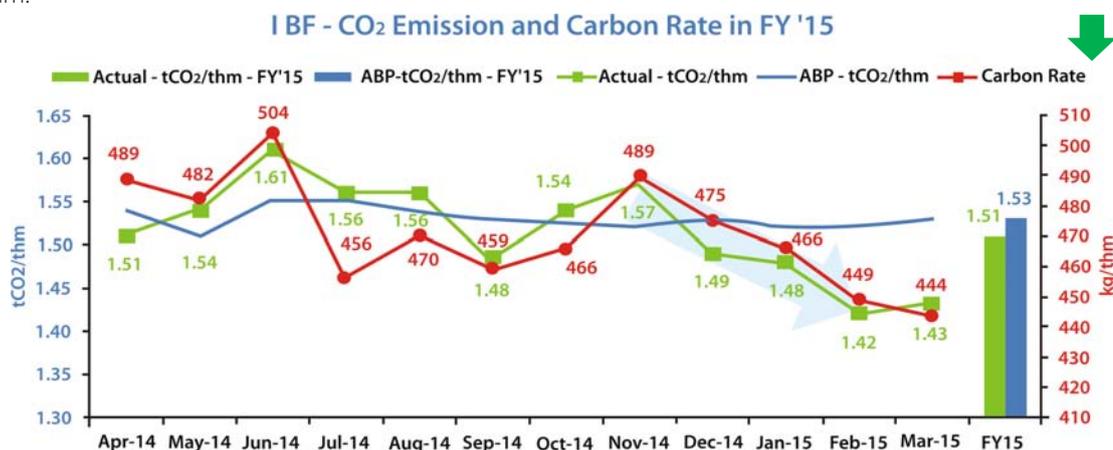
- A new operating regime leading to lowest ever carbon rate and lowest CO<sub>2</sub> emissions
- Improvements in Pellet quality
- 100% utilization of return fines in pellet making
- Waste utilisation

Prior to a planned shutdown at the I Blast Furnace the Pulverized Coal Injection Rate was increased with several pre-determined parameters monitored during the trial. It was expected that an increase in coal injection rate might result in a corresponding increase in the fuel rate, but to the delight of the team it remained at the same level.

The most effective way to reduce CO<sub>2</sub> emission is to reduce the fuel consumption or 'Carbon Rate' - the effective amount of carbon present in the total fuel consumed for the production of one tonne of Hot Metal.

The run was closely monitored and reproduced with outstanding results in terms of lower fuel consumption and CO<sub>2</sub> emission. The current level of 1.43 tCO<sub>2</sub>/thm (tonnes of CO<sub>2</sub> per tonne of hot metal) achieved by the I Blast Furnace is very close to the European Benchmark of 1.41 at the Tata Steel Europe plant at Ijmuiden, Netherlands.

The iron ore crisis faced by Tata Steel for six months in 2014-15, due to regulatory issues, prompted a decision to throttle production and entailed a drop in the fuel rates. The process provided the window to confirm the theoretical model of better shaft efficiency leading to lower fuel requirement with overall carbon rates as low as 440 Kg/thm.



## PERFORMANCE IN 2014-15

Material Consumption: Indian Operation (UoM: Million Tonne; Good is ▼)

Particulars	2012-13	2013-14	2014-15
<b>Key Raw Materials:</b>			
Iron Ore	14.159	16.01	15.72 ▼
Coke	4.54	4.79	4.68 ▼
Limestone and Dolomite	2.89	3.02	3.19 ▲
Spelter, sulphur and other materials	1.55	2.53	1.63 ▼
Coal	1.07	1.21	1.35 ▲
Ferro Manganese	0.022	0.026	0.024 ▼
Zinc and Zinc Alloys	0.022	0.022	0.020 ▼
<b>Other significant materials:</b>			
Lubricants	0.027	0.021	0.036 ▲
Explosives	0.018	0.017	0.015 ▼
Chemicals	0.004	0.002	0.002 -

Other Material Consumption (UoM: Million Tonne; Good is ▼)

Particulars	2012-13	2013-14	2014-15
Industrial Gases at Jamshedpur Steel Works	2.82	3.38	3.53 ▲
Sand for Stowing in Under Ground collieries	0.58	0.65	0.54 ▼

Materials recycled back into process (UoM: Million Tonne; Good is ▲)

Particulars	2012-13	2013-14	2014-15
Coal Rejects for Power Plants of Collieries	0.382	0.375	0.353 ▼
LD Slag used in Sinter Plants	0.042	0.163	0.280 ▲
LD Slag used in BOFs (Steelmaking)	0.255	0.255	0.217 ▼
Mill Scale & Sludge	0.122	0.148	0.102 ▼
Middling for Power Plants of Jamshedpur Steel Works	0.108	0.065	0.070 ▲
Tar Sludge & BOT Plant Sludge	0.004	0.006	0.005 ▼
Iron Oxide & Hydroxide	0.006	0.008	0.003 ▼

Regenerated Acid used (UoM: Million Tonne; Good is ▲)

Particulars	2012-13	2013-14	2014-15
Wire Division	2.5	4.2	3.5 ▼
CRC West	6.7	6.6	5.7 ▼

Tata Steel uses recovered metal components from by-products for reinjection into the blast furnaces. It does not use secondary products (Purchased Steel Scrap) in the manufacture of hot metal. In downstream processes such as its Wire Division regenerated HCL is used with fresh HCL in the manufacturing processes.

MATERIAL ISSUE

# ENERGY EFFICIENCY AND ABATEMENT OF GHG EMISSIONS

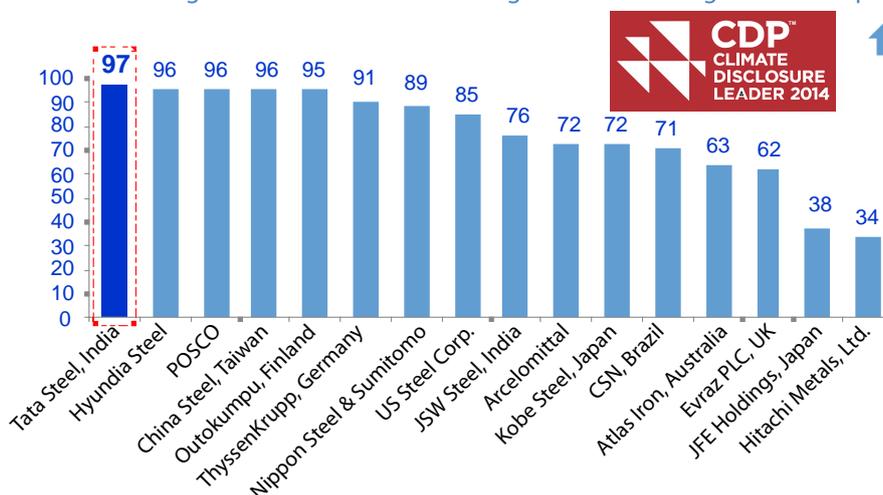
As a strategy Tata Steel has adopted environment performance objectives, especially pollution control measures more stringent than statutory compliances. Fugitive and stack emission, effluent discharge and noise control are thrust areas for improvement.

While Tata Steel has significant grounds to cover to catch up with globally best companies with lowest emissions, including CO<sub>2</sub> emissions, it has been the global benchmark amongst steel companies with highest rated Climate Change Disclosure and nationally highest rated company amongst material

sector. Companies who participated in the CO<sub>2</sub> data collection programme were recognised with Climate Action certificates at worldsteel Association’s Annual Conference.

Reductions in the Energy Intensity of steel making directly lead to the abatement of GHG emissions. Innovative practices adopted by the Blast Furnaces in 2014-15 proved to bear significant favourable impact leading to significant reduction in fuel rate at Blast Furnaces, setting a record for the Company’s Coke Rate.

CDP Climate Change Disclosure 2014- Global highest rated amongst Steel Companies



Global Benchmark - Steel : Tata Steel (97)  
 POSCO (96), China Steel (96), Nippon Steel (89), US Steel (85B), ArcelorMittal (72);  
 Indian Companies: JSW (76),  
**Indian Benchmark - Materials Sector**

Initiatives to improve energy efficiency and abatement of GHG emissions include:

- (i) Adoption of Best Available Technologies;
- (ii) Adoption of new and emerging technologies and;
- (iii) Best practices and learning from global steel makers.

**Best Available Technologies, still under stabilization and implementation that have yielded far-reaching benefits include:**

- Power Generation from Top gas pressure Recovery Turbines (TRT) at the G, H & I Blast Furnace (together accounting for ~75% of hot metal production) using Waste Pressure of Top Gas,
- Steam generation from the Coal Dry Quenching,
- Heat Pipe technology based WHR at Stoves of H and I Blast Furnaces
- Waste Heat Recovery from Sulphur Recovery Unit in New Coke Oven Byproduct Plant
  - In Coke Making the Company crossed the planned target at Jamshedpur from a faster ramp up of Battery#11.

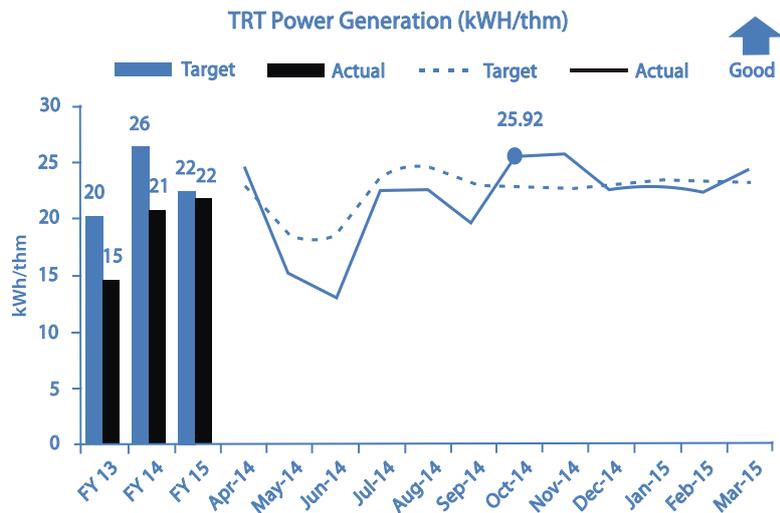
**Transportation**

Tata Steel is progressively greening its logistics movement by preferring use of rail over road transportation in outbound movement of products from the Steel Works to customers. Key raw materials, iron ore and coal, arrive at the Steel Works via rail from the captive mines and collieries.

In order to have complete visibility of its business footprint, an IT based system was deployed to quantify carbon emissions associated with business travel in 2011-12 and procurement in 2013-2014.

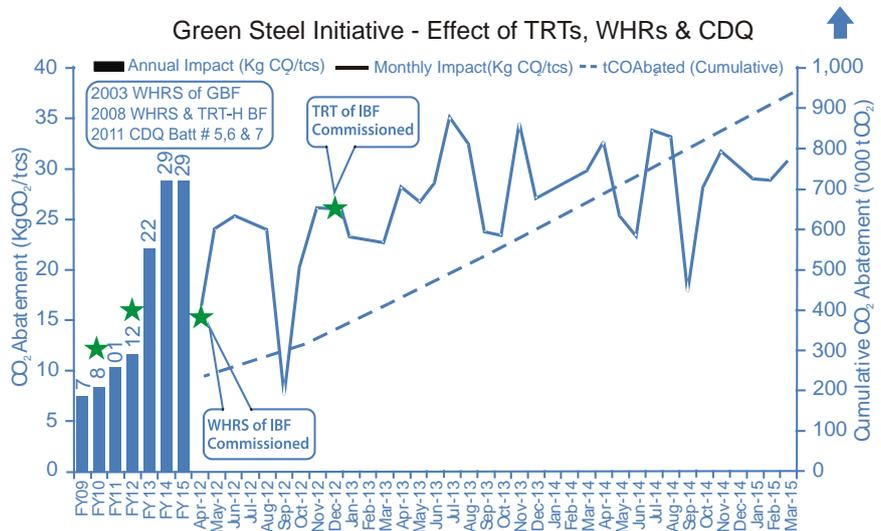
**Trends for Power Generation from Top gas pressure Recovery Turbines**

Among the Best Available Technologies adopted to improve Energy Efficiency and reduce GHG emissions at Tata Steel is use of Waste Pressure of Top Gas from its G, H & I Blast Furnaces. The Annual average power generation was @ 25.34 MW in 2014-15 against 23.45 MW in 2013-14. Highest power generation @ 30.39 MW from three TRTs was achieved in March 2015.



**Coke Dry Quenching (CDQ)**

Highest steam generation from Coke Dry Quenching was achieved during 2014-15. Annual average steam generation from the CDQ was @ 72.09 tph in 2014-15 compared to 75.13 tph in 2013-14 (designed @ 85 tph).



NB : WHRS (Waste Heat Recovery at BF Stoves) of G & H BFs and SRU of Coke Plant not included yet (IBF included above)

### Heat Pipe technology based WHR at Stoves of I Blast Furnace

Heat Pipe technology based WHR is being used at the Stoves in the I Blast Furnace. Since its commissioning the facility has helped abate 208 ktCO<sub>2</sub>. During 2014-15, emission abated as a result of this technology was 66 ktCO<sub>2</sub> as against 67.9 ktCO<sub>2</sub> in 2013-14.

### Waste Heat Recovery (WHR) from Sulphur Recovery Unit in New Coke Oven Byproduct Plant

The new Coke Oven By-product Plant with a commissioned with waste heat recovery is equipped with Sulphur Recovery Unit (SRU). While the principle objective is to abate SOx pollution, it is designed to recovery waste heat from the process. SRU recovers sulphur from Coke Oven gas, which is a by-product of the coking process, and hence reduces SOx emission into atmosphere. Recovery of sulphur from coke oven gas is a exothermic process and this heat is recovered from process gas using waste heat recovery boiler (capacity of 4 tph) for low pressure steam generation @ 4 kg/cm<sup>2</sup> pressure.

### Reduction in specific energy consumption at Hooghly Met Coke

The enormous scope for energy conservation, via greater energy efficiency in the existing systems, adopting new and energy efficient processes or by improving operating efficiency of the existing systems and methods was tapped by Hooghly Met Coke to reduce the Specific Energy Consumption from 12.49 KWH/Ton of coke to 11.88 KWH/Ton of coke in 2014-15.

Over a period of six months the Division reduced the running time per day in its coal circuit along with idle running of the material handling circuit. It replaced incandescent lamps with more than 550 LED lights where lighting is required 24 hours a day and installed 75 Solar Street Lights. The Division reduced power consumption by 1.45 MU (million units) in 2014-15 over 2013-14 with financial savings of ~ Rs. 8.3 million per annum.

## PERFORMANCE IN 2014-15

Energy resources procured from outside and used at Indian Operations excluding the Jamshedpur Works (Good is: ▼)

Particulars	UoM	2012-13	2013-14	2014-15	
Electricity	MWh	7,53,374	7,36,301	6,54,108	▼
Petro-Fuel	m <sup>3</sup>	69,516	60,812	47,063	▼
Coke	Tonne	31,432	26,683	26,984	▲
LPG/ propane	Tonne	7,763	9,868	9,030	▼

Energy Consumption at Jamshedpur Steel Works (Unit: PJ) (Good is: ▼)

Particulars	Energy Consumption or Export & Sale			
	2012-13	2013-14	2014-15	
<b>Energy input</b>				
Coking Coal	95.79	118.58	138.64	▲
Coke (incl. Petroleum Coke)	61.24	52.05	38.64	▼
Coal in Blast Furnace & Sinter Plant	23.88	30.26	31.55	▲
Middling Coal	1.94	1.20	1.29	▲
Anthracite Coal	0.49	1.12	0.48	▼
Propane	0.39	0.34	0.26	▼
High Speed Diesel	0.29	0.26	0.20	▼
LDO	0.08	0.04	0.05	▲

Particulars	Energy Consumption or Export & Sale			
	2012-13	2013-14	2014-15	
<b>Energy Export &amp; Sale (Good is: ▲)</b>				
Blast Furnace Gas	9.34	10.03	9.63	▼
Coal Tar	0.61	1.46	1.60	▲
C.O.Gas	0.72	0.84	1.09	▲
L.D.Gas	0.22	0.11	-	
Propane	0.00005	0.00002	0.017	▲

#### Energy Consumption at Jamshedpur Steel Works (Unit: PJ)

Particulars	Energy Consumption or Export & Sale			
	2012-13	2013-14	2014-15	
<b>Gross Energy Equivalent input (Good is: ▼)</b>				
Electricity	24.5	27.3	27.7	▲
Oxygen	6.9	8.2	8.5	▲
HP Nitrogen	0.9	1.1	1.2	▲
Pellet	0.10	0.11	0.93	▲
Make-up Water	0.105	0.107	0.104	▼
Steam	0.015	0.013	0.012	▼
<b>Energy Equivalent Export &amp; Sale (Good is: ▲)</b>				
Electricity	1.9	2.3	2.8	▲
Steam	0.13	0.16	0.19	▲

#### Energy Intensity on Steel Making at Jamshedpur Steel Works (Good Is: ▼)

Parameter	UoM	2012-13	2013-14	2014-15	
Energy Intensity	GJ/tcs	25.47	25.19	25.17	▼

worldsteel Sustainability indicator

#### Energy Conserved at Jamshedpur Steel Works (Good Is: ▲)

Measures	Energy Savings (TJ/year)		
	2012-13	2013-14	2014-15
Increase Agglomerate in burden of Blast Furnace by augmenting capacity of agglomerate production: introducing of carbon friendly pellet making facility	1,230	2,386	3,799
Increase BF productivity by commissioning high efficiency Blast Furnaces with high top operation, high agglomerate in burden, coal injection and automation	555	1,338	3,010
Power Generation from TRTs through waste energy recovery	1,299	2,064	2,230
Coke Dry Quenching to reduce moisture and lower coke requirement with steam generation from sensible heat recovery Coke Oven Batteries Nos.5, 6 and 7	1,043	1,708	1,639
Installation of Variable Speed Drives (LCI drives) for 2 x 21.5 MW Blowers of I BF, 1 x 21.5 MW standby blower for H & I BFs, 2 x 2.4 MW I.D.Fans of LD3 (BOF vessels)	849	723	800
Waste Heat recovery from flue gases of Hot Stoves at "I" Blast Furnace	689	634	617
Thin Slab Caster & Rolling to conserve sensible heat of Slab	-	139	394
LP steam usage to keep PRDS on Hot Standby and generating additional electricity at Power House No.5	251	251	251
Regenerative burners for Lean Gas at Hot Strip Mill	402	442	228
Switch over to Torpedo Ladles for Hot Metal transfer	188	212	216
Solar Photovoltaic energy generation (on-site)	1.1	1.3	0.3

Jamshedpur Steel Works continued to be the national benchmark in CO<sub>2</sub> emission intensity in India (BF-BOF route in Iron & Steel sector). CO<sub>2</sub> emission intensity dropped to its lowest ever from 2.66 tCO<sub>2</sub>/tcs in 2007-08 to 2.42 tCO<sub>2</sub>/tcs for the year 2014-15 against the previous best @ 2.43 tCO<sub>2</sub>/tcs in 2013-14.



