

# CSR2012 CSR Report

**Baosteel Group Corporation** 

## Key Performance Indicators

	2010	2011	2012
We are the lea	ider in the Chinese i	ron and steel industry	,
Output of Crude Steel (Million Tons)	44.50	44.27	43.83
Total Profit (RMB Billion)	24.23	18.15	10.42
Operating Revenue (RMB Billion)	272.98	316.25	288.23
Total Assets (RMB Billion)	432.13	467.30	498.44
Total Owners' Equity (RMB Billion)	260.18	266.24	277.13

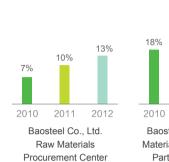
We are a model enterprise for joint development of employees and the company					
Investment in R&D (RMB Billion)	5.10	6.35	6.04		
Patent Applications (Accepted)	1,426	2,287	2,445		
Total No. of Employees (Persons)	118,500	116,702	130,401 <sup>Note 1</sup>		
Total Employee Remuneration (RMB Billion)	9.61	10.94	11.52		
Person-Hours Trained (Hour)	78.2	111	107		
Structure of Professional Titles Among Interme- diate & Senior Titles, Senior Skilled Workers <sup>Note 2</sup> and Others:	13.0%\26.2%\60.8%	13.9%\27.9%\58.2%	14.1%\29.5%\56.4%		
Employee Commitment	46%	45.2%	52%		
Frequency of injuries (number of workers injured per million working hours)	0.17	0.15	0.18		

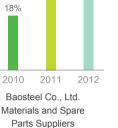
Note 1: Thanks to Baosteel's completion of the restructuring of Shaoguan Iron & Steel Co., Ltd., a total of 13,821 employees officially joined Corporation in 2012.

Note 2: Senior skilled workers refer to the employees with senior workers titles and above.

### We are the driver of the green industry development

Percentage of suppliers guided to pass ISO14001 or environmental management certification





30%

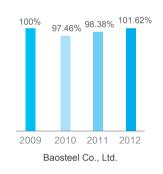
37%

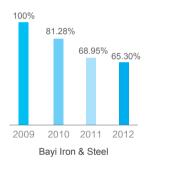


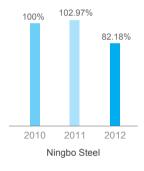


### New Water Consumption Per Ton SteelNote 3

Note 3: The new water consumptions per ton steel of Baosteel and Bayi Iron & Steel are benchmarked against that in 2009. The new water consumption per ton of steel of Ningbo Steel is benchmarked against that in 2010.







#### Social Contribution to Green Industry

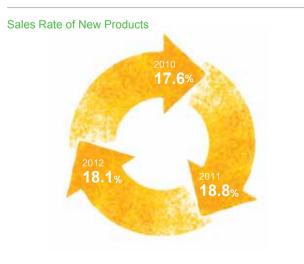
2012 Annual Energy Conservation - Through energy conserving services, we realized for our customer total annual energy conservation

Recovery Volume of Solid Waste Resources

Industrialization Rate of Solid Waste Resources

70,0 coal equivalent

8.42 million tons



## Overview

This is the fifth Corporate Social Responsibility Report published by Baosteel Group Corporation (hereinafter referred to as Baosteel or the Corporation).
This Report has been drawn up in accordance with the Guidelines to the State- owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities (Document No.2008-01)_and Outline of Implementation of Harmonious Development Strategies for Central Enterprises during "Twelfth Five-Year Plan" issued by the State-Owned Assets Supervision and Adminis- tration Commission of the State Council (SASAC), the Sustainability Reporting Guidelines (G3 version) of the Global Reporting Initiative (GRI), the 10 Principles of the United Nations Global Compact and the theoretical research results of the Guidelines of the Chinese Academy of Social Sciences for the Compilation of Social Responsibility Reports by Chinese Enterprises and Baosteel's practical conditions.
Unless otherwise specified, this Report mainly describes Baosteel's efforts in corporate governance, value creation, environment management, employees, and community and supply chain from January 1 <sup>st</sup> to December 31 <sup>st</sup> , 2012. This Report covers the primary operation in iron and steel, resource development and logistics, secondary steel processing, engineering and technology services, coal chemical industry, financial investment and production services.
This Report is published in both Chinese and English. In the event of any dis- crepancy between the two versions, the Chinese version shall prevail. For any question or suggestion regarding this Report, please feel free to contact us via telephone or mail at:
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## Address by Chairman From Great to Excellence, Baosteel On the Way!

