



Sustainable Steel

Sustainability Report 2011-12 & 2012-13



Our Vision

We will be a respected global entrepreneur, through the power of positive action.

Our Mission

We are committed to innovative growth, through our personal passion, reinforced by a professional mind-set, creating value for all those we touch

Our Spirit

The Essar Group has changed significantly in recent years and continues to evolve, to keep pace with the changing times. We have undertaken a sustainable journey of transformation by foraying into new international markets, and exploring new business areas in a bid to keep our entrepreneurial spirit alive, and to continue growing.

Core Values



Message from CEO and MD – Essar Steel India



It is a matter of pride and pleasure for me to present third sustainability report for Essar Steel India Limited. This report is a balanced representation of our commitment and performance towards the three pillars of sustainability, namely economic, environmental and social aspects. Global economic scenario in general and infrastructure scenario in India remains depressed. Steel industry is facing a tough challenge in ensuring raw material availability and the prolonged uncertainty in this regard has only added to testing situation.

Since our inception in Hazira two decades ago, we have travelled a great journey to where we are today; a wholly integrated steel plant capable of converting iron ore to the widest variety of flat steel products in India. The nation has emerged as the fourth largest economy globally with a high growth rate and has also improved its global ranking in terms of per capita income. Yet the fact remains that its per capita income continues to be quite low. Addressing this is perhaps the most visible challenge.

Year 2011-12 was historic for the organization as the capacity expansion project at Hazira was completed bringing the capacity to 10 MTPA and making Hazira facility fourth largest single location steelmaking facility in the world. In 2012-13 Essar Steel India became the largest single location flat steel producer in the country.

2011-13 period has accorded us mixed results in terms of overall operations. Essar Steel India recorded its highest annual production during the period which was highlighted by the commissioning of two Corex modules and second Conarc furnace. We also were able to operationalize Pulverized Coal Injection and Top Recovery Turbine in the Blast Furnace as well as 19 MW waste heat recovery power plant allowing us to utilize Blast Furnace gas. Transportation of slurry through 267 km pipeline from beneficiation plant in Kirandul to pellet plant in Vizag remains suspended since October 2011 due to damage caused. Various measures to mitigate the adverse impacts such as making alternate arrangements of movement of Iron ore through rakes and purchase of iron ore fines, pellets as well as lump ore from other sources.

Future outlook for steel demand is cautious due to the markets' continued financial uncertainty and volatility. For us steelmakers, a major cause of volatility is the cost of raw materials, which has been exacerbated by the change from annual to shorter-term price contracts. Shortages in supply have enabled suppliers of iron ore and metallurgical coal to reengineer the pricing mechanisms.

Embedding sustainability in our business strategy is a key priority and we have given priority to infrastructure growth and innovative technologies to reduce the CO₂ emissions in steel production. With this, we firmly poised towards setting new benchmarks in terms of energy and water usage in our operations and being recognised for our commitment to meet environmental challenges.

Essar Steel India has adopted a cautious approach towards such risks and due diligence of these factors has allowed us to prepare ourselves. With Blast Furnace and Corex joining the previous DRI (Direct Reduced Iron) technology, we now have greater flexibility in usage of raw materials. Additionally, the byproduct gases generated by these two new units can suitably replace natural gas at several places, thereby reducing the exposure to pricing related risks.

Safety consciousness is ingrained among the workforce and top management at the sprawling Essar Steel Hazira plant. We have adopted a zero tolerance policy towards unsafe behaviour. The over-arching importance of safety at the plant has resulted in Essar Steel Hazira emerging as one of the safest steel plants in the world and winning a series of awards over the years acknowledging its track record.

Responsible citizenship is part of the DNA at Essar Steel India and creating value for our stakeholders is an important part of the overall business strategy. In our constant endeavour to serve the communities at all our operational sites we have channelled our efforts in the area of education, healthcare, sustainable livelihood, women empowerment, infrastructure development and environmental conservation. Our commitment is to expand the scope of our initiatives and involve greater employee contribution.

We believe that our employees are the biggest assets and a vibrant community is our strength in testing times. The period of 2011-13 has been of great importance in our sustainability journey and we have made a transition enabling us to march towards a sustainable future along with our stakeholders and the society.

At Essar Steel, we are committed to fulfilling our responsibilities towards society and creating a positive impact through our activities. We believe that our employees, community, partners and customers are an integral part of Essar family and it is our endeavour to enrich their lives. Through our relentless efforts we have been able to forge long-lasting relationship with communities around our facilities with focus being on education, healthcare and environment.

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Steel at a Glance

Year 2012 outlook for steel demand is cautious due to the market's continued financial uncertainty and volatility. The global steel sector is expected to grow, although at a lower rate. Growth will be seen in two different speeds, with emerging economies expected to perform much better than developed countries.

Global Scenario

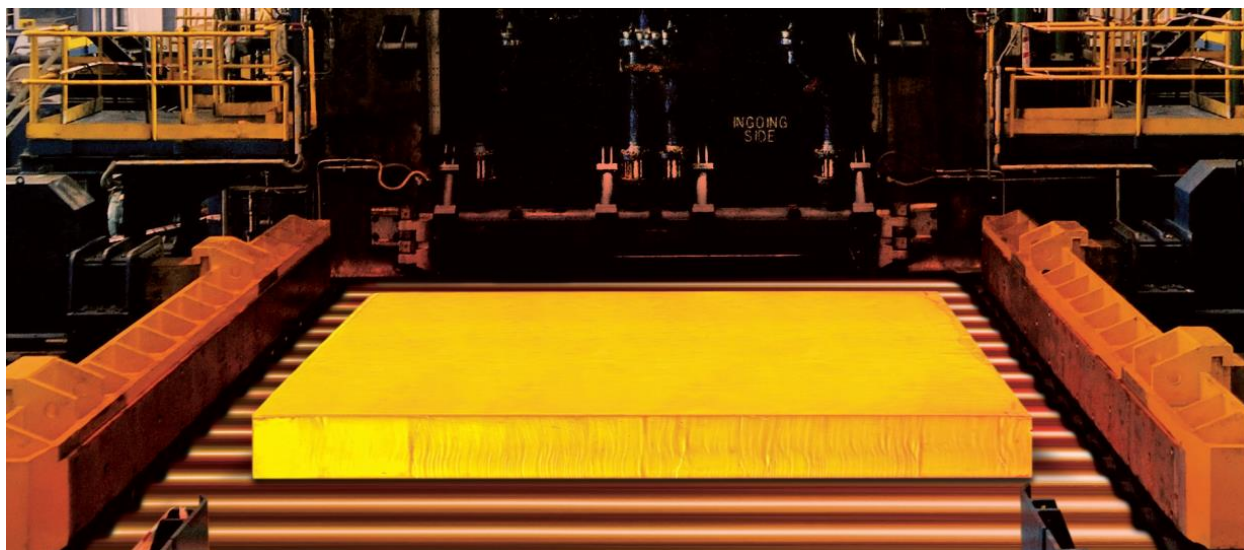
The sector is only expected to grow by 2.5% in Europe and around 5.0% in the North America Free Trade Agreement region. Chinese steel production and consumption will continue to outperform the rest of the world. The steel sectors in other emerging countries, such as India, Russia, Brazil and South Korea, will continue to grow, although the uncertain economic outlook may have some effect on these economies.



Indian Perspective

In India, however, demand for steel from the domestic sector is creating a positive outlook as India is expected to perform better than most.

There had been a substantial decline in the industrial activity and this has hampered the steel consumption in India. However year 2011-12 was an important year for Essar Steel with many facilities coming online in this year. Total sales of Flat Products have been improved by a whopping 28% to 4.3 million tonnes.



India has become the 4th largest producer of crude steel in the world as against the 8th position in 2003 and is expected to become the 2nd largest producer of crude steel in the world by 2015. Although it continues to maintain its lead position as the world's largest producer of direct reduced iron (DRI) or sponge iron.

The intended steel capacity build up in the country is likely to result in an investment of Rs. 5-10 lakh crore by 2020. The steel sector contributes to nearly 2% of the GDP and employs over 5 lakh people. Capacity for crude steel production expanded from 51.17 million tonnes per annum (mtpa) in 2005-06 to 78 mtpa in 2010-11. Crude steel production grew at 8% annually (Compounded annual growth rate – CAGR) from 46.46 million tonnes in 2005-06 to 69.57 million tonnes in 2010-11. Production of finished steels stood at 66.01 million tonnes during 2010-11 as against 46.57 million tonnes in 2005-06, an average annual CAGR growth of 7%. Consumption of finished steel has grown at a CAGR of 9.6% during last 6 years.

Export of finished steel during 2010-11 stood at 3.46 million tonnes while imports during 2010-11 stood at 6.79 million tonnes. Considering the high growth expected in near future and also more customized products in the steel industry, it is expected that the sector will experience a rejuvenated growth.

Key Highlights

- Successful commissioning of the two Corex modules in Sep '11 and Dec '11 helping to reduce production cost by the replacement of external natural gas with Corex gas throughout the integrated steel complex.
- Successful commissioning of the second Conarc furnace in Nov '11.
- Commissioning of Air Separation Units to provide oxygen and nitrogen to various plant facilities.
- Record ramp-up of production in both Corex and Conarc, setting world benchmarks.
- Commissioning of Pulverised Coal Injection (PCI) and Top Recovery Turbine (TRT) facilities in the Blast Furnace lowering the fuel and power costs in the blast furnace.
- Awards throughout the year in various segments such as safety, environment, quality excellence and customer relationships.



About Essar Steel India

Essar Steel India Limited (ESIL), headquartered at Mumbai, is the largest steel producer in western India with a current capacity of 10.0 MTPA at Hazira (Gujarat). The Indian operations also include an 8 MTPA beneficiation plant at Bailadilla (Chhattisgarh) and an 8 MTPA pellet complex at Visakhapatnam. Additionally, Essar Steel has recently commissioned a 6 MTPA pellet plant - the first phase of 12 MTPA pellet plant at Paradeep, Odisha. This makes Essar Steel India the largest pellet producer in India.



The complete 12 MTPA pellet production facility will be ready by 2013. We are also in process of completing the 12 MTPA beneficiation plant at Dabuna, Odisha and a 253 kilometer slurry pipeline between Dabuna and Paradeep.

Essar Steel India has the largest steel processing and distribution facilities in India with an aggregate annual capacity of 4 million Tons from its facilities in Pune (Maharashtra), Hazira (Gujarat), Bahadurgarh (National Capital Region), Chennai (Tamil Nadu) and Bhuj (Gujarat). The Company also operates Hyper-marts and Express Marts at various locations across India.

Essar Steel Hazira Complex

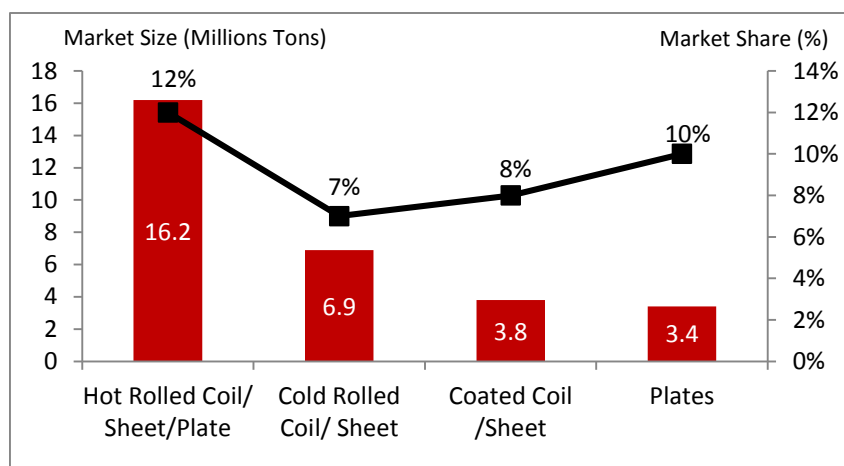
The Essar Steel complex at Hazira houses the world's largest gas-based single location sponge iron plant with a capacity of 6.8 MTPA. The complex also has the steel plant of 10.0 MTPA capacity, hot rolling mill of 3.6 MTPA capacity, a 1.4 MTPA cold rolling mill complex, a 1.5 MTPA plate mill (the largest in India); a 0.6 MTPA pipe mill with internal and external coating facilities of up to 2 million square meters annually. The steel complex has a complete infrastructure setup including an all-weather captive port to handle 30 MTPA cargo, a full-fledged road dispatch centre



and other auxiliary facilities for plant operations. We have a downstream capability hub at Pune (Maharashtra), which houses a 0.6 MTPA cold rolling plant, a 0.5 MTPA galvanizing plant, a 0.4 MTPA colour coating plant, and a 0.65 MTPA pickling line.

Products and Services

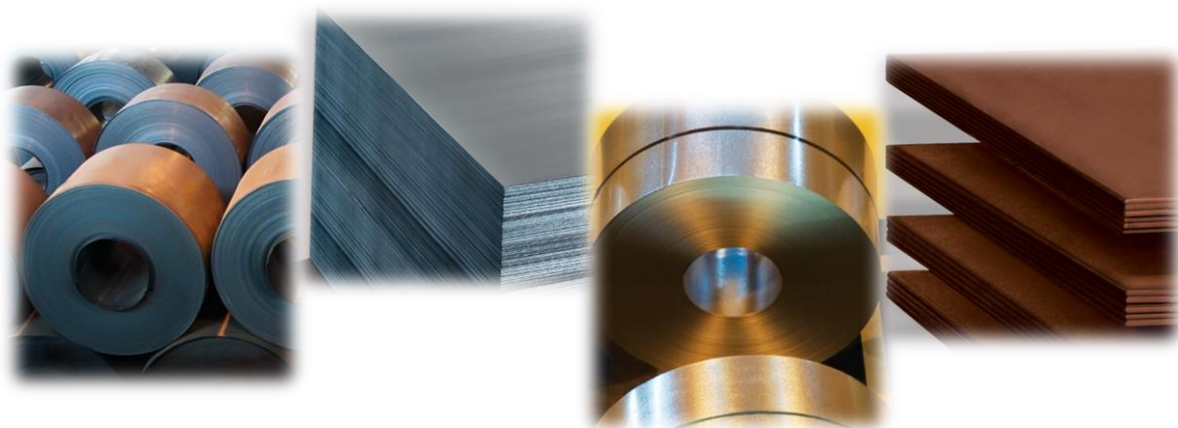
Essar Steel India produces highly customized value-added products catering to a large variety of product segments. EStIL produces a wide range of high-quality flat steel products including hot-rolled, cold-rolled, galvanized, coated, plate and pipe steel, as well as semi-finished slabs at our steel production facilities. We have realized our strategic objective



of becoming a vertically integrated steel producer in India with significant control of the value chain from secured raw materials to product distribution. Essar Steel India has established a comprehensive integrated management system along with ISO 9001, ISO 14001 and OHSAS 18001 certification.

Essar Steel India's product portfolio includes Hot Rolled Coil/Sheet/Plates, Cold Rolled Coil/Sheets, Galvanized Coil/Sheets, Pre-Painted Galvanized Coil/Sheets and Plate Mill Plates. Essar Steel India caters to Automotive, Construction, General Engineering, Energy, Electrical, Metals, and White Goods Segments. Customers are either contracted for 3 months or of Spot nature. Customers range from large Cold Rollers, Auto majors, Construction majors to small and medium size industries.

Production (MT)	2011-12	2012-13
Hot Metal (Blast Furnace)	1329828	1654950
Hot Metal (Corex)	465289.8	1010314
HBI/DRI (MOD 1~6)	3337694	2282267
Sinter	1188920	1360513
Liquid Steel (EAF)	2699320	1434240
Liquid Steel (Conarc)	1678991	2803882
Slab (Caster)	2658058	1400876
Slab (INI Caster)	412895.1	551813.7
Slab (CSP Caster)	1275420	2211850
HRC (HSM)	2404965	
HRC (HSM) (Excluding Jobwork)		1494221
HRC (HSM) (Jobwork)		42023.97
HRC (CSP)	1226717	2199450



Essar Steel India has been exporting to various destination right from the start of commercial production in 1995. Essar Steel India has always endeavoured to maintain the export volumes in all market conditions and has been the largest exporters of the flat products in India for the past several years.

Essar Steel India has a unique distinction to be present in all markets such as EU, Middle East, NAFTA Region, ASEAN and African countries.

Main Product	Key Segment
Hot Rolled Coil/ Sheet/Plate	Metals, Gen Engg. Construction Energy
Cold Rolled Coil/ Sheet	Auto, Electrical, Gen Engg.
Coated Coil /Sheet	Construction, White Goods, Gen Engg.
Plates	Construction, Energy, Gen Engg.

Essar Steel India has the following distinct strengths:

- A fully integrated flat carbon steel manufacturer – from iron ore to ready-to-market products
- Wide acceptance in highly discerning consumer sectors such as automotive, white goods, construction, engineering and shipbuilding
- 2nd lowest labour cost for steel production globally
- Fourth largest single location flat steel producer globally
- Among the best in the country in terms of sustainability indicators
- Strategically located site with dedicated infrastructure
- Only steel company to have Midrex, Corex and BF iron making technologies all at a single location.
- By-product utilization leading to energy conservation e.g. Corex gas used in production of HBI/DRI
- Logistical advantage from integrated infrastructure including all weather port with a cargo handling capacity of 30 MTPA
- Largest capacity of Service Centre's and Hyper-marts serving the retail segment in strategic locations across India.
- Strong group sponsorship and access to Synergistic partners

Strategy Management

Strategic management is an all-encompassing activity that includes formulation of strategic plans to achieve objectives and goals, their deployment, monitoring and review. The feedback obtained from the review and evaluation is used for prioritizing and revisiting the strategies. Corporate plans of the company are prepared with medium term to long term perspectives.

The company's core strategy on manufacturing, product and markets is derived from the unique features of the plant. Some of them are –

- 10 MTPA single location steel producer
- Largest single location flat steel maker in India
- World's largest site for HBI/DRI production
- Installation of state of the art steelmaking and rolling technology
- Among the best in the country in terms of sustainability indicators
- Strategically located site with dedicated infrastructure

Innovative Growth

In line with the values of entrepreneurial orientation and positive action, Essar Steel India has been a pioneer in technology adoption. Hazira plant is the only one in the world to have Midrex, Corex and Blast Furnace all at a single site. This diversity in technology is evident in all stages of integrated steel production. The adoption of Corex is especially illuminating on how the value of positive action is reflected in the company's strategy.



The innovative growth message is clearly reflected in the expansion strategy of the plant from 4.6 to 10 MTPA. While most steel companies would have added blast furnaces and bottom oxygen furnaces in their capacity expansion phases, Essar Steel India has added three iron making technologies (Midrex, Corex and Blast Furnace), a modern steel making technology (Conarc) and a rather new Compact Strip Production (CSP) technology.

Innovative growth strategy does not stop at the plant expansion stage but extends to the product offering and target markets. Essar Steel India has traditionally been a flat steel maker. However, to fully capture the flat steel market, Essar Steel India further expanded its product basket by in-house development and by adding a plate mill to offer plate mill plates with complete size and grade capability. The plate mill was designed to produce the most advanced grade of plates including normalized and quenched and tempered plates.



Similarly, while Essar Steel India has the advantage of being close to the steel market in India (West and North India) compared to other steel companies, it has further explored and developed new markets to sell its products (e.g. Middle East and Africa).

Plant Strategy:

The strategy of the plant derives directly out of the strategy laid out for the business. The operating strategy emerges from the Annual Business Plan document. The operating strategy is classified into three domains.

- **Focus on efficient operations**

As Essar Steel India is highly diversified in manufacturing capability, the resulting operating setup is very complex. In such a scenario, it is especially important to devise ways how to run the most optimum operations possible. In the multitude of operating units at every stage of steel production, running a unit at its full capacity is emphasized. For example, if external constraints limit the iron ore input to the iron making furnace, the plant strategy would be to shut down some low efficiency units and run the high efficiency units to the maximum. This is in contrast to running all units at partial utilization, which would result in lower efficiency of overall operations.

- **Focus on cost reduction**

To achieve the cost targets laid out for the plant, a two pronged strategy is used –

Improvement in operational parameters through continuous improvement – Operational parameters are in a continuous upward improvement journey. This journey is facilitated by the Essar Manufacturing Excellence (EME) that provides the structure for improvement. Tools of Six Sigma such as “Black Belt” and “Green Belt” Projects, “Quality Circle” and “Sujhav” are used to bring out incremental improvements. These projects are reviewed regularly through qualified consultants and an inter-departmental competition is run to encourage participation and involvement.

Improvement through breakthrough innovation – Improvement areas are identified that will bring big savings in cost and specific qualified teams are created to bring out an innovation breakthrough.



The team members are freed of their day to day responsibilities and are asked to work exclusively on the assigned problem. They are also empowered to try different approaches for resolution. One such innovation is Coal briquetting. Corex coal fines are a by-product of the Corex process. These coal fines are a waste and have to be sold in the market.

- **Focus on enabling services for sustaining growth**

The plant realizes that its objectives cannot be met unless an enabling strategy is in place for improving efficiency and alignment of support services to the core manufacturing setup. Hence a special focus is given on constantly improving the functions of these services. Steel Hazira Management Committee (SHMC) is focused on strategizing the functions of services. SHMC comprises of senior executives of all plant and service functions. Each service periodically brings out a suggestion scheme for improvement which is then discussed in SHMC for member suggestions and after modification, approved for implementation.

Sustainability Approach & Report Profile

Sustainability reporting is one of the key elements of sustainability management for Essar Steel India and plays an important role in its mission to create value for the stakeholders and resolve risks and threats to the business in the terms of long-term economic growth, environment and ecological conservation and societal engagement. The Essar Sustainability Policy, is integrated with its economic, social and environmental objectives and aligned with the company's Vision to "be a respected global entrepreneur, through the power of positive action".



Essar Sustainability Framework

We have adopted international practices in our reporting strategy and the report for year 2011-12 and 2012-13 which is also our third year of publishing sustainability report adheres to GRI G4 Guidelines and we shall continue to report on our sustainability performance on a yearly basis henceforth. This sustainability report incorporates relevant aspects from GRI G4 guidelines with inclusion of relevant indicator protocols, sector supplements and technical protocols. We have also tried to address the 3 principles of Accountability as per AA1000 APS – 2008; the principles of Inclusivity, Materiality and Responsiveness. The report represents the balanced and reasonable presentation of our contributions in the area of sustainability.

The reporting guidance has been referred for setting the reporting boundary. This report includes information on operational sites of Essar Steel in India including integrated steel manufacturing unit for manufacturing flat rolled products at Hazira – District Surat, a precoated facility at Pune, a Beneficiation Plant at Kirandul, Pelletization Plant at Vizag and at Paradeep and Service Centers in Hazira, Pune,

Bahadurgarh, and Chennai. The report also includes Hypermarkets at various locations across India operating under Essar-owned as well as franchise based model.



Essar Steel Ltd, Mauritius (which in turn is a subsidiary of Essar Global Fund Limited, Cayman Island – the ultimate holding Company) ceases to be the holding company of Essar Steel India Ltd. with effect from June 30, 2012. Essar Steel Asia Holdings Limited (fka Essar Resources Mauritius Limited) which is a wholly owned subsidiary of Essar Steel Mauritius Ltd has acquired majority of equity stake from Essar Steel Ltd, Mauritius, and accordingly has become the holding company of Essar Steel India Ltd. However, awaiting completion of certain formalities, transfer of shares in the register of members is pending. The name of the Company has been changed from Essar Steel Ltd to Essar Steel India Ltd w.e.f January 18, 2012.



Statutory audit of economic and financial systems are conducted by auditors. Internal audits are also carried out within the organization. Government auditors conduct verification and review.

Quality, Environment, Health & Safety audits are conducted by external auditor/internal auditors on a regular basis as per the requirement of ISO 9001, ISO 14001, and OSHAS 18001.

Financial reports are prepared as per the guidelines provided by company law in India.

Energy and carbon dioxide calculation are carried out as per World Steel Association (WSA) guidelines.