#### Direct GHG emissions – Indian Operations (Good Is: ▼)

Particulars	UoM	Absolute Emission		
		2012-13	2013-14	2014-15
Absolute GHG Emission: Direct only	Million tCO <sub>2</sub> e	20.15	21.68	22.22

tCO<sub>2</sub>e: metric tonnes of CO<sub>2</sub> equivalent

#### GHG Footprint\* – Indian Operations (Good Is: ▼)

Particulars	UoM	Absolute Emission		
		2012-13	2013-14	2014-15
Absolute GHG Emission (Direct & Indirect)	Million tCO <sub>2</sub> e	24.3	25.9	25.7

\* Excluding logistics

#### CO<sub>2</sub> Emission Intensity – Jamshedpur Steel Works (Good Is: ▼)

Particulars	UoM	Emission Intensity (tCO <sub>2</sub> /tcs)		
		2012-13	2013-14	2014-15
Scope 1 Direct Emission	tCO <sub>2</sub> /tcs	2.31	2.23	2.26
Scope 1.1	tCO <sub>2</sub> /tcs	0.27	0.25	0.24
Scope 2	tCO <sub>2</sub> /tcs	0.08	0.08	0.08
Scope 3	tCO <sub>2</sub> /tcs	-0.13	-0.13	-0.16
<b>Overall</b>	tCO <sub>2</sub> /tcs	<b>2.53</b>	<b>2.43</b>	<b>2.42</b>

As per Worldsteel Guidelines for CO<sub>2</sub> reporting (CO<sub>2</sub> Emission Data Collection User Guide Version 07, Excel Template version V19) *worldsteel Sustainability indicator*

#### GHG offset through Product Stewardship (Good Is: ▲)

Strategy	GHG Abatement ('000 tCO <sub>2</sub> )		
	2012-13	2013-14	2014-15
<b>Mitigation of Climate Change through downstream abatement</b>			
1. Cast-house Online Granulation of Blast Furnace Slag for increasing usage in Cement Making			
• New Online granulation in "I" Blast Furnace	170.6	186	196.9
• Replaced Online granulation in "F" Blast Furnace	0	8.3	51.4
2. Utilisation of LD Slag in Cement making enabling downstream emission abatement	0.8	17.5	7.4
3. Development of High Strength Steel (HSS) for construction (Fe500, Fe600 grades) and automotive sectors (C-MN 440 grade)	633	604	724

## GHG Abated at the Jamshedpur Steel Works (Good Is: ▲)

Strategy & Projects	GHG Abatement ('000 tCO <sub>2</sub> /yr)		
	2012-13	2013-14	2014-15
Increase Agglomerate in burden of Blast Furnace by augmenting capacity of agglomerate production: introducing of carbon friendly pellet making facility	195.8	356.7	429.3
Power Generation from TRTs through waste energy recovery	121.5	193.1	208.6
Increase BF productivity by commissioning high efficiency Blast Furnaces with high top operation, high agglomerate in burden, coal injection and automation	55.5	133.8	301.0
Coke Dry Quenching to reduce moisture and lower coke requirement with steam generation from sensible heat recovery Coke Oven Batteries Nos.5, 6 and 7	78.7	128.9	12.6
Installation of Variable Speed Drives (LCI drives) for 2 x 21.5 MW Blowers of I BF, 1 x 21.5 MW standby blower for H & I BFs, 2 x 2.4 MW I.D.Fans of LD3 (BOF vessels)	79.5	67.7	74.9
Waste Heat recovery from flue gases of Hot Stoves at "I" Blast Furnace	73.7	67.9	66.0
LP steam usage to keep PRDS on Hot Standby and generating additional electricity at Power House No.5	23.5	23.5	23.5
Regenerative burners for Lean Gas at Hot Strip Mill	20.7	22.7	11.7
Switch over to Torpedo Ladles for Hot Metal transfer	18.8	21.2	21.6
Thin Slab Caster & Rolling to conserve sensible heat of Slab	None	13.9	39.4

## GHG emissions due to Upstream &amp; Downstream Transportation, Business Travel]

	UoM	2012-13	2013-14	2014-15
<b>Total Emission</b>	<b>Million tCO<sub>2</sub>e</b>	<b>1.6</b>	<b>1.8</b>	<b>3.0</b>
Marine	Million tCO <sub>2</sub> e	0.8	1.0	1.9
Road	Million tCO <sub>2</sub> e	0.6	0.7	0.8
Rail	Million tCO <sub>2</sub> e	0.19	0.20	0.25
Air	'000 tCO <sub>2</sub> e	4	5	6

## Refrigerant Consumption: Indian Operations

Other GHG Gases	UoM	2012-13	2013-14	2014-15
Refrigerant Consumption	Kg of CFC -11 Equivalent	52.91	68.11	39.88

## SIGNIFICANT ENVIRONMENTAL IMPACTS OF TRANSPORTING PRODUCTS &amp; OTHER GOODS

GHG emissions due to transportation of Products &amp; Raw Materials:

Mode of Transportation	UoM	2012-13	2013-14	2014-15
Rail	Million tCO <sub>2</sub> e	0.19	0.20	0.25
Road	Million tCO <sub>2</sub> e	0.6	0.7	0.8
Marine	Million tCO <sub>2</sub> e	0.8	1.0	1.9

MATERIAL ISSUE

# ENVIRONMENT PERFORMANCE MANAGEMENT

## SOLID WASTE, EFFLUENTS & BIODIVERSITY

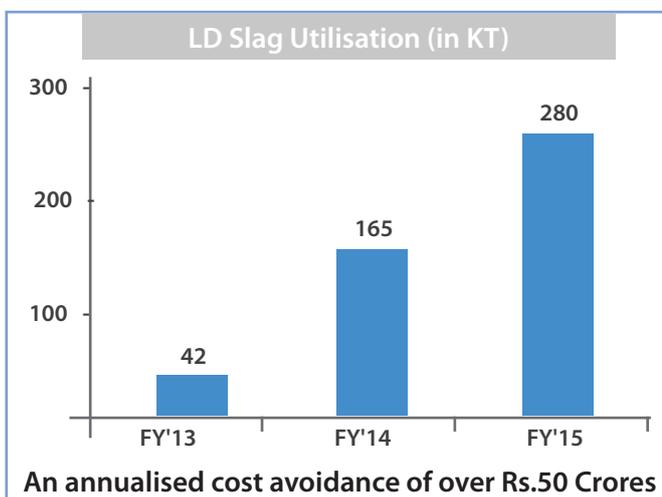
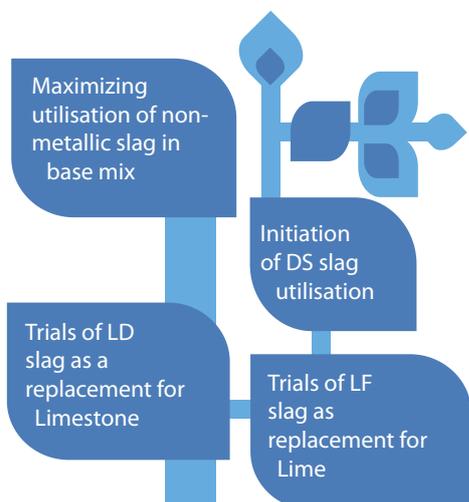
Sustainability management is increasingly assuming a major role, guiding Tata Steel in managing its business decisions. As a member of the worldsteel Association, a member of the United Nations Global Compact (UNGC) and signatory to UNGC CEO Water Mandate, Tata Steel is committed to a vision in which steel is recognised as a key element of a sustainable world. The main impacts during steel manufacturing come from the use of raw materials, energy and water. Sustainability issues related to Environmental impacts are prioritised based on a materiality process considering associated risks and opportunities.



## TURNING WASTE TO WORTH

Besides Tata Steel's on-going effort to enhance solid waste utilisation to reduce the environment footprint of waste generated, in 2014-15 the need to import iron ore due to regulatory changes brought greater attention to its continuous efforts to utilize waste. This saw an uptrend in levels to 80% in 2014-15 compared to 76% in 2013-14.

Progress in 2014-15 aimed at in-house recycling in Jamshedpur Steel Works:



## Waste Generation by disposal: Indian Operations

### Non-Hazardous Waste by Disposal Method

(UoM: Million Tonnes; Good Is: ▼)

Disposal Method	2012-13	2013-14	2014-15
Landfill	0.9	1.1	1.0
Recovery	0.48	0.48	0.25
Recycling	4.7	5.3	5.4
Reused	0.17	0.19	0.16
Storage	1.6	1.7	1.7

### Hazardous Waste by Disposal Method

(UoM: '000 Tonnes; Good Is: ▼)

Disposal Method	2012-13	2013-14	2014-15
Landfill	0.20	0.18	0.07
Recovery	4.3	5.8	5.1
Recycling	83	85	145
Reused	128	156	105
Storage	18	17	15

### Hazardous Waste by Disposal (UoM: '000 Nos; Good Is: ▼)

Disposal Method	2012-13	2013-14	2014-15
Send to Recycler	6.3	25.6	3.5

NB: Only this category is available for hazardous wastes under used battery & containers

*\*Used Batteries & Containers*



### Waste Generation in Mining (UoM: '000 Nos; Good Is: ▼)

Material	2012-13	2013-14	2014-15	Disposal Method
Overburden*	84.4	85.6	61.5	<b>Disposal method:</b> Onsite storage and Management of Overburden Dump (toe-wall, garland drain) <b>Associated Risk:</b> Water contamination due to run-off, Safety Hazard due to instability of dump slope and biodiversity threats – loss of habitats
Tailings	4.43	3.36	1.87	<b>Disposal method:</b> Onsite storage, de-watering, agglomeration and reuse; Management of Tailing Pond, Sale to 3rd party; Tailing from Washeries are sold <b>Associated Risk:</b> Land degradation, Air Pollution, Water contamination due to accidental discharge / overflow, Safety Hazard

*\*Bulk density considered 2.5 t/m<sup>3</sup> except for Mn Group of Mines 1.7 t/m<sup>3</sup> in 2014-15; covers Collieries, Iron, Chromite & Mn Mines and Dolomite Quarry*

Alternative markets for Blast Furnace and LD Slag, by-products in the steel making process, are being explored in applications such as rail ballast, roads, cement, paver blocks and agriculture. The search for

alternative application resulted in 24.7 kT (1 kT= 1,000 Tonnes) of LD Slag being used in Cement making during 2014-15 thereby offsetting 7.4 kT of CO<sub>2</sub> emissions while utilising waste.

### CASE STUDY: LD SLAG TO BE USED IN ROAD MAKING

The Committee for Accreditation of New Materials and Techniques, Indian Roads Congress (IRC), has accredited Tata Steel's processed steel slag for use in road making. Tata Steel is the first steel Company in India to have obtained this approval. This allows Tata Steel to supply processed steel slag on a trial basis for the construction of approved stretches in National and State highways.

Tata Steel has been aggressively working to develop LD slag as a legitimate, cost effective and, most importantly, green product. Tata Steel is also in touch

with various statutory bodies through the Slag Subcommittee under the aegis of Federation of Indian Chambers of Commerce and Industry for policy advocacy at the highest levels. In its test certificate, Central Road Research Institute has recommended Tata Steel's LD slag as a technically satisfactory material, which can preserve depleting natural aggregate.

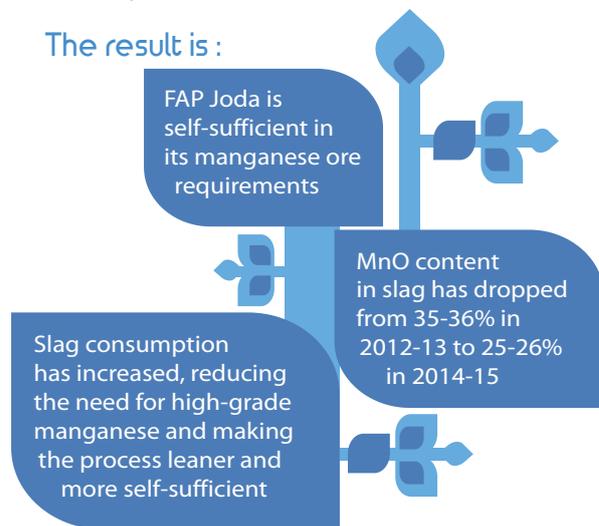
After running successfully for 40 years, supported by state of the art Maintenance practices, Coke Oven Battery No.3, which could carbonize 1,450 tonnes of

coal/day was retired in 2014-15. The decision to close Battery # 3 has made Tata Steel a 100% stamp charged coke oven operation.

### Use of Middling in production of Ferromanganese Alloys

Coking coals are scarce. By-products from Tata Steel's collieries such as Jhama coal, middling and tailings are all low-cost, low-value alternatives to metallurgical coke. Metallurgical cokes purchased from various sources used in different blends at Ferro Alloys Plant at Joda have inconsistent physical and chemical properties, which result in numerous operational difficulties.

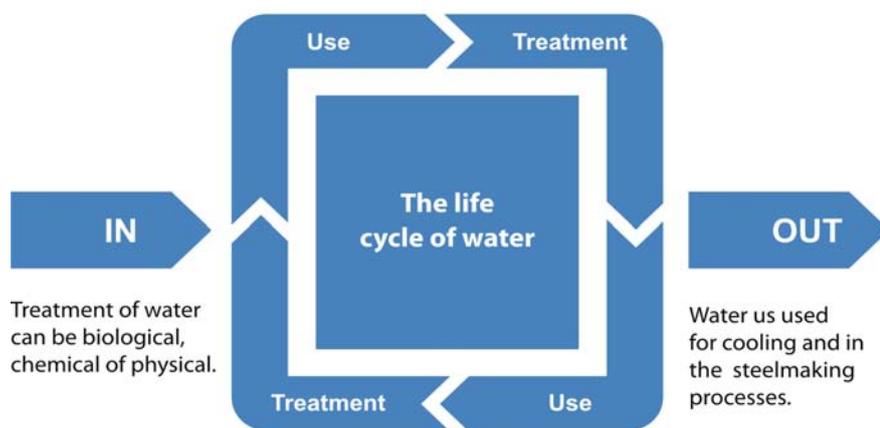
Tata Steel's FAP Joda began replacing 15% of the metallurgical coke with middling in 2013-14. The high silica content in middling was also used to modify the slag chemistry, resolving the perennial problem of low silica content in Tata Steel's captive manganese ores.



### TOWARDS ZERO WATER DISCHARGE

The Company has a long-term plan in place to significantly reduce makeup water consumption by eliminating discharge through recycling and reusing water. This plan is currently being implemented and a 4 MGD Common Effluent Treatment Plant was commissioned besides augmenting recovery of wastewater.

**ABOUT 90% OF WATER USED IS RETURNED TO SOURCE BY STEEL MAKERS**



(Source: worldsteel)

At its mining locations, Tata Steel is exploring the possibility of switching over to 100% dry mineral beneficiation facilities and achieving zero discharge by recycling treated effluent to process applications at all its operating sites. The Company works with the Community to mitigate possible risks related to water sustainability. Recharging of ground water through rainwater harvesting is a priority at all locations.

### WASTEWATER & EFFLUENTS

To meet its target of Zero Discharge, flow-meters were installed at all make-up points within the Steel Works (including department level), associated companies and on supply lines to facilities outside Steel Works along with on-line flow monitoring system (SCADA based). Tata Steel commissioned Online real-time and

centralised monitoring of water consumption through metering & IT enabling in March 2015.

The Company removed 742,650 m<sup>3</sup> of sludge by dredging the Lower Cooling Pond to enhance the rainwater harvesting capacity at the Steel Works.

## REDUCING WATER CONSUMPTION

Fresh water intake for makeup dropped as indicated by a reduction in Specific Water consumption at the Jamshedpur Steel Works from 5.57 m<sup>3</sup>/tcs in 2013-14 to 5.54 m<sup>3</sup>/tcs in 2014-15. This was achieved through increased surveillance and control, along with greater recovery and recycling of water with

partial augmentation of infrastructure of project under implementation.

Efforts to optimize Water Consumption at the Hooghly Met Coke Division, Haldia resulted reduction from 0.52 m<sup>3</sup>/t in 2013-14 to 0.45 m<sup>3</sup>/t in 2014-15.

### Water Withdrawal (Good Is: ▼)

	UoM	2012-13	2013-14	2014-15
Indian Operations	Million m <sup>3</sup>	73.31	76.92	74.33

### Water Sources

Location	Source of Water
Steel Works Jamshedpur	River – Subarnarekha
Sukinda (Chromite Mines & Chrome Ore Beneficiation Plant)	River – Brahmani
Collieries & Washeries (Jharia)	Rivers – Damodar & Khatri
Iron Ore Mines & Beneficiation Plants (Noamundi, Joda East)	River – Baitarani
Collieries & Washeries (West Bokaro)	River – Bokaro
Mn Group of Mines (Joda, Bamebari, Tiringpahar, Malda, Manmora)	River – Baitarani
Ferro Chrome Plant, Bamnipal	River – Brahmani
Hooghly Met Coke (Haldia)	River – Hooghly
Wires Division (Tarapur, Indore, Pithampur)	Ground Water only for Indore plant; Municipal water for other plants
CRM Complex (Bara, Jamshedpur)	Rivers – Subarnarekha
Tubes Works (Jamshedpur)	Rivers – Subarnarekha
Ferro Manganese Plant (Joda)	River – Brahmani
CRC West (Tarapur)	River – Surya

### Water Recycled: Indian Operations (Good Is: ▲)

	UoM	2012-13	2013-14	2014-15
Water Recycled	Million m <sup>3</sup>	15.0	16.7	21.3
Recycled as % of Makeup Water requirement	%	17.2	17.8	22.3

### Achieving Near Zero Effluent Discharge at I Blast Furnace

The design of the I Blast Furnace, Tata Steel's largest iron making facility commissioned in April 2012, had envisaged a Near Zero Effluent Discharge plant. Post commissioning and stabilization of I Blast Furnace, several initiatives were taken to minimize effluent discharge which included mapping of all open process water discharge points and connecting them with a common tank and then pumping back to the system. A major breakthrough towards "Near Zero Effluent Discharge" was achieved in 2014-15.

### The initiatives taken were:

Diversion of blow down water to the INBA, which has a daily water requirement of 2,100 m<sup>3</sup>. This has resulted in less make up water required by the INBA with zero open discharge

Mapping of all gas condensate water (drip pots), which was circulated back to the thickener

### Use of Blast Furnace blow down water at Sinter Plants

To utilise blow down water – a waste from its blast furnaces, which contains higher amounts of chloride level - and to minimize water wastage, pilot measures taken at Sinter Plant 4 included:

- Routing the water to Sinter Plant No.4 through a pipe line
- Proper instrumentation and corrosion coupon was provided to establish the corrosive effect of the water
- Daily measurement of chlorides in the Base Mix, Green Mix & ESP dust introduced to establish the

effect of blow down water on the chloride content and subsequent effect on stack emission

- First round of trial was completed; the second round was initiated to establish the process

After successful trials at SP#4, this initiative will be horizontally deployed in all other sinter plants over the next two years. Actions have also been taken to enable usage of low end water at Sinter Plant No.4 for conveyor belt cooling, gardening, road washing and cleaning of jammed chute, idler, equipment, etc.

### Reduction in Specific Water Consumption by 14.2% at Hooghly Met Coke

An earthen un-embanked storm water pond, created for pumping water during heavy rainfall, when the Division was commissioned had filled up with weeds rendering the water of no industrial use.

Hooghly Met Coke first initiated efforts to enhance the capacity of this pond. Subsequently it sought to prevent contamination from river backwater and use it as process water. In addition with drain connectivity

to collect blow-down water from the neighbouring Tata Power’s Cooling Tower and rainwater from all buildings, pumps and new pipelines, the water is being used for coke quenching reducing the need for fresh make-up water consumption. An average of 20,000 m<sup>3</sup>/month of water is being re-used for coke quenching. Water withdrawal was reduced by 16.5% in 2014-15 compared to 2013-14.

### New Effluent Treatment Plant at Sukinda

A state-of-the-art and technologically best in class Effluent Treatment facility (New Effluent Treatment Plant) is about to be commissioned at Sukinda Chromite Mines. It is designed not only to cater present peak loads but also the future requirements for treatment of mine discharge water and surface runoff

post deepening of mines in course of opencast mining and underground mining. The Effluent Treatment Plant is constructed in a modular fashion to ensure optimization in all aspects of its operation. It has three modules each having a capacity of 1,500 m<sup>3</sup>/hr with a total installed capacity of 4,500 m<sup>3</sup>/hr.

### Case Study: Sub-Surface Drip Irrigation System at Jubilee Park

The Sub-Surface Drip Irrigation System and Pop-Up Sprinkler System installed at the Mughal Garden in Jubilee Park, Jamshedpur contributed to conservation of water in the steel city. Water consumption is expected to drastically reduce from 7.50 lakhs litres per day to 4.50 lakhs litres per day, a saving of as much as 3.00 lakhs litres per day of raw water.



### Water discharged (quantity & destination): Indian Operations (UoM: Million m<sup>3</sup>; Good Is: ▲)

Particulars	2012-13	2013-14	2014-15	Destination
Steel Works (Jamshedpur)	29.0	21.1	21.6	Subarnarekha reiver
Sukinda (Chromite Mines and Chrome Ore Beneficiation Plant)	4.5	4.5	4.6	Damsala Nallah
Tubes Works (Jamshedpur)	0.2	0.2	0.2	Subarnarekha river

## Water bodies and related habitats affected by discharge of water and runoff

The quality of the effluent conformed to prescribed limits. No significant impact has been detected in any of the water sources. Further through Rainwater harvesting the water table is being improved in virtually all Company locations, including the Steel Works.

## AIR POLLUTION CONTROL

Fugitive emission at 'G' Blast Furnace (GBF) increased manifolds after the introduction of pellets and CDQ. Steps taken to contain fugitive emission at GBF included installation of suction hoods on coke and pellet screeners, provision of water sprays on coke and pellet incoming belts and refurbishment of DE system in coke circuits.

Engagement by the Operations & Maintenance

teams in the stabilisation of APC (Air Pollution Control equipment) led to dust emissions being curbed significantly, a challenge for all steel producers. Average dust emissions from stacks were curtailed from 1,142 kg/hour in 2012-13 and 924 kg/hour in 2013-14 to 612 kg/hour in 2014-15. The best emission was achieved in December 2014 @ 457 kg/hour while in Q4 of 2014-15 the Steel Works registered average particulate emissions of 593 kg/hour from stacks.

### Emissions from Jamshedpur Steel Works (Good Is: ▼)

Air Emission	Unit	2012-13	2013-14	2014-15
Dust Emission	Tonnes	8,162	8,091	5,364
SOx Emission	Tonnes	7,203	8,091	12,654
NOx Emission	Tonnes	9,853	9,340	8,984
Dust (Particulate Matter) Emission	kg/tcs	1.00	0.88	0.57
SOx (Oxides of Sulphur) Emission	kg/tcs	0.89	0.88	1.36
NOx (Oxides of Nitrogen) Emission	kg/tcs	1.21	1.02	0.96

## Protecting the environment from fumes generated during hot metal pooling

Part of the hot metal produced at blast furnaces may need to be dumped (pooled) because of poor chemistry or reduction in demand at steel making shops due to breakdowns or shutdowns. A huge amount of fume is generated during dumping. To prevent environmental pollution in 2014-15 pouring commenced inside an enclosure from where the metal flows to the pit through a trough. The enclosure is connected to bag filters and suction mechanism that suck the fume while the dust is collected in a silo. The dust collected is utilised in iron making.

## OVERALL ENVIRONMENT PERFORMANCE MANAGEMENT

Tata Steel continued to invest in infrastructure for environmental protection, especially to upgrade facilities to reduce stack and fugitive emissions, as well as to address new sources of emission detected at secondary emission stack of LD shops and increase in three Sinter Plants.

Among the facilities upgraded for Stack Emission (point source) were Sinter Plant No.1 Waste Gas ESP, Sinter Plant No.2 Waste Gas ESP (Phase II) and Sinter Plant No.3 Dedusting.