The Eighteenth National Congress of the Communist Party of China has not only pictured a blueprint for Chinese Nation's rise to greatness, but also pointed out the direction for further development of Baosteel at its alternating period of the planning. The year 2012 also stands the last year of the Baosteel's 2010-2012 Three-Year Plan. Looking back on our journey over the past three years, the economic climates home and abroad have been extremely capricious and complicated while the iron and steel industry has been challenged with unprecedented difficulties. We, the Baosteel people, rising to such challenges with our dedication and unity, managed to break through by virtue of innovation and transformation and sustained the strong market competitiveness. For these three years, Baosteel endeavored strenuously towards greater excellence and delivered on our solemn commitment – the ultimate value of an enterprise lies in its contributions to the social well-being.

The Baosteel people have strived unvieldingly towards this goal. In the past three years, Baosteel's primary operation in iron and steel effectively addressed the severe market challenges and stayed ahead in the domestic industry by focusing on the areas such as optimization of industrial layout, adjustment of product structure, improvement of cost performances, technological innovation and capacity building. In collaboration with the primary operation, the operations in the diversified industries have gradually implemented the transformation from "endogenously-based" to "market-based" pattern and made solid progresses in the industrialization development. The Company has initiated its strategic transformation "from steel to materials", "from manufacturing to services" and "from China to the world", under which we have launched the research and development of new materials such as aluminum, magnesium, titanium and energy storage materials and continued to optimize deployment of the processing and distribution service network and begun to gradually grow into a provider of comprehensive material solutions specializing mainly in iron and steel. We have not only explored the service models and practices in areas such as e-commerce, energy conservation and environmental protection, information technology and finance but also realized breakthroughs in the establishment of overseas iron and steel supply chain as well as investments of the diversified industry operations in overseas undertakings. We have also achieved breakthroughs in the development of the technological innovation system and escalated our R&D inputs and efforts, producing fruitful R&D achievements and therefore providing strong support for the company's efforts to sustain its leading competitiveness. The past three years saw the company sustained stable profitability and realized an accumulated profit of RMB 53.6 billion, ranking the second in the global iron and steel industry by total profit for three straight years. Baosteel, moving up in the Fortune Global 500 ranking year by year and securing the 197th position in 2012, has also been acclaimed as one of the world's most admired companies and awarded the highest credit ranking among iron and steel enterprises around the world by the top three credit rating agencies, namely Standard & Poor's, Moody's Investor Service and Fitch Ratings. In addition, Baosteel has also won China Charity Award, the top government award in Chinese philanthropy, for four consecutive years.

Looking into the future, the Baosteel people see not even the slightest room for easing our efforts as we still have a long journey ahead and much on our shoulder. We are in face of extremely harsh internal and external environments as well as difficulties and challenges with no way around them, such as the struggling global economic recovery, weak endogenous momentum in China's economic growth, prominent structural conflicts, intensifying homogenized competition in China's iron and steel sector, tremendous environmental pressure and operation on slim-profit margin. As for Baosteel, we have already commenced our strategic transformation but not yet making as much as solid progress as we could have. As far as I see, the true realization of "Great to Excellence" requires greater advancements in the following three areas. Firstly, we need to acquire and possess a series of world-leading technologies and become a front runner in iron and steel technologies. We shall, on such basis, satisfy and guide the user demands for future materials. Secondly, we need to continue implementing environmentally aware operations and become a driver of the green industry chain. We shall forge the iron and steel operations into an energy-conserving and environmental-friendly green business that provides support for the rapid development of the national economy and the consumption demand upgrading of the general public and then guide the industry on to a sustainable development path. Thirdly, we shall become an exemplary company for joint development of both employee and enterprise, strive to win the recognition of our shareholders, employees and community and become a strategic supplier and an indispensable value chain partner of our customers. Baosteel will hold on to its "Quality + Scale" strategy and build on our environmentally aware operations to realize innovation-driven transformation and development and actively develop future-oriented core competence so as to better fulfill our responsibilities with greater capabilities. I firmly believe Baosteel will grow into a company of true "Excellence".

The pursuit of excellence and dedication to social well-being are always our never-changing aspirations from the very start, our truest belief and most overwhelming emotion. With our hearts deeply rooted in such aspirations, our faith firmly anchored in such a proposition, our sentiments fostered around such emotions and our actions upon such a belief, nothing could stand in the growth path of a thriving and prospering Baosteel.