Monitoring, measurement and calibration are carried out as per relevant Indian Standards. Documentation and communication are done as per the requirements of ISO 9001, ISO 14001 and OHSAS 18001. Norms and procedures prescribed for the work place safety under the Ministry of Labour & Welfare (Factories Act) and the Ministry of Environment and Forests are followed.

While applying the reporting principles approach, attempt has been made to address all the relevant and applicable core and additional indicators. The appropriate topics and indicators were selected based on its significance on economic, environmental and social performance of the organization and its substantial influence on the assessment and decision of stakeholders.

Though we have tried to include in this report information that our stakeholders would like to see or know but we are open to any comments to improve our subsequent reports. You may post your feedback or suggestions to:

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Or

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Sustainability Policy & Objectives

At Essar, we shall make sustainable development an integral part of our business model by focusing on economic, social and environmental activities.

While doing so, we shall maintain accountability and will continue to improve our stakeholder engagement program.

We shall incorporate sustainable practices in our existing and new businesses and design our growth strategy to remain competitive and be a good corporate citizen.

Economic Objectives

- Enhance profitability and generate wealth for our stakeholders while pursuing opportunities for growth.
- Assess, prevent, mitigate and manage full-spectrum business risks on a continual basis.
- Create sustainable value by maintaining and improving the quality of our products and services.

Social Objectives

- Have an injury free and healthy workplace and institutionalise a culture of safety in the organisation.
- Foster continual improvement, benchmark our performance and adopt best practices in health & safety.
- Build an organisation that is committed to good corporate governance and social responsibility.
- Implement community development programmes in and around the areas of our operation.
- Enhance economic benefits from our operations and develop partnerships that foster the sustainable development of our host communities.
- Create enabling environment for the community around areas of our businesses in which they can improve their quality of life through enhanced educational, economic and health care opportunities.
- Encourage a diverse workforce and provide a work environment in which everyone is treated fairly and with respect.

Environmental Objectives

- Minimize pollution and continually improve the performance to reduce the environmental foot print.
- Optimise resource consumption by planning and carrying out operations using sustainable technologies and processes.
- Ensure compliance to all applicable legal and other requirements.



Shri Shashi Ruia

January 17, 2011

Awards & Accolades

Essar Steel India Ltd. won the “Golden Peacock Occupational Health & Safety Award -2013” during the 15th World Congress on Environment Management & 24th Institute of Directors Annual Day



Essar Steel Hazira wins Corporate Sustainability Stewardship Award

Essar Steel was awarded the Corporate Sustainability Stewardship Award for Resource Conservation Leadership at the Annual Summit of the Sustainable Business Leadership Forum, India's first market development forum on Sustainability and Innovation, held in New Delhi on October 11, 2012



ESSAR has also received recognition in concern to the participation in World Steel CO₂ data collection Programme 2008-09, 2009-10, 2010-11, 2011 - 12 & 2012-13 by World Steel Association (WSA).

ESSAR has added worth to various recognitions by gaining Significant Achievement Award for sustainability on the basis of environmental, social & economic performance from CII-ITC Centre for Sustainable Development.

National Safety Council of India recognized Essar Steel India Ltd., Hazira for Landmark Safety Achievement of 35.55 Million LTI Free Man hours



Essar Steel India Ltd. won the "Safety Innovation Award-2012" from the Institution of Engineers (India).



Essar Steel India Ltd. won the "Safety Innovation Award - 2013" from "The Institution of Engineers (India)". The award was presented by Shri. Oscar Fernandes, Hon'ble Minister for Transport, Road and Highways, Govt. of India to Essar Steel India Ltd. - Hazira, at the Safety Convention 2013, held in New Delhi, on September 12-14, 2013.





Safety Honour & Appreciation Certificates for Essar Steel India Ltd. by Gujarat Safety Council (GSC) for the year- 2012.



Essar Steel India Ltd., won the ISPAT SURAKSHA PURASKAR 2013 – 2 Awards under various categories for Outstanding Performance in the field of Health, Safety & Environment. Awards received from Shri S S Mohanty, Director (Technical) SAIL & Chairman Joint Committee on Safety, Health & Environment in Steel Industry (JCSSI).



HSE Performance of Essar Steel, Hazira, assessed best by The Economic Times – IMEA

HSE topped the India Manufacturing Excellence Award (IMEA) assessment audit with a score of 77.7 and has set a benchmark among all Industries & Topped Metal Sectors across India in a survey conducted by The Economic Times - India Manufacturing Excellence Awards in Partnership with Frost & Sullivan.

Steel Hazira awarded for lean manufacturing practices

Essar Steel Hazira, received the Gold Award in the Metals Sector, Mega Large Business category, at the Indian Manufacturing Excellence Awards (IMEA) 2012, instituted by Economic Times and Frost & Sullivan

Safety Man of the Year 2012



Gujarat Safety Council, in association with the Directorate of Industrial Safety & Health, Govt. of Gujarat awarded Dr. Anil Jain, VP & Head (HSE) "Safety Man of the Year - 2012", at the 34th Annual Safety Conference organized in Ahmedabad, on January 24, 2013. The award was presented by Shri. Saurabh Patel, Hon'ble Minister of the Gujarat State Government.



Essar Steel India Ltd., Hazira won the ISPAT SURAKSHA PURASKAR AWARD 2012, for outstanding performance in the field of safety



Essar Steel India Ltd., Hazira has been awarded Winner for GreEnv Contest 2011-12 & Excellence Award (Environment) by Baroda Productivity Council for implementation of excellent Environment Management Systems.



Essar Steel Pune received Gold Safety Award from Greentech Foundation for excellent performance in Safety Management – 2012



Stakeholder Engagement

As an organisation, we understand that stakeholder engagement is crucial to successful business. We engage with our stakeholders in a comprehensive way. The key focus of the stakeholder engagement exercise is to gain an understanding of the needs and expectations of the various stakeholder groups within and outside the organisation. As a part of this, detailed one-to-one meetings were conducted with the top management in order to collect their feedback on the pressing challenges in front of the organisation. This interaction has allowed us to determine the economic, environmental and social impact of our operations and identify the gaps so that they may be strengthened.

Stakeholder engagement for Essar Steel India aims for the following aspects:

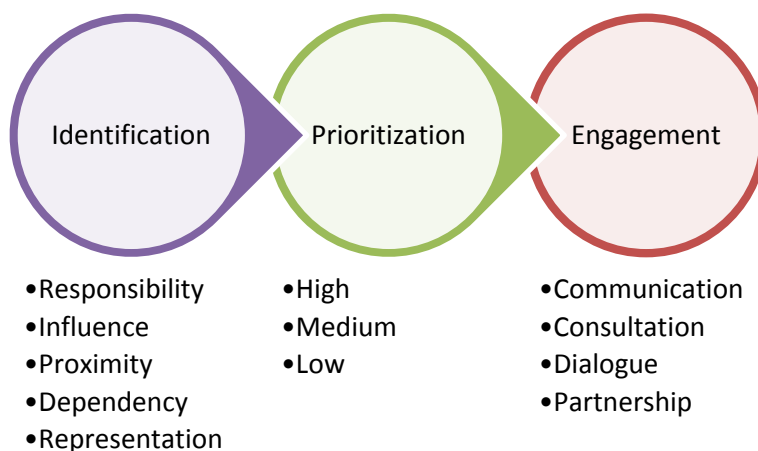
Completeness: Attaining thorough understanding about the needs and expectations of the stakeholders and representing their views along with practices and performance of the organization in an unbiased, thorough and balanced manner.

Materiality: Engaging with the stakeholders to assess the importance of the stakeholders along with the significance of issues perceived by them and aligning them with the management perspective for deciding on the aspects to be reported.

Responsiveness: Involving, responding, and providing access to information on management decisions. The aim is to meet the requirements of AA1000APS for “Thinking and Planning”, “Preparing and Engaging” and “Responding and Measuring”.

Stakeholder engagement at Essar Steel India is an integrated part of the business and key to the success. The communication structure at Essar is a network or system of pathway through which message flows. This helps the organization to communicate information with our employees, stakeholders, customers and suppliers.

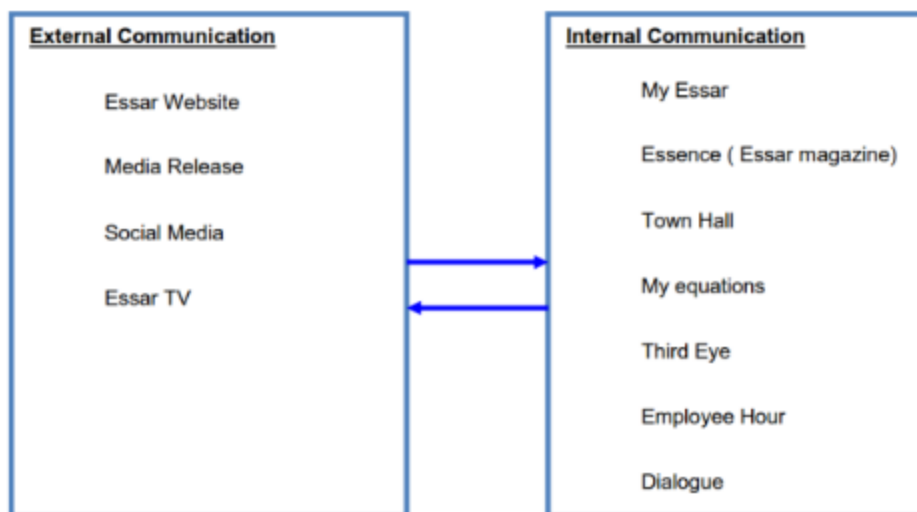
Stakeholder Engagement Process



We have built a structured Internal communication system in place for our employees, where each and every employee is able to access information & updates of the business, expansions plans, upcoming

events, policies etc. We also have a structured communication system with Leadership team. Leaders disseminate the business plans, challenges etc. by using top down approach mechanism.

As a global conglomerate and a respected corporate citizen, the Group has a responsibility to make adequate information disclosures, while upholding a positive reputation, to all its stakeholders. The same practice is followed sincerely within Essar Steel India.



Stakeholder Engagement Initiatives

Stakeholders	Mode of Engagement	Frequency	Topics Discussed/ Stakeholder Concerns
Employees	Daily Interaction, Town Hall, Employee Dialogue, Department Meets	Daily, Weekly, Monthly	Grievances, Training and Development, Professional Growth
Customer	Customer meets, Sales visits to customers, Customer satisfaction surveys	Yearly, Half-yearly, When required	Product quality, delivery compliance and customer satisfaction, Complaints and resolution
Suppliers	Meetings with suppliers, seminars, email communication, Phone calls	As and when required	Quality, Cost, timely payment, supplier satisfaction, environmental & social performance
Government/ Regulators	Meetings, Industry Associations meets and events, Email and telephone calls	Monthly	Revenue and tax distribution, profitability, safe working and environment compliance
Community	Community meetings, Interaction with doctors	Monthly	Education, welfare measures, medical

	on health issues, Community committee meetings,		facilities, Quality of life, future event planning
Media	Press conference, telephonic and email communication, interviews	Daily	Strategy, Outlook, Future Plans, Announcement of achievements
Competitors	Industry association meets, events and conferences	As and when required	Policies, regulations Knowledge sharing, partnership with value creation
Academics	Meetings, visits, study tours	As and when required	Recruitment, Knowledge management, R&D activities

Materiality Assessment

In order to identify the material aspects pertaining to economic, environmental and social dimensions of sustainability, Essar Steel India organised a one-day workshop on sustainable development at Hazira Complex for the top management representing various functions of the organisation including finance, HR, operations, utilities, R&D, legal, material management, public relations, planning & procurement etc. The agenda for the workshop was to identify and understand key sustainability issues faced by Essar Steel India. This was followed by a detailed discussion wherein the issues were prioritised and their materiality was established.

Post this one-day workshop, we reached out to the various functions and organised one-to-one sessions with each function and the top management. This interaction allowed for mapping of the material issues against the key stakeholder groups as identified by the functions. The mapping of stakeholder concerns against the business impact allowed for preparation of the materiality matrix which would act as guidance for the top management while integrating the sustainability management within the business strategy.

Identification of material issues is performed on the basis of five-point assessment. The issues are evaluated on the criteria of policy-based performance; direct, short-term financial impacts; stakeholder behaviour and concerns; societal regulatory and non-regulatory norms; and business peer based norms.

The materiality matrix represents the materials issues as relevant to the steel sector in general and Essar Steel India particularly.

Materiality Matrix		
Stakeholder Concern		Resource Management Climate Change Waste Utilisation Profitability Community Initiatives
	Talent Retention Employee Satisfaction Enhancing Productivity Sustainable Livelihood	Adopting Renewables Green Products Safety Practices Value Added Products Asset Utilisation
	R&D Investment Improving Technological Parameters Process Management	Raw Material Security Supply Chain Management
Impact on Business		

This report presents Essar Steel India's commitment towards the identified material issues. In addition, we have decided to leverage this medium to communicate our commitment towards sustainable development and the associated economic, environmental and social aspects.

The report presents the management approach and indicator-wise performance as per GRI guidelines for the aspects identified to be of high importance as per the outcome of materiality assessment. Performance for other indicators has also been reported here to demonstrate and communicate upon the Essar Steel India philosophy of continual improvement.

Disclosures on Management Approach

Resource Management & Waste Utilisation

As an organisation, we are conscious of the fact an industry can play a great role in reducing overall environmental impact due to its activities. We are committed to continual environmental improvement and during the last two years we have taken several initiatives at both corporate and business level to demonstrate our commitment to be an environmentally-conscious organisation.

Essar Steel India is committed to optimize the resource efficiency. Our R&D team has been making persistent efforts for continual improvement. Essar Steel India will further improve the raw material conservation, value recovery, improvement in energy efficiency, waste management & recycling etc.

Climate Change

Essar Steel India is aware of the climate change risks, emerging regulations in India like Perform, Achieve & Trade (PAT) & Renewable Purchase Obligation (RPO). Besides legal and operational compliance, we take several mitigation and adaptation measures in our steel business to address the adverse effect of climate change.

We have a well-defined strategy to combat risks associated with climate change. We have been conducting the carbon footprint study for our Hazira facility and reporting our CO₂ emissions to World Steel Association (WSA) since 2007 and in CDP (Carbon Disclosure Project) since 2008. We are determined to put efforts in continual improvement towards reducing the business impacts on climate change.

Community Initiatives

Essar Group's philosophy on social responsibility focuses on enabling and enriching the communities around the areas where its plants are located. ESTIL will continue to improve & ensure sustainable approach to community development enhancing level of interface between society and business.

We will continue to understand the needs and expectations of our stakeholders and incorporating the feedback while designing social projects etc. & keep on working toward health, education, sustainable livelihood, rural infrastructure, sports and cultural preservation.

Profitability & Asset Utilisation

ESTIL has a system in place where every year, at the time of Annual Business Plan preparation, a SWOT analysis of the company is carried out. This is based on overall manufacturing strategy, plant and product characteristics and the target markets. The analysis helps ESTIL to understand the strength, weakness, opportunity & threat for the business.

An introspection of such SWOT analyses leads us to align policies and strategies so as to set goals for profitability in business and chalk out ways and means to achieve these goals. EStIL would further strengthen their systems & procedures for such assessment, & relevant management committees.

Adopting Renewables

Essar Foundation's environment program creates awareness among employees and rural communities about the benefits of adopting renewable sources of energy. The Foundation provides solar panels at its project sites and in neighbouring villages.

Where necessary, Essar companies subsidize the cost of such equipment. The program also enables access to various government projects that promote the use of alternate energy.

Green Products & Value Added Products

To meet our customers' requirements for international quality products, we have undertaken a series of initiatives, which are proving to be very effective. The application engineering and research & development team work in close collaboration with the customers translating into a competitive advantage for our clients.

Our application engineering team performs market and product development of high-value products and provides synergy between plant and marketing, quality control, R&D, product development and process control.

Safety Practices

At Essar Steel India, Health and Safety continues to be one of our critical sustainability priorities and we are making continuous efforts to bring about an overall improvement in safety performance. We strive to have an injury-free and healthy workplace and institutionalise a culture of safety in the organisation.

Essar Steel at Hazira has made significant strides and reached several notches higher in safety performance and environment performance over the years. Essar Steel India has been certified under ISO 14001:2004 Environment Management System since the year 1999. Our safety practices have been recognised by various national and international institutions and forums.

Commitment to Health & Safety is driven from the top at Essar Steel India and is demonstrated through the top management's involvement in reviewing Health & Safety performance and conformance to international standards in Health & Safety.

Memberships

Institution	Scope	Link
ASSOCHAM	The Associated Chambers of Commerce and Industry of India (ASSOCHAM), India's premier apex chamber covers a membership of over 2 lakh companies and professionals across the country. As an apex industry body, ASSOCHAM represents the interests of industry and trade, interfaces with Government on policy issues and interacts with counterpart international organizations to promote bilateral economic issues.	www.assochem.org
Confederation of Indian Industry	CII is a non-government, not-for-profit, industry led and industry managed organisation, playing a proactive role in India's development process. Founded over 115 years ago, it is India's premier business association, with a direct membership of over 8100 organisations from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 90,000 companies from around 400 national and regional sectoral associations.	www.cii.in
Federation of Gujarat Industries	The Federation of Gujarat Industries, established in 1918, is one of the oldest, active, socially conscious industrial associations in the country. The Federation is aimed at promoting, protecting and projecting the interest of industries and also catering to the needs of the community at large.	www.fgibaroda.com
Institute for Steel Development & Growth (INSDAG)	A not-for-profit organisation, set up by the Ministry of Steel along with the major steel producers of India, INSDAG strives to expand the use of steel in the residential, commercial, infrastructure, industrial and rural segments of the construction industry.	www.steel-insdag.org
Institute of Internal Auditors	Established in 1941, The Institute of Internal Auditors (IIA) is an international professional association of more than 170,000 members. Throughout the world, The IIA is recognized as the internal audit profession's leader in certification, education, research, and technical guidance.	www.iaa.org
International Facility Management Association	IFMA is the world's largest and most widely recognized international association for professional facility managers, supporting more than 19,000 members in 78 countries.	www.ifma.org
Joint Plant Committee, Ministry of Steel	Joint Plant Committee (JPC) is the only institution in the country, which is officially, empowered by the Ministry of Steel / Government of India to collect data on the Indian iron and steel industry, resulting in the creation and maintenance of the only basic, complete and non-partisan databank on this industry.	www.jpcindiansteel.nic.in

World Steel Association	The World Steel Association (worldsteel) is one of the largest and most dynamic industry associations in the world. Worldsteel represents approximately 170 steel producers (including 17 of the world's 20 largest steel companies), national and regional steel industry associations, and steel research institutes. Worldsteel members produce around 85% of the world's steel. Worldsteel acts as the focal point for the steel industry, providing global leadership on all major strategic issues affecting the industry, particularly focusing on economic, environmental and social sustainability.	www.worldsteel.org
Sponge Iron Manufacturers' Association	SIMA represents the Indian DRI Industry and provides a common platform for regular interface with the Government of India and other regulatory authorities. The Association is a common forum for its members to share and exchange each other's experience, views and problems. The Association concentrates on market development, compilation and dissemination of industrial data and technical and commercial information, essential for decision making in the current fast changing business environment.	www.spongeironindia.in
National Safety Council (NSC)	National Safety Council (NSC) was set up by the Ministry of Labour, Government of India (GOI) on 4th March, 1966 to generate, develop and sustain a voluntary movement on Safety, Health and Environment (SHE) at the national level. It is an apex non-profit making, tripartite body, registered under the Societies Registration Act 1860 and the Bombay Public Trust Act 1950.	www.nsc.org.in
Joint Committee on Safety, Health & Environment in Steel Industry (JCSSI)	SSO (SAIL Safety Organisation) is managing the secretariat of the Joint Committee on Safety, Health & Environment in the steel Industry (JCSSI), a bipartite forum which addresses steel plant safety, health & environment issues with active involvement of management and central & plant level trade unions and provides guidelines to the member organizations like SAIL, TISCO, RINL, HSCL, Dastur Co., etc., on promoting safety, occupational health and pollution control measures.	www.sail.co.in
Gujarat Safety Council	Gujarat Safety Council is in the service of industries since more than three decades and conducts a wide range of activities in the field of safety including training Programmes on various aspects of industrial, road and home safety with providing a professional training. The Council, a tripartite body consisting of representatives from Government, Employers and Employees and registered under Trust Act, bearing No. Vadodara / F/182 dated 05-02-77, is the only organization in the state of Gujarat striving for the noble cause of safety.	www.gscgujarat.com

Institution of Fire Engineers (India)	The Institution of Fire Engineers (India) was established on the recommendations of the standing Fire Advisory Council constituted by the Chiefs of Fire Services in India and headed by DG, NDRF & CD, Ministry of Home Affairs, Govt. of India. The Institution was founded in the year 1973 as a premier non-government organization (NGO) and professional body registered under the Societies Act, 1860. IFE(I) is dedicated to the cause of fire engineers and fire engineering profession.	www.ifeindia.org
Centre for Science and Environment	The Centre for Science and Environment (CSE) is a public interest research and advocacy organisation based in New Delhi. CSE researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable. Established in 1980, CSE works as a think tank on environment-development issues in India, Poor planning, climate shifts devastating India's Sundarbans and advocates for policy changes and better implementation of the already existing policies.	www.cseindia.org



Corporate Governance

Corporate Governance Charter at EStIL sets forth the vision and principles of our governance structure. It is through this structure that the Company objectives are set and the means to attain those objectives and monitor performance are provided.

To achieve and compete with the stringent international quality standards and its business goals, Essar Steel India has grouped its executives in three categories to facilitate empowerment and decision-making.



Sr. Management:

Focus areas of this group are

- Successfully lead and guide the team in terms of 5 M (Men, Material, Machine, Money and Market)
- Strategize and evaluate process and methodology for achieving business excellence in terms of quantity and quality
- Suggest and design modifications in all the processes
- Develop and introduce new products based on market demands
- Design & Develop Business Plans
- Ensure human resources development and introduce suitable developmental tools for optimization.

Middle Management:

Focus areas for this group are

- Implement the strategies successfully and monitor its performance
- Ably guide team to achieve business as well as functional goals
- Constantly monitor the process and quality parameters in terms of 3 M (Men, Material & Machine) and suggest necessary changes/modification wherever necessary
- Ensure subordinate development and optimal utilization of resources.