### Fugitive Emissions

- Charging & pushing emission control systems commissioned at Coke Oven Battery No.11
- A new DFDS system for 10 dust generation points installed at the Raw Material Handling
- DFDS units were commissioned at 14 dust generation points in Coke Oven Battery Nos.10 & 11
- New Industrial Vacuum Cleaners were installed at:
- RMBB1 & 2 and Sinter Plants 1, 2 & 3 covering 17 dust generation points
- H Blast Furnace covering 4 dust generation points
- Battery Nos.10 & 11
- Fume Extraction system at Hot Metal Pooling was commissioned
- Augmented Industrial Vacuum Cleaner for Battery 8 and 9

## Environmental Expenditure

Scope	UoM	2012-13	2013-14	2014-15
Indian Operations	INR Billion	4.3	4.6	3.4
Jamshedpur Steel Works	INR Billion	3.8	4.0	2.9

## Environmental Assessment of the Supply Chain

Tata Steel is working on developing a process to assess the environmental performance of its key partners, including external processing agents. As a first step in 2014 M/s Bansal Metal Works (BMW) was assessed for compliance with statutory environment requirements.

All new suppliers provide a self-declaration as the Company's Vendor registration form has environmental criteria.

No significant impact has been identified in the supply chain identified, as Steel is a 100% recyclable material. However for External Processing Agents and Stockyards the Company is implementing green norms such as use of natural light, rainwater harvesting, etc.

To the best of Tata Steel's understanding, as on 31 March 2015, there were no pending grievances, show cause or legal notices received from stakeholders.



## BIODIVERSITY MANAGEMENT

Tata Steel's current operations in India are not located in or around any of the identified Biodiversity Hotspot or Protected Areas. The Company has, however,

voluntarily instituted a Biodiversity Study through International Union for Conservation of Nature (IUCN) at its Raw Material Locations in Jharkhand and Odisha.



### BIODIVERSITY MANAGEMENT PLANS WITH IUCN

As part of Tata Steel's engagement with IUCN a team carried out a quantification survey of biodiversity at 100% of Tata Steel's Raw Material locations. IUCN is now in the process of finalising the Biodiversity Management plans for eight of these locations and these plans are expected to be in place by the end of 2015-16. Currently comments from Tata Steel's Raw Materials Division have been forwarded to IUCN for preparation of the final Biodiversity Management Plan.

ecosystems and ecosystem services, linkages between business and ecosystem services and identify the key ecosystem services for Sukinda. IUCN has also conducted programmes for local communities to create awareness on the need for conservation of nature.

Training sessions on "Business Ecosystems Training" were also organised for officers with the help of IUCN. The purpose of this was to understand biodiversity,

Photography competitions on "Spot the Species" for school children and "Leaf Identification" competition for ladies of the camp and kids helped share information on the different plants and their values. These competitions opened with a talk on Biodiversity by experts from IUCN.



### Land owned and leased

Location	Land owned/ leased (km <sup>2</sup> )	Forest Area (km <sup>2</sup> )	Type of Operation
Jharia Colliery, Jharkhand	22.18	-	Extractive
West Bokaro Colliery, Jharkhand	17.40	9.07	Extractive
Joda East Iron Ore Mine, Odisha	6.71	6.09	Extractive
Noamundi IOM, Jharkhand	11.60	7.62	Extractive
Katamati IOM, Odisha	4.03	1.99	Extractive
Khondbond IOM, Odisha	9.78	8.37	Extractive

Joda (W), MGM, Odisha	14.38	11.67	Extractive
Bamebari, MGM, Odisha	4.64	3.82	Extractive
Manmora, MGM, Odisha	0.16	0.09	Extractive
Malda, MGM, Odisha	8.22	5.79	Extractive
Tiringpahar, MGM, Odisha	1.69	0.69	Extractive
Sukinda, Chromite Mine, Odisha	4.06	4.05	Extractive
Gomardih Dolomite Quarry, Odisha	3.73	-	Extractive

### Land Disturbed

Location	Total land disturbed till 2014-15
Jharia Colliery, Jharkhand	Not Applicable
West Bokaro Colliery, Jharkhand	762
Sukinda, Chromite Mine, Odisha	206
OMQ Division – Iron Ore Mines	1715
Manganese Group of Mines	746
• Joda (W), Odisha	350
• Bamebari, Odisha	188
• Manmora, Odisha	14
• Malda, Odisha	142
• Tiringpahar, Odisha	53
Gomardih Dolomite Quarry, Odisha	63
Sukinda, Chromite Mine, Odisha	4.06
Gomardih Dolomite Quarry, Odisha	3.73

### Land Rehabilitation

Location	Land rehabilitated till 2014-15
Jharia Colliery, Jharkhand	Not Applicable
West Bokaro Colliery, Jharkhand	48.6
Manganese Group of Mines	
• Joda (W), Odisha	24.7
• Bamebari, Odisha	24.3
• Malda, Odisha	8.4
• Tiringpahar, Odisha	7.7



### Case Study: Reduction in slope failure in Sukinda Chromite Mine

Pit slope plays a vital role in Safety and Productivity in Mining. The higher the bench slope, less is the waste to be excavated. But a higher slope also increases the chances of slope failure. Sukinda Chromite Mine sought to implement an innovative integrated approach to Opencast Mine not only to ensure better slope

monitoring and its stabilization but also to channelize the water on slope of waste dump through concrete path so that soil erosion and percolation of water into the slope can be minimized.

#### Among the key steps taken were:

- The water table is regularly monitored with help of a Piezometer
- The conventional approach of vertical holes across the mine to pump out water was replaced by horizontal drill holes up to 50 metres, facilitating drainage of water by gravity
- Monitoring by a radar is intended to monitor mine slopes to detect movement and generate a warning of impending failure
- Vetiver plantation was started on the dump slope after proper preparation of the slopes

### Case Study: Rehabilitation of waste dumps at Sukinda and Bamebari

The passive waste dump slope of Bamebari Manganese Mine facing a public road was barren and arid. While several attempts were made to sow deep-rooted plants to arrest dump run-off, along with pursuing stabilization through conventional plantation, grass patching, coir matting and transplantation, none resulted in much success. Sukinda Chromite Mine too faced a similar problem of stabilization of the slope.

A bioengineering method was suggested by experts from IIT, Kharagpur for stabilizing slopes with an ideal plant type. The most suitable was Vetiver (*Chrysopogon Zizanioides*) plantation over the dump slopes. Saplings were planted over 10,000 square metres of the mine dump slope on an experimental basis in June 2013 at Sukinda & Bamebari. Both sites have since undergone a complete transformation from an arid, barren dump to a green stable dump. This process was horizontally implemented at Tata Steel's Joda West Manganese Mine in 2014-15.

#### Plantation in the Iron Mines during 2014-15

Iron Mine	Trees planted (Nos)	Area Covered (Ha)
Joda (East)	28,815	6.0
Katamati	16,500	6.5
Noamundi	5,000	0.8

(No plantation done in Khondbond during 2014-15.)

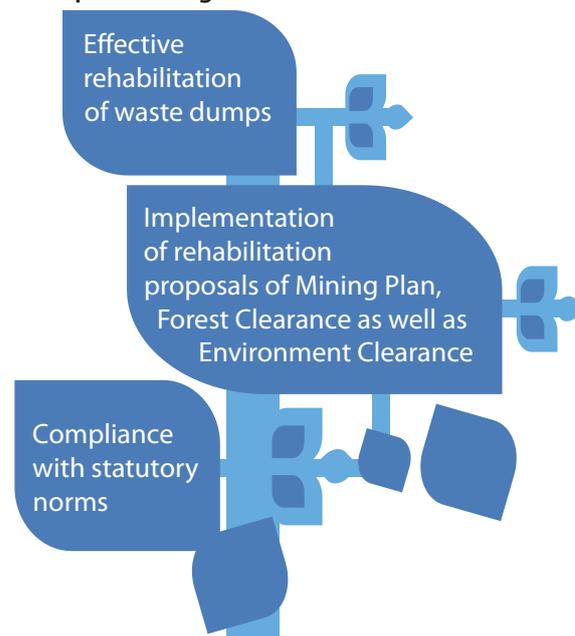
#### Green Cover enhancement at Jamshedpur (Good Is: ▲)

Jamshedpur Sites	Plantation (Nos)			Green Cover developed (in Ha)		
	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15
Steel Works (a)	10,552	13,034	15,419	4.0	8.1	2.1
Reclaimed Site (JMD) (b)	35,377	26,242	6,728	12.4	-	7.2
Sub-Total (a) +(b)	45,929	39,276	22,147	16.4	8.1	9.3

#### Green Cover enhancement across all locations (Good Is: ▲)

Location	UoM	2012-13	2013-14	2014-15
Manganese Mines	nos	1,23,250	1,01,500	1,17,455
West Bokaro	nos	96,000	84,994	60,000
Sukinda Chromite Mines	nos	51,150	64,682	55,810
OMQ (Iron Mines)	nos	37,000	28,963	50,315
Jharia Collieries	nos	30,000	15,000	15,800
<b>Sub-Total (1): Mining Sites</b>	<b>nos</b>	<b>3,37,400</b>	<b>2,95,139</b>	<b>2,99,380</b>
Steel Works, Jamshedpur	nos	45,929	39,276	22,417
Hooghly Met Coke	nos	25,000	3,771	3,950
FAP Joda	nos	1,795	2,500	3,500
<b>Sub-Total (2): Manufacturing Sites</b>	<b>nos</b>	<b>72,724</b>	<b>45,547</b>	<b>29,867</b>

The expected long-term benefits include:



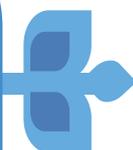
## MATERIAL ISSUE

## SAFETY &amp; HEALTH OF PEOPLE

## ENSURING ZERO HARM

"The "Committed to Zero" initiative launched across the Company during the last year is a step forward in our mission of being the benchmark in Health & Safety in our industry."

– Mr Cyrus P Mistry, Chairman, Tata Steel Limited



Tata Steel is committed to ensuring zero harm to its employees, contractors and the communities in which it operates. Its ambition is to be the Health & Safety benchmark in the steel industry as the Company has identified excellence in health and safety in all its operations as a key business imperative.

In the last reporting year the Company identified the key safety issues as being:



While reductions in lost time injuries continued in 2014-15 with performance improving by 21% over 2013-14, fatalities continue to be a cause of great concern and hence Safety is consistently receiving focussed attention from the top management.

Therefore in order to strengthen efforts to build a sustainable work place environment, a common health and safety management system is being implemented. This includes cross-auditing activity to enhance sharing experiences and best practices across other entities in the Tata Steel Group.

**'I AM COMMITTED TO ZERO'**

After the 'Find it, Own it, Fix it' campaign to ensure zero harm to employees, Tata Steel has sought to revisit the Safety culture by addressing the habits of its employees and contractors at workplace.

The key themes for the next three years include a safety strategy for the organisation that has been co-created with the senior leadership team and includes six strategic priorities. This risk based safety strategy will enable the Company to plan for future safety activities.

**The six safety strategies are:**

1. Safety Leadership Development
2. Organisational Safety Competency and Capability Improvement
3. Contractor Safety Risk Management
4. Road and Rail Safety Risk Management
5. Process Safety Management, Integrated Emergency Response, Infrastructure Integrity Management
6. Occupational Health/Industrial Hygiene

**In 2014-15 Tata Steel focused on:**

- Moving from external motivation to internal motivation - Behavioural Safety
- Moving from compliance to commitment towards rules, procedures and protocols
- Process Safety & Disaster Management
  - Rail and Road Safety



**INITIATIVES IN 2014-15:**

- **Six Safety long-term strategies:** To achieve the zero fatality within next three years, six long-term safety strategies have been developed. This will be guideline for annual safety business planning for Tata Steel.
- **“Safety Line Walk”:** Senior Management personnel must be visible on the shop floor where employees see and hear that safety is their priority and they feel the leadership.
- **Safety Leadership development:** Safety & Health excellence program for senior leadership in collaboration with Ashorne Hill, UK, by VP, Safety.
- **‘Find it–Own it–Fix it’:** this campaign sought to effect behavioural change where employees are on the lookout for hazards, assess the risk and take proactive corrective actions. At the launch of the programme in each department participants give a written commitment that they would strive to eliminate hazards from their workplace within timelines through the ‘Find it, Own it, Fix it’ method.

- **Contractor Safety Management:** Deployment of new standards of Contract Safety Management System (CSMS), which involves self-assessment of all vendors, training of Line managers followed by second party audit.
- **Safety Competency network:** To enhance the implementation and decision taking process by Apex Safety Sub Committees, four safety competency networks were created. They are support the policy making committees.
  - Foot Over Bridge provided at heavy vehicle-cyclist / pedestrian interface
  - Introduced Safety Consequence Management for accountabilities



**BEHAVIOUR CHANGE**

Specifically to address safety habits the Company re-launched ‘Elimination of Commonly Accepted Unsafe Practices’ (ECAUP) involving 100 trained young and energetic employees or Safety Commandos, Fatality

Risk Control Programme (FRCP) on Material handling & confined space jobs, introduced Chain block testing system & facility for contractors and elimination of Man – Machine interface at workplace.

Total ECAUP logged	Closed	Acknowledged	Returned
426	423	2	1

Near Miss Total	Closed	Incident Open (Incident analysis, release of report)
985	626	359

### Steps undertaken for ECAUP

- Constitute Cross Functional Teams (CFT) comprising front line supervisors / Senior Associates of Operation & Maintenance and UCM
- Review earlier identified commonly accepted unsafe practices
- Carry out focused Safety Observations, JCC, and Contractor job audit of all the activities / jobs of the section to identify new Commonly Accepted Unsafe Practices
- Discuss with contractor as well as contractor employees of the section to understand issues and concern for common unsafe practices
- Compile all the old and new Commonly Accepted Unsafe Practices (CAUPs)
- Present proposed action plan to eliminate commonly accepted unsafe practices
- Explain and get approval of departmental head for Fatality and Serious injury potential Commonly Accepted Unsafe Practices
- Log Fatality and Serious injury potential for commonly accepted unsafe practices as Behaviour FRCP in the SEMS system
- Monitor progress of elimination of Commonly Accepted Unsafe Practices

### Impacts in 2014-15

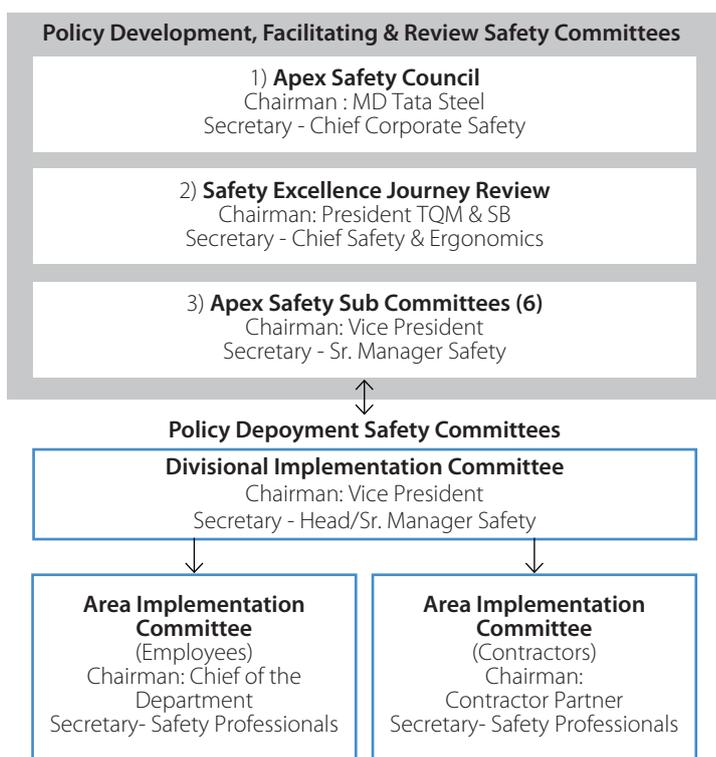
- 795 Fatality potential CAUPs fixed through Engineering Solutions
- Identification of 2224 FRCP which once eliminated could result in zero fatality /serious injury in confined space jobs
- Zero fatality in material handling
- More than 500 potentials issues have been identified and eliminated through engineering solution

More than 25,000 contract employees per year are trained on safety and other specific skills followed by a free health checkup.

### Wellness Centre and Working at Height Simulator

A Wellness Centre and Working at Height Simulator facilities were added to the Safety Excellence Centre (NTTF) in 2014. This was in response to the need for creating a conducive environment for vendor partners to work in, medical screening of workmen and their safety training.

### Safety Governance Structure

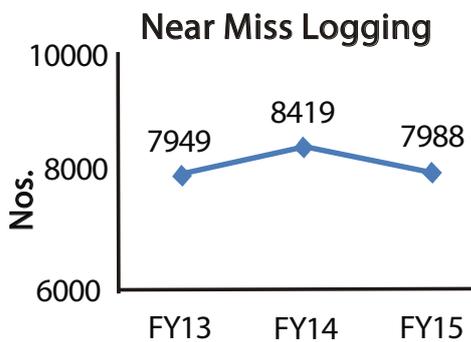
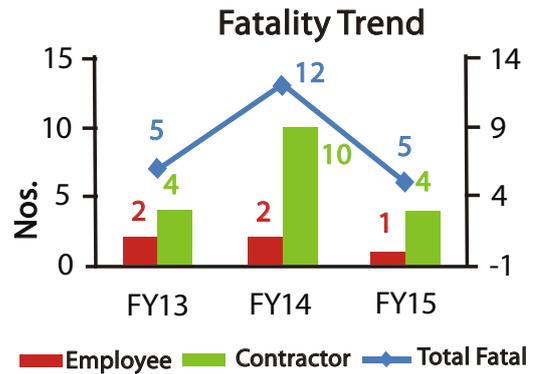
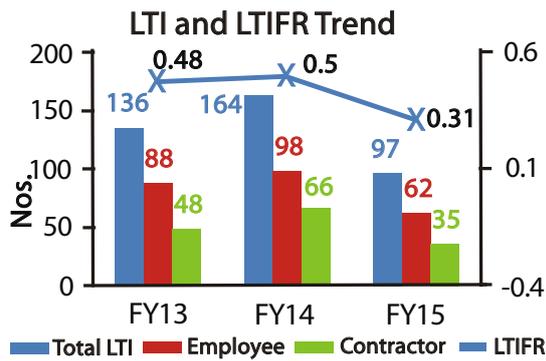


The various Health and safety topics covered in formal agreements with trade unions are:

- Standard Operating Procedures (SOP)
- Job Cycle Check (JCC)
- Emergency Response Training (ERT)
- Behavioral Safety (Safety Observation)
- Tool Box training
- Work Permit
- Positive Isolation
- Health Awareness
- Cardiopulmonary resuscitation (CPR)



Performance in 2014-15



MASS MOVEMENT FOR HEALTH

Occupational Health Service at Tata Steel follows an integrated approach to achieving optimum health, based on the three pillars of prevention, promotion and reintegration. This approach acknowledges the two-way relationship between work and health. In addition to a focus on the effects of the working environment on the health of workers, Tata Steel recognizes the influence of the workers' state of health on their ability to perform their tasks effectively.

Statutory Health Services	Proactive Health Services	Curative Services
Pre-employment medical examination	Wellness @ Workplace initiatives	24 x 7 'Pre-hospital treatment & 'Emergency health care' in both First Aid Stations
Periodical Medical Examination of employees	Health Awareness program	24 x 7 Treatment for Chronic Diseases in both First Aid Stations
Vision testing of mobile equipment operators	Special health improvement project for working women	Round the Clock Ambulance service
Hearing Conservation Program and Audiometric examination	Observance of health days to create awareness	Critical Care Ambulance
Medical examination of food handlers Industrial Hygiene Studies	'YODDHA' program to mitigate stress & life style disorders	
Medical Examination of Manganese, Chromium & Refractory material handlers.	Proactive Cardiac Risk Assessment by Cardio Profiler	
Medical examination of Contract employees		

### Important OHS initiatives in 2014-15

- Campaign on Heat Stress Prevention
- Observance of Health days to create awareness.
- Job Stress Management Programme
- Proactive cardiac risk assessment by Cardio Vascular Profiler
- **Stepathlon:** An initiative for Life Style Management
- **Doctor@Doorstep:** An initiative to reduce high risk cases
- Blood Collection Centre at East Plant First Aid

### HEALTH INDEX TREND

2012-13	2013-14	2014-15
12.63	12.82	12.34

Tata Steel had launched a health index to monitor the wellbeing of its employees and their spouses. Three key initiatives were taken to encourage greater attention to the health and well-being of the employees and the larger community.

### Proactive Cardiac risk assessment by Cardio Vascular Profiler

A unique instrument it provides a non-invasive assessment of the cardio vascular status of an individual and also predicts the chances of a cardiac incidence

later in his or her life. Around 350 employees were covered in 2014-15. Those who required special attention were referred to Tata Main Hospital.

**Case Study: Stepathlon 2014** – this was a 100-day virtual race launched by the Company for its employees and spouses. Each of them received a step kit that included a pedometer, to be worn through the waking hours so that steps taken by the individual could be counted. The target for each individual was 10,000 steps per day. In 2014-15 a total of 5,097 employees and their spouses participated across 62 locations. It saw an increase in energy levels, weight loss, better quality of sleep, higher engagement levels and an overall feeling of a happier and healthier Tata Steel family.