Chairman

23912

### A Letter to 2012 The "Baosteel Dream" We Pursued Together Over the Years

To: All friends caring for and supporting the development of Baosteel From: Mr. He Wenbo, President of Baosteel

The "Chinese Dream" has been a guiding beacon for the 1.3 billion enthusiastically enterprising Chinese people. The 130,000 Baosteel people have also held in their hearts a "Baosteel Dream". Baosteel, growing and prospering through over thirty years of history, has always shouldered the nation's aspiration to become an iron and steel powerhouse. The thriving development of China's iron and steel industry, in which Baosteel plays a leading role, has become an epitome of the miraculous economic growth of China. As time progresses, China's iron and steel industry has entered a new development stage and therefore the "Baosteel Dream" has also embraced a broader scope of connotations.

Iron and steel are the most fundamental materials supporting the development of the national economy. It is safe to say that almost all architectures and artificial objects boasting strengths, heights, visions and distances that people can see and rely on in this world are masterpieces made of iron and steel. Our world is supported and changed by iron and steel. We are extremely proud that we are devoted to an undertaking that benefits the mankind!

There is no denial that the development of today's iron and steel industry is confronted with great difficulties, and the social pressure arising from uneven standards of environmental control has presented the development environments and future prospects of the iron and steel industry with tremendous challenges. The "Dream of Steel" that has guided us in the achievement of striding headways does not seem to gain acceptance among the general public. Many of our iron and steel people are therefore disoriented. However, how could our world function without iron and steel? Let us picture this, how would it be possible for skyscrapers to be erected from the ground, automobiles to be driven on roads, long-span bridges to cross straits or planes to soar through the sky without high-guality iron and steel? In fact, it is unimaginable to live in a world without iron or steel. Iron and steel have deeply penetrated the life of everybody. All these speak to us aloud that the iron and steel industry is an undertaking that brings about the well-being of mankind and the dream of steel that we pursue has never faded. Hence, we, the Baosteel people, should hold onto this dream in our hearts and take pride in our dedication to this great undertaking while making continuous and unyielding efforts towards fulfilling this profound responsibility.

In face of the harsh external environments, the Baosteel people are acutely aware that the only way out is by transforming our development model and enhancing our competitiveness through an innovation-driven approach. Based on this clear understanding, Baosteel focused on technological innovation, actively implemented environment management and followed the guidance of "Creativity" to ensure the survival, development and future breakthrough of Baosteel.

"To become the leader of iron and steel technologies" is the first of the three corporate visions of Baosteel. In order to achieve technological leadership, Baosteel launched its Central Research Institute in 2012 to strengthen the development of its technological innovation system and engage in continuous R&D on cutting-edge technologies. The Company achieved significant progresses in the new iron making and steelmaking processes and a series of breakthroughs in advanced technical processes, such as the third generation oxide metallurgy technology, composite rolling technology and thin-strip continuous casting and rolling technology. These constitute the core competence of Baosteel in its pursuit of greater excellence and will bring about new sources of profits and therefore usher in the overall progresses of the industry. Meanwhile, a series of key new products have been successfully developed. The world debut of next-generation automotive high-strength steel facilitates the weight reduction in the automotive industry. The domestically exclusive DI material production technique gains popularity among users with features such as energy conservation, environmental protection and low cost. The R&D of the ultra-pure ferrite patent significantly improves the fuel efficiency and reduces the exhaust emissions of automobiles. All these efforts serve a single purpose of enabling our iron and steel products to better create a beautiful life.

Environment management is our most creative strategic option and also our solemn commitment to the green ecology. Baosteel, anchored in clean production and green manufacturing, actively explored the utilization of new energy in the manufacturing process. Despite losses suffered throughout China's iron and steel industry in 2012, Baosteel realized a total investment of RMB 1.522 billion in energy conservation and emission reduction projects and successfully completed the construction and reconstruction of a series of key energy projects. The Group achieved a year-on-year energy conservation of 483,000 tons of coal equivalent and reduced SO, and COD emissions by 39% and 41% respectively. Baosteel offered green products, published the green product classification standard and implemented rigorous management. Based on the confirmed objectives in the planning stage, the reduction of carbon emission could reach 17 million tons. This is the same as creating 560,000 hectares of green forest. Baosteel also joined hands with upstream and downstream industries to improve environmental performances and achieved breakthroughs in a series of projects, such as resource renewal industry, exhaust-to-ethanol and production of slag wool from blast furnace slag. Baosteel is becoming the driver of the green industry and making firm progresses down the path of sustainable development.