Junior Management:

Focus areas for this group are

- Execution of the business plan targets
- Ensure compliance of quality and process parameters
- Study and suggest changes/improvements in the process and systems

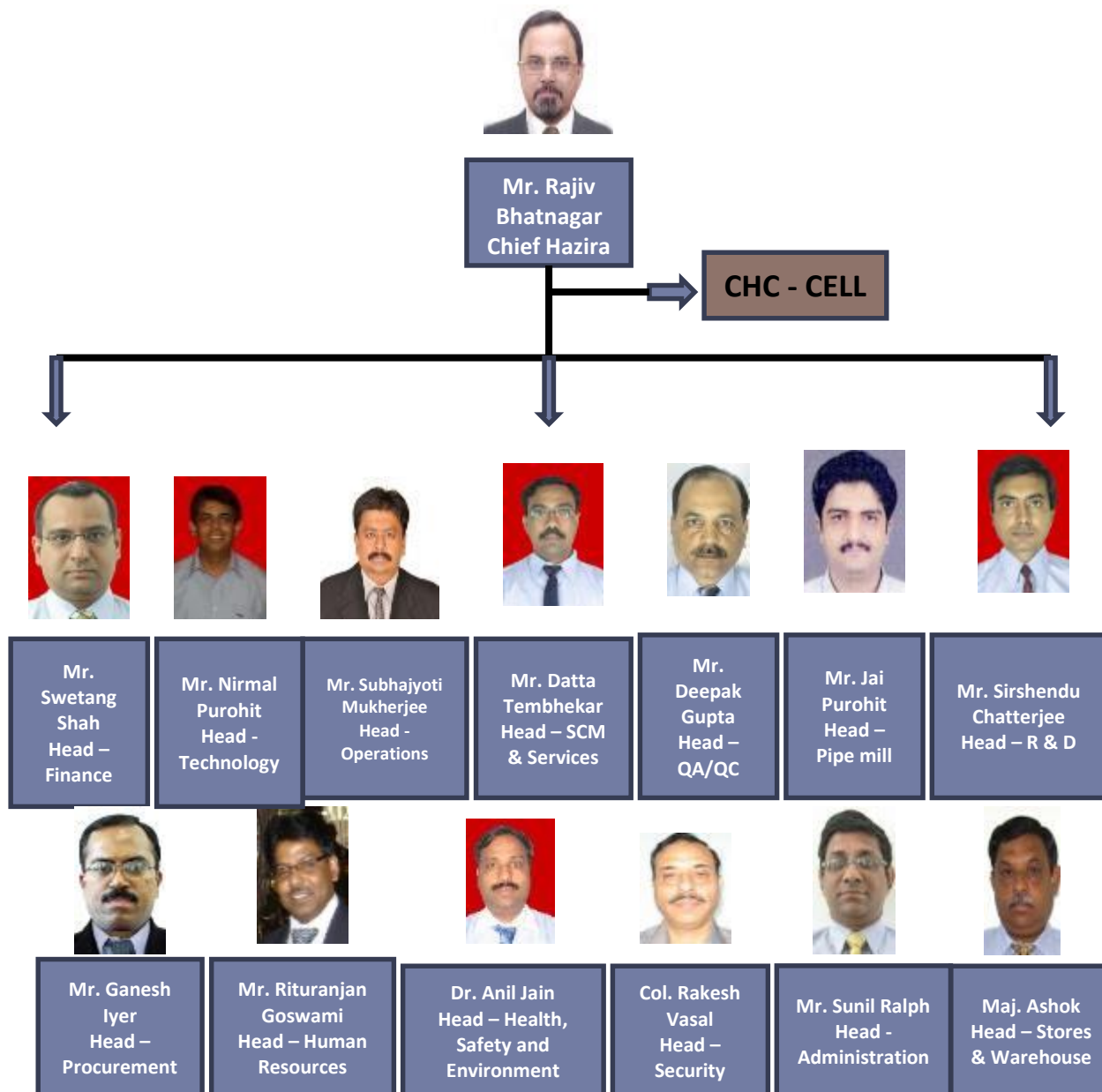
- Utilize the resources effectively to achieve cost advantage.

With the above focus in mind and to ensure business excellence, all executives in the organization are appropriately empowered in accordance with their job responsibilities.

To streamline the Periodic review of systems and procedures and to achieve high standard of corporate governance and transparency, Essar Steel India's top management has constituted two committees, namely Steel India Management Committee and Steel Hazira Management Committee.



ORGANIZATIONAL CHART FOR HAZIRA



Governance & Ethics

Essar Steel India has implemented policies with the objective of ensuring ethical business practices. All the operational locations have vigilance functionaries who are responsible for making sure that the highest order of business ethics are followed at all times.

The employees as well as business partners are communicated from time to time regarding the Essar Group policies on whistle blower, business practice policy and code of conduct related to business ethics. Essar Steel India has taken strict and stringent action whenever a case related to malpractice has been brought to notice. All such cases have been satisfactorily resolved during the period of 2011-12 and 2012-13. Essar Steel India does not make any political contributions, whether monetary or in-kind.

- **Honest & Ethical Conduct:**

The Officers shall deal on behalf of the organization with an open & honest manner, subject to legal & competitive constraints. We are committed to maintaining the highest ethical and professional standards and to acting with integrity in all of our activities. We treat our employees with courtesy, dignity and respect.



- **Compliance with Law:**

The Officers shall, in their business conduct, ensure compliance with all applicable laws, rules and regulations, in all the territories in which the organization operates and adhere to the reporting system there under. Ensuring legal and regulatory compliance is the responsibility of all the employees of the organization. The Organization cannot accept practices which are unlawful or may be damaging to its reputation.

- **Conflict of Interest:**

The Officers shall not engage in any business, relationship or activity, which may detrimentally conflict with the interest of organization. This is an area in which it is impossible to provide comprehensive guidance but the guiding principle is that conflict, if any, or potential conflict must be disclosed to higher management for guidance and action as appropriate.

All directors, senior management and employees must avoid situations in which their personal interest could conflict with the interest of the organization. The Directors disclosure of interest under section 299 of the Companies Act shall be treated as sufficient compliance under this clause.



Board of Directors

The Board has constituted three sub committees namely, Audit Committee, Shareholder Grievance Committee and Operations Committee. The members are selected on the basis of skills, experience, expertise, foresight, managerial qualities and time availability.

The structure of the committees of the Board is as follows:

- Audit Committee – 4 members with 2 Independent and Non-Executive Directors
- Committee of Directors (Operations) – 6 members with 1 Independent and Non-Executive Director
- Committee of Directors (Shareholder Grievances) – 6 members with 1 Independent and Non-Executive Director

Four meetings have been identified as the most important for Steel India business:

- Board Meeting
- Steel India Management Committee
- Steel Hazira Management Committee
- Pricing Committee

Board Meeting

The Board Meeting is held every quarter to assess the performance of the company in the previous quarter, approve plans for the next quarter, assess strategic outlook of the industry and take strategic decisions regarding the long term future of the company.

Steel India Management Committee

This meeting is chaired by CEO. Key executives for the meeting are CFO, President-Global markets, Head – Raw Materials and CHC.

This council focuses exclusively on progress against the critical tasks identified in the BSC. Meeting is scheduled every week for an hour and main focus is on key policy and strategic issues based on the directions of the board.

Steel Hazira Management Review

The main objective of this meet is to evolve, monitor and assess strategic priorities of the plant and especially the enabling service functions. The meeting is chaired by the Chief of Hazira Complex and the participants are all senior executives from operations and services.

Pricing Committee

The objective of the pricing committee is to review and analyse the prices prevailing in the market place and to provide price guidance to Sales & Marketing for booking of orders. The Pricing Committee for Steel Business comprises of the CEO, CFO, and President – Global Markets and Strategy and a member from the Chairman's Secretariat.

These committees provide a forum for constant exchange of ideas and work in a close loop to constantly monitor, review & update plant level policies and strategies. These strategic meetings are the window for the top management to look at the performance at the works level. Some areas of focus that are deliberated and reviewed by these committees are:

- Focus on Safety, Health and Environment
- Critical analysis of operational efficiency in terms of production figures and cost drivers in the backdrop of the Annual Business Plan
- Strategies to enhance production, productivity and profitability
- Strengthening core capabilities through various projects for quality and technology improvements
- Identifying the future competitive advantage and strategies for business competitiveness
- Review of performance of Sales & Marketing, Product Development, R&D, etc.
- Critical analysis of maintenance practices in the operating plant
- Increasing market share for newly developed product

The plant level top management designed CSR as a sustainable approach to community development enhancing level of interface between society and business. The honourable Chairman of the Essar group has set a target of contributing million hours to the society, by way of volunteering. This noble task has been assigned to the CSR department.

Essar Group's philosophy on social responsibility centres on enabling and enriching the communities around the areas where its plants are located. It ensures sustainable approach to community development enhancing level of interface between society and business. It does not only focus on customer relationship, but also lay a lot of emphasis on community development, as a part of CSR aligned with the vision and mission of the company. It goes a long way in justifying that Essar has a defined vision and mission statements for CSR.

Risks and Challenges

Indicators	Risk	Strategies
Economic	• Fluctuations in global prices • Diminishing rate of growth in infrastructure • Decline in industrial activity • Cautious demand due to continued financial uncertainty and volatility • Intense competition amongst the businesses • Dependence on imported raw materials	• Investments in product, process and application innovation • Developing strategies for ensuring raw material security • Aim at excellence in quality across the value chain • Protecting market share through marketing innovation
Labour	• Ensuring safety for the workforce and imbibing safety practices in daily life • Attracting, nurturing and growing internal talent • Containing the employee turnover • Preserving social atmosphere in the region of operation	• Continuing zero tolerance towards unsafe behaviour at operational sites • Introducing new employee engagement initiatives while strengthening the existing ones • Recruitment of skilled workforce to manage upcoming projects, attrition and superannuating manpower
Environment	• Reduction of CO₂ emissions from steel manufacturing • Managing global climate change issues including those related to water and energy usage • Waste utilisation and reduction of waste generation • Managing environmental impact indicators such as air and water pollution and impact on biodiversity	• Innovation and modernisation of steel production technologies • Adoption of new projects and setting benchmarks for existing plants towards efficient production • Taking up research and development activities in the direction of energy efficient, high strength and new products • Investment in innovative projects aimed at productive utilisation of waste and by-products
Social	• Harmonising site activities with the social fabric of the adjoining community • Mitigating operational and compliance risks in the supply chain	• Gauging needs and expectations of the stakeholders and incorporating the feedback while designing social projects • Initiatives in the area of health, education, sustainable livelihood,

- Extending the reach of social initiatives to benefit the bottom of the societal pyramid
- Ensuring compliance to legal and regulatory requirements
- Forging strong relationship with community

Risks	Mitigation Strategy
Changes in Regulations	
India may have stricter emission reduction targets in future meaning that, Essar Steel India will also have to achieve increasingly stringent environmental targets	These risks have financial implications on the organization and company has a well-defined long term plan to mitigate climate change risks for sustainable development and also for energy security. Essar Steel India also carries out due diligence before initiating any project.
Natural gas is one of the most important fuels for Essar Steel India's production facilities and hence, availability of natural gas at right cost is the major risk	
There is possibility for introducing emission reduction targets for large developing countries like China and India. In such case, carbon taxing mechanism may come up.	
Changes in Climate and Climate-related Developments	
Essar Steel India being situated on the sea shore faces a global risk in case of sea water rise which may affect the production, raw material handling and transportation activities	Essar Steel India is well aware of the climate related risks. Raw material handling and transportation activities have been planned carefully. Also, adequate stock of raw materials is maintained to mitigate fluctuations due to natural events. Essar Steel India's R&D team is working towards developing technologies to reduce emissions. Essar Steel India has developed special high strength steel for automobiles and has earned several new customers as a result.
Climate change has the potential to affect the raw material availability. Key raw materials such as coal, coke and natural gas are exposed to such climate risks	
Businesses are being impacted by customer behaviour and preference as a result of climate change with customers preferring products consuming least energy and natural resources.	

Every year, at the time of Annual Business Plan preparation, a SWOT analysis of the company, is carried out. This is based on overall manufacturing strategy, plant and product characteristics and the target markets.

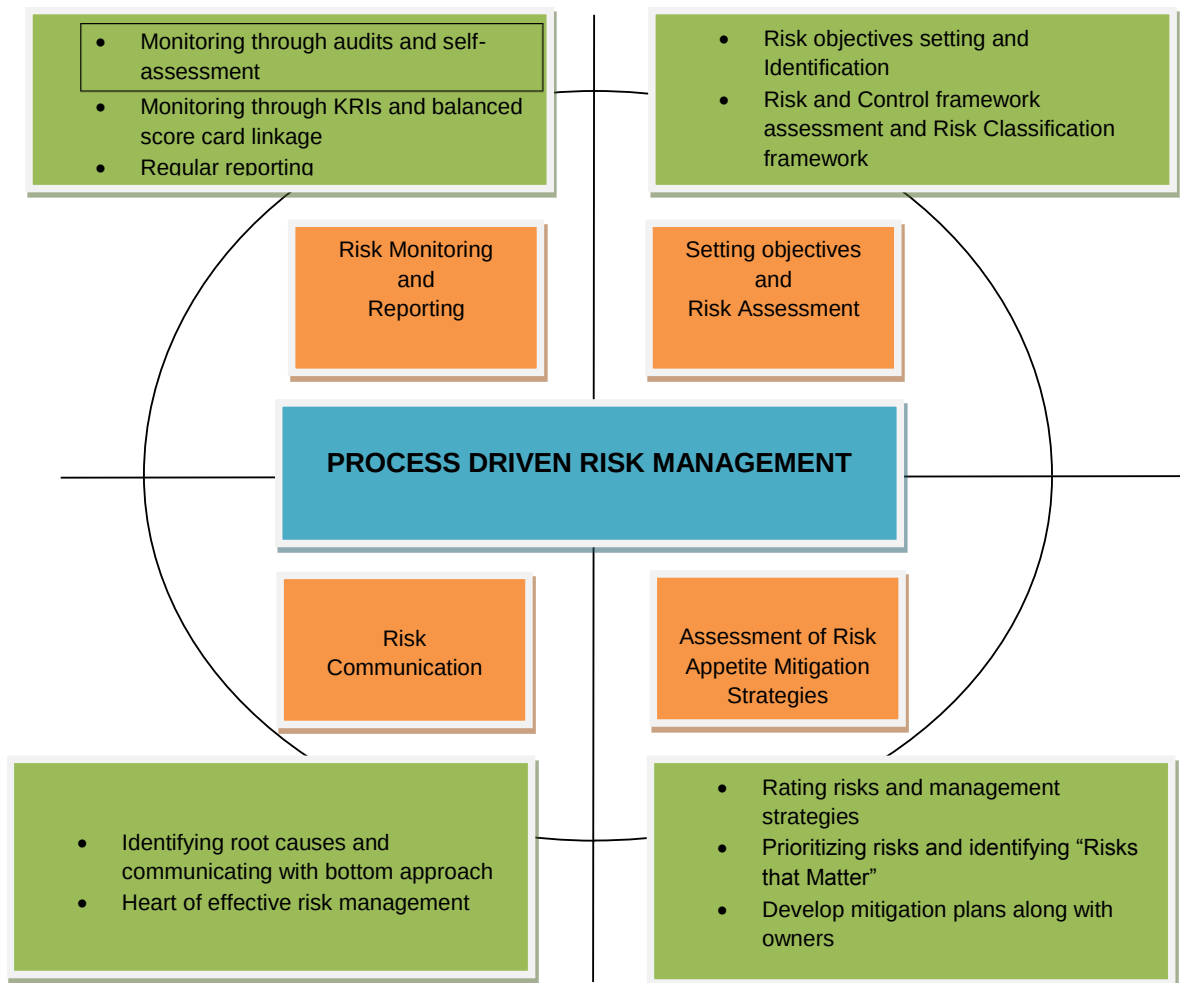
This analysis forms the basis for implementing action plans leveraging internal plant capabilities and taking care of developments in external environment. An introspection of such SWOT analyses leads us to align policies and strategies so as to set goals for profitability in business and chalk out ways and means to achieve these goals. The plans are also aimed at managing cyclical risks so that stakeholder expectations are met, even during downturns, thus building a sustainable competitive advantage over competitors.

The SWOT analysis leads to the formulation of the critical task document, which lists all tasks that are critical to the business. Tasks for operations, sales and marketing, raw materials, finance, legal and regulatory functions are clearly identified. The critical task list includes a super critical subset, which identifies the most important tasks in the list. Every task has an identified task owner, who is responsible for strategy, planning and execution of that specific task. Once the strategy and plan for execution of a task is formulated by the task owner, the strategy is presented in the Steel India Management Committee (SIMC).

Essar Steel India has an institutionalized Enterprise Risk Management (ERM) system. ERM is based on COSO's (Committee of Sponsoring Organisations) ERM framework. The risks are identified and inventoried through a bottom up approach where the key process and business owners identify the risks in their areas and their likely impact and probability of occurrence. These are collated and reviewed by Essar Steel India's top management and leadership for prioritisation and formalised into an integrated risk register for the organisation.

The Company is committed to strengthen its risk management capability in order to protect and enhance shareholder value. Our (Enterprise Risk Management) ERM Framework ensures consistency in methods used for assessing, monitoring and communicating risks throughout the Group and alignment of risk management efforts with the Company's vision, mission, strategic and business objectives.

We have an ERM Policy that outlines the framework and procedures adopted by the Company to assess and mitigate the impact of risks, and to update the Board and the senior management on a periodic basis on the risk assessed, actions taken for mitigation and efficacy of mitigation measures



Economic Performance

India's steel consumption growth is likely to be a moderate 4-5 % in the coming fiscal period as economic slowdown is impacting industrial projects. The country's steel consumption grew by only 5.5% in 2011-12 to around 70 million tonnes due to subdued demand from across the consuming sectors like Infrastructure and construction. Domestic demand remained sluggish across the spectrum of economic sectors in 2012-13 as well. The domestic crude steel production grew by 3.3% in 2011-12 to 72 million tonnes. India remained a net importer of steel to the tune of 2.7 million tonnes in the last year.

However year 2011-12 was an important year for Essar Steel India with many facilities coming online in this year. Total sales of Flat Products have been improved by a whopping 28% to 4.3 million tonnes in 2011-12. Export volumes pegged at 1.1 million tons for 2011-12 increased by almost 95% y-o-y on account of higher availability but declined by 14% for the year 2012-13. The domestic sales increased by 15% at 3.2 million tons in 2011-12 and remained static at 3.2 million tons for 2012-13. The total sales to Value Added Segment was 48% in 2012-13 as compared to 43 % in 2011-12 with increased focus on Plate Mill products particularly in Boilers and Pressure Vessel segment and CRCA and Gal products for Auto and PEB segment.

Essar Steel India Limited				
Direct Economic Value Generated	2009-10	2010-11	2011-12	2012-13
a) Revenues	in Crs. INR			
I Net sales (Gross sales less returns, discounts and allowances)	11,388.31	13,345.85	17,561.42	16,349.49
II Income from investments including cash received as interest, dividends, royalties and direct income generated from assets	247.98	530.04	535.44	301.08
III Income from sale of assets (tangible & intangible assets)	0.04	-8.68	0.32	0.00
Total direct economic value generated	11,636.33	13,867.21	18,097.18	16,650.57
Economic Value Distributed				
b) Operating & other costs	8,849.75	10,581.99	14,540.85	13,146.48
c) Employee wages and benefits	217.69	301.20	389.98	311.74
d) Payments to providers of capital	908.4	1,218.74	1,862.99	2,480.98
e) Payments to government	812.96	1,154.85	1,219.02	1,362.75
f) Community investments	7.41	2.84	9.85	7.28
g) Others	-8.86	84.96	372.30	658.90
Economic Value Retained	848.98	522.63	-297.81	-1,317.57

Essar Hyper-mart Sales were at 0.89 million tons in 2011-12 showing a marginal increase of 4% in the sales as compared to the FY 10-11, majorly due to the slowdown in the Infrastructure and the construction segment. These stood at 0.84 million tons in 2012-13 showing a decline of 5% in sales as compared to the FY 2012, mainly due to the slowdown in infrastructure and construction activity.

At Essar Steel India, maintaining cost leadership is one of the key strategies. Our unique combination of assets, infrastructure and process characteristics enable producing very high quality steel at low cost levels. For achieving cost leadership Essar Steel India is rigorously following the concept of Sensitivity Analysis at each stage of production and has developed number of resources for procurement of various raw materials for its all facilities.

The decisions of buying specific material is taken after taking into consideration the impact on cost as well as health of plant based on Technology Cell's analysis. To promote the cost effectiveness, every month a sensitivity analysis is done and the details are communicated to the facility heads and Senior Management. This clearly quantifies the financial impact of productivity improvements, specific consumption of inputs, etc. Essar Steel India did not receive any significant financial assistance from the Government of India in the year 2011-12 and 2012-13.

DGVCL has claimed power supplied to our expansion area to be unauthorized power and relying on the MoM dated 01.02.2010, raised a bill of Rs. 2311 crore. GoG had acknowledged that this may be illegal, arbitrary and unfair and had instructed DGVCL to revise the bill as per section 126 of the Electricity Act, 2005. Accordingly DGVCL raised a revised supplementary bill for Rs. 192.58 crores. The bill was paid under protest and Essar Steel India Limited went in appeal against the said revised supplementary bill to the CEI.

On 01.11.2013, the CEI passed order declaring the revised supplementary bill as erroneous and directed DGVCL to revise the bill to the extent of power supplied by them which amounts to Rs. 28 crore. (approx.) and the balance to be refunded to Essar Steel India Limited with interest.

Essar Steel India has not received any complaints on environment, labour or social aspects. We are already incorporating social grievance mechanisms (meeting with sarpanch, community members etc.).

Environmental Excellence

Conservation of raw materials is becoming increasingly important to steel makers, to ensure their availability in long term while sustaining useful natural resources. Optimal utilization of raw material is given major attention. Essar Steel India constantly adopts technologies & practices to improve & optimize specific material consumption per ton Steel produced. Increased recycling of wastes to reduce consumption of Gas, Coal, Iron Ore & Flux Materials have resulted lesser raw material consumption.

Recycling is one of the best risk management tools available, as it allows to reduce and eliminate any risk that may be eventually generated by the disposal of products at their end-of-life. Recycling is particularly significant for metals because metals are persistent and do not readily degrade when disposed into our natural environment. Therefore, metals may accumulate in sediment or migrate into groundwater. Recovery and recycling is truly key to the sustainable future of metals.



Essar Steel India for its Hazira operations consumed 12,405 MT and 4,536 MT of purchased scrap during 2011-12 and 2012-13 respectively.

Raw Material Consumption at Vizag Pellet Plant

Vizag Pellet Plant (MT)		2011-12	2012-13
Pellet Plants	Iron Ore (DMT)	2263441	4401241
Pellet Plant Complex	Bentonite	45807.2	28047.55
	Lime Stone	100942.02	76968.3
	Anthracite Coal	82711.47	69072.43
CPP	Coal	140388.22	153509.1

Raw Material Consumption includes Kirandul consumption

Raw Material Consumption at Hazira

Raw Material Quantity (MT)	2011-12	2012-13
Fe Ore	8,234,530	8,554,453
HBI	3,253,420	2,275,128
Scrap	187,693	130,289
Lime	567,050	665,167
Fe Alloys	92,868	62,361
Coke	127,260	112,178
Limestone / Dolomite	1,023,212	1,120,671

Raw Material Consumption at Paradeep – 2012-13

Raw Material - Paradeep	Quantity	Unit
Iron Ore Fines - BF Pellet	1065581	DMT
Slurry	0	MT
LSHS	34625.1	KL
Anthracite Coal	10617.03	MT
Bentonite(additive)	4879.83	MT
Lime Stone	15925.55	MT

Paradeep pellet plant became operational in April 2012

Essar Steel at Hazira has made significant strides and reached several notches higher in safety performance and environment performance over the years. Essar Steel India was certified under ISO 14001:2004 Environment management system in the year 1999.

Benefits derived from the Environment Management System are:

- Advanced level of implementation of Environmental Management System as per ISO 14001 standard since 1999 which resulted in lot of resource conservation.
- Well established system for tracking of consumption and recovery of Oil (being a major consumption) for resource conservation.
- Emissions and discharges are tracked as per Internal Norms (created by Essar Steel India) which are more stringent than the GPCB Norms thus aiming to achieve international standard.
- Various innovative ways identified by Essar Steel India for the utilization of Solid Waste

Past two years have been significant for Essar Steel India and have marked a transitional phase. Till 2011, our Hazira complex had only gas based Iron making (DRI route) facility. In FY 2012-13, our steel production capacity has increased and more importantly, coal based Iron making i.e. Blast Furnace and Corex plants have been added. This helps us to reduce dependency on natural gas and to achieve future energy security for a sustainable steel business. As a result of above actions, coal consumptions have increased substantially during FY 2012-13.