275 companies participated in Stepathlon 2014. Tata Steel won the following awards:

- Most Active Company in Stepathlon 2014
- Most Active Company by Participation Numbers: 100+ teams
- Most Active Company by Industry: Manufacturing

**Doctore@ Doorstep** – In the past years high-risk cases were being counseled and the health index has seen an improvement. In 2014-15 the Company launched Doctor@Doorstep to address high-risk cases detected – those at risk due to Blood Pressure, Sugar and Cholesterol - during the annual health checkups. This programme focuses on following up with employees who are detected with abnormalities during health checkup. A doctor and technician go to the department for an on the spot check of Blood Pressure, Random Blood Sugar etc. The employee is counselled and given spot advice on lifestyle modification as well as treatment, if required.

**Kolkata Marathon** – Marathons across the world encourage a change in the culture by inspiring citizens with a reason to run. Tata Steel launched this effort in Kolkata in 2014. The first edition of the Tata Steel Kolkata 25 Kilometer (TSK 25K) Marathon was held in late 2014. It introduced an international dimension by becoming the venue for the World 25 kilometer marathon. It allows amateur runners, fitness and health enthusiasts to test their fitness and endurance against the finest professional athletes. It is eastern India's largest running event. It is also among eastern India's largest charity fund raisers.



**Blood Collection Centre:** An initiative of the Apex Occupational Health and Ergonomics Safety Sub Committee the Blood Collection Centre at East Plant First Aid Station provides Company employees with some unique advantages:

- Samples for all types of Blood test prescribed by Doctors of TMH / Dispensary OPD or Company doctors can be given.
- No need of taking a gate pass from duty to go to Tata Main Hospital for giving blood.
- Giving Fasting samples on duty is convenient as well as post meal samples.
- Printouts of test reports can be had from the same place.
- Employees can also see the report through 'Employee Self Help' portal on intranet.

MATERIAL ISSUE

# CAPACITY BUILDING OF EMPLOYEES

**In managing its immense people talent the key focus areas for Tata Steel are:**

- Employee Engagement and collaboration
- Employee Productivity
- Employee Cost
  - Talent Management
  - Capability Building

With special focus on Training and Skill development under Capability Development, special initiatives have been undertaken with different objectives – like the Tata Outbound Leadership Convention; a program on Transformational Leadership; programmes like The Tata Story and Nav Chetna to entrench Tata Values; Umang an employee assistance program for emotional well-being of employees and family; the Academy Approach for Learning to drive the design & delivery of functional and managerial programmes.

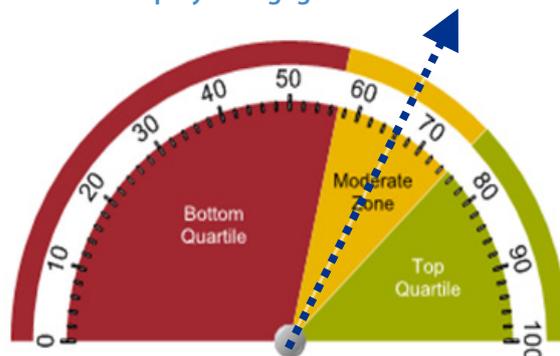
*(Annual Report 2014-15; Director's Report Page 39-40)*

## EMPLOYEE ENGAGEMENT

While engagement and happiness are measured with a survey every alternate year for officers and non-officers respectively, there are also dip-stick surveys for the interim years for better review and action-planning on parameters of strength and improvement.

The Engagement Score of Officers, measured by Aon Hewitt engagement study was 67% in 2015, while that of non-officers, measured by an Employee Happiness study in 2015, was 3.23 on a scale of 4.

**67% is the Employee Engagement Score for Officers**



## TALENT MANAGEMENT

100% of TSL India officers undergo regular performance appraisal and receive feedback on career development and other learning and training opportunities. Attrition at Tata Steel continues to remain much below the industry standard.

Challenges	Key Initiatives Taken
Attracting Talent to Raw Material & Greenfield Projects site - Location Constraint (including Jamshedpur)	Improving RM attractiveness -Employee & Family perspective
In 'Technical' Campuses Tata Steel continues to be a preferred employer however in top B Schools there is a challenge	Campus relationships and Increased intake through PPO and other engagement measures
Attrition at ~ 4% is under control however Succession Planning in the future could come under pressure	<ul style="list-style-type: none"> <li>• Develop Talent Pipeline across levels</li> <li>• Enable continuous learning / education</li> <li>• Technical Competency Development</li> <li>• Policies to enhance Diversity</li> </ul>

In addition limited career opportunities for spouses and connectivity & social infrastructure, which is a constraint in some outlocations, contribute to the challenge.

## CAPABILITY DEVELOPMENT

### Challenges faced in 2014-15:

- Continue to improve performance of existing units despite redeployment of experienced people in the new units
- Existing employees in the unskilled category – high on age, low on education
- Low attractiveness of manufacturing sector amongst technical talent
- Shortage of technical talent in the market due to rapid growth in steel and mining
  - Comparatively less availability of ready skills in Eastern Region

### Key initiatives taken in 2014-15:

- Right skilling of existing employees (unskilled) to offset recruitment
- Customized training for external recruits – focus on on-the-job training & cultural integration
- KPI linked 4Q training – Improve proficiency to impact departmental KPIs
- Enterprise Capability Building System - A scientific method for assessing development need as well as evaluate the training effectiveness
- Build a culture of Innovation by involvement in TechEx
  - Capability building for distributor's organization and EPAs

## Training Statistics

Key Performance Indicators	UoM	2012-13	2013-14	2014-15
Training	Hours / employee / year*	36.88	30.67	39.1
Officers trained	No.	5800	6545	5417
Non Officers trained	No.	8235	14631	9479
Employees trained	%	53.17	58.5	40

\* The training is purely based on need and Tata Steel does not use gender for any such differentiation. This index is not relevant for us and hence not reported

*worldsteel Sustainability Indicator*

## Enterprise Capability Building System (ECBS)

ECBS is an IT based system, developed in-house to objectively identify the training needs of employees. This method is more systematic, transparent and measurable gap analysis compared to the previous 4 Q TNI systems, which was perception based and subjective in nature. It is a KPI linked metric, which shows exactly how the skilling requirements of non

officers can be identified and it is a marker of the proficiency level of the person in the particular skill.

Based on the Toyota 4Q model, this has helped develop skills and re-skill workforce in the organization with continuous rollout happening phase wise such that this TNI method can be leveraged more.

## Academy approach for Capability Development

To address the functional learning & development needs of the support functions through a sustainable platform Tata Steel has adopted the Learning Academy Approach.

### Capability building through the Learning Academy helps in

- Customizing learning needs through line management involvement
- Involvement of the Line in training delivery helps in understanding issues on the ground better and helps in engagement as it demonstrates care

This approach addresses the Learning and Development requirements of support functions. A key characteristic of this method is the collation of the individual learning needs, the function's needs and the organizational needs. In order to achieve a greater degree of program customization, the functional clusters are further sub-divided into functional sub-clusters. As a first step it was decided to develop a Pilot Academy to serve the Procurement department and has further propagated to have a Vendor capability

development.

Thus the Academy approach is one such initiative that enables learning and development with the view to leverage future competencies of the organization.

Therefore Training and Skill building efforts, having always been an enabler are being strengthened further to cater to business objectives.



## EMPLOYMENT & EQUAL OPPORTUNITY

The total strength of permanent employees in the Indian operations increased to 36,957 as on 31 March, 2015 as compared to 36,199 as on 31 March, 2014, primarily due to the increase in the number of employees at the Kalinganagar project site during 2014-15.

An equal opportunity employer, at Tata Steel basic salary, employee benefits, remuneration and career

progression is the same for men and women.

The organizational changes are in line with the policies of the Company, agreements with the various Unions and Works Standing Orders. In all the cases, basic requirement such as, minimum notice period as specified is given and the employee is also rehabilitated through new assignments based on a standardized procedure of training and awareness.

MATERIAL ISSUE

# AFFIRMATIVE ACTION AND RIGHTS OF PEOPLE

**Approach:** Tata Steel’s Human Resource Policy, Responsible Procurement Policy, Health & Safety Policy and Affirmative Action Policy embed Human Rights, non-discrimination, Freedom of Association and Collective Bargaining, zero tolerance for Child Labour, Forced and Compulsory Labour and respect for Indigenous Rights in all aspects of its business. Further its ethos of Fair Business Practices and commitment to principles such as the United Nations Global Compact, the worldsteel sustainability charter and Tata Code of Conduct have ensured that Human Rights

consideration are well integrated into all decision making.

An equal opportunity employer Tata Steel is committed to practicing and propagating the SA 8000 standard, adherence to which is mandatory across its operations and supply chain. It voluntarily undergoes periodic third party audits, equivalent to human rights screening, to examine its efficacy.

## Freedom of Association & Participative Management

The Company has 26 labour unions across its operations, which cover all non-officers. The three-tier Joint Departmental Council has ensured participative

management, freedom of association and collective bargaining at Tata Steel since 1956.

## Building Blocks of Responsible Procurement



## CREATING AN INCLUSIVE WORKPLACE

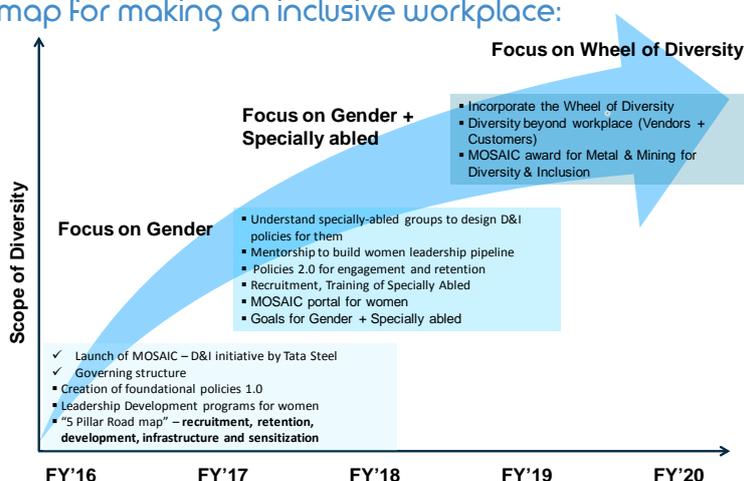
Tata Steel’s Women’s Empowerment Group has in the past been the platform to highlight issues specific to women. In the past several years it also actively promoted greater diversity through positive discrimination in recruitment of women and affirmative action communities.

Diversity and Inclusion is being actively promoted by the Tata Group through its TATA LEAD programme. It was designed to promote Diversity and Inclusion with special attention being accorded to Gender Diversity. The goal within the group is to double the number of

women employees (from 1,15,000 in 2014 to 2,30,000 by 2020). The Diversity and Inclusion initiative at Tata Steel has been christened MOSAIC.

Tata Steel has also created a roadmap to promote “Diversity” across the organization, including several initiatives during the year. The Company has designated a **Chief Diversity Officer (CDO)** to spearhead the initiatives and has set itself the target of becoming benchmark within the Tata Group and also in the manufacturing industry.

### Tata Steel’s roadmap for making an inclusive workplace:



### New Vendor Development

A 6-step stage-gated process is followed in order to identify, evaluate and empanel new vendors.

The Company has also adopted the SA8000 framework to ensure Human Rights for the workforce. Clauses of the Tata Code of Conduct and SA 8000 standards extend to all suppliers/contractors while their provisions also being applicable to other business

partners. Compliance to both is included in the terms and conditions of every contract.

Violation of the Tata Code of Conduct is dealt with in accordance with the guidelines set. It may result in a vendor/supplier being delisted from the Tata Steel group of companies.

### Human Rights Safeguards:

#### Employment practices

- All the contractors maintain age proof for all the employees to ensure there is no child labour
- Labour licenses, PF registration, Group Medclaim, valid Work Permit are mandatory

#### Health and safety practices

- All the contractors must follow Tata Steel Health & Safety norms, Safe Operating Procedures and Standard Maintenance Procedures
- Regular health check-ups and safety training is undertaken for all contract workers at Tata Steel’s Safety Centre
- Contractor Safety Risk Management is one of six strategic priorities
- Safety Area Implementation Committees include Contractor Partners
- Welfare amenities must be provided

<p><b>Incidents (such as of verbal, psychological, physical, or sexual abuse, coercion or harassment)</b></p>	<ul style="list-style-type: none"> <li>• No case of discrimination, harassment or forced labour was noted</li> <li>• SWATI – the ladies empowerment group of Tata Steel and the Ethics Department conduct workshops to apprise the labour, particularly women of their rights</li> </ul>
<p><b>Industrial relations</b></p>	<ul style="list-style-type: none"> <li>• 26 labour unions across locations</li> <li>• Participative Management</li> <li>• State and Central Governments Acts must be adhered to</li> </ul>
<p><b>Wages and compensation</b></p>	<ul style="list-style-type: none"> <li>• Wage payment via bank transfer is mandatory</li> <li>• Minimum wages are paid by all the assessed companies</li> <li>• Benefits e.g., PF, ESI, Bonus, leave with wages Terminal Benefits, etc. must be paid accurately</li> </ul>
<p><b>Working hours</b></p>	<p>Eight hour working days is imposed</p>

**Education as a means to eliminate child labour:**

Tata Steel believes that access to education will ensure that children do not drop out of school for reasons related to income disparities and economic penury of their families. This in turn will prevent them joining the unorganised workforce ahead of the legal age. It therefore supports Early Learning, Mid-day Meals,

development of school infrastructure, fellowships for socially and economically challenged children, enrolment of tribal children in residential schools, improvement in the quality of education available to school and more recently has launched the 1000 schools programme in Odisha.

**Procurement from socially and economically marginalised**

About 18-20 per cent of Tata Steel’s total procurement spends including goods and services are from local SMEs, traders, service providers, AA vendors and NGOs, an effort that supports the socially and economically marginalised.

Self Help Groups have been found to be an effective mechanism to safeguard democratic rights, especially as they serve as agencies for collective bargaining at the grassroots level. Members of about 800 Self Help Groups supported by Tata Steel leverage this strength to earn a sustainable livelihood for their families.

**Risk focus to Vendor Development**

From an earlier need-based approach to Vendor Development, Tata Steel’s stage gate approach to vendor development has as the first stage a vendor

search to identify low risk vendors. A key priority is elimination of high risk sourcing with the first step in the prioritisation framework being a Risk Register.

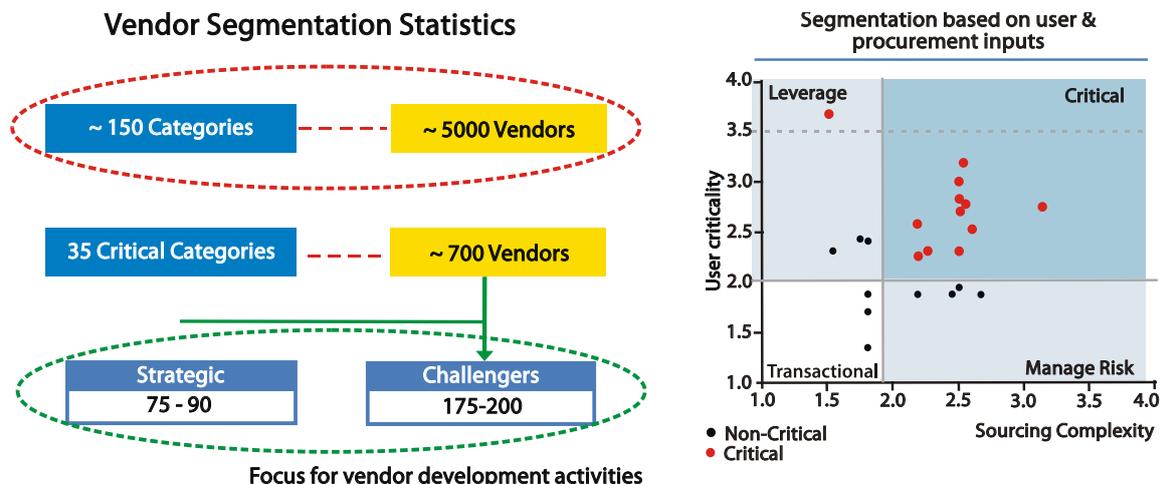
**Tata Steel conducts third part assessment is to ensure that the SA 8000 norms are followed. This scope of work for the auditor includes:**

- Preparation of audit protocol, vendor training, assessment and counseling
- By 2014-15 a total of 60 partners had been assessed
- Assessment to be carried out against the “Tata Steel Suppliers’ Social Performance Assessment Protocol”
- The protocol is based on SA 8000: 2008 standard requirements and Tata Code of Conduct
- Partners (including sub-contractors) with high value & long term contract have been considered for assessment

Also Tata Steel’s Safety & Health Policy requires the safety track record of the past five years to be taken into consideration before a contract is awarded.

## Identification and prioritization of suppliers for assessment of impacts for labor practices

Tata Steel has a structured approach to deepen its engagement with its vendors.



**Capacity Building:** To continuously align its vendors with the evolving policies and process of the Company, Tata Steel actively engages with them for their capability development, performance management, quality assurance, long-term relationship

building and optimizing the whole vendor base strategically. Based on the Future Potential that a vendor has and his current level of performance Tata Steel categorizes its vendors in four categories, viz, Strategic, Challengers, Disengage and On-hold.

### Tata Steel gauges the training needs of vendors through:

1. Vendor connect meetings
2. Vendor development plans developed along with category managers & users
3. Regular monitoring of the performance KPIs
4. Onsite visits & Project management

## SUPPLIER RELATIONSHIP MANAGEMENT

Vendors under the strategic bucket are considered for the Supplier Relationship Management process for deeper engagement.

### Vendor Capability Advancement Program (V-CAP):

Under the V-CAP theme-based training, ranging from safety to labour practices, is provided to vendors to improve their efficiency and capability. It is a two-layered training programme comprising Foundation and Advanced courses for which the content has been developed in consultation with the vendors and the plant user community. This includes safety and security processes, ethics and sustainability.

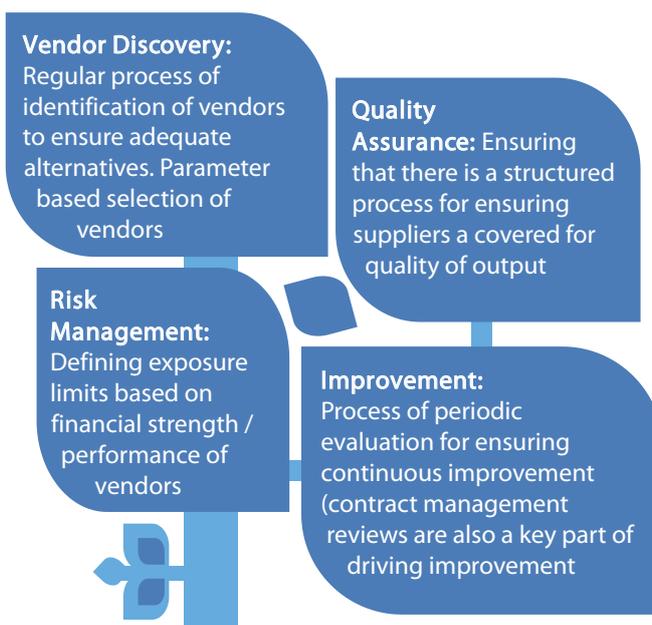
#### The one-day course per month focusses on:

##### Entrepreneurship development

- TSL processes, Safety, Security, Policies
- Ethics (TCoC), Sustainability
- TQM & best practices

##### Daily management & efficiency

- On-the-job improvements
- Supply chain efficiency
- Resource optimization, hiring processes & attrition management
- Tata Steel processes, safety, quality



There are various forums of engagement with vendors:

**E-proc:** This is Tata Steel's Business to Business (B2B) procurement platform. All vendors are given User IDs and passwords at the time of registration. Communications related to safety, ethics and procurement is constantly flashed on the landing page to attract immediate attention.

**ProCare:** One stop help desk solution center where vendors can connect for any kind of issues or information

**Vendor Meet:** Annual Vendors meet to informally connect with vendors at Jamshedpur as well as out locations

**Vendor Partner Connect Programme (VPCP):** is a two-way platform to connect with vendors on a monthly basis

Grievance mechanisms and remediation processes for impacts

Grievance Mechanism	Type
Contractor Grievance Cell	Contractors/ Vendors
Vendor Grievance Redressal Committee	Contractors/ Vendors
Sampark – system to log complaints	Individual employees
Senior Citizens Forum	Local Community - Urban
Community Engagement Mechanisms	Local Community - Rural
Grievance Redressal Group	Rehabilitation & Resettlement
Whistle Blower Policy / Speak Up Helpline	All stakeholders
Ethics Counsellor and Ombudsman	All stakeholders

Employee Grievance Redressal Mechanism	Level
Sampark – system to log complaints	Individual
CRMS – system to ask specific departments to perform the required task	Individual
Whistle Blower Policy / Speak Up Helpline	Individual
Three Tier Joint Departmental Council	Team – productivity and performance issues
Special Task Forces	Team
SWATI- Women Empowerment	Team

The objective of Tata Steel's Employee Connect Programme is to improve connect of Line Managers & HR executives with the employees at large by listening to their issues and redressing them in a time bound manner. The IT based platform enhances the effectiveness & efficiency of the endeavour. It is expected to result in resolution of the immediate / pressing concerns of the employees, while data generated is analysed in order to also bring about policy level changes in HR processes if needed.

**Vendor Grievance Redressal Committee (VGRC):** It reviews representations from vendors against whom penal actions have been taken based on reported cases of TCoC or SA8000 violations.

**Grievance mechanisms and remediation processes:** Compliance to TCoC is achieved through training and awareness programmes conducted for newly recruited, own and contract employees, vendors through Web Based Training; programmes at training centres, ethics pause, Ethics month celebration, etc. Top security officials of the Company rigorously cover Human Rights at every meeting with all security personnel.

**Security and Human Rights:** Classes on human rights have been included in training programme of all courses for Security personnel (including Outsourced Security) imparted at the Tata Steel Security Training Centre.