The pursuit of dream needs the warmth of the sunshine. A faith requires our recognition so that it becomes more worth keeping. I would like to express my gratitude towards all our friends who have sincerely cared for and selflessly helped Baosteel over the years. The 130,000 Baosteel people, shouldering our shared aspirations, will enter a new era and bring about new miracles. Let us march ahead, in the name of "Sincerity, Endearment and Creativity"!

> President and Director of Social Responsibility Committee

# Address by President



## Brief Introduction

Baosteel Group Corporation (hereinafter referred to as Baosteel) is a typical enterprise arising from China's reform and opening-up. The construction of Baosteel commenced on the bank of Yangtze River in north

Shanghai on **December 23<sup>rd</sup>**, **1978**, only one day after the closing of the Third Plenary Session of the Eleventh CPC Central Committee. After over 30 years of development, Baosteel has grown into China's most competitive iron and steel group with the highest level of modernization.

At the end of 2012, Baosteel had a total of **130,401** employees located all across the world.

Company Profile



A photo of a steel sculpture in Baosteel factory premises - The Ascendant

Baosteel, with its primary operation in iron and steel, produces premium iron and steel products with high technology contents and added values and has fostered three major product lines, namely carbon steel, stainless steel and special steel. These premium steel products not only cater to the domestic demands but are also exported to more than forty countries and regions through our worldwide marketing network for extensive application in industries such as automobile, household appliances, petrochemical, manufacture of machinery, energy, transportation, metalwork, aeronautics and astronautics, nuclear power and electronic instruments.

Centering on the requirements of its primary operation in iron and steel, Baosteel has also endeavored to develop a diversity of related industries with focuses on the steel supply chain, technical chain and resource chain, strengthening the integration of internal and external resources, uplifting its overall competitiveness and status in the industry. Now Baosteel has realized synergetic development between its primary operation in iron and steel and six related business segments, namely resource development and logistics, secondary steel processing, engineering and technology services, coal chemical, financial investment and production services.

In 2012, Baosteel achieved steel output of 43.83 million tons and a total profit of RMB 10.4 billion, ranking the second among the world's iron and steel enterprises. This year, Baosteel has been listed among the Fortune Global 500 by the U.S. Fortune magazine for the ninth consecutive year and moved up to a historical height of the 197<sup>th</sup> position. In addition, Baosteel has also been awarded the honor of the "World's Most Admired Company" for another year and the highest credit ranking among the world's iron and steel enterprises by the Big Three credit rating agencies, namely Standard & Poor's, Moody's and Fitch Ratings. In 2012, Baosteel has been recognized jointly by the Ministry of Industry and Information Technology and the Ministry of Finance as the "National Model Enterprise for Technological Innovation" and won the China Charity Award, the top government award in Chinese philanthropy, for the fourth consecutive year.

In 2012, Baosteel launched the compilation of the 2013-2018 development planning. In the new planning cycle, Baosteel will continue to explore new processes and develop new products to make iron and steel lighter, stronger and safer. Committed to becoming the leader of iron and steel technology, we, the Baosteel people, will leave our mark on the development history of the world's metallurgical technology. Environment management is a creative strategic option of Baosteel, which is determined to work with the upstream and downstream industries together to improve environmental performances and become a driver of green industry chain through a firm anchor in green manufacturing and provision of green products. By offering vibrancy, confidence and growth, Baosteel provides a stage for achieving new career heights and is devoted to becoming a corporate paradigm for common development of staff and the Corporation.

Looking into the future, Baosteel will continue its strategic transformation from "iron and steel to materials, from manufacturing to services and from China to the world" and adhere to sincerity, friendship and creativity in the creation of shared values for all stakeholders.

#### Core Values: Integrity and Synergy

Corporate Mission: It is the common vision of all Baosteel people for Baosteel to become a world-class enterprise with first class performances based on the iron and steel industry. In this respect, Baosteel is committed to: Become a world-class supplier of steel products, technologies and services.