Energy Consumption at Hazira Complex

	Unit	2011-12	2012-13
Coke	TJ	25574.194	28982.738
Coal	TJ	21686.279	31854.846
Electricity	MWh	4447111	4019689
Natural Gas	TJ	18590.887	23461.519

Energy Consumption at Vizag

	Unit	2011-12	2012-13
Fuel Oil	TJ	3184	3117
Electricity	kWh	199924340	209558000

Energy Consumption at Kirandul

	Unit	2011-12	2012-13
Diesel	TJ	16.2	8.1
Electricity	kWh	98262000	21504400

Energy Consumption at Paradeep

	Unit	2012-13
Electricity	kWh	65002950

*Pellet plant commissioned in April 2012

Specific Energy Consumption Hazira Complex

	Unit	2011-12	2012-13
Specific Energy Consumption	GJ/tCS	28.13	32.69

As an environmentally conscious & responsible company, Essar Steel India is dedicated towards the practices of environmental techniques / procedures to achieve sustainable development. We set an example in environmental preservation and are the forerunners in India by achieving ISO 14001:2004 for Environmental Management System. This demonstrates our total commitment to operate and maintain the plant at international performance levels. Special Features of Environmental Management for Essar Steel India are highlighted as below:

- Full-fledged Environmental Management Department is equipped with well qualified personnel.
- Installed state-of-the-art Pollution Control Equipment to combat pollution.
- Emissions and discharges are being monitored in-house through state-of-the art Environmental Laboratory.
- Tracking of Emissions and discharges through on-line monitors.
- Emissions and discharges are tracked online as per national consent.
- Any Deviations w.r.t internal norms are being addressed in the Daily Meeting chaired by COO with all Plant HODs and explanation / root cause being asked.
- Well established system for tracking of consumption and recovery of Oil (being a major consumption) for resource conservation.
- All environmental acts / rules are being strictly followed.
- All major solid wastes are being treated as by-products and being sold / reused.
- Zero Waste Task Force created to achieve Zero Waste generation.
- Advanced level of implementation of Environmental Management System as per ISO 14001 standard which resulted in lot of resource conservation.

Energy Conservation Measures

Unit	Energy Conservation Measures 2011-12	Energy Saved (lacs kWh)
Material Handling	Installing VVFD in Rotary equipment's & Delta star conversion	0.40
	SSGB Project on reduction of idle running of conveyors	13.2
Sinter Plant	Mixing Drum oversized motor replacement	3.43
HBI	Running VPSA without TGFCs when plant is at low load	91.08
Blast Furnace	Replacing higher rating Venturi pump with a lower rating pump.	13.14
	Modifying design to reduce number of operating motors in SL2 conveyor	6.57
	Increase in TRT Power generation through proper control of BF Top pressure, gas flow and Septom Valve	91.25
COREX	Optimizing CH dedusting energy consumption	38.01
	Timer circuit implementation for Lighting area	8.04
SMP I	Automatic start/stop of AHU using thermocouple and logics	0.44
HSM	Booster Pump Replacement with "High Efficiency" Pumps	11.98
CRM/DSC	AC drive installation in CRM #1, cranes etc.	12.04
	Logic development for Auto control of APC Blowers in GAL #1 and GAL #2.	10.6
	Entry Hydraulic Power Pack motor energy saving in PKL #2.	0.43
	Logic modification in various processes of pumps, BAF application	11.53
Utilities	QC Project on Secondary water circulation system at EAF #4 Pump House	22.89
	Stabilization of pressure fluctuation in EAF #1 and EAF #2 primary system	24.48
	QC project for HMPS pump	3.55
	Modification in Ventilation system at HSM	15.99
	Optimization in Air Handling Unit	18.79
	Rain water harvesting	0.74
	Energy saving in DSC air compressors	9.76
CSP Mill	Modification of illumination network	2.22
	Logic modification in Descaler Pump station	18.68

Unit	Energy Conservation Measure 2012-13	Energy Saved (lacs kWh)
Material Handling	Replacement of conveyor motors, VFD installation & modification	0.69
	Eliminating idle running of systems -annual energy savings (KWH)	10.16
RMHS	Auto interlock in Corex area De-dusting fans conveying system	1.50
	Automation in lighting & eliminating idle running of conveyors in Corex feeding system	0.58
CPP	BBT-plant lighting control & Automation in DM water system	0.95
Blast Furnace	Power savings in CH de-dusting system & PCI ID fan	23.52
SMP I	Increasing % Hot Metal in charge mix	703.30
HSM	Booster Pump Replacement with “High Efficiency” Pumps	10.92
CRM	Savings in idle power, optimization in motor & ECR lighting and DC to AC conversion	9.823
	Logic modification in FIMI, ICTL Pinch Roll & in BAF-3, optimization in Idle power	2.29
	VVFD in GAL-1 Blowers, Fume Exhaust and Hot Air Dryer in ECL	6.83
	GAL-1 water quench tank filling and Waste tank drain in Auto	0.202
HBI	Modification in water system blow down at MOD 5/6	11.22
Corex	Power savings in Cast House De- dusting area	1.81
	Disc gate pumps modification	1.09
MRSS 2	Switched off 108 No of transformer cooling fan and 1 no Ventilation Blower in winter	2.67
Utilities	Impeller trimming of Pumps	13.902
	Optimising flow of IC 4 in Conarc 1 & Conarc 2	42
	Interconnection modification in fire water network at SMP-2, Conarc-1	3.396
	Parsytec stand by blower, RH Degasser AHU commissioning and Installation of Booster pump/Chilled water FCU	9.56
CSP Mill	Switched off pumps in HP-LP Hydraulic system in CSP Mill	2.2968
Plate Mill	Logic modification in Quench pumps and ADCO Blowers	41.22
	Optimization in ADCO system, Cooling fan in Drives, Idle running Power and Lighting Control	11.34
	Head Cut Optimization in Crop Shear	4.077

Essar Steel India complex at Hazira has got the required approvals by the MoEF. As per Environmental Impact Assessment study conducted, no significant impacts of our operations have been identified.

Essar Steel India has taken initiatives to enhance biodiversity by way of plantation in around 70 ha within the plant as well as commitment to plant mangroves in 1,000 ha at village Dandi of Olpad district and Ankav of Bharuch District. Around 500,000 seedlings have been planted in the last 2 years.

Within the plant, around 58 species of plants and 500,000 trees have been planted and the species have been carefully selected based on climatic and ecological conditions, emission height and impact zone. Near Vizag plant, some mangroves exist near sea back waters.



Around 6 lakhs trees have been planted throughout the complex occupying 8.40 lakhs square meter area (84 ha). Besides, Green zones developed within the complex in around 75 ha of area. Thus total Green cover developed at Essar Complex, Hazira is 159 ha which 20 % of total area of complex including township. As a result of our green initiative mentioned, seasonal birds of various species can be found in our steel complex as well as township.



For Eco-Restoration of degraded lands & to create the eco- system, we are in progress to carry out 1000 Ha Mangrove plantations within 10 years, in consultation with M/s Gujarat Ecology Commission (GEC) and the local community.

We have operations in a number of locations in India and none of our plants fall under the area of high biodiversity. However some of them do fall under protected areas. No IUCN Red list species exist in surrounding area of our operations.

Sr. No.	Year	Location	Area (ha)	Survival	Gap filling/ re-plantation*	Expenditure (Rs. lakh)
1	2008 – 09	Dandi	100	75 %	25 %	16
2	2009 – 10	Anklav	100	75 %	25 %	16
3	2010 – 11	Dandi	100	75 %	25 %	25
4	2010 - 11	Anklav	100	75 %	25 %	25
5	2011-12	Asarsa	100	75 %	25 %	25
6	2012-13	Asarsa	100	75%	25%	25
TOTAL			600			132

Total 600 Ha mangrove plantations has been completed till date and total of 15,00,000 saplings have been planted till date.

Uniqueness of the Project

It is one of its kind which gives benefit to Environment as well as Society. Plantation of Mangrove is a unique process that apart from its genuine benefits of creating a marine eco- system (breeding place for all aquatic creatures), massive plantation, providing work to backward community to name a few, provides an advantage of CO₂ sequestration as well.

Environmental benefits (tangible & intangible) achieved include:

- Mangroves provide nursery habitat and support a range of wildlife species.
- Mangroves maintain coastal water quality by abiotic and biotic retention, removal, and cycling of Nutrients, pollutants, and particulate matter from land-based sources, filtering these materials from water before they reach seaward coral reef and sea grass habitats.
- Mangroves help in carbon sequestration as well.
- It prevents the coastal land erosion.
- As mangrove plantation is beneficial towards CO₂ sequestration, by the end of complete plantation, we shall be able to put a benchmark towards Carbon Neutral industry.



Clean Technologies

a) 19 MW waste heat recovery Power Plant

With a view to utilize the heat content of surplus steam and gases generated as a part of the steel manufacturing process at the Steel Hazira facility, a Waste Heat Recovery (WHR) based power plant was installed. The 19 MW WHR plant was commissioned on May 9, 2012, with steam generated by Blast Furnace Boilers.



The Steel Hazira facility uses three iron making technologies - HBI (Hot Briquetted Iron) / DRI (Direct Reduced Iron), Corex, and Blast Furnace (BF). The waste heat based plant can generate power with the steam sourced from both, the newly installed HBI heat recovery Boiler and the BF Boilers. This effectively translates into no cost fuel. Utilization of this steam will substantially reduce the overall thermal emission from the Steel Hazira facility.



The environmental benefits derived out of implementation of the project will be:

- Reduced thermal emission to the atmosphere from the HBI Plant
- Reduced thermal emission from the existing captive power plant/ grid equivalent to approx. 15.4 MW generated from this plant.

b) Convert Iron Fines into micro-pellets through Drum Pelletizer

The Electric Arc Furnace and Conarc Furnace generate Iron Fines from its Fume extraction system. There was a serious constraint of land for dumping of this iron bearing material. Based on the trial findings, we have put up a Drum Pelletizer to convert Iron fines in Micro-Pellets and being transported to Sinter plant and being consumed there.

Typical chemical composition of Iron fines:

Fe= 45-50 %, Al_2O_3 =2.87 %, CaO=9.75 %, MgO=5.84 %, LOI= 6.44 %

Net Saving due to this project is Rs. 5.22 Crores per Year

c) Phasing out the Ozone Depleting Substances

The Hazira manufacturing complex of Essar Steel India consumed nearly 1455 kg of refrigerants in the year 2011-12. This includes consumption of R-22, R-124 and R-134a refrigerants. For the year 2012-13, the consumption of refrigerants was about 1686 kg which includes the abovementioned types of refrigerants. There is very little or nil consumption of ozone depleting substances at other facilities of Essar Steel India in comparison to Hazira facility.

Essar Steel India has received a grant from IDBI bank of 20 % of capital cost of replacement of old chillers with Non CFC based chillers. 100% air conditioners are working on R-22 gas, which is valid till year 2030.

d) Adsorbent Reusable Pads:

These pads adsorb a variety of industrial liquids including oils, water, solvents, coolants, etc. The technology named MAXX has got high absorbency, have a smooth surface finish with less lint, available packed in boxes for easy handling and storage. This pad is made up of human hair & it is 100 times reusable. Hence it is ideal for usage in our Hot Strip Mill & Cold Rolling Mill areas, where maximum automation, hydraulic systems, cranes etc. are there. Initially, 1000 pads were ordered to adsorb spilled oil in various areas of HSM & CRM, which have yielded good results in terms of oil recovery. As a result in CRM plant, we have achieved used oil recovery up to 70%

e) Cyclonic Barrel Burner for oily cloths and rags

We have procured this technology as a solution to disposal of oily cloths/ rags. To start with we have ordered two cyclonic burners, one each for Cold Rolling Mill & Central Maintenance Shop. It has been successful in its operation and is able to dispose oily rags in an environmentally safe manner.

This technology is newly introduced and Essar Steel India is amongst the first companies to implement the same.



f) Centralized on-line environmental quality display for visitors & guests:

15 online stack analyzers and 2 Ambient Air Quality stations have been installed. Essar Steel India has taken initiatives to display all these results on-line at central place for visitors & guests. Besides the data is shared with Gujarat Pollution Control Board and Central Pollution Control Board site as well.

g) Carbon Footprint Study:

Essar Steel India has a well-defined strategy to combat risks associated with excess carbon dioxide emissions, global warming and climate change. Being an environmentally conscious and one of the least CO₂ emitting steelmaker in India, we actually view the above mentioned issue as an opportunity to place ourselves in an advantageous market position in terms of roping in selected segment of elite customers, earning better revenue and recognition, reducing costs by continuously inventing low carbon technologies and by capturing most of the waste energies emitted in our steel making.

We have been regularly reporting our CO₂ emissions in World Steel Association (WSA) since 2007 and in CDP (Carbon Disclosure Project) since 2008. We have also conducted our carbon footprint study by

German based consultancy firm (PE International, AG) and purchased the licensed version of GaBi 4 software from PEI to calculate our carbon footprint regularly for internal reporting and monitoring. Our operations at Hazira account for nearly 80-85% of Essar Steel India Corporate Carbon Footprint. We have used GaBi methodology to calculate the GHG emissions at the Hazira complex for FY 09 and FY 10. For FY 11-12 & FY 12-13 we are calculating GHG emission at the Hazira complex as per World Steel Association (WSA) methodology.

GHG Emissions for Hazira	2011-2012	2012-2013
Scope 1 emissions (tCO ₂ e)	5896898	7399181
Scope 2 emissions (tCO ₂ e)	2149181	1932700
Scope 3 emissions (tCO ₂ e)	1185508	1252054
Specific Scope 1 emissions (tCO ₂ e/tcs)	1.34	1.74
Specific Scope 2 emissions (tCO ₂ e/tcs)	0.49	0.45
Specific Scope 3 emissions (tCO ₂ e/tcs)	0.27	0.29
Overall Intensity Factor (tCO ₂ e/tcs)	2.10	2.49

The Iron and Steel Industry comprises a very large use of water. Water's ever-growing importance in the industrial manufacturing arena has been demonstrated by an increasing concern regarding the sufficiency of both its quantity and quality for use in industrial applications. Continuous focus on reducing the water consumption on a ton of crude steel basis.

At ESPF Pune, we are not discharging any treated water outside boundary of the plant. We are re-using the treated water for process at plant and rest water is used for gardening purpose.

Water Consumption at Essar Steel India

	2011-12	2012-13
Hazira	2,83,08,256	2,85,55,977
Pune	14,243	11,502
Vizag	14,33,966	21,20,332
Paradeep		4,39,550.5
Kirandul	12,18,708	2,38,702.9

Vizag data for calendar year 2011 & 2012

Water consumption for Hazira includes water used for township and processes other than steelmaking and 100% water is sourced from river Tapi.

Rain Water Harvesting at Hazira

Essar Steel, Hazira Complex has also implemented a scheme to conserve rain water. Coffee shop reservoir in Cold Rolling Mill (CRM) area is 12500m² and depth is average 3 mtrs. CRM Plant Shed catchment area is 1,34,550 m² and during monsoon, water of that catchments area goes to coffee house reservoir.

Rainwater Conserved at Hazira complex

Duration	2011-12	2012-13
Quantity (m³)	2,19,089	42,334

Air Emissions Data for Hazira

	2011-12			2012-13		
	PM	SO ₂	NO _x	PM	SO ₂	NO _x
Hazira*	1815.68	NIL	300.39	1904.54	NIL	254.09

*Data given in kg/day

ESPF Pune has a dedicated environmental laboratory operated by highly qualified, experienced and trained Lab in-charge and technicians equipped with all the environmental monitoring devices like spectrophotometer, stack monitoring kit, ambient air monitoring equipment, handy samples, etc.

Air Emissions data for Pune

	2011-12		2012-13	
	PM	SO _x	PM	SO _x
Boiler	9.52	8.1	1.43	15.24
CGL-1	13.23	5.53	2.27	24.25
CGL-2	9.48	1.63	1.15	20.32
CCL-1	17.36	1	1.15	81.13
CCL-2	8.64	1	3.28	106.62

* PM are in mg/Nm³ & SO_x in Kg/day

Essar Steel Hazira is first to be rewarded under India energy efficiency project

Essar Steel Hazira, was the first among 93 companies country-wide, to fulfill the stringent India Chiller Energy Efficiency Project (ICEEP) protocol and comply with its requirements.

Leading Indian developmental bank, IDBI, has been implementing the ICEEP in association with the World Bank and Ministry of Environment and Forests (MoEF), Govt of India. The project is aimed at accelerated replacement of energy inefficient Chloro Fluoro Carbon (CFC) based centrifugal chillers with more energy efficient non-CFC chillers. This is a unique project that combines the phase out of CFC chillers, with reduction in Greenhouse gases (GHGs).

ESTIL received a cheque of INR 34 lacs, from IDBI, Mumbai, on successful completion of its sub-project for replacement of three CFC centrifugal chillers, each of 300 TR, with energy efficient non-CFC chillers (350 TR each), at its integrated steel plant at Hazira, Gujarat.



The cheque was handed over to Pranab Mondal (left) by Yashpal Gupta, GM-IDBI Bank, (right), at their Cuffe Parade office in Mumbai



ESTIL Team with the cheque

Chillers impact the global environment in three principal ways. First, compression refrigeration chillers can harm the ozone layer through release of ODS (Ozone Depleting Substance), like CFCs used as refrigerant and released due to leakage, servicing, and decommissioning. Second, refrigerant emitted from chillers (including non-ODS refrigerant substitutes) can also have high Global Warming Potential (GWP), which means that their accumulation in the atmosphere traps and reflects heat, potentially causing global climate change. Third, chillers consume significant amounts of energy, either directly for absorption chillers or indirectly as electricity generated through fossil fuel combustion, both of which produce greenhouse gases (GHG). The impact on the ozone layer and/or global warming impact of refrigerant emissions are direct impacts.

Waste Water Generated (m ³)	2011-12	2012-13
Hazira	23,46,220	16,98,710
Pune (gardening use)	43,118	30,706
Pune (Process reuse)	53,220	52,684

Effluent Water Quality for Hazira

Water Quality (mg/l)	2011-12	2012-13
Suspended Solids	4.0 - 15.83	5.29 - 24.33
COD	25.81 - 36.62	21.46 - 37.17
BOD	8.21 - 12.44	6.98 - 11.76
Oil & Grease	0.77 - 0.97	0.57 - 0.81

Other units of Essar Steel India do not discharge any waste water outside plant boundaries and instead use for irrigation/gardening purpose or for process use.

Hazardous Waste Hazira	2011-12	2012-13
Used Oil (KL)	488.17	326.3
ETP Sludge (MT)	186.68	2010.5
Zinc Dross (MT)	758.5	823.07
Container (From Process & Pollution control facilities) Nos.	2502	1630
Paint drums (From Process) Nos.	105	120

Non-Hazardous Waste Hazira	2011-12	2012-13
EAF Slag/BF Slag (MT)	1689917	2024532
Iron Fines (MT)	93253	94501
Mill Scale (MT)	83558	64857
Iron ore Fines (MT)	378225	628693
Lime Fines (MT)	19984	37032
Off Grade Lime / Dolime (MT)	5670	5540
Line stone/ Dolomite Chips (MT)	206994	197802
Wooden scrap	2077	1282

Hazardous Waste Pune	2011-12	2012-13
Used Oil (MT)	439.98	233.4
ETP Sludge (MT)	366.18	206.220
Grinding Dust	34.38	36.36
Paint rags	33.04	31.2
Discarded Barrels	11471	23738

Non Hazardous Waste Pune	2011-12	2012-13
MS Scrap (MT)	22572	22572.6

Hazardous Waste Kirandul	2011-12	2012-13
Used Oil (KL)	24.03	11.73

Hazardous Waste Vizag	2011-12	2012-13
Used Oil (L)	5975	9450

The treated effluent conforming to the standards prescribed by Gujarat Pollution Control Board (GPCB) is discharged into estuary of Tapi river. Further, no water body is significantly affected due to the operations. There were no significant spills during the reporting period at any of the operational locations of Essar Steel India. Essar Steel India does not transport any hazardous waste internationally. Essar Steel India does not transport any hazardous waste internationally.

ESPF has the two effluent treatment plant, One ARP and Multi-effective evaporator which is treating the plant effluent. The oil is collected from the oil skimmer and sends to authorised re-processor. The hazardous waste generated after effluent treatment, the sludge is generated and it is sent to Common Hazardous Waste Treatment Storage Disposal Facility. Paint rags are generated from the colour coating lines is sent to Common Hazardous Waste Treatment Storage Disposal Facility for the incineration. Grinding dust is generated during the rolling grinding machine is sent to Common Hazardous Waste Treatment Storage Disposal Facility for the land filling after the treatment.

Measures for minimizing Solid Waste (SW) generation at Hazira:

- **Lime Fines:** Procurement of Dubai Limestone, which is having less decrepitating value (fines generation less than 10mm).
- **Dolime Fines:** Procurement of Dolomite Stone from Oman Source, having less decrepitating value.
- **Iron Fines:** Charging screened material to Electric Arc Furnace to avoid dust load at Fume Extraction System.
- **Slag:** Usage of good quality of raw material, i.e. Iron Ore, Pellets which is having less % of gangue.
- **Mill Scale:** The parameters like small residence time inside the furnace, lesser drop out temperature, lower Re- Heating Furnace excess air and an optimum Slab temperature at the time of charging are taken well care of.
- **Iron Ore Fines:** Procurement is mainly from Bailadilla because of material less dissipation value and the charging without dropping is preferred.

Various innovative ways identified by Essar Steel India for the utilization of Solid Waste:

To mitigate the on and off-site waste all major solid wastes are being treated as by-products and being sold/ reused. Entire quantity of slag is being utilized as a filling material within our premises for future expansion projects. By-products like Mill Scale, FES dust and Iron Ore fines, Lime & Dolime fines are being used in Sinter plant.

- Usage of EAF Slag in Compound Wall & in road making as well. Surat Municipal Corporation has given Technical approval of EAF Slag for road making.
- Iron ore beneficiation plant to reduce the gangue percentage in Iron ore, to improve the productivity as well as to reduce the generation of Slag has been installed.
- Brick having an excellent strength are produced from Iron Fines.
- Used Iron Fines utilized as a partial replacement of cement in concrete road to cut down the cement cost by 50%.
- Technology to make tiles or building blocks from the non-magnetic part of slag has been developed with the Glass and Ceramic Research Institute.
- Avenues have been explored towards utilization of Lime fines in By-pass roads.
- Drum type micro pelletizing unit is installed to convert ETP sludge and Filter cake sludge into micro-pellets, so as to utilize the same in Sinter Plant.
- Drum type micro pelletizing unit is installed to convert Iron fines into micro-pellets, so as to utilize the same in Sinter Plant.
- To utilize Iron fines and Sludge Pond Fines in Sinter plant.

- Modes of utilization of the Solid Waste generated are depicted as ahead:

	 Road made with Iron Fines Tiles made out of Electric Arc Furnace Slag 
	Coils Storage Yard, Concreting above Electric Arc Furnace (EAF) Slag Filled Land
	EAF Slag Bed at Heavy Vehicles' Parking Lot at M/s Reliance Industries Ltd, Hazira
	Granules made out of Fume Extraction Dust & Sludge Pond Fines

Consequent to various initiatives taken to reduce the water consumption, following have been attained:

- 5th Facility of rain water harvesting near Utilities-CMS T-junction-Capacity-25000 m³/Season-Completed.
- Reuse of Conarc furnace soft water blow down of one circuit as make up for another circuit@160 m³/day (Total water saved-52,800 m³ for the 330 days of operation in the year. Monetary benefits were in tune of 14.26 Lacs).
- Installation of Element less cyclone separator (250 m³/hr. LAKOS - USA make) in Caster # 3 Secondary system. This has reduced the process load on Pressure Sand Filter; hence reduction in backwash water generation. This has resulted in saving of 180 m³/day of industrial water.
- Saving of 800 m³/day, filter backwash generated water of Continuous Casting Machine (CCM) 3 spray / RH De-gasifier Pressure Sand Filters (PSFs) through Multi Media filter.
- Saving of 600 m³/day, filter backwash generated water of CCM 1 & 2 spray PSFs through Multi Media filter.
- Utilization of 250 m³/day INOX plant blow down water in plate mill.
- Recycling 2,000 m³/day of HBI (Hot Briquetted Iron) blow down water through de-Alkalizer.
- Utilization of 1200 m³/day of caster spray system blow down water through de-chlorinator / multi bed resins and using in the same circuit as make – up.
- Usage of 600 m³/day of treated Sewage Water for Horticulture
- Usage of 800 m³/day of treated effluent for Horticulture
- Usage of 80 m³/day of treated effluent for road sprinkling.
- Plan to install floating cover aids over our reservoirs to control the evaporation losses by 98%.
- Utilization of 1,500 m³/day of Power plant blow down water in HBI.
- Rainwater conservation measures have already been undertaken and conserved ~2,19,089 m³ rainwater in FY 2011-12 & ~ 42,334 m³ rainwater during monsoon of FY 2012- 13.