Capacity Building	Coverage
Ethics and TCoC	All employees and vendors
SA 8000 Awareness	Training was imparted to around 1000 inductees on various clauses of SA8000.

Stakeholder Sub-Category	Dialogues	Joint Forums	Meeting	Modes of Mass Communication
Senior Management	Senior Dialogue	JCCM – Apex Level	Communication	MD Online
Middle & Junior Management	General Dialogue	JWC – Works level Joint Committees – Works level	Meetings at the Departmental level	Intranet/ Internet Tata Steel Times Taalmel
Unionised Employees	Dialogues with retiring employees	JDC – Departmental level	Chief – UCM Meeting VP – UCM Meetings	
Unions	UCM Dialogue			
Employee Families	Spouses Dialogue		Domestic Management Programme	Internet site/ Tata Steel Times and Taalmel
Contract Labourers	Contractor Cell		Mass Meeting at the shopfloor	Hoardings in Plant & Outside



MATERIAL ISSUE

# STAKEHOLDER IDENTIFICATION AND MANAGEMENT

**Approach to stakeholder engagement:**

Long-term value creation for all stakeholders based on leadership with trust is the approach adopted by Tata Steel for sustainability and stakeholder engagement. To retain its position as the oldest and most value creating steel company in India it focusses on understanding the concerns of all stakeholders and responding to them through integrated actions, aimed at benefitting the community, suppliers, customers, the lenders, the shareholders, the employees and others.

**Basis for identification and selection of stakeholders:**

Based on its Materiality Exercise Tata Steel has identified two broad categories of stakeholders – Internal and External. The external stakeholders have been further sub-divided into Business Partners, Influencers and Civil Society.

Priority is accorded using the 2X2 Matrices.

Stakeholder inputs and concerns are fed into its Strategic Planning Process to determine Material issues for Tata Steel. All material issues – categorised as Focus, Track and Discuss - are periodically review by the Top Management based on their level of criticality.

The Company has also adopted various measures and KPIs to assess stakeholder satisfaction.

Engagement mode and frequency is based on criteria of Stakeholder Priority (higher the priority- more direct and frequent the engagement), number of stakeholders in each group/sub-group (larger the number, the more indirect the engagement) and the engagement objectives (more strategic objective leading to more direct engagement).

**Methods of collating inputs from stakeholders on social performance:**

External Stakeholders	Method of Collating Inputs	Internal Stakeholders	Method of Collating Inputs
Governments	Participatory Rural Appraisals	CSR Committee of Board	Meetings of CSR Committee of Board
Political Leaders	Padyatra	Senior Management	Meetings of CSR Advisory Council
Bureaucrats	Individual Interactions	GMs and Chiefs of Raw Material and Greenfield Locations	Apex CSR Review
Thought leaders & practitioners	Focus Group Discussions	CSR Advisory Council	Apex AA Review
Local Communities	Public Hearings	CSR Team	AGMs of Societies
Opinion leaders	Meetings with PRI members		Workshops at Raw Material & Greenfield Locations
Traditional Chiefs	Meetings with traditional chiefs		VPCS Reviews
	Meetings with SC/ST intellectuals		ABP Planning Workshop
	Samvaad		
	Individual applications		

## Advocacy aimed at addressing regulatory risks

In the last few years the mining industry in India was under intense scrutiny by the Civil Society as well as the Judiciary, the Government was rapidly moving towards a total revamp of statutes governing the sector. The Company expressed its view strongly on continued raw material security to end use industries while implementing policy changes instead of hasty ad hoc decisions.

Due to the trust Tata Steel enjoys, the Government as well as the Judiciary accepted its stand. The Hon'ble Supreme Court ordered for prioritizing resumption of captive mines in Odisha, the Government introduced suitable transitory provisions in the MMDR Amendment Act 2015 ensuring continued raw material security to end use industries. Tata Steel's mines were among the first to resume operations after the stoppages enforced in Odisha and Jharkhand.

**Extension of Mining leases:** The disruption in raw material supplies occurred as a result of a difference in the interpretation of the law. In accordance with the amended provisions of law, supplementary Lease

Deeds have been executed for the Joda East (Iron ore), Khondbond (Iron and Manganese), Joda West (Manganese), Manmora (Manganese), Bamebari (Manganese), Tiringhpahar (Manganese) and Gomardih (Dolomite) mines.

All the leases have been extended up to March 31, 2030 except Gomardih, a non-captive mine, which has been extended till 2020. The lease execution process is underway for Katamati (Iron) mines. A decision on Sukinda (Chrome) and Malda (Manganese) is awaited. The Company is engaged in discussions with the Government of Jharkhand on the extension of the mining lease for the Noamundi Iron Ore Mine.

**Opinion Formation on energy performance and Climate Change:** Tata Steel is an active member of steel industry's "Energy Operating Committee" – forum to share performance & enablers and form industry opinion for advocacy. It has supported BEE as member of industry expert group in firming up the stance through sharing of information and knowhow.

## SOCIAL MEDIA

Tata Steel's social media strategy focusses on increasing the speed of communication, increase in reach of communication, decrease in response time and decrease in communication operation cost. The Company currently uses Facebook, Twitter, YouTube

& LinkedIn. The engagement score for Tata Steel as a corporate brand on the social media platform is highest in steel industry and among the top three brands in the manufacturing sector.

## Key Thrust Areas for the future:

Among the thrust areas for Tata Steel in the use of social media during the next reporting year is integration of different digital activity, establishing

2-way communication with stakeholders on digital platform and establishing Online Reputation Management.



## INTERNAL EMPLOYEES

**COMMITMENT : INCREASE EMPLOYEE PRODUCTIVITY THROUGH STRUCTURAL IMPROVEMENTS**

CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>• Remuneration</li> <li>• Housing and other amenities</li> <li>• Safety &amp; Healthcare</li> <li>• Workplace benefits</li> <li>• Training &amp; Development &amp; Skill Upgradation</li> <li>• Career Development</li> <li>• Grievance Redressal</li> <li>• Employment for wards</li> </ul>	<ul style="list-style-type: none"> <li>• Safety Excellence Journey</li> <li>• Wellness@Workplace</li> <li>• Sexual Harassment Policy</li> <li>• Whistle Blower Policy</li> <li>• Reskilling programme</li> <li>• People Development Architecture</li> <li>• Talent Appreciation Process</li> <li>• Two-way communication</li> <li>• Grievance Redressal Mechanism</li> <li>• HR Service Desk</li> <li>• Apprentice Training Programme/R D Tata Technical Institute</li> </ul>	<p><b>SAFETY &amp; HEALTH INITIATIVES IN 2014-15</b></p> <ul style="list-style-type: none"> <li>• Safety Line Walk</li> <li>• Safety Leadership development</li> <li>• 'Find it-Own it-Fix it'</li> <li>• Stepathlon 2014</li> <li>• Doctor@ Doorstep</li> </ul> <p><b>EMPLOYEE INITIATIVES</b></p> <ul style="list-style-type: none"> <li>• Wage revision completed</li> <li>• Adoption leave, extension of maternity leave from 12 to 18 weeks</li> <li>• Umang (Employee Assistance program) - For emotional well-being of the employee and their family</li> <li>• Virtual classroom training</li> <li>• Campus branding and relationship building initiatives</li> <li>• 'Understudy' policy for succession planning</li> <li>• Academy approach to Capability Development</li> <li>• 24 complaints were received of which 15 were disposed off and nine are under investigation</li> </ul>

## EXTERNAL BUSINESS PARTNERS

**SUPPLIERS COMMITMENT : RESPONSIBLE PROCUREMENT**

CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>• Transparent and Ethical Practices</li> <li>• Transactional Issue</li> <li>• Safety</li> </ul>	<ul style="list-style-type: none"> <li>• Whistle Blower Policy and Helpline</li> <li>• mjunction</li> <li>• ProCare</li> <li>• Six-Step Contractors Safety Management</li> </ul>	<ul style="list-style-type: none"> <li>• The Board approved a Charter for the functioning of the Committee on 31 March 2015.</li> <li>• Vigil Mechanism introduced to provide a formal process for all Directors, employees and vendors of the Company to approach the Ethics Counsellor/Chairman of the Audit Committee of the Company and make protective disclosures.</li> </ul>

## EXTERNAL BUSINESS PARTNERS

**CUSTOMERS COMMITMENT : CREATE DIFFERENTIATION THROUGH SERVICES AND SOLUTIONS IN EXISTING AND NEW SEGMENTS**

CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>Consistent availability &amp; readymade solutions</li> <li>Reliable Delivery</li> <li>Conformity to specification</li> <li>Technical Support (PAG support)</li> <li>Processed material</li> <li>Defect free material</li> <li>Products and solutions for new application</li> </ul>	<ul style="list-style-type: none"> <li>Customer Value Management</li> <li>Retail Value Management</li> <li>Emerging Customer Value Management</li> <li>Value Analysis and Value Engineering</li> <li>Cost Down Weight Down programme</li> <li>New Product Development / Innovation Council &amp; Project Innovent</li> <li>Customer Service Division</li> <li>Reengineering of Supply Chain Processes</li> </ul>	<ul style="list-style-type: none"> <li>LCA vertical created under R &amp; D department</li> <li>Product Applications processes</li> <li>A ready-to-fix foundation rebar solution, 'Tiscon Footings' was launched</li> <li>Project Innovent led to the launch of Steelium Neo – CR steel and Pravesh – wood finished steel doors</li> <li>Cross functional teams participated in the launch of seven new models in the auto sector</li> <li>Hi-end automotive sales rose by 30%</li> <li>LPG segment under the Industrial Products, Projects and Exports witnessed a growth of ~70% over the previous year.</li> </ul>

## EXTERNAL INFLUENCERS

**INVESTORS COMMITMENT : ACHIEVE OPERATING PROFIT AS PER ANNUAL TARGETS**

CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>Financial and ESG performance</li> </ul>	<ul style="list-style-type: none"> <li>Transparency and communication of Financial and ESG performance</li> </ul>	<ul style="list-style-type: none"> <li>Annual Financial Report published as per the International Integrated Reporting Council (IIRC) principles of reporting</li> <li>Sustainability Report published as per the GRI 3.1 guidelines</li> <li>Tata Steel was recognized as a Climate Change Disclosure Leader in CDP 2014</li> <li>'Corporate Citizen of the Year Award' at The Economic Times Awards, 2014</li> <li>Ethisphere Award for Ethical Business Practices for FY14</li> <li>Annual Report of key societies published</li> </ul>

## EXTERNAL INFLUENCERS

**REGULATORS COMMITMENT : ENSURE COMPLIANCE TO EXISTING EC / CTO CONDITIONS**

CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>Environmental Performance</li> </ul>	<ul style="list-style-type: none"> <li>Proactively improve ESG performance</li> <li>Write-off material and energy intensive facilities</li> </ul>	<ul style="list-style-type: none"> <li>Tata Steel received the PM's Trophy for Best Performing Integrated Steel Plant in India</li> <li>An Environment Research Team formed in R &amp; D to reduce the environment impact of operations</li> <li>The Company is pursuing its engagement with worldsteel Association as a Climate Action Member, is a signatory to the CEO Water Mandate and is collaborating with IUCN for Biodiversity conservation in raw material locations.</li> <li>Jamshedpur Steel Works having set Indian benchmark in energy intensity and CO<sub>2</sub> emission intensity, besides achieving significant reductions in particulate matter emission 2014-15 to challenge the Indian benchmark.</li> </ul>

EXTERNAL INFLUENCERS

INDUSTRY ASSOCIATIONS		
CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>Regulatory risks</li> </ul>	<ul style="list-style-type: none"> <li>Participation in stakeholder consultations with Governments</li> </ul>	<ul style="list-style-type: none"> <li>Its Climate Change disclosure is rated as Globally Best by CDP within steel sector and the Company is recognised by CII as "Business of the year" based on its sustainability performance.</li> </ul>

EXTERNAL CIVIL SOCIETY

**COMMUNITY COMMITMENT : IMPROVING THE QUALITY OF LIFE OF THE COMMUNITY**

EXTERNAL CIVIL SOCIETY

CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>Access to social and physical infrastructure</li> <li>Environment Management and Climate Change</li> <li>Socio- Economic uplift</li> </ul>	<p><b>TOP MANAGEMENT ENGAGEMENT DIRECTLY WITH OPINION LEADERS AND SOCIETY</b></p> <ul style="list-style-type: none"> <li>Interventions under Tata Steel Rural Development Society (TSRDS), Urban Services (US), Tribal Cultural Society (TCS), Tata Steel Family Initiatives Foundation (TSFIF), and Tata Steel Skill Development Society (TSSDS)</li> </ul>	<ul style="list-style-type: none"> <li>Rs 171.46 crores spent on CSR activities or 2.66% of PAT</li> <li>Over 15,000 adults made functionally literate</li> <li>Nearly 13,000 middle and high school students benefitted from the preparatory coaching classes on English, Math and Science.</li> <li>Nearly 49,000 students in 383 government schools covered under the mid-day meal scheme</li> <li>Schools Project conceptualised to improve the quality of education in 1000 government primary schools across six blocks of the state of Odisha over five years</li> <li>Jyoti Fellowship given to over 3,400 meritorious students from the SC/ST communities across Jharkhand, Chhattisgarh and Odisha</li> <li>Skill Development Centres added at Jamshedpur West, Kolebira near Jamshedpur, Seregada near Gopalpur and various locations in Kalinganagar. Over 3,500 youth were trained in various skill development programmes</li> <li>Livelihood opportunities created for nearly 6,000 farmers through agriculture development</li> <li>Nearly 15,000 youth learned tribal scripts for Ho, Santhali and Oraon languages</li> <li>Project RISHTA on adolescent health implemented in 736 villages</li> <li>Project MANSI on maternal and newborn survival, reduces infant mortality rate by 26.5% and neonatal mortality rate by 32.7%, over four years of implementation in 167 villages of Seraikela district of Jharkhand</li> </ul>

EXTERNAL CIVIL SOCIETY

**DISPLACED FAMILIES COMMITMENT : IMPROVING THE QUALITY OF LIFE OF THE COMMUNITY**

CONCERNS	STAKEHOLDER ENGAGEMENT MECHANISM	PROGRESS IN 2014-15
<ul style="list-style-type: none"> <li>Resettlement and Rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>Tata Steel Parivar scheme</li> </ul>	 1041 families were resettled till the end of the reporting year under the Tata Steel Parivar Scheme, which meets the socio-economic and physiological needs of the displaced families through a seven-step process.

## MATERIAL ISSUE

# LEADERSHIP OVERSIGHT ON SUSTAINABILITY

## THE TATA DEFINITION OF SUSTAINABILITY

In a business context, sustainability is an approach that creates long-term stakeholder value by balancing economic, environmental and social performance, thereby improving the quality of life of the communities we serve globally and enhancing long-term stakeholder value.

“The key to a sustainable organisation is Corporate Governance”

- Mr Parvatheesam K,  
Company Secretary, Tata Steel Limited



The Board of Directors ('the Board') is at the core of the Company's corporate governance practice and oversees how the Management serves and protects the long-term interests of all its stakeholders. The Company believes that an active, well-informed and independent Board is necessary to ensure the highest standards of corporate governance.

### The governance structure and its composition

Tata Steel has a hybrid organizational setup. The Executive Chairman of Tata Sons, Mr Cyrus Mistry is the Non Executive Chairman of Tata Steel Limited. On

March 31, 2015, the Company had 12 Directors on its Board, of who six were independent.

### Setting the organization's purpose, values and strategy

The Tata Steel Board has adopted the Tata Group Guidelines on Board Effectiveness to help fulfil its corporate governance responsibility towards stakeholders. These guidelines ensure that the Board will have the necessary authority and processes in place to review and evaluate the Company's operations. Further, these guidelines allow the Board to make decisions independent of the Management.

At the strategic level, the Company embarked on a Scenario Planning exercise to envision the future, looking at economic, regulatory and stakeholder scenarios in order to develop the next vision and action plans. To drive the various aspects of sustainability in a more focused way, the Company put together consolidated governance mechanisms with clear demarcation of roles between the Board, its Committees and the Management.

## Committees of the Board, responsibilities and actions in 2014-15

In 2014-15, the Board re-named the then Investors' Grievance Committee as the Stakeholders' Relationship Committee. It also constituted a Corporate Social Responsibility (CSR) Committee to monitor the Corporate Social Responsibility Policy of the Company and the activities included in the policy.

Aside from pre-existing internal control and risk management processes, Tata Steel constituted a Risk Management Committee (RMC) in December 2014 for framing, implementing and monitoring the risk management policy of the Company.

The terms of reference of the Committee include overseeing key risks, including strategic, financial, operational and compliance risks; assisting the Board in framing, implementing and monitoring the risk management plan for the Company and reviewing and guiding the risk policy; and developing risk management policy and the risk management system/framework for the Company.

To have better focus on governance, the Company constituted a Management Committee viz., the Group Risk Review Committee to identify, assess, review and mitigate risks. This Committee has the primary responsibility of implementing the Risk Management Policy of the Company and achieving the stated objective of developing a risk intelligent culture that supports decision-making and helps improve Company performance.

In addition the Ethics & Compliance Committee as well as Safety, Health & Environment Committee monitor adherence to the Corporate Governance principles and evaluate its economic, environmental and social performance.

The Board of Directors have approved and adopted a policy on Related Party Transactions, which is available on the website of the Company.

The Nomination and Remuneration Committee works with the Board to determine the appropriate characteristics, skills and experience for the Board as a whole and its individual members with the objective of having a Board with diverse backgrounds and experience in business, government, education and public service.

The Company progressively implements programmes in line with its policies aimed at increasing gender diversity, providing greater amenities for contractor workforce, improving employee skills and enhancing employee productivity. In addition, its Affirmative Action Policy supports training aimed at benefits such as employment with the Company.

During the year the wage revision was successfully concluded and efforts to sensitise the workforce on Tata Values and Joint Consultations, promoted through targeted programmes.

**Stakeholder Inputs:** As a representative of the Board the Managing Director undertakes direct engagement with all stakeholders periodically. To improve communication and enhance the number of listening posts the Company has created more top-levels positions at multiple locations to act as listening posts.

## MATERIAL ISSUE

# PROMOTING ETHICAL BEHAVIOUR

**"We make the difference through:**

Our **CONDUCT**, by providing a safe working place, respecting the environment, caring for the communities and demonstrating high ethical standards."

- a goal enunciated by Tata Steel

The process of implementation of Tata Code of Conduct in the Company has been designated as Management of Business Ethics (MBE). Integrity, transparency and accountability are propagated and promoted through its four pillars: Leadership Engagement, Compliance Structure, Communication and Training and Measurement of Effectiveness

(Annual Report 2014-15 - Page 29).

The Board of Directors of the Company adopted the revised Tata Code of Conduct (TCoC 2015) emphasizing on Prevention of Insider Trading and the Code of Corporate Disclosure Practices (the Code) to be followed by Directors, Officers and others.

## In 2014-15 the key steps taken to promote ethical conduct were:

- Effective governance structure –Introduction of Apex Ethics Committee and Ethics Committee. The Committee meets on a monthly basis.
- Consequence Management Framework for Officers - ensuring uniform penal action across the organisation.
- Revised Gift Policy with inclusion of hospitality and travel. System for online declaration of gift
- Revised POSH -Prevention of Sexual Harassment policy with launch of web based training module.

Corruption is identified as an ethical concern under Reputational Risk in Tata Steel Risk Management Framework. In 2014-15 and 2013-14 100% of our business units were analysed for this risk category.

## Responsibilities of the Apex Ethics Committee

- The Committee deliberates and decides on policies related to Tata Code of Conduct (TCoC)
- Oversight over activities of Internal Complaint Committee (ICC) and ensures uniform deployment of processes across all locations
- Governance process for Tata Steel Group Companies
- The Committee also oversees all the Whistle Blower cases, if needed
- Reviews Annual Business Plan and other Senior/ Group Level Input for Corporate Ethics Department

## Vigil Mechanism

During the reporting year the Board approved the revised Vigil Mechanism. It provides a formal mechanism for all Directors, employees and vendors of the Company to approach the Ethics Counsellor/Chairman of the Audit Committee of the Board and make protective disclosures about the unethical behaviour, actual or suspected fraud or violation of the Tata Code of Conduct (TCoC). Under the Policy, every Director, employee or vendor of the Company has an assured access to the Ethics Counsellor/Chairman of the Audit Committee.

The Vigil Mechanism comprises three policies viz., the Whistle Blower Policy for Directors & Employees, Whistle Blower Policy for Vendors and Whistle Blower Reward & Recognition Policy for Employees.

## Values, principles, standards and norms of behaviour

### Ethical Roadmap based on the Tata Values and Culture

- Tata Code of Conduct

### Process of Implementation of the Tata Code of Conduct

- Management of Business Ethics

### Leadership Engagement

- Apex Ethics Committee (comprising the MD, GED and President)
- Ethics Committee (comprising Vice Presidents)

### Policies aimed at promoting Ethical Conduct

- Whistle Blower Policy
- Prevention of Sexual Harassment Policy

Whistle Blower Policy for Directors and Employees	An extension of the Tata Code of Conduct it requires every Director or employee to promptly report to the Management any actual or possible violation of the Code or any event wherein he or she becomes aware of that which could affect the business or reputation of the Company.
Whistle Blower Policy for Vendors	Provides protection to vendors from any victimisation or unfair trade practice by the Company
Whistle Blower Reward & Recognition Policy for Employees	This has been implemented in order to encourage employees to genuinely blow the whistle on any misconduct or unethical activity in the Company. The disclosures reported are addressed in the manner and within the time frames prescribed in the Whistle Blower Policy. Under the Policy, every Director, employee or vendor of the Company has an assured access to the Ethics Counsellor/Chairman of the Audit Committee.