Corporate Vision: Become the leader in the iron & steel technology; Become the driver of green industry; Become a corporate model for common development of staff and the Corporation

Realize The Three Transformations: From iron & steel to materials; From manufacturing to service; From China to the world

Enhance Capabilities in Five Areas: Technical leadership; Service foremost; Digital Baosteel; Environment management; Integration of production and financing

CSR 2012 06



### Business Sectors

01

Iron and Steel Industry



Baosteel, with its primary operation in iron and steel, reasonably planned the locations of its iron and steel production bases in accordance with the "Two Deltas and One Borderland" approach, focusing on the Yangtze River Delta, Pearl River Delta and Northwest borderland. Currently, the arms of Baosteel in the primary iron and steel operations include Baosteel Co., Ltd., Ningbo Steel, Baosteel Stainless Steel, Baosteel Special Material, Shaoguan Iron & Steel Co., Ltd. and Bayi Iron & Steel.

Baosteel, adhering to the premium quality strategy, has focused on the production of iron and steel products with high technology contents and added values and fostered three major product lines, namely carbon steel, stainless steel and special steel.

Revenue (RMB Billion): 237.8 Total Profits (RMB Billion): 2.27 Number of Employees: 92,231

02

Resource Development and Logistics



The provider of integrated resource development, trade and logistic services for iron and steel and other industrial sectors

Revenue (RMB Billion): **34.06** Total Profits (RMB Billion): **1.36** Number of Employees: **756** 

03 Secondary Steel Processing



To specialize in the secondary processing of iron and steel materials, industrial gas operations and services and manufacturing and services of metal wrappings and cultivation of new industries

Revenue (RMB Billion): **11.47** Total Profits (RMB Billion): **0.30** Number of Employees: **2,372**  04

Engineering and Technology Services



The provider of international engineering and technology services for large industrial and urban construction projects

Revenue (RMB Billion): 16.42 Total Profits (RMB Billion): 0.75 Number of Employees: 11,665



To provide high value-added coal chemical products for downstream fine chemical sectors and actively explore an environmental friendly, safe and efficient development approach of the coal chemical industry.

The provider of all-around financial solutions, including financing,

Revenue (RMB Billion): 11.54 Total Profits (RMB Billion): 0.73 Number of Employees: 1,380



Industry

M&A and asset management, within the Group and for social customers ·圖金·证書 信孔

> Revenue (RMB Billion): 1.52 Total Profits (RMB Billion): 0.94 Number of Employees: 282

Production Services



背紧密户 眼睛而远

The integrated provider of recycling and comprehensive utilization of resources, iron and steel logistics and trade as well as manufacturing services for iron and steel and other large industries and the urban system.

Revenue (RMB Billion): 15.99 Total Profits (RMB Billion): 0.04 Number of Employees: 19,504



## Corporate Leadership

### **Board of Directors**



Xu Lejiang / Chairman



Liu Guosheng / Vice Chairman



He Wenbo / Director



Gan Yong / Outside Director



Wang Xiaoqi / Outside Director



Kerwei (Buck) Pei / Outside Director



FUNG, Kwok King Victor / Outside Director



Wu Yaowen / Outside Director



Jing Tianliang / Outside Director



Zhu Yiming / Employee Director

Note: Starting from February 2012, Mr. Wang Xiaoqi and Mr. Kerwei (Buck) Pei have been elected as outside directors, and Mr. Stephen Lee and Mr. Xia Dawei have ceased to be outside directors.

### Senior Managers



Xu Lejiang / Chairman / Member of CPC Standing Committee



Liu Guosheng / Vice-Chairman / Secretary of CPC Committee



He Wenbo / Director / President / Member of CPC Standing Committee



Zhao Kun / Vice President / Member of CPC Standing Committee



Zhao Xia / Vice President / Member of CPC Standing Committee



Ma Guoqiang / Member of CPC Standing Committee



Zhou Zhuping / Vice President



Liu Zhanying / Secretary of CPC Discipline Committee / Member of CPC CPC Committee Standing Committee