Measures for Air emissions:

- The up-gradation of Fume Extraction System (FES) at Electric Arc Furnace (EAF) as per Danieli, Italy based Steel Plant, has been accomplished. FES is main Air Pollution Control Equipment attached to EAF. The up- gradation here includes increasing the no. of Bag Filters & fans of FDC and an increased capacity of Induced Draft (ID) fans.
- Installation of New Forced Draft Cooler (FDC) at EAF-3 & Parallel FDC at EAF-2.
- Concrete flooring in Lime Plant area.
- Re-carpeting of roads of Steel Plant.
- Up- gradation of Dust Extraction (DE) system for Kiln- 1&2 and new DE system for Kiln-3 & 4.
- Modification of Ladle Furnace (LF) suction hood to improve the suction of LF dust. Additionally, all the LF ID fans are being replaced with higher capacity fans.
- Installation of bag filter of higher capacity at Kiln-1 & 2.
- Water sprinkling is carried on a frequent basis.
- Dry fog system commissioned at Material Handling area to reduce work zone dust level. This System avoids chemical usage; instead plain water is mixed with compressed air in a ratio through our highly efficient acoustic nozzles. Nozzles produce millions of miniscule water droplets (0 to 30

microns in size) in the form of a dense dry fog, which can efficiently contain and control even fine dust particulate (<10 micron size).

- Successfully commissioned “Modular Dust Extraction system” in MH HRC area. Total 6 nos. of units are Installed.
- Application of ‘Soil Segment’ chemical on the coal fines heap stacked was carried out. Two coats of soil segment were applied on the heap. Approx. 5000 sq. meter area was covered and found satisfactory results.
- Essar steel on pro-active basis declared the following 03 upcoming environmental improvement projects at the 6th Vibrant Gujarat Summit -2013. The initiatives were well appreciated by Gujarat State Environment Minister, Gujarat Pollution Control Board (GPCB) Chairman & Member Secretary.
 - 1) Coal Fines Briquetting for subsequent usage in Corex Plant
 - 2) Zero discharge of existing Essar steel plants treated effluent.
 - 3) Further Up-gradation of FES system in Steel Making Plant-1(SMP1)

At Hazira complex, in order to mitigate the fugitive emissions during transportation water sprinkling is done on haul roads & use of mechanized road sweeping of different categories as well as manually with the help of labourers all the roads cleaning activities including material handling areas across the steel complex is done on daily basis.

ESPF Pune is located near the village of Sanaswadi and Dingragewadi. ESPF is Zero Water Discharge Steel Plant. We are using all the treated water for Process and gardening. We are having the following environmental Protection System in place.

- 1) Multi-effective Evaporator- Zero Discharge plant
- 2) ETP-1 is installed to take care of the chrome effluent
- 3) ETP-2 is installed for the treating the rinse water & coolant from the Mill
- 4) Acid Regeneration Plant is installed for treating the waste acid and re-using the treated acid with having the double wet scrubbing system. Online HCl detector is installed for daily monitoring.
- 5) Propane is used across the plant as a fuel and Propane is clean gas which is having negligible emission of SO_x.
- 6) Redox Thermal Oxidizer (RTO) is provided to remove the toxic fumes from the coating lines.



Environmental Protection Expenditures

Environmental conservation has always been a top priority for Essar Steel India and the various facilities have allocated annual budget for revamping and modernising the environmental protection equipment.

Environmental protection expenditure at Hazira:

- Revamping of 3 EAF & FES as per Danielle recommendation incurred Rs. 37 Crore.
- Installation of Dry Fog System in MH area incurred Rs 2 Crore
- Installation of Higher capacity BF & De-dusting systems in lime plant incurred Rs 2 Crore.
- Modification in existing FES of EAF-1 & 2 incurred Rs. 12 Crore.
- To put up new ETP for CRM Plant Rs 16 Crores are being incurred.
- Installation of Online AAQ stations incurred Rs. 1 Crore.
- Installation of new design Forced Draft Cooler (FDC) for EAF-3 incurred Rs. 12 Crores.
- Towards installation of Ladle Furnace (LF) booster fan Rs.1.05 Crores are being incurred.
- Installation of Modular DE system in MH area incurred 33 Lakhs.
- Recurring expenses of Rs. 200 Crores / year towards O&M of pollution control equipment's for FY 2011-12 & FY 2012-13.

Environmental protection expenditure at Pune:

- Installing Multi-effective evaporator & ETP-2 modification – Rs. 85 lacs
- Environmental Laboratory- Rs. 20 lacs
- Maintenance of the Environmental Protection system & Chemicals – Rs.50 lacs / year
- Vermi-composting of the canteen waste- Rs. 1 lacs
- Disposal of Hazardous waste- Rs. 6.6 lacs/ year

Supplier Assessment

We insist to have ISO 14001 certified supplier for our raw materials & products input & to comply with HSE policy laid by company to ensure that Efficient Environmental Management system followed by supplier as well.

Essar Steel India monitors & evaluates suppliers on periodic basis to ensure that they continue to represent best supplier for the enterprise. Emergence of new technology shifts the industry structure & it reveal need to re-evaluate the choice of Suppliers or Practices & include new suppliers as technology adoption progresses.

Supplier's reaction to ratings depends on how they are presented. We present ratings in Constructive & Problem Solving manner to identify opportunities for improvements. Joint efforts to improve performance are integral part of Supplier development programs which we conduct at Essar Steel India.

Notable actions we undertake in supplier reviews include:

- Conducting HSE reviews of our direct suppliers on a routine basis
- Performing onsite evaluations to assess HSE performance
- Avoiding new relationships with suppliers that present excessive risk
- Developing and implementing improvement plans for suppliers that present elevated but manageable risks and who are amenable to implementing timely corrective actions
- Providing tailored training to current suppliers that demonstrated elevated risk
- Conducting subsequent reviews following closure of improvement plans

Procurement Practices

Domestic purchases are defined as local. Significant location is Hazira where Integrated Steel Plant is located.

Purchases (INR)	2012-13	2011-12
Capital Goods	4,296,397,251	9,067,914,025
Prod. Cons., S&S, & Fuel	39,362,201,386	43,944,729,376
Raw Material	46,653,625,655	29,924,369,278
Traded Goods	26,666,811	
Grand Total	90,338,891,102	82,937,012,681

Essar Steel India recognizes that their long-term health is closely tied to the health of the community in which they operate. We are in a prime position to benefit from the economic benefit of procuring goods from locally owned firms. Without legal and bureaucratic hurdles to overcome, policy change for the good of the community is easily achieved. Moreover, such a change can be expected to produce goodwill in the community.

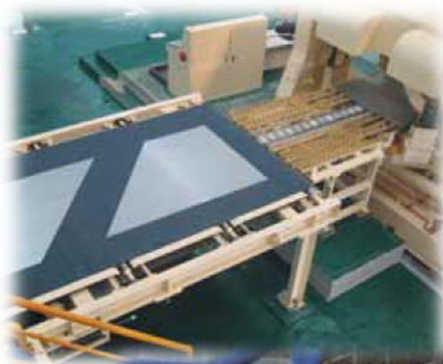
Essar Steel India seeks to foster good relationships with the community of suppliers and contractors that support our business, particularly those sources local to our operations. Our regions spend an average 60 percent of their budgets with local suppliers, defined as vendors local to the geography.

ESIL prefers local suppliers i.e. nearer to the Plant with good quality of material so that Road/Rail transportation time, fuel consumption is reduced & local labours get engagement. We prefer ISO 1400A certified suppliers. Selection or Screening also emphasises on registration of the supplying Firm with Govt. authorities like Sales Tax- Central Excise- Service Tax & Income Tax so that Govt. revenues gets collected for development of the society, installation of proper equipment, offered price & credit facility, lending Bank's credit ratings, & timely delivery.

Periodic evaluations of contracted companies are part of Essar Steel India supplier relationship management strategy. The result of these evaluations is the Supplier Performance Index, which seeks quality, transparency and continuous improvement in the relationships between suppliers and our company.

The evaluations are made using questionnaires that encompass technical, sustainability (health, safety and environment) and contract administration criteria. For this reason, the methodology is part of the decision-making process for new contracts.

This Performance Index incorporates the suppliers from the main operating areas within India and abroad.



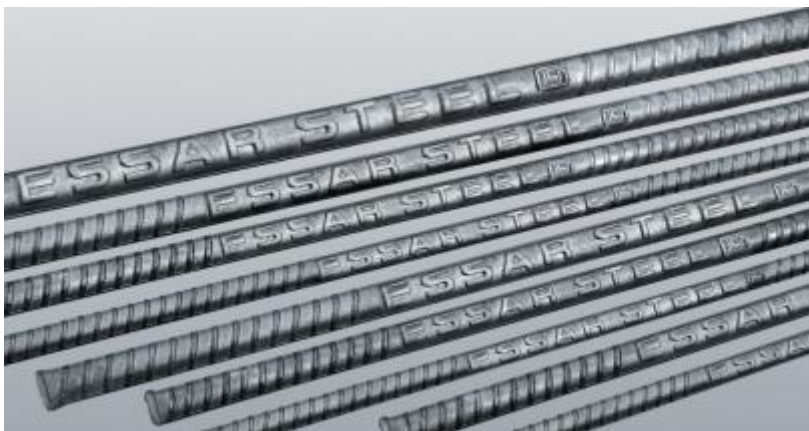
Product Responsibility

Essar Steel India's Product are used for application ranging from auto, structural, construction, engineering equipment's, defence etc. The health and safety impacts of products strongly influence all life cycle stages particularly during Research & Development, New Product Development initiatives, Manufacturing and Production. Essar Steel India provides the framework to ensure product safety for customer. None of the products manufactured or marketed by Essar Steel India have been banned or restricted for sale.

Essar Steel India has taken the following initiatives for health and safety impact assessment:

1. Development of high strength to weight ratio products

Essar Steel India developed high strength products having the Y.S of 650 MPa to replace the low strength products Y.S 450 MPa in the chassis application which results into the overall weight reduction of the vehicle, similar replacement done in wheel application; replacing steel with YS 300 MPa to 450 MPa; results in to less steel consumption, saving fuel cost and emission in the environment.



2. Development of lower thickness Hot rolled products for replacing Cold rolled equivalent thickness

Essar Steel India has developed 1 mm thick Hot rolled strip through CSP (Compact Strip Production Mill) which leads to the elimination of the further cold rolling operation of some of the steel grades. The elimination of one process means saving the power, fuel, time results less impact on the environment and safety.

3. Technical recommendation for safe product processing

Essar Steel India has provided solution for high strength, abrasion resistant plate product processing to the customer end ensures the safety.

4. Recycling of plant waste

At Essar Steel India there are numerous in house projects going on to effective utilise the plant waste like BF slag, EAF slag and usage of polymer binder for the coal fines to convert it into the briquettes to charge it directly into the BF.

Essar Steel India has varieties of products according to the customer requirements. The technical certificates are issued as per the standard prescribed by Bureau of Indian Standards. Essar Steel India has not received any complaints regarding incidents of non-compliance with the health and safety of products and services. Steel products are generally environment – friendly and do not pose any health or safety hazard during their use. Therefore, specific procedure for preserving customer health and safety during the use of its products is not required. The process by product like slag and some hazardous wastes are also generated. Use of safety appliances like safety helmets, boots, gloves etc. is mandatory for the workmen. Hazardous waste handling is done as per Hazardous Waste (Management, Handling & Trans boundary Movement) Rules 2008.



Essar Steel India as the supplier of steel products contributes information on health, safety, and environment down the supply chain.

Essar Steel India got certified as ISO TS 16949 in 2007 within a year of commissioning of Cold Rolling Complex.

For all the operations Essar Steel India has performed the Process FMEA (Failure Mode Effect Analysis). Based on FMEA, Control Plans are formed for higher Risk Priority Numbers (RPN). While making Control Plans it is defined that which Critical to Quality (CTQ) and Critical to process (CTP) we are going to monitor by using Statistical Process Control Charts (SPC).

In case of products, for any new product development in Auto segment Advanced Product Quality Planning (APQP) is made by Research and Development (R and D). A cross functional team (CFT) is made which includes Customer Representative (CR) nominated by CEO, R and D Personnel, Plant Operations and Quality Assurance. As per standard requirement, FMEA, Control Plans, SPC and MSA (Measurement System Analysis) is conducted on measuring equipment and process parameters. Also for each APQP, Product Part Approval Process is made by Application Engineering which captures the Customer Specific requirements (CSR). After the product is approved at customer end and process is stabilized in plant the grade is handed over to Operations and PPC as commercial product.

So throughout the process and product flow across the operations and supply chain (service centres/ hypermarkets) there is complete control on variation with respect to quality, quantity and delivery. On the whole customer expectations are exceeded.



Essar Steel India fulfils its responsibility for providing information on its product to customer through FME, technical marketing, Application Engineering team who interface with diverse range of end users including OEM's, vendors. The company provides detailed test certificate whenever required by customer to validate that right quality material is provided for an application.

Application Engineering team and sales team communicate with customer regarding the use of product, and help them realise maximum benefits from its product and services.

Complaints/feedback raised on product safety by customers is monitored. No incidents of non-compliance in the matter of customer health and safety were reported during the FY 2011-12 and 2012-13.



Process Improvement activities at R&D:

Essar Steel India has beneficiation units at Dabuna & Kirandul serving to pelletizing units at Paradip & Vizag respectively. The primary sources of iron ore are from Barbil region of Orissa, Bailadila region of Chhattisgarh and some parts of Rajasthan as well. Essar Steel India has a combination of technologies like Blast furnace, Corex and Midrex etc. for iron making, Electric arc furnace & Conarc for steel making with hot and cold rolling facilities, uniquely configured compact strip production mill, plate mill and pipe mill.

The primary goal of process R&D in terms of environmental sustenance is as follows:

Reduce, Reuse and Recycle:

Essar Steel India's R&D has been making persistent efforts for the zero waste initiative. The contribution in terms of, conservation of raw material, value recovery, improvement in energy efficiency, waste recycling etc. has been phenomenal. Following are the areas in which R&D has been making continuous progress.

Recovery of values:

In the past, raw materials which were below the specification of the furnace has been considered as a waste and dumped/discarded. But in view of the depleting natural resources, such materials have been given special thrust for recovering the value of these minerals for effective utilization.

Essar Steel India's R&D's previous initiatives in value recovery involved briquetting of coal fines (less than 6.3mm) using a polymer binder for charging in Corex (successful trial has been taken by substituting 15% coal in coal blend without hampering the process), DRI fines agglomeration for direct charging in steel making units, Effluent treatment plant sludge micro-pellet recycling in sinter plant, exploiting the sensible heat of steel slag for producing highly beneficial Hydrogen gas and simultaneously granulating it, thereby reducing the energy required for further combination.

Currently, R&D is focused on direct utilization of fume extraction system dust, Corex sludge in the form of cold bonded pellets for charging in Corex, recovery of iron values from iron ore tailings by either optimizing magnetic circuit or including it in sinter mix, improving the percentage utilization of low cost, low quality coal in the fuel blend of Corex process, recovery of iron values from steel slag through magnetic separation, effective separation of iron and carbon from blast furnace flue dust and various beneficiation methods for improving lean iron ore usage like column flotation, selective flocculation etc.

Waste management:

R&D has always focused on zero waste and alternative ways of utilization of waste like civil construction etc. These initiatives include utilization of Blast furnace slag as a replacement of sand media in industrial water filters (has a potential to replace 150T of sand filter media being procured every year for this purpose), indigenous technology for utilization of steel slag in the form of tiles, paver blocks, for low cost housing etc., reduction of COD (Chemical Oxygen Demand) of CRM effluent through electrochemical Method etc. Currently, R&D is conducting research on replacement of cement with ground granulated blast furnace slag in making concrete paver blocks.



1. Cold Bonded Pellets



2. Paver Blocks made from Ground Granulated BF slag

Modelling and simulation:

R&D has made significant contribution for optimizing the process through online predictions and providing an insight towards the inaccessible areas in the furnace. This has been possible only through mathematical and physical modelling. Such successful modelling assignments include Online RIST Model for carbon rate optimization in Blast Furnace, CFD Modelling for Pulverized Coal Injection into Blast Furnace thereby enhancing its utilization, reduction of time taken for various heat treatments like Batch annealing to save the overall energy and cost etc. Water models have also been successful in improving energy efficiency by improving Performance and Reducing Reject Volume in thin Slab casting tundish, Port design optimization at ladle furnace for efficient desulfurization etc.

With Essar Steel India's focus on 'Customer First', there has been considerable concentration by the SCM team on meeting and exceeding customer's expectations through our order fulfilment process. Focus has also been on planning through systems in order to eliminate Human Error.

The Parameters that are tracked are as follows:

- On Time Readiness Index (OTRI):
 - OTRI is a measure of whether customer orders are produced on time and in full. Within the time period considered, OTRI is taken as a percentage of the orders where quantities are produced in full for all orders whose due date is within the time period. OTRI is calculated on a 10 day bucket and monthly basis.
- On Time Delivery Index (OTDI):
 - OTDI is a measure of on time dispatches to customer after production is confirmed. The Standard time considered is 4 days after due date i.e. goods should be dispatched within 4 days of production or end of bucket whichever is later. OTDI is calculated on a 10 day bucket and monthly basis.
- RO Fill Rate
 - Fill rate is used to measure rate at which Retail Outlet SKU Demands are met. It is taken as a percentage of SKU demand per RO for which production done. This is tracked on a monthly basis

Fill rate for Essar Steel India Hyper mart (Retail outlets) is calculated on a monthly basis.

FG Fill rate- is the fulfilment of at least some part of the total quantity ordered against a particular location-SKU. As can be seen from the analysis FG Fill rate for April has increased from 61% to 90%.

Invoice Fill rate- is the fulfilment of at least some part of the total quantity against a particular location-SKU in invoicing. 31% increase in April as against March.

Absolute Fill rate- is the fulfilment of some part of order quantity against a particular location-SKU on the receipt at the location. 30% increase in April as against March.

Receipt quantity fill rate- is the total quantity received at respective Hypermart against the ordered quantity. 31% increase in April as against March.

Essar Steel India has connected its operations on-line to all major customers using its ERP system. These customers can simply go on-line with Essar to check their order status; dispatch details by order, size, grade or date, complete with truck numbers and invoice numbers; the status of accounts and due payments; and a host of other factors. Over and above customer has access to FMEs region wise to interact and know exact status of their order. Our policy is to be with the customers all the time and improve upon customer relationships by ensuring that our application engineers are available nearer to or at the customer's premises for obtaining feedback on proactive basis. Senior officials also visit them on proactive basis in addition to the visits by the line personnel. We also attend international seminars and conferences where we meet our existing and prospective customers and share more knowledge on the market so as to have a win-win situation for both in the end. Utilizing the existing IT infrastructure Essar Steel India has been providing the latest real time information through marketing offices and customer service departments to customers. In case the customer enquiry is not resolved through the normal process,

Marketing Division organizes meetings with customer at plant levels with concerns and mutually agrees about the requirements and possibility of supply. During the discussion, issues like delivery, quality, volume of order and specification etc., are discussed at depth and resolved. To make the recipe tastier, the idea of a Customer Care Centre (CCC) for 24 x 7 services for our valuable customers was mooted. This went online in the assessment year. Customers get a separate login ID and password for viewing their order status. They can lodge quality complaints through the CCC. CCC will give feedback to customer regarding production start/ end date, dispatch details with pack list and respond to the queries.

A web based CRM (Customer Relationship Management) has been introduced to address the customer concerns. This is a system where in customer can directly lodge the complaint with the given login and password. The system is having following features:

- Unique complaint no. for each complaint.
- Easy tracking of complaints.
- Easy access by customer / FMEs to lodge complaints and view its status.
- All correspondence on complaint and analysis at one location.
- Web based system and accessible via internet.
- Faster resolution of complaints.

Customer Satisfaction Index

Essar Steel India has devised innovative method to capture Customer Satisfaction on the basis of Quality performance, Delivery of products and Services rendered to the customers through actual performance and independent survey. The Customer Satisfaction Index is consisting of three parameters as under:

- Index to Quality
- Index to Delivery
- Index to Services

Index to Quality takes into consideration the complaints raised by customers. Index to Delivery considers the deliveries of customers ordered products to them. To assess index to services, a questionnaire is sent to customers to obtain their views/feedback for the referred period with respect to their new requirements, product performances, complaints and marketing concerns. All the feedback obtained are assessed and converted to index.

Customer Engagement Activities

Customer Satisfaction Survey (CSAT)

We have conducted a CSAT survey in March 2013 to gauge and understand the customer's mindset in terms of satisfaction, pain points and expectations. The survey was conducted among OEM customers and resulted into customer satisfaction index of 58 which is above the industry average.

Events:

To reach out directly to our customers and communicate relevant range of products and services offered by Essar Steel India, we participate in leading industry events and conduct customer meets. Some of these events include—

Defexpo 2014: For our Plate Mill SBU, we participated in this event that focuses on our capability to supply steel to the highly discerning defence sector.

Roof India 2013: For our ESPF SBU we participated in this event to showcase our product offerings in roofing & cladding segment.

Customer meet – Knowledge forum is a series of customer meets we conduct with our existing and prospective customers to promote our capabilities via case studies, etc.



Other activities:

Email campaign – On a fortnight basis, we send email on product to our customers informing them on products and other developments

Newsletter – Steel today, our bi-monthly newsletter that is sent to customers

Website – The website (www.essarsteel.com) provides a platform for our customers to read more about our products and services, send product enquiries and also check the order status online (CRM portal link)

Product & Process Innovation

R&D is involved in providing prompt, innovative and cost effective ways in the process and products. The major efforts are always directed towards new product development, as well as improvement in the existing products and processes. It also has focus on cost reduction, quality improvement and value addition to the products. R&D designs the chemistry considering the customer specifications, in-house plant capabilities and basic metallurgical principles. Trial heats are taken and process parameters are optimized. Standard Operating Procedures for operations are defined and products are cleared for commercial production. The steel products are sent to consumers with minimum packaging. Essar Steel India does not reclaim the packaging materials and the packaging disposed or used by the consumer.

Customer feedbacks from the commercial production are monitored and progressive adjustments in the alloy design and process parameters are made through numerous iterations. In addition to this R&D is also involved in process optimization activates leading to cost savings.

Project Title	Grades developed	Assessed benefits
Alloy Steel Plates for Pressure Vessels for Elevated Temperature Services in Petrochemical Industries	ASTM A387 Grade 22 Class 2	Cr-Mo alloyed steel plates are used in the petro-chemical industries for fabrication of heat exchanger and process reactors.
High Strength Microalloyed Steel plates	SAILMA 550 HI Equivalent	Steel plates with yield strength 550 MPa are used in Modular Trailers for transportation application.
High-Strength Low-Alloy Structural Steel for Atmospheric Corrosion resistance	ASTM A588 Gr. A/Gr. B EN 10025-5 S355J2W-N	Weathering steels are used for applications where resistance to atmospheric corrosion required.
Weldable fine-grain structural steels for Pressure Vessels for Elevated Temperature Services	EN 10028-3 P275NH/P355NH	The plates in normalized condition are used for applications like Blast furnace shell, convertors, and fabricated parts operating at temperatures up to 400 °C
High Strength High Toughness Line Pipe	API 5L X-80	It is design with new alloy concept of high temperature processing called HTP chemistry. The new concept allow formation of acicular ferrite microstructure after accelerated cooling
Development of plates for armor application in combat vehicles	CDA99 CI-1	This steel is to be used in manufacturing of armored vehicles
Development of Abrasion Resistant Steels	ROCKSTAR 450 and ROCKSTAR 500	Essar Steel India produces two abrasion resistant varieties of plates with brand name of Rockstar 400 & Rockstar 450, which guarantee a minimum hardness of 370 & 425 BHN respectively.
Development of S650MC equivalent DOMEX650	SRDEP650	Long member for Auto component for commercial vehicles.
High Strength Steel for Wheel Rim	SPFH540	This grade is a hot rolled high strength cold forming grade as per JIS G 3134 specification & is suited for wheel rim application for passenger cars.