## INTERNAL AND EXTERNAL MECHANISMS

### Training on ethical and lawful behaviour

<b>Internal Mechanisms – both classrooms and web-based</b>
Case study based discussions and session on Tata Values, Code of Conduct, POSH and Policies
Re-enforcement training for all employees and contract workers
Web based Training for officers on POSH
Annual Tata Steel India Group Companies Conclave
Information available via Company Website, social media, Intranet, Dialogues, MD Online, publications, posters and booklets

### Reporting concerns about unethical or unlawful behaviour

Internal Mechanisms	External Mechanisms
Report to the Departmental Ethics Counselor/ Ethics Counselor of the Company	Anonymous Third Party Helpline based in the UK
Report concerns to the Internal Complaint Committee	Submission of concerns via letters, emails, over telephone and through personal interaction
<b>New:</b> • Consequence Management Framework for Officers	

## Communication and training on anti-corruption policies and procedures

MBE Pillar	Focus Area	Progress in 2014-15
Leadership Engagement	Effective governance structure	Introduction of Apex Ethics Committee and Ethics Committee
Compliance Structure	Consequence Management Framework for Officers	Ensure uniform penal action across the organization
Communication & Training	Revised POSH Policy	Prevention of Sexual Harassment policy with launch of web based training module Case study based awareness sessions on business ethics Business Partners are sensitized on Tata Values, Tata Code of Conduct and channels of reporting
Measurement of Effectiveness	Revised Gift Policy with inclusion of hospitality and travel	System for online declaration of gift
The requirements of New Companies Act 2013 and expectations of Tata Steel Audit Committee were discussed at the Tata Steel India Group Companies		Ethics Conclave - 2015. It was attended by CEOs from all Tata Steel Group companies with their Ethics Counsellors.

## Concern Management System and Consequence Management Framework

The concerns are managed within the IT enabled Concern Management system which records all concerns received through various modes and sources.

## Confirmed incidents of corruption

Nature of incidents	Numbers
Conflict of Interest	2
Contract Management	7
Illegal Gratification	4
Misappropriation of Funds	6
Pilferage	7
Confirmed incidents where contracts of business partners were terminated or not renewed related to corruption	
Vendors	21
Contract Workers	3

## Confirmed incidents in which employees were dismissed or disciplined for corruption

Officers	21
Non Officers	4

A total of 353 stakeholder complaints were received in 2014-15. Of them 121 were not valid and 95 not applicable. All except 63 have been satisfactorily resolved during the year.

## Concerns received in 2014-15

Stakeholder category	Numbers
Anonymous	205
Contract Employee	18
Employee	87
Non-Employee	17
Vendor	26
<b>Total</b>	<b>353</b>

During the Financial Year 2014-15, the Company received 24 complaints of sexual harassment, of which 15 were appropriately dealt with. The remaining nine complaints are under investigation.

## MATERIAL ISSUE

# COMMUNITY ENGAGEMENT AND SATISFACTION

The Board of Directors (Board) adopted a CSR Policy on September 17, 2014 which is available on the Company's website (<http://www.tatasteel.com/corporate/pdf/CSR-Policy.pdf>)

The Company's long-term CSR objective is "to improve the quality of life of the communities we serve globally through long term value creation for all stakeholders", which is in alignment with the Tata group Core Purpose. Tata Steel's focus areas for developmental activities will be in urban as well as rural areas in the states in which it is located.

Tata Steel's social responsibility interventions are aligned with the focus initiatives of the Tata group - Skills, Water, Governance and Education. (*Annual Report - Directors' Report - Annexure 2: Annual Report on Corporate Social Responsibility Activities*)

## APPROACH AND PLAN

**The Company's CSR revolves around six guiding principles –**

- Impact,
- Partnerships,
- Affirmative Action,
- Volunteerism,
- Communication and Innovation

*(CSR Policy - Annexure B: Guiding Principles for CSR).*

The Company has clearly enunciated its intention to focus on marginalized communities and women. "While we will ensure that all communities benefit from our CSR activities, we would focus on those groups that are socially and economically marginalized. These would include women, girl children and scheduled castes and tribes."

**The Company's four thrust areas for social responsibility are:**

- Education,
- Health,
- Livelihoods
- Rural and Urban infrastructure

Besides, it also undertakes interventions in the areas of sports, disaster relief, environment and ethnicity etc.

The CSR Committee of the Board is responsible for governing and reviewing the CSR programmes of the Company from time to time. An Apex CSR Steering Committee chaired by the Managing Director and comprising the senior management team of Tata Steel does a quarterly review of the activities and monitors achievements against targets set at the beginning of the year.

**CRISP:** The aim of Corporate Services Division is to inculcate the virtues of Credibility-Responsiveness-Impact-Seamlessness-Performance in its daily working ethos. It has been encapsulated these values in the acronym CRISP.

The Corporate Social Responsibility team, a part of the Corporate Services Division, responded by creating initiative that represented these values in its activities. Projects and initiatives implemented in 2014-15 demonstrating these values include the 1000 Schools Project in Odisha and the pan-India tribal conclave "Samvaad".

### Focus areas for development activities

Tata Steel's focus areas for developmental activities are in urban as well as rural areas in the states in which it is located. Operational units of Tata Steel's CSR implementation arms cover ~ 800 villages across all locations, while urban locations including Jamshedpur

are served by departments and societies responsible for specific stakeholder groups such as Urban Services for less privileged urban youth.

*(The CSR Plan for 2014-15 is published in Annexure C of the Annual Report 2014-15)*

### Locations adjacent to Indigenous Communities



Tata Steel's operational area spreads across the states of Jharkhand, Odisha and a greenfield site planned at Chhattisgarh. All these states have a predominantly rural population, with 77% of Jharkhand's and 85% of Odisha's population living in villages. A significant part of their population, 26.2% in Jharkhand and 22.8% in Odisha, belong to socio-economically backward scheduled caste (SC) and scheduled tribe (ST) communities.



All Tata Steel's mines and collieries, with long existing leases spanning 90 years to over a century, are fully operational. While the mining locations have no small and artisanal mining sites adjacent to them Tata Steel's underground collieries at Jharia are located in a region where it is a concern.



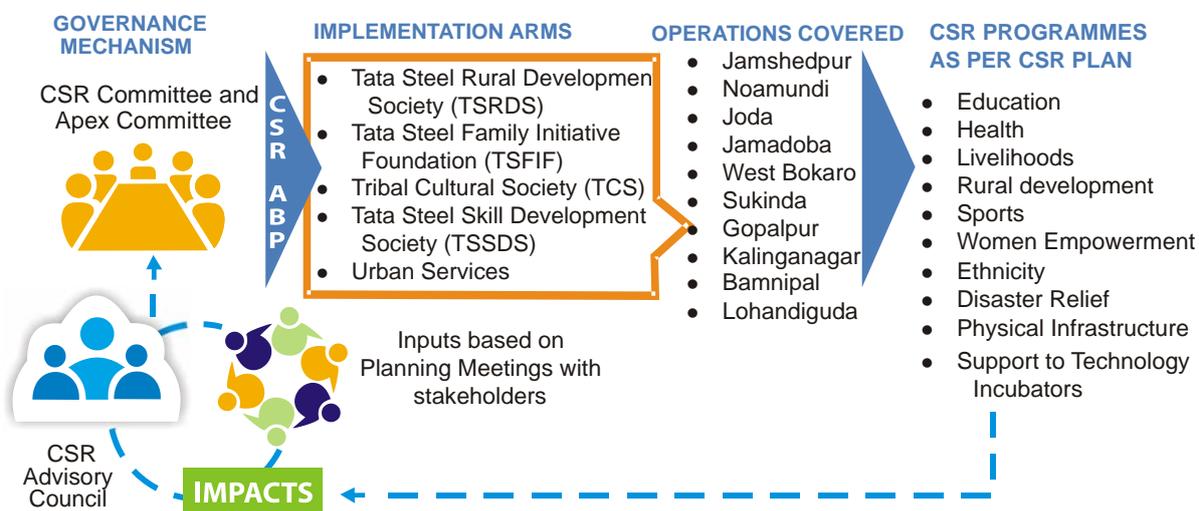
Progressive Mine Closure Plans are in place for all Tata Steel's mines. The Company's collieries are as mandated preparing closure plans. As required by regulation a Final Mine Closure Plan along with detail of Corpus Fund shall be submitted to the Ministry of Environment & Forests five years in advance of final mine closure for approval.



Sites operational in 2014-15 did not require relocation and resettlement of families. At Tata Steel's greenfield site at Kalinganagar 1041 families were resettled till the end of the reporting year under the Tata Steel Parivar Scheme.

Resettlement & Rehabilitation, an issue in the Focus category, it is not in this report as it is beyond the current boundary. Salient aspects have been highlighted on the third cover of the report.

### Process flow to include Stakeholder Inputs in CSR plans



## Local Area Development – a consultative process

In-built within Tata Steel Annual Planning processes is inclusion of stakeholder inputs. Heads of operations regularly engage with the community to share community development initiatives undertaken, those in progress as well as reasons for delay in others where support may be required from the local communities. The forum also helps develop the activity plan for the next year's CSR ABP, as a means to capturing the voice of the stakeholders at the grass root level.

At the forums the whole village jointly sits, discusses and plans the activities, listing their priorities. It facilitates equitable distribution of the resources among the various pockets of the community rather than skewed distribution of activities to the more powerful. Special effort is made to hear the voice of those from marginalized sections of society. Village Samities are also registered under the Societies Registration Act as

an NGO to facilitate in implementation of CSR activities to benefit via earnings from the activities implemented while creating assets for their villages.

Tata Steel had conducted a survey to assess the Human Development Index (HDI) in 230 villages on the periphery of its operations. Surveys are to commence around its mining locations in 2015-16.

Based on feedback received during community engagement programmes that cover 100% of Tata Steel's sites no negative feedback has been reported. A survey is planned in 2015-16 with support from Tata Institute of Social Sciences to assess impact.

In 2014-15 the Managing Director invited Village Heads to Jamshedpur for a meeting.

## IMPACTS DURING 2014-15

Sustainability Indicators	Initiatives	UoM	2012-13	2013-14	2014-15
Agriculture Development	2nd and 3rd Cropping	Acres	3177	5032	5510
	Increasing Paddy Yield	No of Farmers	250	2200	5948
	Wasteland Development	Acres	1015	1125	1339
Education	Adult Literacy (Nos.)	Nos.	13570	16824	15612
	Scholarship for SC/ST candidates		2477	3169	3460
	Pre-matric Coaching		5006	10372	13403
Health	Primary Healthcare	Nos.	372000	419000	485384
	Eye Care Services	Nos.	2890	5320	6198

## ACHIEVEMENTS IN 2014-15

- **The Economic Times Award for Corporate Citizen of the Year:** For promotion of development in areas of healthcare, education, sports and culture.
- **Samvaad – A Tribal Conclave –** A four-day pan-India tribal conclave in Jamshedpur to discuss tribal livelihood, culture etc.
- **1,000 Schools Project –** To improve quality of education in 1,000 Government schools in Odisha over five years.
- **Three Hospitals in Odisha –** Large hospitals in Gopalpur and Kalinganagar.
- **Adolescent Health –** Project RISHTA on adolescent health with more than 47,000 adolescents covered.
- **Scholarships –** Jyoti Fellowship awarded to meritorious SC/ST students.
- **Market Yard –** A common platform for farmers and traders to promote fairprice and market reach.
- **Skilling Youth –** Over 3,500 youth underwent skill development programmes in various industrial trades, health sector skills and hospitality training.
- **Youth Empowerment –** Grassroots level tournaments and leadership camps for youth engagement and empowerment
- **Newborn Health –** Project MANSI for maternal and newborn survival – also recognised as one of the best healthcare practices in the world.

- **Agriculture** – Livelihood opportunities provided to nearly 6,000 farmers.
- **Education** – An adult literacy programme, with over 15,000 adults made functionally literate.
- **Mid-day meal** – 49,000 students in 383

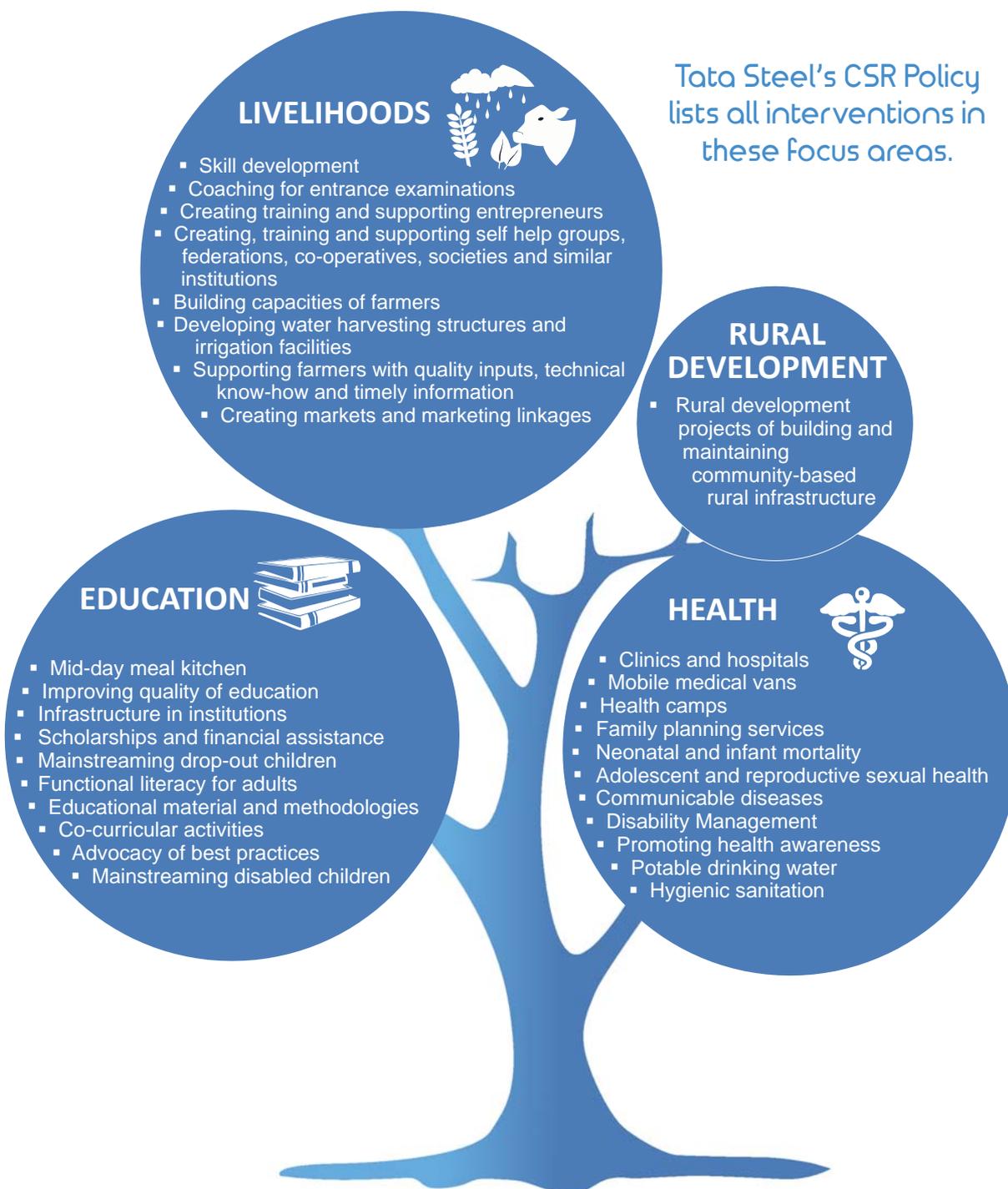
Government schools were covered under the mid-day meal scheme.

- **Renewable Energy** – Under the solar street light project, over 1,400 solar streetlights were installed in villages of Jharkhand and Odisha.

### SIGNIFICANT INDIRECT ECONOMIC IMPACTS

The Company's Guiding Principle for Corporate Social Responsibility (CSR) is an "improvement in the Human Development Index in Jharkhand, Odisha &

Chhattisgarh" through a focus on Education, Livelihood, Health and Rural infrastructure.



## LIVELIHOODS

### Skill Development and Training

In India, of the total working age population of 75 crores, 11.3 crores individuals are unemployed. Literacy levels in the state of Jharkhand, Odisha and Chhattisgarh are 66.41 percent, 72.99 percent and 70.28 percent against a National best of 94 percent in Kerala. The number of people below the poverty line in the three states is 36.96 percent, 32.59 percent and 39.93 percent.

Tata Steel therefore focusses on skill development to ensure that youth who have completed their matriculation can benefit from the employment opportunities being generated in the industrial sector in the region where it operates. The courses cover a range of trades, enabling youth from socially and economically challenged families to become gainfully employed.



### Partnerships with reputed organisations in setting up its skill development centres:

A Technical Institute (TSTI) was established at Jamshedpur in 2014 and a Hospitality Training Center at Berhampur started under the PPP Mode near Gopalpur, Odisha. The Chief Minister of Odisha, Shri Naveen Patnaik inaugurated the Berhampur Centre in January 2015.

#### Skill Development Centers:

- Set up at Duburi, Mantira, Gobarghati and Sansailo in Kalinganagar area, in collaboration with NIIT Foundation in 2015
- In collaboration with the Government of Odisha the Company set up another hospitality training centre in 2015 - 'PACE Skill Training Centre' at Seregada near Gopalpur.
- TSSDS Pvt ITI, Tamar and Tata Steel Technical Institute at Burmamines, Jamshedpur were set up in partnership with Nettur Technical Training Foundation to offer full time diploma courses.
- Skill Development Centre for hospitality set up with Indian Hotels and Pratham at Kolebira near Jamshedpur

#### Entrepreneurship Development Programme:

Initiated for people residing in villages on the periphery of the Gopalpur Project it is run in collaboration with Entrepreneurship Development Institute of India (EDII), an Ahmedabad-based internationally acknowledged institute engaged in entrepreneurship education, research and training.

More than 200 girls from left-wing extremist areas are trained on health sector skills at various institutes across India. In addition to Tata Steel, the Company's subsidiaries and associates also have skill development institutes or support such courses.

## AGRICULTURAL PRODUCTIVITY

Over 90% of the total cultivated area in Jharkhand and around 75% of the land area in Odisha is unirrigated.

- Nearly 6,000 farmers have adopted the SRI method to improve paddy cultivation due to efforts of Tata Steel. The average yield per acre of farmers using the SRI method is nearly 2.5 tonnes.
- Farmers are also encouraged to increase the cropping intensity by increasing areas under second and third crops as a result of which over 4,500 acres of agriculture land has been brought under second and third crop coverage.
- Cashew cultivation now covers more than 1,300 acres of wasteland as part of a development initiative.

### Ponds for Irrigation

Tata Steel focuses on bringing large areas of land under irrigation by developing new water harvesting structures and renovating the non-functional irrigation systems on private land, community land and even wastelands. Village ponds are one such water harvesting structure aggressively promoted by Tata Steel.

**Empowering Farmers – mKrishi:** Tata Steel has replicated its successful steel auction portal for farmers. Prevailing market rates of vegetables in Balrampur and Sakchi mandis are texted to 300 farmers' linked via mKrishi on their mobiles. This information allows them to negotiate with traders for the best price for their produce.

## EDUCATION

Tata Steel's interventions in education span the entire schooling cycle - from elementary education to high school, and later via scholarships for professional courses. The objective of the interventions at the primary level are meant to improve students' reading, writing and numeric skills, those in middle and higher classes focus on strengthening their science and mathematics skills. These interventions are implemented in alignment with government programmes.

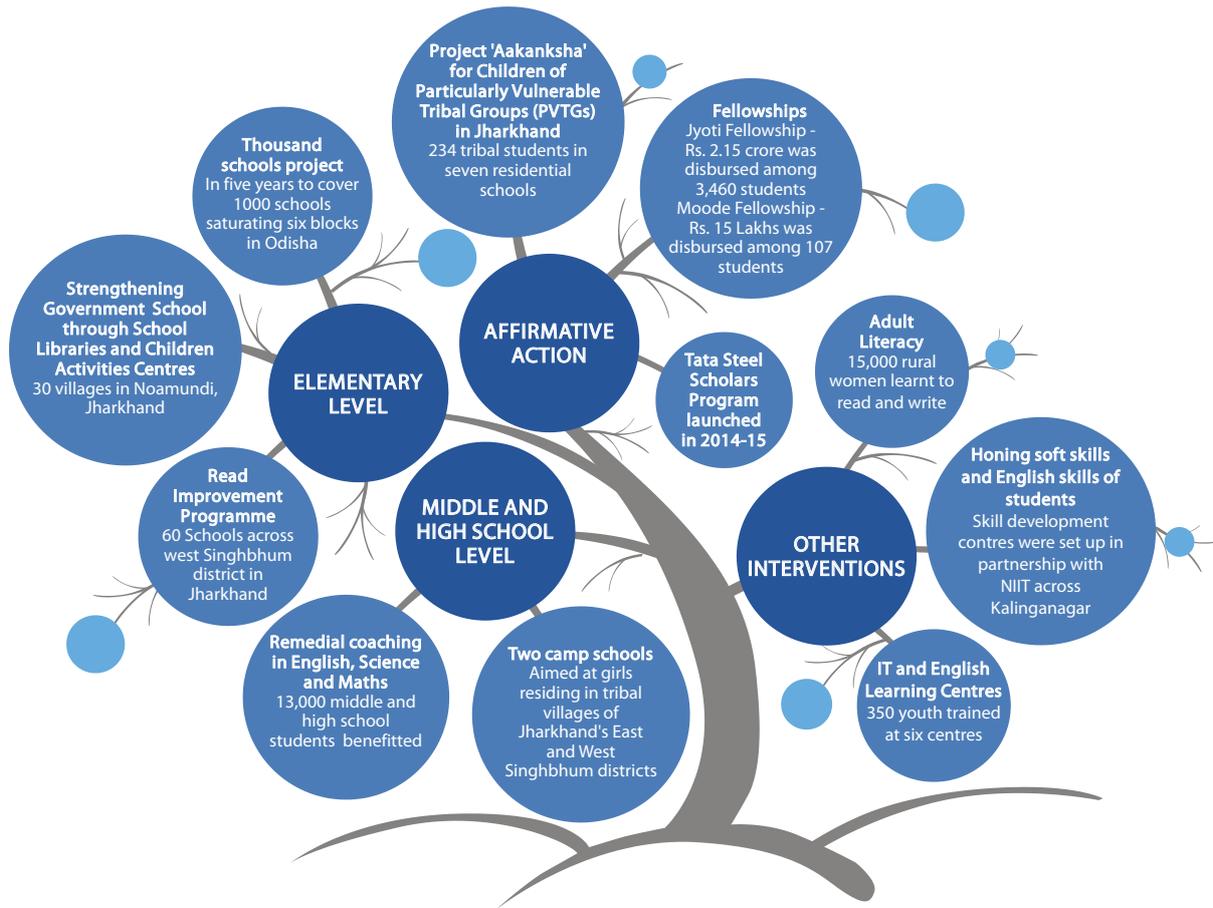
- The Company has facilitated the construction of more than 500 irrigation structures, including lift irrigation, ponds, water harvesting structures etc.