High Strength Steel for Cold Forming E34

The grade is specially designed for structural components like chassis parts for four wheelers.

For maintaining the sustainability in the Iron Making route, Essar Steel India has bought Corex technology from SVAIC and commissioned in the assessment year. Non – coking coal and iron ore fines can be directly used in the Corex process. This has reduced the dependency on valuable natural resources and brings about the cost effectiveness in the process. Also the Corex gas generated in the process is being used as a replacement of natural gas in various processes like plate mill, DRI, CSP mill, lime plant and Conarc.

Process Improvement Projects

Project Title	Impact on Process	Expected Benefits
Improved Performance and Reduced Reject Volume in a Thin Slab Casting Tundish	Improves caster yield	Inputs have been captured in form of plant data which would serve as inputs for redesigning of tundish internals
Mathematical model for plate cooling behavior during quenching in plate mill	Increases the productivity and reduces the alloy cost	Optimum recipe for the grade can be designed and capacity of the quenching line can be redefined
Mathematical Model for Nitrogen gas injection in Ladle Furnace	Reduces alloying cost by strengthening and using proper nitrogen control	Better control of final product quality & cost reduction
Online RIST Model for carbon rate optimization in Blast Furnace	Reduces coke rate for Blast Furnace operations	Reduction in cost of liquid Hot metal
Mathematical model to predict the Temperature profile of Plates during ADCO cooling in Plate Mill	Better control of final product quality.	The model will help in exploring feasibility of cooling higher thickness plates
Briquetting of Non-Coking coal fines for Corex using Polymer based Binder	Decrease in cost of hot metal production by using polymeric binder	Setting up of pilot plant has been initiated.
Utilization of Low Fe (47%) Red Ochre Iron ore fines	Decrease in cost of sinter production	It is a study project where in alternate sources of iron ore are being explored and characterized.
Qualitative analysis of Zimbabwean coals	Technical support for sourcing coal	Proper blending of different coals for reduction in cost of raw materials in iron making
Improvement in discharged effluent quality as far as Chemical Oxygen Demand (COD) is concerned in CRM	Reduction of Chemical Oxygen Demand (COD) to acceptable levels prescribed by Pollution control board	Large scale ETP set-up is planned to be implemented in the effluent treatment plant with the help of team from Environment and Utility departments.
Optimization of Annealing Cycle in Batch Annealing Furnace (BAF) at Essar Steel India Pune Facility (ESPF)	Reduction in annealing cycle & reduction in fuel and gas consumption.	Further fine tuning of the process can be done

Reduction of Ferro alloy consumption by optimizing the alloy addition in 15 grades

This has led to a substantial cost saving

The cost saving is an on-going savings in all the grades produced hereafter as the future production of these grades will be with optimized alloy chemistry.

Commissioning of CSP Mill completed in the assessment year and commercial production of 1mm ultra-thin coils has been started. Also necessary modifications were done in the furnace to utilize the Corex gas. This has reduced the natural gas consumption of CSP Mill and subsequently brought down the cost of production.

Apart from above main facilities, the following other facilities have also been commissioned for utilization of waste gases and by-products.

- 1) VPSA unit to utilize Corex gas at DR modules – commissioned in Nov'11
- 2) 19 MW power plant commissioned in May'12 to utilize the energy of flue gases from blast furnace and DR modules for power generation.
- 3) SAP unit to utilize the Corex sludge and FES dust from Conarc for production of granules that can be used for sinter making.

Following technological improvements were done in Cold Rolling Mill complex for improving safety, quality, productivity and cost reduction.

- Platform installed on hydrogen storage tanks for checking of safety valve and pressure gauges which was otherwise not accessible easily.



- 12 bases of Batch annealing furnace made water-cooled along with higher RPM motors and 4 bases transferred from PUNE facility for enhancing the capacity of annealing facility. Current annual capability is 0.75 million against previous annual capability of 0.66 million tons.



Alignment with Business Policy

- Waste Heat Recovery projects to reduce energy intensity and emissions.
- Efficient utilization of resources reduces Cost of Production and strengthens the position of company in market.
- Energy Saving projects through Audits to reduce further Energy intensity and improve efficiency.
- Alternatives production route with energy efficient advanced technology for long term sustainability, wide range of competitive products and better quality with Safety.

Energy Management Cell (EMC) Activities

- Energy Management cell based on Matrix Concept
- Vice President for Energy Management and Implementation of Projects.
- Energy Auditors and Managers in Core team and from Various plants
- Involvements of Members from each Plant and technology cell.
- Training on Energy Management through ELC for awareness.
- Independent Energy Projects execution team.
- Procurement of Energy efficient equipment
- Member of Integrated Steel Plant -Energy Operating Committee.
- Knowledge sharing session on “Energy Management System” by External and Internal faculties (Energy auditors)

Monitoring and Reporting

- On Line level-1 Monitoring and Recording at Plant Level
- Real time Energy data recording
- Daily – Shift wise and daily monitoring at plant level and Sr. Executives with HOD's
- Weekly - Review of plant performance and energy Consumption, Delay Analysis Monthly
- Review of plant performance, energy Consumption and delay analysis
- Monthly operation review meeting with Sr. Executives
- Live Monitoring through “Central Command Centre”

Exploring the New Areas of Technology

While Essar Steel India has invested in most modern technology, for the future it is constantly focused on fresh perspective and exploring alternative avenues of augmenting the operations. The need for updating the technology and augmenting the older technology with the newer ones has been realized. As a Green Technology initiative, Essar Steel India is currently exploring the feasibility of plastics injection in iron making and rubber injection in steel making facilities.

This may be implemented after detailed techno-commercial verifications. This initiative will help Essar Steel India in utilization of plastic wastes, reduce CO₂ emissions and reduce carbon footprint by conserving valuable coal reserves. As part of the company's strategy, the up-gradation plans for all the facilities have been charted and implemented. We have constantly upgraded the production process and exploited the technology to derive maximum benefits.



Beneficiation Process

- Possibility of usage of tails was studied in coordination with IIMT & Flow sheet for the same was developed. Plant scale implementation of the project is being done under tailing recovery project.
- Test Works on the possibility on direct usage of tails in pellet making are being conducted.
- Partial blending of tails with fines & its subsequent beneficiation was carried out to understand the process adaptability of the plant.



Pelletization Process

- Life Improvement test works for ceramic plates. Ceramic Plates tests were conducted with a new set of chemical reagents (Dithionite-Carbonate-Oxalate), and positive results were achieved. Now test works on the same in plant scale is under progress. A patent for the same was filed and successfully approved.
- Technical study was undertaken by installation of ceramic plates & increase in life of the plates was monitored
- Development of Online Image Processing System for finding size distribution of pellets in bailing disc
- Process optimisation study of filets and grinding circuit to increase the productivity
- Introduction of additional burners in the furnace to pre-pone the firing cycle and enable to obtain better pellet quality at higher production rates
- Evaluating mixing of oils without affecting the combustion efficiency and reduce the overall cost. As a part of this, furnace oil was introduced which has led to considerable reduction in cost of oil
- Pelletizing disc side wall modification to UHPWE liners for improved life of scrappers and increase operation flexibility

R&D for improvement of process

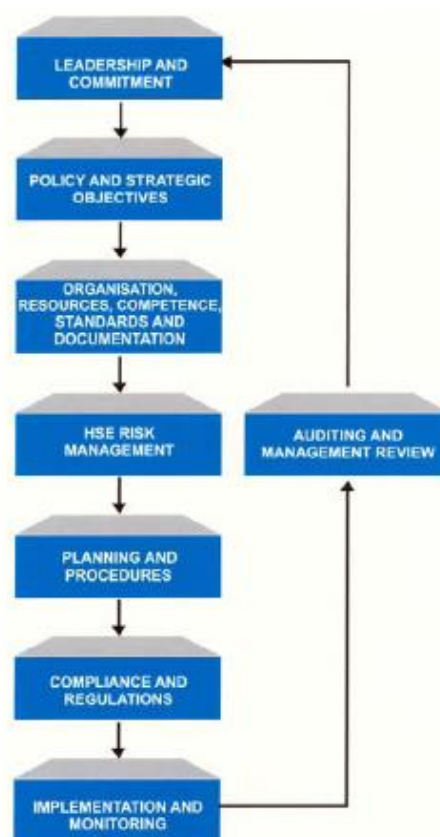
- Development of method of briquetting coal fines suitable for COREX process
- Evaluation of washability and sulphur removal characteristics of various types of coal
- Water modelling studies of tundish and mold for continuous casting
- Studies on utilisation of low grade iron ore
- Development of online real time model for estimating the mass and heat balance in the blast furnace
- Development of model to predict the plate cooling behaviour in ADCO systems of plate mill



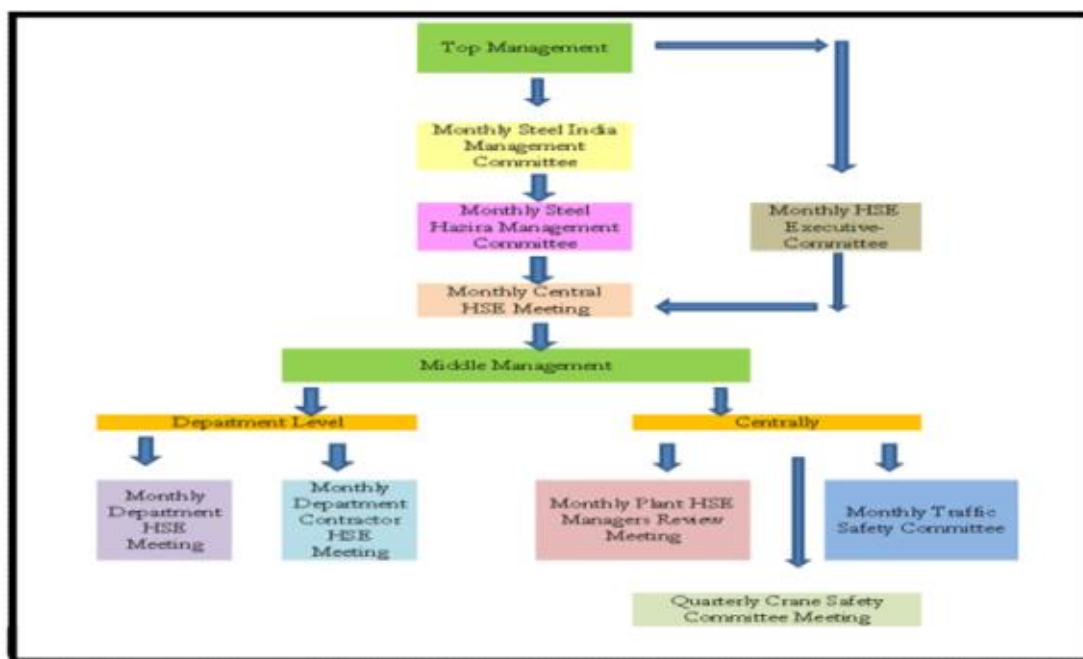
Occupational Health & Safety

Essar Steel India has made significant strides and reached several notches higher in safety performance and environment performance over the years. We are certified for ISO 14001:2004 Environment management system, ISO 9001 and OHSAS 18001. There is also a robust integrated management system in place.

At Essar Steel India, we have established HSE committees, so as to balance and resolve conflicts between HSE and other organizational Objectives. A description of the HSE Committees at different levels of the management is described below.



HSE Management at Essar Steel India



HSE Policy at Essar Steel India



Process Safety Management System

We have established Process Safety Management System (PSM) in line with OSHA Standard 1910.119.

HSE Index

HSE Index is one of the best practices adopted by Essar to assess the Safety Performance of all Departments / Plants. The minimum HSE Index to be achieved by each Department / Plant is 90%.

Cross Functional Annual Safety Audit by Senior leadership



To achieve sustainable HSE Performance and also demonstrate the commitment, involvement and participation of Leadership Team, an annual Cross functional HSE Audit is executed for promoting the best HSE Practices in the plant premises.

Deployment of Safety Marshals

In our Essar Steel India Hazira premises, we have deployed 56 Safety Marshals (Ex-Army Background) on various locations in and around the plant on round the clock basis. They have been given basic safety training and their duties to ensure that basic safety practices are being followed in the plant premises.

Deployment of Safety Marshals at various sites of the plant.



Accident Statistics

First Aid Case	2011-12	2012-13
Hazira	61	22
Vizag	2	2
Pune	15	16
Paradeep	-	33

Medical Treatment Case	2011-12	2012-13
Hazira	5	2
Vizag	11	11
Pune	3	2
Paradeep	-	0

Lost Time Injury Frequency Rate (200,000)	2011-12	2012-13
Hazira	0.02	0.05
Vizag	0	0
Pune	0.5	0.3
Paradeep	-	0

Fatalities	2011-12	2012-13
Hazira	2	2
Vizag	0	1
Pune	0	0
Paradeep	-	0

*Figures for Vizag are for calendar year 2011 & 2012

No lost time injuries for Vizag for 2011 & 2012

HSE Training Man hours - Hazira				
Year	Company Employees (Man Hours)	Contractor Employees (Man Hours)	HSE Induction Training (Man Hours)	Total HSE Training (Man hours)
2011-12	19832	7480	201856	229168
2012-13	32784	47977	126870	207631

Safety Anthem

We have a Safety Anthem in place, which is played and sang before the start of every meeting. Such a practice helped in creating a change in attitude, values and beliefs of employees towards HSE.

Safety Cultural Change at Work Place:

We have brought about a radical change in the hearts and mind of people working at Essar Steel India by door to door campaign for enacting Safety Nukkad / Safety Skit / Street Play (on the topics like LOTO-In Accident Out, Safety for All – All the Time, Qualitative Safety – A Dilemma, Safety Circus on Plant Safety etc.) Here in employees participated in mass and helped in developing a sustainable Safety Culture. This in turn changed the way by which bottom line employees perceived the live Safety practices and imbibed them in their day to day working.



Contractor Safety Management System



As Contractors manpower is engaged at various plant / site for different plant operation and maintenance activities with the flexibility in the way they work, but it also introduces another layer of risk where we need to place the control mechanism over all the individuals & group. Our Contractor

Safety Management System deals with the conditions, precautions to be taken for personnel safety, equipment / material safety, and process / business safety during contractual activity. Hence, we have formulated the SOP

for Contractor Safety Management System, so that the risk exposure is effectively managed to deliver on required business outcomes. This proactive approach highlights are the requirements for managing Contractors Health & Safety risk(s) which is applicable to all large & small Contractors.

We monitor Contractors HSE Performance through:

- Contractors HSE Performance Evaluation System which was already established and the same was made more stringent
- Half Yearly Contractors Performance Audit
- Conducting Tripartite Meetings for Contractors
- Conducting Bi-Monthly Communication Meet
- Health Safety & Environment Induction Video for Contractor Associates
- Online Near Miss and Safety Action Memo (SAM) Reporting System

Safety Month Celebration 2011-12

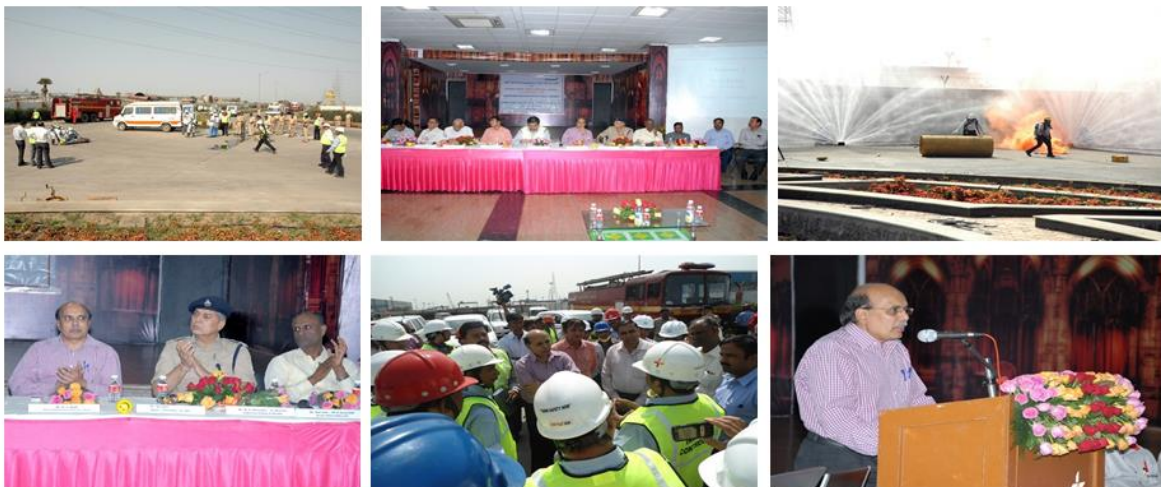
With 4th March 2012 notable as 41st National Safety Day, we carried out a "Safety Month Celebration" starting from 6th February 2012 to 5th March 2012 with great enthusiasm and fervour so as to promote the Safety of employees in the work place and reward them for their best performance. This year's theme was "Ensure Integration of HSE in work culture and life style".



Emergency Response Plan

We have carried out Risk Analysis of all our Operations from the recognized third Party & on that basis we have developed our On-Site & Off-Site Emergency Response Plan.

An Off-Site Emergency Mock Drill was conducted at Essar Steel India, Hazira Complex, which was witnessed by Collector & District Magistrate, Sub Divisional Magistrate, Dy. Police Commissioner, Jt. Director from Directorate of Industrial Safety & Health, GPCB officials, other District Officials, Press & Media, HSE Experts & Observers from neighbouring industries such as Reliance, ONGC, KRIBHCO, NTPC, GAIL, SHELL HAZIRA LNG etc. so as to review & assess the timely response for the Level – 2 emergency scenario.



Employee Development

The employees, considered to be a part of the Essar Steel India family, always celebrate and stand together. We encourage creativity and innovation in their thoughts, encourage the spirit of enterprise in them, involve them in decision-making and recognize their desirable actions. At Essar Steel India, we focus on building careers. While our regular employees are deployed in managerial, operational & critical areas, our outsourced employees (Associates) are deployed in specialized and non-critical areas. Total employees strength of Essar Steel India including hypermarkets and Steel Holdings was 5,774 for the year 2011-12 and 5,572 for 2012-13. Essar Steel India provides a minimum notice period as prescribed by the applicable regulations while making any organisational changes.

Being an equal opportunity employer, Essar Steel India does not discriminate between male and female employees and all the workers working full time for Essar Steel India are paid wages which are either equal to or more than the minimum wages as prescribed by the local administration. Further, Essar Steel India ensures that the top management is well aware of the local issues and challenges.

Policies Related to Employee Benefit

Policies	Benefits
Work Environment	Attendance Policy, Policy Against Sexual Harassment, Business Practice Policy, Open Door Policy, Media Policy
Compensation and Benefits	Group Personal accident Policy, Leave Policy, Mobile Policy, Blackberry , Next Move, Retirals, Short Term Incentive Plan, Health Insurance, Business Expense Reimbursements, Data Card, Annual Performance Linked Incentive
Travel and Transfer	Local, Domestic, Foreign Travel, Relocation allowance
Incentive Plans	STARS: Long Term Incentive Plan STIP: Short Term Incentive Plan.
Employment at Essar	Recruitment & Selection Induction, Separation

Maternity Leaves:

Total 20 female employees availed maternity leaves during 2011 to 2013. All returned back to work after the leaves of min. 12 weeks.

Female Employees Availed Maternity Leaves			
Location	2011-12	2012-13	Grand Total
Hazira	6	7	13
Mumbai	2	4	6
Paradeep	-	1	1
Grand Total	8	12	20

Total Employees	2011-12		2012-13	
	Contract	Regular	Contract	Regular
Hazira	5265	3722	5099	3726
Vizag	815	237	789	220
Pune	484	820	480	807

Total Employees	2011-12		2012-13	
	Male	Female	Male	Female
Hazira	3586	136	3585	141
Vizag	233	4	216	4
Pune	802	18	789	18

Middle Mgmt.	2011-12	2012-13
Hazira	569	575
Vizag	34	34
Pune	36	39

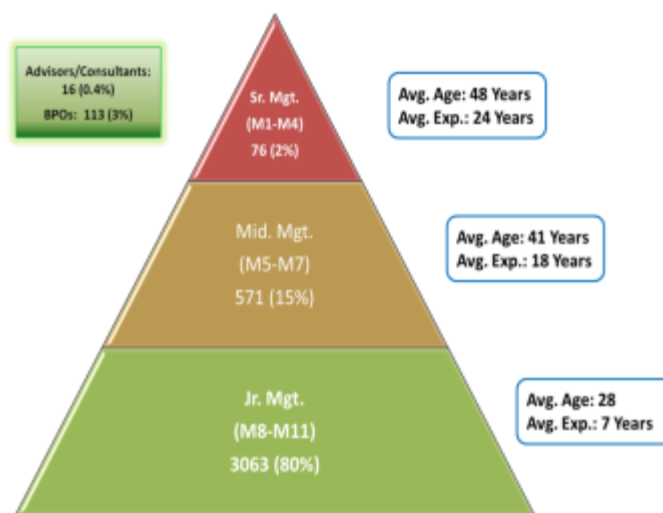
Junior Mgmt.	2011-12	2012-13
Hazira	3071	3068
Vizag	181	161
Pune	114	115

New Hires	2011-12		2012-13	
	Male	Female	Male	Female
Hazira	175	15	183	17
Vizag	40	-	4	-
Pune	20	0	33	4

Attrition in Hazira	2011-12	2012-13
Senior Mgmt.	6	7
Middle Mgmt.	20	38
Junior Mgmt.	234	304
Total Attrition	260	349
Attrition %	7.0 %	9.4%

Attrition in Pune	2011-12	2012-13
Senior Mgmt.	4	3
Middle Mgmt.	7	6
Junior Mgmt.	59	21
Total Attrition	70	30
Attrition %	34.65%	19.74%

Attrition in Vizag	2011-12	2012-13
Senior Mgmt.	0	0
Advisor	0	1
Middle Mgmt.	2	1
Junior Mgmt.	27	14
Non - Mgmt.	0	0
Total Attrition	29	16
Attrition %	3.5%	1.9%



Processes and facilities for Employee Benefit

Processes	Approach	Deployment	A&R of process and results	Impact
Family Get To gathers	Improving the quality of work life and reaching the employees' families	Departmental get to gathers at all locations and on occasions of Diwali, new year and other celebrations	New events introduced to enhance interactions	Improvement in employee engagement score. Increase in participation in various activities
Sports and Recreation	Enable employees to stay fit and provide them opportunity for recreation and helping them to unwind and relax.	Sport tournaments at corporate and units. Gym maintained with access to all employees and their families.	New events incorporated on requests of individuals	Feeling of belongingness among employees' families Positive impact of the organization image in the minds of family members
Canteen Services	To provide employees with a wholesome meal in a clean and hygienic environment	Cafeterias at all plant and office locations	Regular feedbacks taken from employees for improvement in canteen Based on feedback food menu revised to cater to diverse employee tastes.	Satisfied workplace thus satisfied employees
Transportation	Promote employee convenience in reporting to work and moving out of township.	Buses and vans provided at all units for transporting employees from township and back in accordance with their shift timings	Saving achieved by means of re alignment of bus routes. A shopping bus provided for the employees and their families to go to the city and back , with a to and fro frequency of 6 in a day	Team Building and healthy and motivated employees Enhanced employee convenience and satisfaction

Every manager has an Individual Development Discussion (IDD) with each employee in his/her team to understand / clarify career aspirations, provide developmental feedback and identify appropriate learning actions to work on development gaps. The Process called Executive Development Review is a process to clarify employee strengths and potential, help develop knowledge/skills/abilities, and facilitate career growth. The Supervisor and the Employee prepare for and then have an Individual Development Discussion (IDD). In the IDD, the employee discusses his/her career goals, future expectations and developmental needs. The Supervisor provides feedback and career guidance. Both jointly identify

learning and development actions for the employees – subsequently captured in an Individual Learning Plan (ILP).

- **Executive Development Review (EDR):** Clarifies employee strengths and potential and helps develop knowledge/skills/abilities, and facilitate career growth and is purely developmental. The EDR is a key touch-point for the Supervisor to engage the employee. The EDR facilitates a shared understanding of a differentiated development strategy for key talent in the business and the Group
- **Individual Development Discussion (IDD):** The Supervisor and the Employee discusses their career goals, future expectations and developmental needs. The Supervisor provides feedback and career guidance. Both jointly identify learning and development actions for the employees – subsequently captured in an Individual Learning Plan (ILP).
- **Training Programs:** Employees undergo the identified training programs in the subsequent year. The more critical the competency, the earlier the programs are organized. Once the programs are attended by the intended employee, their Learning Passport is stamped with that training module details.

Benefits to outsourced employees beyond statutory requirement

Processes	Approach	Deployment	A&R of process and results	Impact
Compensation	To provide competitive and comprehensive benefits to the associates.	Benefits provided to all associates apart from statutory benefits.	Schemes to motivate the associates more.	Enhanced Associates convenience and Satisfaction.
Ex gratia	Act of grace payments, to the employee's family who suffered due to uncertain demise of an Associates	Benefits provided to all the Associates' Family Members	Ex Gratia Payment made to the associates.	
Transportation	For proper and timely mobility of associates in and out of Plant	Buses and Vans provided at all plants for transporting Associates from home and back, in accordance with their shift timings.	Realignment of bus routes to enhance convenience.	
Housing Colony	Housing colony provided to associates in close proximity to plant	Housing colony provided to associates in close proximity to	More initiatives to be taken for	

	enabling them in a smooth transition between the colony and plant helping them to keep a balanced approach towards their work.	plant. Shanti Park housing colony established for the associates at Mora	Associates' and their families well I being
Connect Activities	Enable employees to get connected, and get engaged with each other. By getting involved in various activities	Activities carried out for Associates: Drawing and Rangoli Competition, Cricket Tournament – Associates Premier League. 3. Kite Flying Festival	New initiatives introduced towards Associates Rewards and Recognition

While taking up expansion projects, Essar Steel India has always taken care to incorporate the needs and expectations of the various stakeholder groups. There have been no incidents of violations involving indigenous people. In this regard, all the investment decisions by Essar Steel India go through a comprehensive due diligence process. Essar Steel India also provides adequate training to all of its employees regarding human rights aspects. These trainings are conducted on regular basis and are applicable to all the employees located at various business operations.

Essar Steel India has implemented robust policy and monitoring mechanism as a result of which there have been no cases of discrimination, child labour or forced labour in any of the operational locations. Essar Steel India has not received any complaints on environment, labour or social aspects. We are already incorporating social grievance mechanisms (meeting with sarpanch, community members etc.).

The security personnel deployed at the business locations of Essar Steel India receive training from competent authorities in order to able to carry out their duties of implementing Essar Steel India's security policies and procedures.

Platforms for resolving employee grievances

Employees are our key audience because they often serve as conduit to other stakeholders. If employees are informed & engaged, communication with other constituencies are likely to be strong as well. It is the philosophy of the Essar Group that all employees should be encouraged to discuss their problems with the management. Essar Steel India's 'Open Door' policy guarantees that employee concerns are heard, considered and answered without fear of reprisal. There are many other communication platforms available to listen and resolve employees' grievances. Effective communication also helps to establish clear expectation for employees as well as management.

Town Hall: This is a platform where Senior Leaders share the Business perspective, the way forward and action plan for next quarter. This is an opportunity for employees also to interact freely with senior leadership, seek clarifications & share their views.

Dialogue: This is a Platform to update and disseminate department & business Plans & Updates. It is also used for discussing people concerns (Like Policies, Processes, T&D, Services) and recognizing employees. HODs address their teams by giving an overview on the Business Performance and discussion on the way forward and the challenges. The platform is also used for Employee Recognition and connecting with the team.

Employee Hour: Employee hour is a unique initiative with an objective to provide a platform for junior management employees to get connected with the senior management once in a year.

Communication Meetings	Led by	Members	Frequency of meeting	Scope of discussion
Town Hall at Steel India Level	CEO	All seniors leaders across the business	Quarterly	Review Achievements of last quarter, discussion on Plan, Challenges, Issues and Decisions for the next quarter. The meeting is followed by an Open House where members can share concerns, seek clarification, give suggestions etc.
Town Halls at Hazira Level	Director-Hazira Facility	All senior leaders at Hazira	Quarterly	
Dialogue Meetings at Unit and Department level	Head-SMU / HOD	All HODs in the Unit, Junior employees	Quarterly	The meeting is similar to Town Hall though at Department level. HOD also recognizes key contributors during the quarter
Employee hour at Individual level	HOD	Junior Level Employees	Monthly	HODs meet a small group of employees 2-4 together, understand their concerns, issues on a personal level. Align them with overall business. Takes appropriate decisions for the participants
GET Connect	Head-Unit	All Graduate Engineers	Yearly	This forum is for Graduate Engineers who join us from campus.
DET Connect	Head-Unit	All Diploma Engineers	Yearly	This forum is for Diploma Engineers who join us from campus.
Video communication	Senior Leaders		Regularly	Leaders also communicate with employees through videos when a communication has to reach to masses quickly
Just Sharing	Senior Leaders	All Employees	Weekly	Fostering a culture of openness Amplifying innovative ideas
Coffee with CHC	Director – Hazira Facility	Middle Management	Fortnightly	Career counselling Development Chat

Competencies Building Programs:

- Essar Steel India is coming with the new latest technologies such as Corex, Blast Furnace, etc. to acquire fresh know how and to have exposure to deal with this technologies. A competency building program is organized for the employees to help them to hone the required skills.
- Essar Steel India, in a one of its kind collaboration with companies like VIZAG Steel, Bhilai Steel & SAIL and sends a group of employees to be trained in those technologies. Depending upon the complexity of the technologies, the training workshops ranges from 10-30 days.
- Certain new competencies building programs have been developed within the organization in the past one year. One sterling example of it is Saksham

One of the important tools to identify the competency gaps and bridge the same is via MDG (Management Development Group). This process helps create opportunities for Hi-Pers and Hi-Pos within the organization, motivates employees to raise the bar on their performances and allows the organization to fill positions from the available talent pool in the organization.

To ensure that only the 'right' and most deserving employees are elevated / promoted to occupy positions of higher responsibilities in the organizational hierarchy, in turn ensuring the quality of people moving into leadership and senior roles, the Management Development Group (MDG) Process has been strengthened and augmented with stringent evaluation techniques.

Streamlining the MDG process has been critical for the following reasons:

- To have an assessment process that is uniformly administered across businesses/locations. This helps to reinforce a culture of meritocracy where performance is valued beyond all else.
- To streamline the current assessment process making it more objective.
- To use a series of tools/methodologies to assess 'growth potential' among high performers recommended for promotions
- To link the existing MDG process with our development process and the Essar Capability Framework.

Salient features of the MDG process:

- Battery of tests based on management band
- All tests mapped back to the Essar Competency Framework, each test assessing certain or all competencies
- Scientific assessment of competencies
- Tests assigned weight ages in the overall scoring system
- Easy to understand and use scoring system which takes into consideration test scores as well as current and previous performance

E-compass is the next big step in the evolution of people practices at Essar Steel India and promises to revolutionize the way performance and careers are managed going forward. It is a change management process, anchored in technology, focusing on performance and talent management. At Essar Steel India people have always been at the helm of the process value creation for businesses.

The Career & Development planning module in e-compass aims at identifying competency gaps and formulating appropriate career development goals, leading to greater success for the employee and Essar Steel India.

The Succession Management Module in e-compass enables Essar Steel India to have a right people in the right places for maximum impact by identifying, developing and retaining talent at every level.

E-compass has further been enhanced with a single sign on integration with Skillsoft software, Learning management systems at Essar Steel India, using Skillsoft content, has enabled us to bring two world leaders together in Asia for the very first time Essar LMS and Skillsoft can enable learning on the go as all content can be downloaded for access through other devices, like blackberry and i-pads. E-compass will build a high- performance and development – orientated culture of excellence.

Essar Steel India has a structure way of identifying the competency gaps across various levels of the organization. Every manager has an Individual Development Discussion (IDD) with each employee in his/her team to understand / clarify career aspirations, provide developmental feedback and identify appropriate learning actions to work on development gaps.



The Process called Executive Development Review is a process to clarify employee strengths and potential, help develop knowledge/skills/abilities, and facilitate career growth. The Supervisor and the Employee prepare for and then have an Individual Development Discussion (IDD). In the IDD, the employee discusses his/her career goals, future expectations and developmental needs. The Supervisor provides feedback and career guidance. Both jointly identify learning and development actions for the employees – subsequently captured in an Individual Learning Plan (ILP). The EDR is a key touch-point for the Supervisor to engage the employee. The EDR facilitates a shared understanding of a differentiated development strategy for key talent in the business and the Group. Employee can access the various forms and templates corresponding to the process. The Prescribed Learning Matrices (a guideline for competency development, function wise – level wise) are also available.



Essar Corporate University (ECU)

The ECU is a virtual learning organization built over a series of education enrichment initiatives, to focus on employee career advancement. The ECU is a strategic tool designed to foster individual and organizational development and provide holistic learning by building job related capabilities while enabling professional growth through continuing education opportunities. Essar Corporate University's first offering is the Essar IIM (A) Management Education Programme (MEP), an 18-month programme in business management offered by the country's premier management institute, offered to employees who meet specified eligibility criteria.

Essar Learning Centre (ELC)

ELC at Hazira addresses the training requirements of Essar Steel India's human capital. We coordinate and conduct around 400 formal training programs per year on subjects ranging from manufacturing operations, general management, and supply chain management.

Learning for all:

Our Learning Management System (LMS) has e-modules on business, management or technical topics are provided to make learning opportunities accessible to employees.

Individual learning plans:

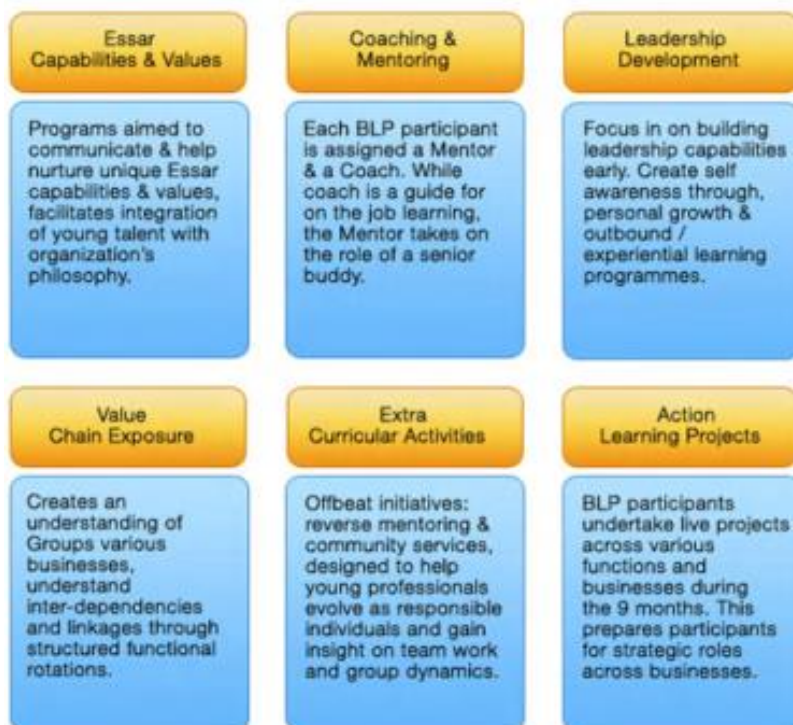
While employees own responsibility for their own learning, the learning and OD department offers inputs and tools to support employees, such as individual learning plans and learning passports for all.

Our Cadre Building Programmes:

In order to build strong talent and leadership pipeline, Essar Steel India has invested in a comprehensive Cadre Building Programmes that focuses on the training and all round development of the young professionals. The effectiveness of these programmes is further augmented through the strong communities of Coaches and Mentors. Essar Steel India's nurturing and rewarding culture, foster young minds for global careers.

i) Business Leadership Programme:

Essar Steel India's BLP programme is a 9 month fast track learning programme that focuses on grooming of our business leaders for tomorrow. BLP grooms young management graduates, through coaching, mentoring and making learning opportunities available to them at an early stage. The BLP participants are a Group Resource with specializations in a range of functions spanning Marketing, Finance, Human Resources, Supply Chain and Operations.



ii) Entrepreneurial Development Programme (EDP):

EDP is an initiative that focuses on the grooming of young minds by well-established Business and Function Heads. Under the EDP, a young manager is given an opportunity to work as an understudy. It is a wonderful opportunity for trainees to gain invaluable insight into business strategy and management from the top. This programme is offered to BLP participants.

There are two programmes under EDP

- EDP for BLP participants
- EDP Tech for graduate engineer trainees hired from Indian Institute of Technology



iii) Skill Builder Programme for GET:

The Skill Builder Programme is designed for the Graduate Engineer Trainees (GETs) recruited from various campuses. Essar Academy established in the year 2006, runs well structured technical and behavioural

programmes, offering stimulating learning opportunities to GETs. The objective of this programme is to build a strong technical talent pipeline.

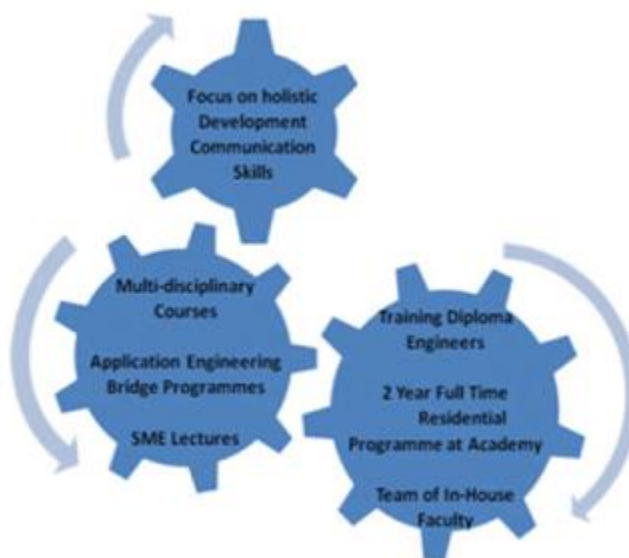
Key Features of the Skill Builder:

- As a part of the Skill Builder Programme, each GET is given an Individual Learning Plan (ILP). Currently their ILP will be provided to you during your Contact Programme. Each GET's final assessment score is linked to completion of ILP courses.
- During the OJT GET is expected to undertake Action Learning Projects. This could include range of assignments e.g. Process Study Report, Essar Community Service stint, Book Review etc.
- Self – learning is a key to individual success. E- Learning Modules from Gurukul have been identified for GETs to complete during their OJT. Also during the Contact Programme, using blended learning approach, these modules are covered.



iv) Essar Academy for DETs:

- Essar Academy leads the 2 year full time residential programme at our Essar Learning Centre.
- The programme is designed for Diploma Engineer Trainees (DET). The comprehensive application engineering “bridge” courses, enable DET’s to enhance their technical capabilities. The DET’s are certified as Essar Engineers and absorbed on successful completion of the programme.



The company focuses on building careers. Essar Steel India has a high emphasis on performance, and we link both career growth and rewards directly to merit and achievement. Essar Steel India's journey towards excellence and growth, we have always believed that people are "key". We are committed to providing an environment that is encouraging and nurturing, appreciative of talent and enterprise and

one in which our employees can do great work, have fun and grow professionally as well as personally. High- performance and high-potential employees are identified for a fast-track programme, and rewarded with top-of-the-market compensation, retention bonuses and attractive trainings.

In keeping with our belief, our reward package includes the following:

- A fixed component as per industry standards
- A variable component that is linked to company and individual performance
- Benefits and perks that give you choices – whether in office or outside it
- Short and long-term incentive programs that recognize and reward performance
- A high-tech work space that aids productivity with the best new technology

Apart from the above various rewards schemes that we practiced, we also focus on some other rewards and recognition schemes that helps our employees to continuously build their moral and motivate them to strive for the best.

Informal and non-monitory recognition scheme that Essar Steel India has brought in is 'Kudos', an employee recognition initiative, was launched at Hazira, on August 3, 2011.



Kudos is a culture building activity, where employees are encouraged to congratulate each other on successful actions by scribbling their message or compliments on a specially designed Message Board. It is a means of identifying desirable actions and behaviours, and facilitating instant and immediate appreciation and praise for a job well done.

In total till date 10 Kudos boards are launched and employees are effectively utilizing the same for recognizing and congratulating each other for the any good job done.

One of the most effective Reward & Recognition scheme is Employee of the Month & Employee of the year awards.

Essar Steel Employee of Month is a scheme, established to recognize outstanding performance by regular Essar Steel India employees due to their exemplary and exceptional level of work performance. An initiative by Steel HR Team to recognize and reward exemplary contributions.

Implementation Details:

- Eligible employees has to submit EOM Form with necessary data / information / etc. and are eligible for a certificate or cash award as per the scheme
- EOM Forms should be filled and submitted by eligible employees along with the necessary data to respective EOM Facilitator/area HR officer
- The EOM forms along with data shall be evaluated by the Departmental Evaluation Committee's for Department Employee of the Month and the Central Evaluation Committee for Essar Employee of the Month.
- All the winners of Essar Steel employee of the month are awarded certificate and cash prize in huge gathering/ town hall by the CEO and COO of the business.
- At the end of 12 months, all Essar Steel India employees of the respective months are evaluated by the Top evaluation committee and the winner is awarded with cash prize and merit certificate with a rolling trophy.



Cash prizes as per the policy are:

- Departmental Employee of the Month- Rs. 1100
- Employee of the month for 10 MTPA - Rs. 3600
- Essar Employee of the Year 10 MTPA(trophy) – Rs. 25000
 - Essar Employee of the year 4.6 MTPA(trophy) – Rs11000
 - Essar Employee of the year 5.4 MTPA(trophy) – Rs11000

For Associates: - Essar Steel India has set up a Common Compliance Cell- CCC in the period 2010-11 for ensuring compliance of all contractors done through one consultant for ensuring,

- Access for addressing issues through a single window
- Clarity on policies & processes
- Compliance for all contractors under applicable acts
- Addressing queries of Associates
- Announcing on monthly basis top 3 Contractors for Wage and PF deposition for motivating Contractors for payment in time and in turn ensuring associates basic needs are fulfilled in time. Dealing with govt. authorities through one point of contact

Sharing/Updating Contractors on various Legal laws and statutory provisions under various acts during Quarterly compliance meet and rewarding the Quarterly winners for Wage/PF deposition.

Corporate Social Responsibility

The guiding principles of Essar's Corporate Social Responsibility (CSR) activities are aligned with the larger vision of Essar based on the four Ps – PEOPLE at the core, PROGRESS towards aspirations, POWER of synergy, and PASSION with compassion. Essar Foundation's activities are capable of transforming the communities and social systems it operates in.



Within a CSR framework, entrepreneurship may be seen as a way of continually developing an organization. Entrepreneurship can help a company focus on ideas that matter; to business and for social progress. It can provide new ways of thinking that will merge the line between for-profit and non-profit ventures. CSR is not random acts of charity but a key to business strategy and development.

Drawing inspiration from its vision of entrepreneurship as well as the United Nations' Millennium Development Goals (MDGs), CSR at Essar is about empowering communities towards sustainability which will in turn benefit the company's core activities. Best practices and case studies from the field are shared with stakeholders through a dedicated team of professionals. We also partner with national and international agencies and use resources that further our CSR objectives.

Livelihoods and Entrepreneurship

Essar's goal is to nurture and convert a pool of unskilled urban and rural youth into a valuable resource for the nation. To further this goal, Essar Foundation helps young people achieve their aspirations by enabling them to acquire skills and encouraging them to start their own enterprises.

The organization funds a range of basic and specialized training in both urban and rural areas. While some of the training is linked to the company's own business, the majority of trainees find opportunities beyond Essar. In this way, communities linked to Essar are encouraged to become self-sufficient.

Objectives

Enhance skills and encourage capacity-building

Enable new income opportunities

Promote self-employment and support entrepreneurship

Provide suitable opportunities to empower people to market their products.

Activities and projects

Farm-based skills training:

Essar Foundation enables farmers and their families to acquire skills and knowledge that improve agricultural productivity. It assists farming communities to acquire the technology that will allow them to introduce crops with greater earning potential, thus achieving higher margins.



Non-farm skill training:

In cognizance of this, the company enables young people to make the most of this opportunity by providing relevant skills.

It has established Community Development Centers in rural areas, providing skills related to manufacturing, maintenance and construction activities to young people. The training includes courses on professional grooming, business etiquette and customer relationship management.

Supporting new ventures

Essar promotes entrepreneurship by helping trainees develop the skills needed to establish new enterprises. It promotes networks with micro finance institutions and banks to create a direct relationship between the trainee and the bank. It also helps trainees gain access to seed capital and offers guarantees on behalf of the young people it supports.



Enabling entrepreneurs

Essar-supported entrepreneurs have established businesses as contractors in construction, housekeeping and catering services. They have become suppliers of equipment and material and have established manufacturing businesses. Women have started businesses in food products, garment and traditional crafts segments. It also established the Essar Lok Vikas Kendra, a program that enables communities to develop skills that are seeding new enterprises, at Hazira in Gujarat (India).

Women's Empowerment

The Women's program aims to enable women to manage their monetary, physical and intellectual needs. As a consequence, it aims to raise their self-esteem and encourage a sense of security. Essar Foundation undertakes initiatives focused on health, education, nutrition and financial management for women living in the rural areas near the company's operations. The activities also encourage beneficiaries to access government services designed for women and children.



Objectives

- To develop skills through appropriate training
- Encourage capacity building to enhance income opportunities
- To improve reproductive health through awareness-building

Activities & projects

Skills development and enterprise project

Recognizing the yet untapped potential of women, Essar encourages rural women to earn alternate and additional income through self-help groups (SHGs). An SHG mela organized at Dabuna (Odisha), resulted in the formation of and lending guidance to more than 25 SHGs in the region. The SHGs are facilitated to be engaged in various financial and income generating activities with the support and guidance of the CSR team which has imparted them training and exposure on different aspects to build their capacity and make them sustainable. Similar activities have been undertaken in Chhattisgarh.

International Women's Day Celebrations

International Women's Day is held annually on 8th March to celebrate the contribution and achievements of women throughout the history and across nations. Women's empowerment forms an essential facet of Essar Foundation's work. As part of this focus, Essar Foundation holds different events with women members from local communities on March 8 across various sites of Essar.

In 2012, on the occasion International Women's Day, Essar Foundation organized a painting competition among schoolchildren on the theme of 'Women's empowerment', at the Sagarika Kala Niketan in Paradip town. The objective of this programme was to encourage school children to visualize and reflect the empowering role of women in our society and lives through art. In Dabuna, Odisha, all members of the SHGs promoted by Essar Foundation, came



together to celebrate International Women's Day at Dabuna Village, Keonjhar. On the occasion, the activity report was presented of the women SHGs. During the week on Women's Day, the Foundation organized various competitions on the issue of women's empowerment.

Reproductive health project

Essar Foundation seeks to reach out to women in the reproductive age group. The project creates awareness and provides women with the necessary assistance during and after pregnancy, enabling them to prevent pregnancy-related complications.