**Market support for farmers:** A common platform for both buyers and sellers was created in 2014, which has resulted in better price realisations for farmers. It serves as a procurement, storage and transporting hub for the produce of farmers in two blocks of East Singhbhum, Jharkhand. In the maiden year of operations, over 3,000 tonnes of vegetables were traded, with a turnover of Rs. 3 crores through the farmers' cooperative. Nearly 1,300 farmers of 38 villages in the two blocks district manage the market.

It works with community-based institutions, empowering them to undertake these water harvesting projects themselves to foster a sense of ownership. Tata Steel successfully excavated as many as 366 ponds by engaging with nine community-based institutions.



## Interventions for education and empowerment



### ELEMENTARY LEVEL

**Thousand Schools Project:** The 'Thousand Schools Project' was launched in Odisha to improve the standard of education in government schools. Over a five-year period, the project will cover 1,000 schools, saturating six blocks of Odisha across Jajpur, Keonjhar and Sundargarh districts. In the first year 90 schools were covered.

The project is being implemented in partnership with ASPIRE, a Delhi-based NGO. A huge capacity building exercise, including staff orientation, training of teachers and youth, and training and exposure visits of SMCs and members of Panchayati Raj Institutions (PRIs) have been undertaken.

The project has established a Learning Enrichment Programme (LEP) in 40 schools, which commenced with a baseline assessment of children, after effective teaching methods were introduced, availability of sufficient teaching-learning materials in classrooms ensured, school libraries set up and an effective

academic monitoring mechanism ensured for high quality outcomes.

#### Strengthening Government Schools through School Libraries and Children Activity Centres:

Initiated in 30 villages of Noamundi as a pilot project in 2014, in partnership with Eklavya, Bhopal, the programme aims at improving the quality of education in government schools through quality books and activity-based classroom learning. If successful, the programme will be scaled up across West Singhbhum.

**Read Improvement Programme:** Reading and mathematical abilities of students in government primary schools requires urgent attention. Tata Steel along with Pratham has undertaken a project to improve mathematics and reading skills of government school students in Classes III, IV and V. The pilot phase of this project will cover 60 schools across West Singhbhum's four administrative blocks. It will be scaled up after an impact assessment.

## MIDDLE AND HIGH SCHOOL LEVEL

**Camp School Programme:** Girls who dropped out of school are mainstreamed through a residential school education programme. Those between the ages of nine to 14 years, who never attended school or dropped out, undergo a nine-month residential bridge course to prepare to be mainstreamed into Class V in government schools. In 2014-15, 200 girls studied at the two camp schools.

**Preparatory Coaching:** A nine-month preparatory programme helps economically less privileged government school students fare better in the

## AFFIRMATIVE ACTION

**Residential schooling:** Under Project 'Aakanksha' education, often considered a distant dream by children of poverty-stricken tribes, is becoming a reality. Launched in 2012 the project, run at residential schools, addresses needs of children from Particularly Vulnerable Tribal Groups (PVTGs) in Jharkhand - Paharia, Sabars and Bihors.

**Academic Scholarships:** Tata Steel encourages meritorious students from economically and socially challenged families to realise their academic aspiration by offering twin fellowships - Jyoti Fellowship and Moodie Fellowship. In 2014-15, over 3,460 meritorious students from the socially challenged communities of Jharkhand, Chhattisgarh and Odisha earned Jyoti Fellowships, amounting to a disbursement of Rs. 2.15 crores. The fellowship is based on a merit test.

## Coaching Programmes:

**School dropouts:** An eight-month programme prepares underprivileged SC/ST dropouts to appear for matriculation examination and join the academic mainstream.

**Engineering Aspirants:** Through a tie-up with a premier coaching institute students are sponsored to attend classes that help them take entrance examinations for engineering institutes. Tata Steel

## HEALTH

The health care needs of local communities are addressed through a range of preventive, promotive and curative services in all villages within the periphery

secondary school board examinations. In the absence of an adequate number of trained teachers, rural students are unable to clear the board examinations, especially in subjects like English, Science and Mathematics. Over 13,000 students of Class VIII, IX and X attended remedial coaching classes in 2014-15.

*The nine-month remedial coaching programme has achieved remarkable results. Of 2,999 students, who appeared in the 2014-15 Class X board examination in Jharkhand, nearly 88%, i.e. 2,642 students successfully cleared it. A total of 945 students secured a first division in the matriculation examination.*

The Moodie Fellowship has supported students from three districts of Jharkhand and three of West Bengal pursuing MBBS, M.Tech, MCA, graduation in microbiology and biotechnology. Since 2006-07 Mr Finlay Moodie and Mrs Sheila Ann Moodie, have provided funds for the scholarships. In 2014-15, a total of Rs 15 lakhs was disbursed among 107 students.

**Tata Steel Scholars Program:** Launched in 2014-15, it funds higher studies of academically bright but economically weak students pursuing professional courses at some of the country's best institutions. It covers their admission fee, tuition, food and board, travel, medical expenses as well as a stipend. In its first year alone, it has enabled 53 students from SC/ST communities to achieve their goals.

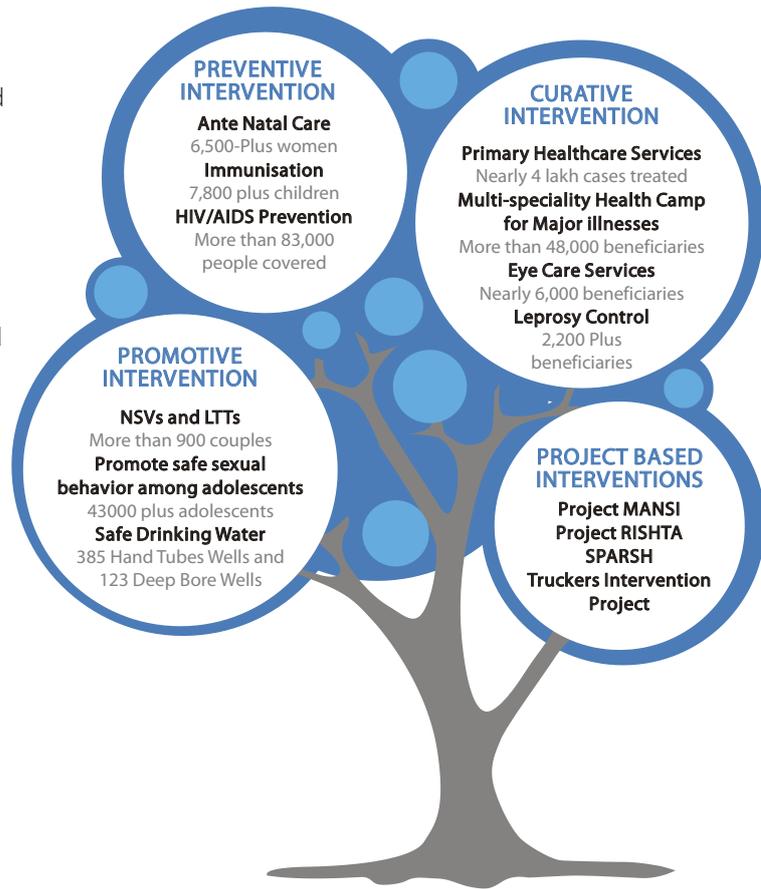
sponsors the expense for coaching. In 2014-15, 31 engineering aspirants were enrolled.

**Competitive Examinations:** Coaching programmes have been customised to prepare students for recruitment examinations for the banking, railways and other government/non-government sectors, with the coaching expenses sponsored by Tata Steel.

of Tata Steel's operational locations in Jharkhand, Odisha and Chhattisgarh.

As the first line of response Tata Steel provides primary healthcare to the villagers. The Company has focussed on maternal and child health as a means to ensure the long-term well being of the community.

Periodic interventions reach specialised healthcare services to the communities such as eye camps, treatment of malaria and tuberculosis, potable water programmes, awareness programmes on sanitation and adolescent reproductive health and sensitisation of truckers and female sex workers on HIV/AIDS and its prevention.



## Maternal and Newborn Survival Initiative (MANSI) Project

Project MANSI has since 2009 been implemented by Tata Steel Rural Development Society in 167 villages of Seraikela block of Jharkhand's Seraikela-Kharsawan district under a public-private with the American India Foundation (AIF) and the Department of Health and Family Welfare, Government of

Jharkhand. SEARCH, an organisation based in Gadchiroli, Maharashtra provided technical guidance for the project.

### Goals of MANSI:

- Reduce the mortality of children and infants
- Promote home-based maternal newborn and child care through Sahiyas (village level volunteers)

appointed under the National Rural Health Mission in Jharkhand) to check child and infant deaths

### Impact:

- Reduction in neonatal mortality rate by 46%
- Reduction in infant mortality rate by 39%

### MANSI: Major Activities in FY 2014-15

- Special refresher training for Sahiyas of Seraikela block on Home-Based Maternal Newborn and Child Care (HBMNCC)
- Cross-learning visit of select District Program Coordinator (DPC), Block Training Team members (BTTs) and Sahiya Saathis from all 24 districts of Jharkhand
- Approval of Mission Director, National Health Mission Jharkhand to scale up MANSI in all the blocks of Seraikela Kharsawan district as well as Noamundi and Manoharpur blocks of West Singhbhum district
- Approval of Chief District Medical Officer, Keonjhar, Odisha for implementing MANSI in Joda and Harichandanpur blocks of Keonjhar district
- Orientation sessions on MANSI for District Health Authorities of Seraikela Kharsawan and West Singhbhum districts
- Orientation sessions on MANSI for Panchayati Raj Institution (PRI) members of all blocks of Seraikela Kharsawan district and Noamundi block of West Singhbhum district

## GRI INDEX

REPORTING PERIOD : 01.04.2014 to 31.03.2015

IN ACCORDANCE : Comprehensive

ASSURANCE BY : DNVGL

## Part-1 GENERAL STANDARD DISCLOSURE

General Standard Disclosure	Page Number & Reference	Identified Omissions	Reasons for Omission	Explanation
G4-1	<b>PAGE 2</b> : Managing Director's Statement - <b>A NEW CHALLENGING JOURNEY</b>			
G4-2	<b>PAGE 8: SUSTAINED VALUE CREATION FOR ALL STAKEHOLDERS</b>			
G4-3	<b>PAGE 17: ABOUT TATA STEEL</b>			
G4-4	<b>PAGE 18:</b> • Automotive & Special Products • Industrial Products, Projects & Exports • Branded Products, Retail & Solutions			
G4-5	<b>PAGE 17:</b> Mumbai			
G4-6	<b>PAGE 17:</b> Annual Report 2014-15 - Major Plant Locations – Page 136			
G4-7	<b>PAGE 17:</b> Public Limited			
G4-8	<b>PAGE 17:</b> 98% of steel value chain products sold in domestic markets			
G4-9	<b>Page 18:</b> Total number of employees: 36957 Net sales: 9.33 Mn TPA/ Rs 10,102 crores, Total capitalization: 28,198 (Debt) and 3,246 (Equity)			
G4-10	<b>PAGE 19</b>			
G4-11	<b>PAGE 18:</b> ~86% of the total workforce			
G4-12	<b>PAGE 20</b>			
G4-13	<b>PAGE 21:</b> Enriching the Product Portfolio with downstream facilities			
G4-14	Policies and Standards/ Tata Code of Conduct <b>PAGE 20:</b> Risk Management Committee			
G4-15	<b>PAGE 21 :</b> • WSA Sustainability Charter • Principles of the UN Global Compact • SA 8000			
G4-16	<b>PAGE 21:</b> Memberships of associations and national or international advocacy organizations			
G4-17	Annual Report 2014-15 – page 196-200 <b>PAGE 6: ABOUT THIS REPORT</b>			
G4-18	<b>PAGE 6: ABOUT THIS REPORT:</b> Boundary			
G4-19	<b>PAGE 7:</b> 11 material aspects identified were in the Focus group. Issues also material to Tata Steel are the WSA sustainability indicators, UNGC principles and Tata group mandates			
G4-20	<b>PAGE 6-7 :</b> <b>Mining Locations:</b> Ore Mines & Quarries, Collieries, FAMD <b>Metals Locations:</b> Steel Manufacturing Works, Tubes and Wires Division <b>Non Material entities:</b> Trading, Fabrication and Manufacturing: Agrico & Bearings Divisions and Tata Growth Shop			
G4-21	<b>PAGE 6/21:</b> Tata Steel considers sustainability impacts from the 'cradle to the gate' and beyond.			
G4-22	None			
G4-23	None			
<b>STAKEHOLDER ENGAGEMENT – Material Issue</b>				
G4-24	<b>PAGE 66-70: STAKEHOLDER IDENTIFICATION AND MANAGEMENT</b> - Internal & External			
G4-25	<b>PAGE 7 &amp; 66:</b> Materiality Exercise			

G4-26	<b>PAGE 66:</b> Approach to stakeholder engagement			
G4-27	<b>PAGES 68-70:</b> Response to the concerns of stakeholders			
<b>REPORT PROFILE</b>				
G4-28	<b>PAGE 6:</b> Financial year 2014-15			
G4-29	<b>PAGE 6:</b> Financial year 2013-14			
G4-30	<b>PAGE 6:</b> Annual			
G4-31	<b>BACK COVER :</b> <a href="mailto:sustainability@tatasteel.com">sustainability@tatasteel.com</a>			
G4-32	<b>PAGES 85-91:</b> In - Accordance - Comprehensive <b>PAGES 92 TO 95:</b> INDEPENDENT ASSURANCE STATEMENT			
G4-33	<b>PAGE 6: DNVGL</b>			
<b>GOVERNANCE STRUCTURE AND AUTHORITY - Material Issue</b>				
G4-34	<b>PAGES 71-72: Annual Report -</b> Corporate Governance Report Page 123 - Size and Composition of the Board			
G4-35	<b>Annual Report -</b> page 125-129 - 1. Board Meetings 2. Board Committees			
G4-36	<b>Annual Report -</b> page 125			
G4-37	<b>Annual Report -</b> 41/ 48/ 110			
G4-38	<b>Annual Report -</b> Pages: 41/ 52-55/122/124/129			
G4-39	<b>PAGE 71:</b> Annual Report - Corporate Governance Report Page 123 - Non Executive			
G4-40	<b>Annual Report -</b> Pages: 41/54/124/281-282			
G4-41	<b>Annual Report -</b> Corporate Governance Report - Page 43			
G4-42	<b>Annual Report -</b> Directors' Report - Pages 39/128			
<b>HIGHEST GOVERNANCE BODY'S COMPETENCIES AND PERFORMANCE EVALUATION</b>				
G4-43	<b>Annual Report -</b> Directors' Report - Page 41			
G4-44	<b>Annual Report -</b> Page 41/ 53/126			
<b>HIGHEST GOVERNANCE BODY'S ROLE IN RISK MANAGEMENT</b>				
G4-45	<b>Annual Report -</b> Directors' Report – pages 42-43 and page 126			
G4-46	<b>Annual Report - Management Discussion and Analysis –</b> pages 121 & 126			
<b>HIGHEST GOVERNANCE BODY'S ROLE IN SUSTAINABILITY REPORTING</b>				
G4-47	<b>Annual Report -</b> Page 126 - Risk Management Committee			
G4-48	Managing Director and all process owners			
<b>HIGHEST GOVERNANCE BODY'S ROLE IN EVALUATING ECONOMIC, ENVIRONMENTAL AND SOCIAL PERFORMANCE</b>				
G4-49	<b>Annual Report -</b> Page 30 – Operations and Performance – India			
G4-50	<b>Annual Report -</b> Page 48-52			
<b>REMUNERATION AND INCENTIVES</b>				
G4-51	<b>Annual Report -</b> Page 40–41/Directors' Report - Pages 46-47/56/124			
G4-52	<b>Annual Report -</b> Page 56: Directors' Report - Annexure 4			
G4-53	<b>Annual Report -</b> Page 56: Directors' Report - Annexure 4			
G4-54	<b>Annual Report -</b> Page 40 – 41 - Disclosures pertaining to remuneration and other details			
G4-55	<b>Annual Report -</b> Page 40 – 41/Notice – Page 271 Items 7&8			
<b>ETHICS AND INTEGRITY – Material Issue</b>				
G4-56	<b>PAGE 73-75: PROMOTING ETHICAL BEHAVIOUR</b> <b>PAGE 73:</b> Adopted the revised Tata Code of Conduct 2015 <b>Annual Report 2014-15 -</b> Page 29			
G4-57	<b>PAGE 74:</b> Anonymous Third Party Helpline based in the UK			
G4-58	<b>PAGE 74:</b> Vigil Mechanism			

## Part-2 SPECIFIC STANDARD DISCLOSURES - Economic Performance

ECONOMIC PERFORMANCE – Material Issue under MMSD				
G4-DMA	Annual Report 2014-15 – Chairman’s Statement – Page 2 <b>PAGE 22-23: ECONOMIC PERFORMANCE</b>			
G4-EC1	<b>PAGE 23</b>			
G4-EC2	<b>PAGE 24</b>			
G4-EC3	<b>PAGE 23</b>			
G4-EC4	<b>PAGE 27:</b> None			
INDIRECT ECONOMIC IMPACTS AND COMMUNITY DEVELOPMENT – Material Issue				
G4-DMA	<b>Page 26/76:</b> Sharing Economic Benefits			
G4-EC7	<b>PAGE 76:</b> 2.66% of PAT or Rs 171.46 crores			
G4-EC8	<b>PAGE 79: Annual Report</b> – BRR - 2.66 % of PAT is invested in community projects / Annexure 2 –Annual Report on Corporate Social Responsibility Activities Page 48			
Part-2 SPECIFIC STANDARD DISCLOSURES – Environment				
MATERIALS – Material Issue				
G4-DMA	<b>PAGE 32: IN SEARCH OF THE NEW HIGH GROUND IN RESOURCE CONSUMPTION</b>			
G4-EN1	<b>PAGE 34</b>			
MM (♻️) / G4-EN2	<b>PAGE 33</b>			
ENERGY – Material Issue				
G4-DMA	<b>PAGE 35-37 : ENERGY EFFICIENCY AND ABATEMENT OF GHG EMISSIONS</b>			
G4-EN3	<b>PAGE 37:</b> Reported for Steel Works and other locations			
G4-EN4	<b>PAGE 40:</b> Upstream & Downstream Transportation as well as Business Travel reported			
G4-EN5	<b>PAGE 38:</b> 25.17 GJ/tcs			
G4-EN6	<b>PAGE 38</b>			
WATER – Material Issue				
G4-DMA	<b>PAGE 41: ENVIRONMENT PERFORMANCE MANAGEMENT</b>			
G4-EN8	<b>PAGE 44</b>			
G4-EN9	<b>PAGE 44:</b> None			
G4-EN10	<b>PAGE 44</b>			
BIODIVERSITY – Material Issue under MMSS				
G4-DMA	<b>PAGE 48:</b> Quantification survey of biodiversity at the 100% of Tata Steel Raw Material locations			
G4- EN11	<b>PAGE 48:</b> Material for Raw Material (mining) locations			
G4-EN12	<b>PAGE 48:</b> Tata Steel’s current operations in India are not located in or around any of the identified Biodiversity Hotspot or Protected Areas. However, the Company has voluntarily instituted a Biodiversity Study in 100% of its Raw Material location.			
MM1 (♻️)	<b>PAGE 48</b>			
MM2 (♻️)	<b>PAGE 48:</b> Tata Steel's current operations in India are not located in or around any of the identified Biodiversity Hotspot or Protected Areas			
G4-EN 13	<b>PAGE 48:</b> Tata Steel’s current operations in India are not located in or around any of the identified Biodiversity Hotspot or Protected Areas. However, the Company has voluntarily instituted a Biodiversity Study in 100% of its Raw Material location.			
G4-EN14	<b>PAGE 49</b>			