The project includes reproductive health camps, immunization camps, doctors' training, referral transport to tertiary care units, obstetric care and training for auxiliary nurses and midwives. So far more than 5,000 women have benefited from camps for care for expecting mothers and other reproductive and child healthcare initiatives.

Livestock management to increase incomes

The Foundation creates awareness about livestock welfare through cattle camps and vaccination programs to help improve the productivity of this activity. The activities aim to improve the quality and product yield such as milk and meat, making them more marketable. Women are also encouraged to form dairy cooperatives and poultry farms to increase their earning potential.

Education

Essar, through Essar Foundation, has taken up the cause of education with considerable commitment and focus. Many of the Essar facilities are located in geographically remote areas, where access to quality education becomes a significant issue. In its effort to uplift the communities around its areas of operation, the Foundation has undertaken a number of education projects in these remote rural areas. In addition to building students' skills, the Foundation seeks to promote among students a sense of responsibility and respect for peers, mentors and the immediate environment.



So far two schools have been established (at Tungi village in Maharashtra and Paradip in Odisha), and over 1500 students enrolled. As a result, people are better able to participate in and contribute to their community's development and progress. To date, more than 10,000 students have been supported by the Essar Education Program.

Objectives

- Resolve fundamental issues of access and quality in education
- Enable young minds to realize and achieve their true potential through education
- Promote the use of creative tools to make education an enriching experience
- Improve infrastructure and environment to enable better knowledge acquisition

Activities & Projects

Scholarship project

Essar Foundation's scholarship project encourages differently-abled and underprivileged students with promising academic records to complete school and pursue higher education. So far, more than 5,000 students have benefited, with scholarship ranging from Rs 1,500 to Rs 5,000 per student being disbursed. In certain cases, Essar Foundation also facilitates sponsorships for deserving students pursuing higher education.

School improvement program

Essar Foundation began the program with the objective of establishing schools in strategic locations, where government and private schools are absent or inadequate. Essar Foundation ensures that these schools have modern classrooms, libraries, laboratories, playgrounds, residential quarters and hostels.



Around 75 schools across the country have been given infrastructure support and two schools have been built with the support of the Foundation.

Teachers' training program

Essar Foundation's training program aims to make educational activities more fulfilling for teachers, who in turn make learning a meaningful experience for children.

To enhance the quality of teachers, Essar conducts motivational workshops and IT skills development courses. These activities have been conducted in the states of Maharashtra and Gujarat, targeting more than 200 teachers.

Creative methods of education

Essar Foundation promotes the use of methods such as story-telling, theatre and activity-based learning to make the learning experience more enriching for students. The education program provides IT equipment and modern educational material.

Steps inside schools have numbers painted on them; and the various angles to which classroom doors open are painted on the floor, thus making the learning process interesting and continuous.



AVID: Life-long learning

AVID is Essar Foundation's school of continuous learning. It allows adults to embark on 'A Voyage into Insatiable Discovery'. The program connects individuals who have a desire to explore and learn, with subject experts. Modules are structured in small clusters and as part-time courses.

Infrastructure

Essar Foundation, for its part, works closely with the government and other elected representatives, to provide basic amenities in rural areas near its operations.

Objectives

Assist communities to develop and enhance basic amenities

Strengthen existing civic infrastructure

Introduce new amenities

Activities & projects

Provision of sanitation and drainage facilities

Essar Foundation has instituted a program that supports the construction of household and community toilets to further the effort of creating a hygienic and healthy environment. The program works in conjunction with the Total Sanitation Campaign wherever possible. Essar Foundation also funds the building of drainage facilities, prioritizing areas where the government has no drainage systems in place.

Provision of common civic infrastructure

Essar Foundation's infrastructure program helps construct and maintain approach roads, internal roads and other civic infrastructure in villages. It also enables the development of shared community spaces.

The program also lends vital support in times of crisis. For instance, in 2009, following the wide-spread devastation of the Karnataka floods, Essar helped build more than 100 houses for flood-affected families.

Provision of safe drinking water

The infrastructure program regularly provides 1 million liters of water to communities around its areas of operation. It enables access to safe drinking water by ensuring:

- Cleaning of wells and provision of tap water
- Deepening and de-silting of ponds
- Installation of hand pumps, bore wells and desalination plants.

Rural electrification project

Essar Foundation enables people in villages to access the government's electricity distribution network including wiring, transformers and other equipment. It provides rural households access to solar electricity which is both low-cost and energy efficient. So far 100 households in rural Odisha have benefited from the program.

Environment

Essar Foundation works closely with communities living near its facilities to protect the environment. Essar Foundation pays special attention to preserving natural ecologies. It ensures that the environmental balance is maintained by blending the traditional knowledge of local communities with contemporary technology.

Objectives

Increase environmental awareness

Conserve natural resources and improve waste management

Promote villages as an integrated eco-system

Encourage use of alternate sources of energy

Activities & projects

Environment awareness project

Essar Foundation conducts awareness sessions at schools, colleges and through community meetings on the need to protect the environment and conserve scarce natural resources. Additionally, 'No Plastic' drives are undertaken at Vizag (Andhra Pradesh) and other sites to spread the message to employees and neighbouring communities.



Conserving natural resources and encouraging better waste management

Essar Foundation recognizes the key role traditional knowledge plays when it comes to environmental sustainability in tribal and rural areas. Essar Foundation's activities support these communities in maintaining and preserving their natural surrounds by promoting better waste management and preventing environmental degradation through sustainable living.

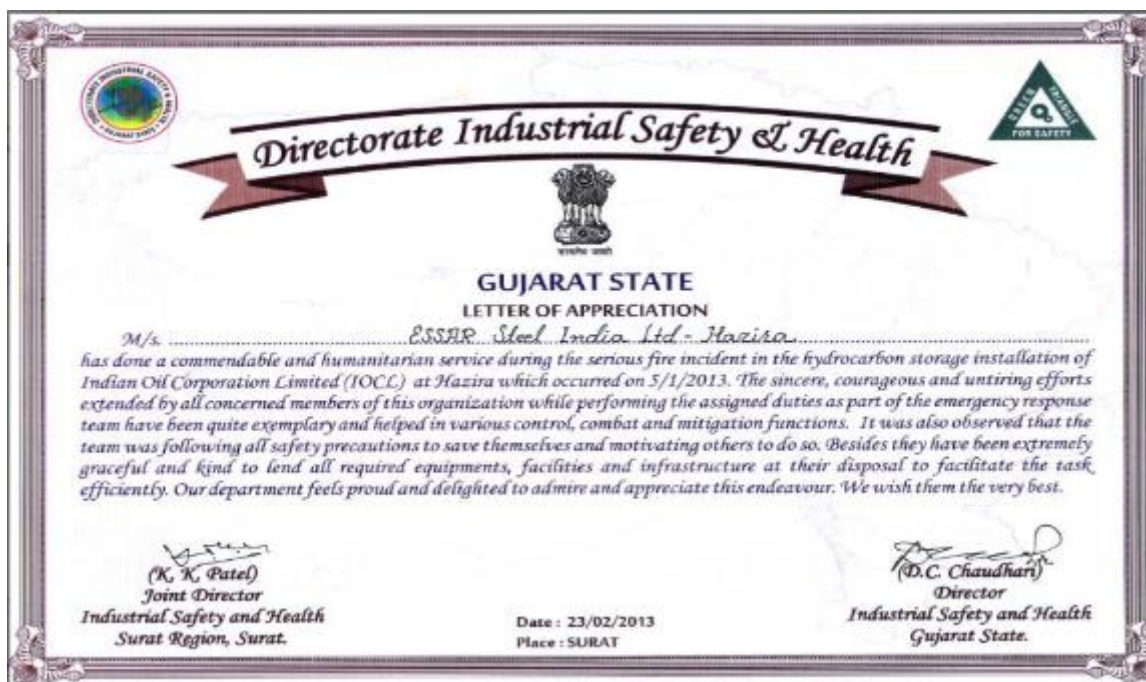
Encouraging alternate sources of energy

Essar Foundation's environment program creates awareness among employees and rural communities about the benefits of adopting renewable sources of energy. Essar Foundation provides solar panels at its project sites and in neighbouring villages. Where necessary, Essar companies subsidize the cost of such equipment. The program also enables access to various government projects that promote the use of alternate energy.



Saving the Nation's Wealth

Essar Steel India Ltd. received Certificate of Appreciation for Commendable Fire Fighting Operation at IOCL Terminal, Hazira for Saving the Nation's Wealth, from Shri. D. C. Chaudhari, Director-Directorate of Industrial Safety & Health Gujarat on the occasion of Shram Awards, State Level Prize Distribution Ceremony held at Surat, Gujarat.



Health

Essar actively seeks to improve the health of people in communities close to its operations. Typically, the rural areas near Essar facilities tend to have low accessibility and thus very limited availability of healthcare services.

At present, Essar Foundation provides healthcare services to more than 100,000 families. It also offers specialized services such as eye and dental care to more than 250,000 people.



Objectives

Deliver a comprehensive healthcare package to beneficiaries

Strengthen existing systems by building capabilities of government healthcare providers

Create health awareness

Activities & projects

Infant health program

Preventive by nature, Essar's infant health program aims to ensure infant well-being. The programs are usually held at a frequency of one in every quarter and happen at all the site locations. The activities include awareness drives for polio vaccination and regular health check-ups.



Mobile medical units

Essar's mobile medical units (MMUs), complete with skilled doctors and paramedics, are deployed in villages around Essar facilities.

The MMUs also provide referral transport for secondary and tertiary treatment. MMUs have been deployed by the Foundation at all the company's locations, and has reached out to over 100,000 people.



School health program

In an effort to improve overall health and reduce the occurrence of common infections among children, Essar Foundation launched the school health program in 2011. Program activities include health education camps, adolescent health camps, physical education camps, World Health Day celebrations and increased availability of safe drinking water in schools.



Skills training and capacity-building

Essar Foundation has instituted a health program that provides skills training and capacity-building for health workers. In 2010-11, around 300 people were given Mitadin training under the program in Chhattisgarh. Activities such as medical check-ups and child growth monitoring, vaccination camps, nutrition assessment and counselling for mothers are also undertaken

Metals and Mining Sector Supplement

MM1

Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated

Because of little or no impact of our activities, we are not required by the regulatory authority to protect or restore habitats. However, We are inclined to add value to Rehabilitation and Resettlement related developmental activities at new project sites. To this end, we plan to engage with the villagers to understand their needs and preference on facilities to be developed in addition to existing programmes.

MM2

The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place

None of our plants fall under the area of high biodiversity.

MM3

Total amounts of overburden, rock, tailings, and sludges and their associated risks

Mines are not part of the reporting boundary

MM4

Number of strikes and lock-outs exceeding one week's duration, by country

There have been no cases of strikes and lockouts at any of the facilities

MM5

Total number of operations taking place in or adjacent to indigenous peoples' territories, and number and percentage of operations or sites where there are formal agreements with indigenous peoples' communities

In order to explore new avenues for raw material securitization, Essar Steel India has expanded the business and set up beneficiation plant in Kirandul, Chhattisgarh and a pellet plant in Paradeep, Orissa. While setting up of these operations we have taken due care to understand the needs and expectations of the local communities and have performed due diligence and adequate impact assessments.

MM6

Number and description of significant disputes relating to land use, customary rights of local communities and indigenous peoples

There were no significant disputes in the reporting period

MM7

The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and indigenous peoples, and the outcomes

There were no significant disputes in the reporting period

MM8

Number (and percentage) of company operating sites where artisanal and small-scale mining (asm) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks

No artisanal and small scale mining activities take place nearby any of the plants/units of Essar Steel

MM9

Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process

We are inclined to add value to Rehabilitation and Resettlement related developmental activities at new project sites. To this end, we plan to engage with the villagers to understand their needs and preference on facilities to be developed in addition to existing programmes.

MM10

Number and percentage of operations with closure plans

None of the Plants/units have any closure plans.



LRQA Assurance Statement

Relating to Essar Steel India Limited's Sustainability Report for 2011-2013

This Assurance Statement has been prepared for Essar Steel India Limited in accordance with our contract, but is intended for the readers of this Report.

Terms of Engagement

Lloyd's Register Quality Assurance Ltd. (LRQA) was commissioned by PE Sustainability Solutions Private Limited, a subsidiary of PE International AG to provide independent assurance on Essar Steel India Limited's (ESTIL) Sustainability Report 2011-13 ("the Report") to a moderate level of assurance using AA1000AS (2008), where the scope was a Type 2 engagement.

Our assurance engagement covered ESTIL's operations and activities in Hazira, Pune, Vizag and Paradeep along with service centres located at Hazira, Pune, Bahadurgadh, Chennai and specifically the following requirements:

- Confirming that the Report is in accordance with the comprehensive option of GRI's G4 Reporting Guidelines
- Reviewing whether the Report has been based on GRI's Mining and Metals sector supplement
- Reviewing adherence to AA1000AS Accountability Principles of Inclusivity, Materiality and Responsiveness
- Evaluating the accuracy and reliability of data and information in the Report.

Our assurance engagement excluded the data and information of ESTIL's suppliers, contractors and any third-parties mentioned in the Report.

LRQA's responsibility is only to ESTIL. LRQA disclaims any liability or responsibility to others as explained in the end footnote. ESTIL's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of ESTIL.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that ESTIL has not:

- Met the requirements above
- Disclosed accurate and reliable data and information, as no errors or omissions were detected
- Covered all the issues that are important to the stakeholders and readers of this Report.

The opinion expressed is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the Verifier.

Note: The extent of evidence-gathering for a moderate level of assurance engagement is less than for a high level of assurance engagement. Moderate level of assurance engagements focus on aggregated data rather than physically checking source data at sites.

LRQA's Approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing ESTIL's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through document review of associated records.
- Reviewing ESTIL's process for identifying and determining material issues to confirm that the right issues were included in their Report. We did this by benchmarking reports written by ESTIL and its peers to ensure that sector specific issues were included for comparability. We also tested the filters used in determining material issues to evaluate whether ESTIL makes informed business decisions that may create opportunities that contribute towards sustainable development.



- Auditing EStIL's data management systems to confirm that there were no significant errors, omissions or mis-statements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the Report.
- Visiting EStIL's facility at Hazira and reviewing supporting evidence to confirm the accuracy and reliability of the data and information in the Report.
- Interviewing middle and senior management at EStIL's facility in Hazira as well as holding telephone interviews with personnel based in their headquarters at Mumbai.
- Checking that the GRI index allows stakeholders to access sustainability performance indicators.

Observations

Further observations and findings, made during the assurance engagement, are:

- **Stakeholder Inclusivity:**
We are not aware of any key stakeholder groups that have been excluded from EStIL's stakeholder engagement process.
- **Materiality:**
We are not aware of any material issues concerning EStIL's sustainability performance that have been excluded from the Report as nothing has come to our attention that causes us to believe that EStIL has not applied its materiality determination processes.
- **Responsiveness:**
EStIL's commitment to stakeholder responsiveness is evidenced through the various forums it employs for this purpose. We are not aware of any stakeholder groups that have not been responded to on material issues concerning EStIL's sustainability performance.
- **Reliability:**
Data management systems at individual facility levels are considered to be well defined. Nothing has come to our attention which would indicate that the reported data related to organisation's material aspects is incorrect.

Opportunities for Improvement

During the assurance engagement additional observations and recommendations were made; these do not affect our Opinion:

- **Stakeholder Inclusivity:**
Other than employee engagements where the interaction is 'direct', the interaction with other stakeholders is either facilitated or obtained through surveys. EStIL should consider more 'direct' engagement with stakeholders such as suppliers, customers, etc. where minutes are recorded and followed up.
- **Materiality:**
Although the determination of materiality has been on the basis of a five point assessment, EStIL could further elaborate on the prioritization of its material issues. Also the disclosures on 'management approach for material aspects' could be strengthened by explaining the methods used for evaluating the effectiveness of these management approach.
- **Responsiveness:**
EStIL could provide performance trends for the key indicators at a local, regional and global level and in relation to the broader concepts of sustainability.
- **Reliability:**
Systems are at individual facility level and EStIL could think of an integrated data management system across its various facilities. Internal mechanism for verification of data could be strengthened through focused 'data' audits, akin to 'systems' audit that are currently in place.

LRQA's Competence and Independence

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.



LRQA do not certify ESTIL's management system nor provide any other service to ESTIL.

Signed

Dated: 12 June 2014

A handwritten signature in black ink, appearing to read 'KSDeshmukh', is written over a light blue rectangular background.

Ketan S. Deshmukh

On behalf of Lloyd's Register Quality Assurance Limited
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LRQA Reference: MUM602062



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GRI Index

S.No	Description of Indicator	Page no.	Omissions	External Assurance
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G4-1	Statement from the most senior decision-maker of the organization.	3-4	-	110-112
G4-2	Description of key impacts, risks, and opportunities.	3-4, 39-40	-	110-112
Organisational Profile				
G4-3	Name of the organization.	9	-	110-112
G4-4	Primary brands, products, and/or services.	10-11	-	110-112
G4-5	Location of organization's headquarters.	9	-	110-112
G4-6	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	9	-	110-112
G4-7	Nature of ownership and legal form.	Annual Report	-	110-112
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	11	-	110-112
G4-9	Scale of the reporting organization.	9-11	-	110-112
G4-10	The total number of employees by employment contract and gender	84	-	110-112
G4-11	The percentage of total employees covered by collective bargaining agreements	83	-	110-112
G4-12	The organization's supply chain	64	-	110-112
G4-13	Significant changes during the reporting period regarding size, structure, or ownership.	16	-	110-112
G4-14	Whether and how the precautionary approach or principle is addressed by the organization	3-4	-	110-112
G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	3-4, 17-18	-	110-112
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G4-18	The process for defining the report content and the Aspect Boundaries	24-27	-	110-112
G4-19	All the material Aspects identified in the process for defining report content	27-28	-	110-112
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G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	15-16	-	110-112
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G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	25-26	-	110-112
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G4-35	Process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	33-34	-	110-112
G4-36	Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	33-35	-	110-112
G4-37	Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics.	38	-	110-112
G4-38	Composition of the highest governance body and its committees	34-35, 37	-	110-112
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G4-40	The nomination and selection processes for the highest governance body and its committees	37-38	-	110-112
G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided and managed	36	-	110-112
G4-42	The highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	36-38	-	110-112
G4-43	Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	38	-	110-112
G4-44	Processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics	38	-	110-112
G4-45	Highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities	38	-	110-112
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G4-48	The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	37	-	110-112
G4-49	The process for communicating critical concerns to the highest governance body	37	-	110-112
G4-50	The nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	37	-	110-112
G4-51	The remuneration policies for the highest governance body and senior executives	36-37	-	110-112
G4-52	The process for determining remuneration	36-37	-	110-112
G4-53	How stakeholders' views are sought and taken into account regarding remuneration, including the results of votes on remuneration policies and proposals	37-38	-	110-112
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EC6	Proportion of senior management hired from the local community at significant locations of operation	83	-	-
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EC7	Development and impact of infrastructure investments and services supported	3-4	-	-
EC8	Significant indirect economic impacts, including the extent of impacts	39-40	-	-
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EC9	Proportion of spending on local suppliers at significant locations of operation	62-64	-	110-112
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EN1	Materials used by weight or volume.	45-46	-	110-112
EN2	Percentage of materials used that are recycled input materials.	45	-	110-112
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EN3	Energy consumption within the organisation	46-47	-	110-112
EN4	Energy consumption outside of the organisation	54	Not reported for all locations due to lack of credible data. Expected to report by 2015	110-112
EN5	Energy intensity	47	-	110-112
EN6	Reduction of energy consumption	48-49	-	110-112
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EN8	Total water withdrawal by source.	54	-	110-112
EN9	Water sources significantly affected by withdrawal of water.	57	-	110-112
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EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	50-51	-	-
EN13	Habitats protected or restored.	50-51	-	-
EN14	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	50-51	-	-
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EN15	Direct greenhouse gas emissions (Scope 1)	54	Contribution from sites other than Hazira is less. We plan to report GHG for all locations by 2015	110-112
EN16	Energy indirect greenhouse gas emissions (Scope 2)	54		110-112
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EN18	GHG emissions intensity	54		110-112
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EN24	Total number and volume of significant spills.	57	-	110-112
EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	57	-	110-112
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EN28	Percentage of products sold and their packaging materials that are reclaimed by category.	72	-	110-112
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EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	44	-	-
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EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	61	We intend to assess and report on this aspect in further detail by 2015	-
Overall				
EN31	Total environmental protection expenditures and investments by type.	62	-	-
Supplier Environmental Assessment				
EN32	Percentage of new suppliers that were screened using environmental criteria	62-63	-	-
EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	62-63	-	-
Environmental Grievance Mechanisms				
EN34	Number of grievances about environmental impacts filed, addressed and resolved through formal grievance mechanisms	44	-	-
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LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	84	-	110-112
LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	85-86	-	110-112

LA3	Return to work and retention rates after parental leave, by gender.	83	-	110-112
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Occupational Health and Safety				
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LA6	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and gender.	80	-	110-112
LA7	Workers with high incidence or high risk of diseases related to their occupation	81-82	-	110-112
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LA9	Average hours of training per year per employee by gender and by employee category.	81	-	110-112
LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	89-93	-	110-112
LA11	Percentage of employees receiving regular performance and career development reviews by gender and employment category	93	-	110-112
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LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	34-35	-	-
Equal Remuneration for Women and Men				
LA13	Ratio of basic salary of men to women by employee category, by significant locations of operation	83	-	-
Supplier Assessment for Labour Practices				
LA14	Percentage of new suppliers that were screened using labour practices criteria	62-63	-	-
LA15	Significant actual and potential negative impacts for labour practices in the supply chain and actions taken	62-63	-	-
Labour Practices Grievance Mechanisms				
LA16	Number of grievances about labour practices filed, addressed and resolved through formal grievance mechanisms	44	-	-
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Investment				

HR1	Percentage and total number of significant investment agreements and contracts that include human rights clauses or that have undergone human rights screening.	87	-	-
HR2	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	87	-	-
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HR3	Total number of incidents of discrimination and corrective actions taken.	87	-	-
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HR4	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.	87	-	-
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HR5	Operations and significant suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the elimination of child labour.	87	-	-
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HR6	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour.	87	-	-
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HR8	Total number of incidents of violations involving rights of indigenous people and actions taken.	87	-	-
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HR9	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	87	-	-
Supplier Human Rights Assessment				
HR10	Percentage of new suppliers that were screened using human rights criteria	62-63	-	-
HR11	Significant actual and potential negative impacts for human rights in the supply chain and actions taken	62-63	-	-
Human Rights Grievance Mechanisms				
HR12	Number of grievances related to human rights filed, addressed, and resolved through formal grievance mechanisms.	44	-	-

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Local Communities				
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	96-107	-	-
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SO3	Percentage and total number of business units analysed for risks related to corruption and the significant risks identified	36	-	-
SO4	Communication and training on anticorruption policies and procedures	36	-	-
SO5	Confirmed incidents of corruption and actions taken	36	-	-
Public Policy				
SO6	Total value of political contributions by country and recipient/beneficiary	36	-	-
Anti-competitive Behaviour				
SO7	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes.	36	-	-
Compliance				
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	36, 44	-	-
Supplier Assessment for Impacts on Society				
SO9	Percentage of new suppliers that were screened using criteria for impacts on society	62-63	-	-
SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	62-63	-	-
Grievance Mechanisms for Impacts on Society				
SO11	Number of grievances about impacts on society filed, addressed and resolved through formal grievance mechanisms	44	-	-
Product Responsibility				
Customer Health and Safety				
PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	65-70	-	-
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	65-70	-	-
Product and Service Labelling				

PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	65-70	-	-
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes.	65-70	-	-
PR5	Results of surveys measuring customer satisfaction.	70-71	-	-
Marketing Communications				
PR6	Sale of banned or disputed products	65-70	-	-
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	65-70	-	-
Customer Privacy				
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	65-70	-	-
Compliance				
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	65-70	-	-

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