EMISSIONS – Material Issue				
G4-DMA + MM Commentary	<b>PAGE 35: ENERGY EFFICIENCY AND ABATEMENT OF GHG EMISSIONS / PAGE 41: ENVIRONMENT PERFORMANCE MANAGEMENT</b>			
G4-EN15	<b>PAGE 39:</b> 22.22 Million tCO <sub>2</sub> E for Indian Operations			
G4-EN16	<b>PAGE 39</b>			
G4-EN17	<b>PAGE 39</b>			
G4-EN18	<b>PAGE 39</b>			
G4-EN19	<b>PAGE 40</b>			
G4-EN20	<b>PAGE 40</b>			
G4-EN21 + MM Commentary	<b>PAGE 46</b>			
EFFLUENTS AND WASTE – Material Issue				
G4-DMA + MM Commentary	<b>PAGE 41: ENVIRONMENT PERFORMANCE MANAGEMENT</b>			
G4-EN22	<b>PAGE 45</b>			
G4-EN23	<b>PAGE 42</b>			
G4-EN24	<b>No - significant spills</b>			
MM 3 (🚰)	<b>PAGE 42</b>			
G4-EN25	None			
G4-EN26	<b>PAGE 46:</b> The quality of the effluent conformed to prescribed limits.			
PRODUCTS & SERVICES – Material Issue				
G4-DMA	<b>PAGE 33/36:</b> Material on the basis of product lifecycle			
G4-EN27	<b>PAGE 33/36:</b> Reported under BAT & GHG emissions reductions			
G4-EN28	Not applicable			
TRANSPORT				
G4-DMA	<b>PAGE 36</b>			
G4-EN30	<b>PAGE 40</b>			
OVERALL				
G4-DMA	<b>PAGE 41/46</b>			
G4-EN31	<b>PAGE 47</b>			
Part-2 SPECIFIC STANDARD DISCLOSURES – Labour				
EMPLOYMENT				
G4-DMA + MM Commentary	<b>PAGE 59</b>			
G4-LA1	<b>PAGE 59:</b> Total: 36957; Officers – 6102; Non Officers – 30855; Contractual employees - 201; Contractors Employees – Jamshedpur – 31333; RMD – 9215/ New hires - 2617			
G4-LA2	Total Benefits – Rs 1060.1 crores			
G4-LA3	20; all were still employed and continued to work after 12 months			
LABOUR MANAGEMENT RELATIONS				
G4-DMA + MM Commentary	<b>PAGE 59</b>			
G4-LA4	<b>PAGE 59</b>			
MM4 (🚰)				

OCCUPATIONAL HEALTH AND SAFETY – Material Issue				
G4-DMA + MM Commentary	<b>PAGE 51-56: SAFETY AND HEALTH OF PEOPLE</b>			
G4-LA5	<b>PAGE 53</b>			
G4-LA6 + MM Commentary	<b>PAGE 54</b>			
G4-LA7	<b>PAGE 54</b>			
G4-LA8	<b>PAGE 53</b>			
TRAINING AND EDUCATION – Material Issue				
G4-DMA	<b>PAGE 57: CAPACITY BUILDING OF EMPLOYEES</b>			
G4-LA9	<b>PAGE 58:</b> 39.1 hours / employee / year			
G4-LA10	Not Material			
G4-LA11	<b>PAGE 57-58</b>			
Part-2 SPECIFIC STANDARD DISCLOSURES – Human Rights				
INVESTMENT				
G4-DMA	<b>PAGE 60: Affirmative Action And Rights Of People</b> / Zero tolerance for discrimination and violations of the Tata Code of Conduct, Tata values, SA 8000 and Safety standards			
G4-HR1	100%			
G4-HR2	Cumulatively ~80% of Tata Steel's units are covered under SA 8000 and received regular training on the Tata Code of Conduct			
NON DISCRIMINATION				
G4-DMA	<b>PAGE 60-61/83: AFFIRMATIVE ACTION AND RIGHTS OF PEOPLE</b>			
G4-HR3	G4-SO5 - No case of discrimination reported			
FREEDOM OF ASSOCIATION & COLLECTIVE BARGAINING				
G4-DMA	Tata Steel's three-tier Joint Departmental Council has ensured participative management, freedom of association and collective bargaining at Tata Steel since 1956.			
G4-HR4	Assessed under SA 8000 audits			
INDIGENOUS RIGHTS				
G4-DMA + MM Commentary	Tata Steel's policies, including the Affirmative Action policy, embed among other respect for Indigenous Rights in all aspects of its business			
G4-HR8/ SO2/ MM5 (🚗)	<b>PAGE 77:</b> None			
Part-2 SPECIFIC STANDARD DISCLOSURES – Society				
LOCAL COMMUNITIES				
G4-DMA	<b>PAGE 76: COMMUNITY ENGAGEMENT AND SATISFACTION</b>			
G4-SO1	<b>PAGE 77-84</b>			
MM6 (🚗)	<b>PAGE 70/77:</b> Three public hearings were held during the year for land lease issues			
MM7 (🚗)	Public hearing cover all sustainability issues raised by the community			
MM8 (🚗)	<b>PAGE 77:</b> near the Jharia collieries			
MM9 (🚗)	<b>PAGE 77:</b> 1041 families in Kalinganagar			
MM10 (🚗)	<b>PAGE 77:</b> Progressive Mine Closure Plans are in place for all Tata Steel's mines			

ANTI CORRUPTION – Material Issue				
G4-DMA	<b>PAGE 73-75:</b> Zero tolerance to corruption and violations of the Tata Code of Conduct			
G4-SO3	100% of our business units were analysed for corruption			
G4-SO4	<b>PAGE 74:</b> Communication and training on anti-corruption policies and procedures under Management of Business Ethics			
G4-SO5	<b>PAGE 75:</b> 26 actions taken including dismissals			
Part-2 SPECIFIC STANDARD DISCLOSURES – Product Responsibility				
CUSTOMER HEALTH AND SAFETY				
G4-DMA	<b>PAGE 28-29: RESOURCE FOOTPRINT (LIFE CYCLE ASSESSMENT)</b>			
G4-PR1	<b>PAGE 30</b>			
G4-PR2	None			
PRODUCT AND SERVICE LABELLING				
G4-DMA	<b>PAGE 30</b>			
G4-PR3	<b>PAGE 30:</b> compliance to BIS standards			
G4-PR4	None			
G4-PR5	<b>PAGE 24</b>			

## INDEPENDENT ASSURANCE STATEMENT

### Introduction

DNV GL represented by DNV GL Business Assurance India Private Limited ('DNV GL') has been commissioned by the management of Tata Steel Limited ('Tata Steel' or 'the Company') to carry out an independent assurance engagement on the Company's Sustainability Report 2014 -15 ('the Report') in its printed format. The Report is prepared based on the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines for its 'in accordance' – Comprehensive option and this assurance engagement (Type 2, Moderate Level) has been conducted against the requirements of AccountAbility's AA1000 Assurance Standard 2008 ((AA1000AS (2008)) and DNV's Verification Protocol for Sustainability Reporting ('VeriSustain' - available on request from [www.dnvgl.com](http://www.dnvgl.com)). The verification was conducted during November '2015 to January ' 2016, for the year of activities covered in the Report i.e. 1st April'2014 to 31st March' 2015.

The intended users of this Assurance Statement are the management of the Company. The management of the Company is responsible for all information provided in the Report as well as the processes for collecting, analysing and reporting the information presented in the printed reports. Our responsibility regarding this verification is of the sustainability performance disclosed in the Report only and in accordance with the scope of work agreed with the management of the Company. The assurance engagement is based on the assumption that the data and information provided to us is complete and true. We expressly disclaim any liability or co-responsibility for any decision of a person or entity would make, based on this assurance statement.

### Scope, Boundary and Limitations of Assurance

The scope of assurance includes the review of Economic, Environmental and Social Disclosures in the Report. In particular, the assurance engagement included:

- The verification of the qualitative and quantitative information on sustainability performance disclosed in the report covering Economic, Environmental and Social performance of the activities undertaken by the Company over the Reporting period 1st April'2014 to 31st March'2015 and based on the GRI G4 and the applicable Mining and Metal Sector Disclosure (MMSD);
- Review of the policies, initiatives, practices and performance described in the Report including external references made in the Report;
- Evaluation of the AccountAbility principles and specified performance information, described below, for a Type 2, Moderate Level of assurance, in accordance with the requirements of AA1000AS (2008) detailed below;
  - Information related to the Company's sustainability issues, responses, performance data, case studies and underlying systems for the management of such information and data;
  - Information relating to the Company's materiality assessment and stakeholder engagement processes;
- Evaluation of the disclosed General and Specific Standard Disclosures for 'in accordance'-Comprehensive reporting requirements covering the systems, and the processes which Company has in place for adherence to the Reporting Principles as set out in GRI G4;
- Confirmation of Sustainability Disclosures related to GRI G4 – 'in accordance'-Comprehensive as declared by the Company.

The reporting aspect boundary is based on the internal and external materiality assessment predominantly covering the operations from Tata Steel's assets in India i.e. the Company's Steel Business Unit, Raw Materials operations, and three profit centres - Ferro Alloys and Minerals Division, Tubes Division and Wires Division as set out in the Report and excludes sustainability performance of Company's supply chain partners i.e. Trading, Fabrication and Manufacturing, Agrico and Bearings Divisions, and Tata Growth Shop. During the assurance process, we did not come across limitations to the scope of the agreed assurance engagement. The reported data on economic performance is based on audited financial statements by the Company's statutory auditors. No external stakeholders were interviewed as part of this assurance engagement.

### Verification Methodology

This assurance engagement was planned and carried out in accordance with AA1000AS (2008) and VeriSustain. The Report has been evaluated against the principles of Inclusivity, Materiality and Responsiveness as set out in AA1000AS (2008) and the Reliability of specified sustainability performance information, as required for a Type 2, moderate level assurance engagement, and adherence to the additional principles of Completeness and Neutrality as set out in VeriSustain.

During the assurance engagement, we adopted a risk based approach, i.e. we concentrated our verification efforts on the issues

of high material relevance to Company's operations and its key stakeholders. As part of verification, we visited the Marketing and Sales Office at Tata Centre, Kolkata, Steel Works and Tata Tubes Division in Jamshedpur, Sukinda Chromite Mines in Odisha, and Tata Corporate office and Wires Division in Mumbai

As part of the engagement, we have verified the statements and claims made in the Report. In doing so, we have:

- Reviewed the Company's approach to stakeholder engagement and its materiality determination process;
- Verified the sustainability-related statements and claims made in the Report and assessed the robustness of the data management system, data accuracy, information flow and controls;
- Examined and reviewed documents, data and other information made available by the Company;
- Conducted in-person interviews with top and senior management team of Company and other representatives, including data owners and decision-makers from different divisions and functions of the Company;
- Performed sample-based reviews of the mechanisms for implementing the Company's sustainability related policies, as described in the Report;
- Performed sample-based checks of the processes for generating, gathering and managing the quantitative data and qualitative information included in the Report.

## Conclusions

In our opinion, based on the scope of this assurance engagement, the disclosures on sustainability performance reported in the Report along with the referenced information provides a fair representation of the material aspects, related strategies, disclosure on management approach and performance indicators and meets the general content and quality requirements of GRI G4 i.e.,

- **General Standard Disclosures:** The reported information on General Standard Disclosures generally meets the disclosure requirements for the 'in accordance' – Comprehensive option.
- **Specific Standard Disclosures:** The reported information related to Specific Standard Disclosures generally meets the disclosure requirements for the 'in accordance' – Comprehensive option and the reasons for omissions are explained within the Report, covering the Generic Disclosures on Management approach (DMA) and Performance Indicators for identified material aspects as below:

### Economic

- Economic Performance – G4- EC1;
- Indirect Economic Impacts – G4-EC7;

### Environmental

- Materials – G4-EN1 & EN2;
- Energy – G4-EN3,4,5 & 6;
- Water – G4- EN8 ,9 & 10;
- Biodiversity – G4-EN11 to 14; MM1 & MM2;
- Emissions – G4-EN15 to 21;
- Effluents and Waste – G4-EN22 to 26; MM3;
- Products and Services – G4-EN27 & EN28;
- Compliance – G4- EN29;
- Transport – G4-EN30

### Social

#### Labour Practices and Decent Work

- Employment – G4 - LA1, 2 & 3;
- Labour / Management Relations – G4- LA4 & MM4;
- Occupational Health and Safety – G4-LA5 to 8;
- Training and Education – G4-LA 9 to 11;
- Labour Practice Grievance Mechanisms – G4- LA16;

#### Society

- Local Communities –G4-SO1 & SO2; MM 6 to 10;

## Product Responsibility

- Customer Health and Safety - G4-PR1 & 2;
- Product and Service Labeling – G4-PR3 ,4 & 5;
- Materials Stewardship;
- Compliance – G4-PR9

We have evaluated the Report's adherence to the following principles on a scale of '**Good**,' '**Acceptable**' and '**Needs Improvement**':

### AA1000AS (2008) Principles

**Inclusivity:** The stakeholder identification and engagement process includes engagement with key stakeholders to identify key sustainability challenges and concerns through different channels and the process is documented. The material issues emerging from the stakeholder engagement were collected and prioritized, and the results are fairly reflected in the Report. In our opinion, the level at which the Report adheres to this principle is '**Good**'.

**Materiality:** The materiality determination process was validated based on inputs from key stakeholders including global and peer sector report, company policies, value chain impacts of operations, business risks and and Senior Management at Tata Steel. The Report focusses its disclosures on key material aspects at a macro level and has not missed out any known material aspects. The management of Tata Steel has established internal process for monitoring and management on a continual basis for their long term organisational sustainability. In our opinion, the level at which the Report adheres to this principle is '**Acceptable**'.

**Responsiveness:** We consider that the Report has fairly disclosed the strategies and management approach related to identified key sustainability aspects and challenges considering the overall sustainability context of the Mining & Metal Sector Disclosures for its operations. However responses with respect to sustainability performance of supply chain are limited. In our opinion, the level at which the Report adheres to this principle is '**Acceptable**'.

**Reliability:** The majority of data and information verified at the Corporate Office and operational sites were found to be accurate. Some of the data inaccuracies identified during the verification process were found to be attributable to transcription, interpretation and aggregation errors and the errors have been communicated for correction. Hence in accordance with (AA1000AS (2008) requirements for a Type 2, moderate level assurance engagement, we conclude that the specified sustainability data and information presented in the Report is generally acceptable. In our opinion, the level at which the Report adheres to this principle is '**Good**'.

### Specific Evaluation of the information on Sustainability Performances

We consider the methodology and process for gathering information developed by the Company for its sustainability performance reporting to be appropriate and the qualitative and quantitative data include in the Report was found to be identifiable and traceable; the personnel responsible were able to demonstrate the origin and interpretation of the data and its reliability. We observed that the Report presents a faithful description of the Company's sustainability activities.

### Additional parameters as per DNV GL's Protocol

**Completeness:** The Report has fairly reported the General and Specific Standard Disclosures including the management approach, monitoring systems and sustainability performances indicators against GRI G4 requirements corresponding to the 'in accordance' – Comprehensive option. The reporting boundary is limited to operational activities and excludes Supply chain i.e. Trading, Fabrication and Manufacturing, Agrico and Bearings Divisions, and Tata Growth Shop. The Company has confirmed that the systems for aggregating data for the disclosures are being developed and set the internal time lines for disclosures related to future projects. In our opinion, the level at which the Report adheres to this principle is '**Acceptable**'.

**Neutrality:** The disclosures related to sustainability issues and performances are reported in a neutral tone, in terms of content and presentation. In our opinion, the level at which the Report adheres to this principle is '**Good**'.

### Opportunities for Improvement

The following is an excerpt from the observations and opportunities for improvement reported to the management of the Company and are not considered for drawing our conclusions on the Report; however they are generally consistent with the management's objectives:

- Future reports may identify material aspects and expand Aspect boundary to include all activities including key supply chain partners, and disclose the sustainability performance and impacts of ongoing projects and key supply chain partners.
- A system of periodic communication regarding sustainability parameters of individual businesses may be evolved to disclose key sustainability parameters for the benefit of stakeholders to arrive at informed decisions.
- The future report may further expand disclosure of management approach (DMA) and consider disclosure on Aspect-specific DMA related to material aspects of Mining and Metal Sector and strategic responses to material issues and stakeholder expectations.

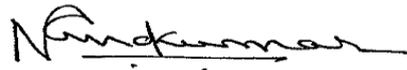
### DNV GL's Competence and Independence

DNV GL is a global provider of sustainability services, with qualified environmental and social assurance specialists working in over 100 countries. While we did conduct other third party audits work with Tata Steel in 2014-15, in our judgment this does not compromise the independence or impartiality of our assurance engagement or associated findings, conclusions and recommendations. We were not involved in the preparation of any statements or data included in the Report, with the exception of this Assurance Statement. We maintain complete impartiality toward any people interviewed.

#### For DNV GL Business Assurance India Private Limited



**Ramesh Rajamani**  
Project Manager,  
DNV GL Business Assurance India Private Limited, India.



**Vadakepatth Nandkumar**  
Regional Sustainability Manager,  
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DNV GL Business Assurance India Private Limited, India.

New Delhi , India, 29th January' 2016.



# Social Investment - the differentiator in Kalinganagar

A 'New Life' – a 'New Hope' was the commitment given by Tata Steel through the Tata Steel Parivar Resettlement & Rehabilitation Plan. The principle purpose was to improve the quality of life of the project displaced families at Kalinganagar.



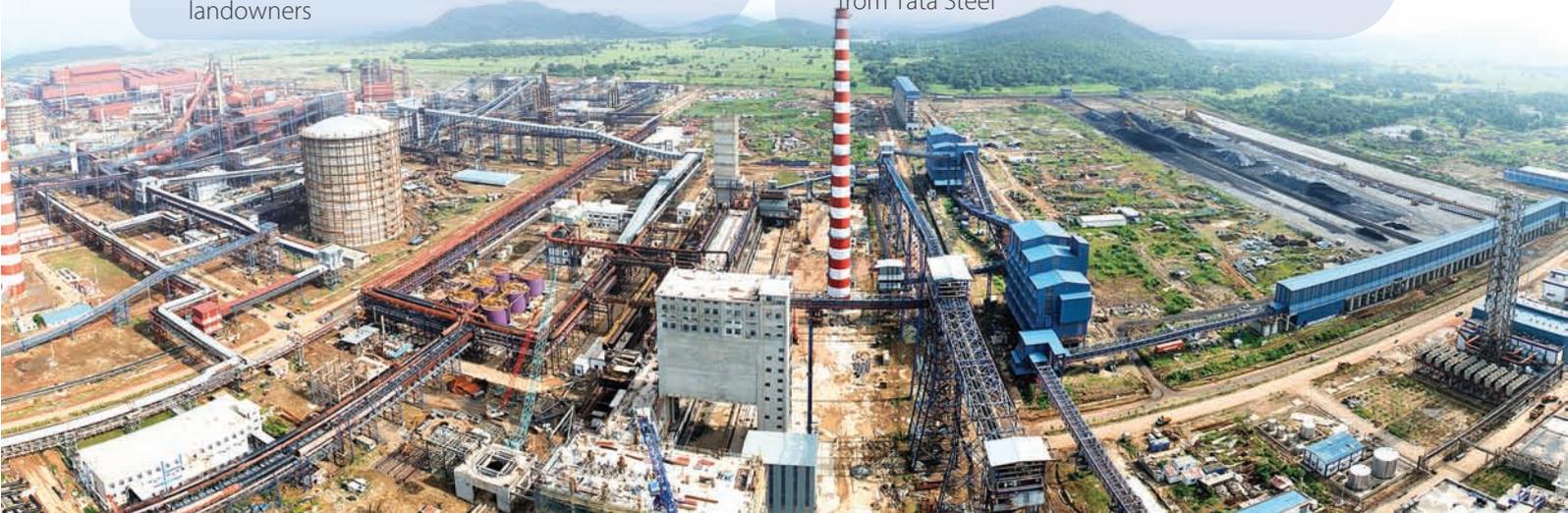
## Going beyond the statutes to R&R Plus

Tata Steel has gone beyond the statutory rehabilitation requirements to extend the following benefits to the displaced families under its Tata Parivar Plan:

- Employment to one member of all families or to a nominee of the family
- One-time assistance of Rs 299,000 in lieu of employment
- Welcome Package when families shift for the first time
- Transit Camp Accommodation/Rented house facilities
- Each displaced family is supplied monthly grocery
- Rs 100,000 additional amount paid to each of the displaced families as House Building Assistance over and above R&R entitlement
- Maintenance Allowance
- Transportation Allowance of Rs 3,000 in addition to providing vehicles for free transportation of belongings
- Displaced Persons (DPs)/DP Nominees/Children of DPs are given Tata Steel Parivar Scholarship
- Each Tata Steel Parivar rehabilitation colony has all civic amenities
- All the members of Tata Steel Parivar have round-the-clock access to free medical services including medicines. Serious cases are referred to specialised hospitals at Bhubaneswar for treatment at the Company's cost
- A rehabilitation assistance of Rs 4 lakh per acre of private land acquired is being given to the landowners

## A snapshot of the lives of the families before and after the project:

- Prior to the Tata Steel Parivar most members lived in thatched houses today they are owners of two to three storied concrete homes
- They have gone from having no electricity connection or medical facility to 24x7 access to electricity and medical facilities at the R&R colonies
- Children have access to free education facilities from once dropping out of school
- All families who depended only on rain-fed agriculture have multiple sources of income including:
  - Jobs with Tata Steel
  - Contacts for work at Tata Steel
  - Alternate income for women through SHGs
  - Business opportunities such as shops as growth takes place
- The families enjoy food security through the year as a result of their grocery maintenance allowance from Tata Steel



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