Fu Zhongzhe / Deputy Secretary of



Chen Ying / Secretary of the Board of Directors



Dai Zhihao / Vice President / Member of CPC Standing Committee

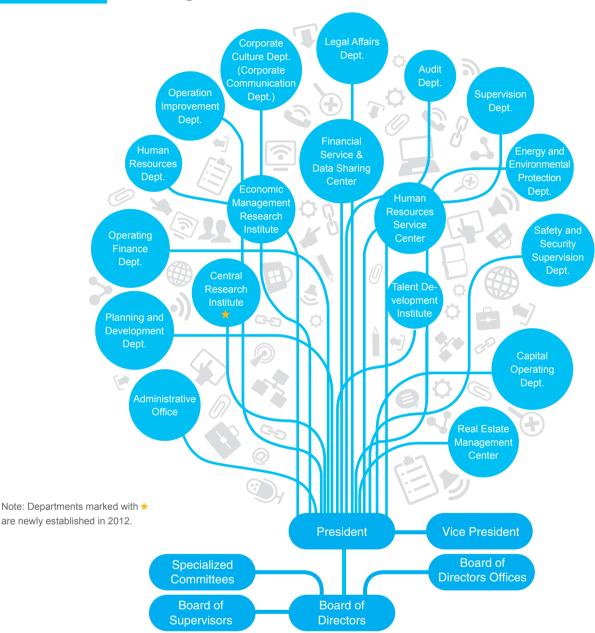
Note: 1. Starting from September 2012, Mr. Dai Zhihao and Mr. Zhao Xia have been appointed as Vice Presidents and Members of CPC Standing Committee.

Zhao Zhouli /

Vice President

2. Starting from September 2012, Ms. Chen Ying has been appointed as Secretary of the Board of Directors and Mr. Wang Li has ceased to be Secretary of the Board of Directors of Baosteel Group.

### Company Profile



## Organization Structure

### (1) Major Adjustments in Organization Structure of the Headquarter

- 1. For the purpose of adapting to Baosteel's strategic transformation from iron and steel to materials and strengthening the sharing and synergy of R&D resources at the Group level, Baosteel Central Research Institute was set up on June 19<sup>th</sup>, 2012 on the foundation of the existing R&D platform.
- 2. In order to further optimize the headquarter functions, the Development and Reform Department was dissolved as of April 21st, 2012 with its previous responsibilities directly covered by the relevant corporate functions.

### (2) Major Adjustments in Business Divisions

 Facilitation of the iron and steel industrial restructuring in Baoshan region. Establishment of Shanghai Baosteel Stainless Steel Co., Ltd. and Baosteel Special Steel Co., Ltd. Acquisition of the lands and relevant assets of the stainless steel business division and special steel business division of Baosteel Co., Ltd. respectively. The establishment of Baosteel Stainless Steel Co., Ltd. and Baosteel Special Material Co., Ltd. in the meantime as the ongoing operation entities in the stainless steel and special steel sector.

## Fulfillment of the Development Strategy



### Z

Year 2012 is the third year in the implementation of the Baosteel Group Corporation 2010-2012 Development Plan.

Over the past three years, Baosteel's primary operation in iron and steel, with focuses on main issues including layout optimization, adjustment in product structure, cost improvement, technological innovation and capacity development, has stood up to the grim market challenges and sustained prominent industry leadership. The diversified industries, in synergy with the primary operation, have made progresses in the industrialization of various operations and achieved excellent operating results. From 2010 to 2012, Baosteel realized a total three-year revenue of RMB 874.9 billion, outperforming the planned target, and a total profit of RMB 53.6 billion with its profitability ranking the second among global iron and steel enterprises for three years in a row. The average net Return on Equity (ROE) over this period is 5.7%.

Company Profile

### 2010~2012



total profit

profitability ranking the second among global iron and steel enterprises for three years in a row

The average net Return on Equity (ROE) over this period

5.7%

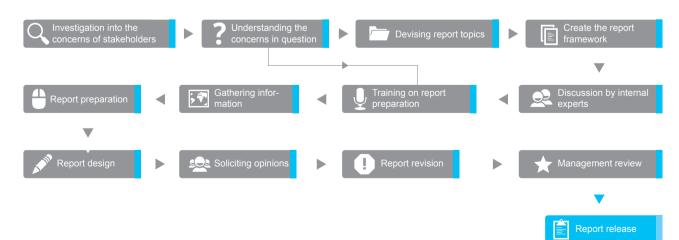
## Responsibility Governance

### **Organization Structure**



Accept the leadership of various promotion groups in the longitudinal direction and being subject to the business block coordination in the lateral direction.

### Process of CSR Report Preparation



## Responsibility Promotion

### **CSR** Training

In December 2012, Baosteel's CSR report preparation group organized a training session and invited Wang Xiaoguang, Director of Beijing Rongzhi Corporate Social Responsibility Institute, to lecture on the meritorious practices and development trends of corporate social responsibility across the leading entities home and abroad and conduct practical trainings in areas of report preparation such as the design approach of the theme, framework and contents of CSR report and advanced preparation techniques.



#### Seminar for Management

The seminar for management is a mandatory course Baosteel management personnel must take before assuming their offices. Baosteel has set up an CSR special program in the management-level training since 2009 to teach the concept of corporate social responsibility, Baosteel's social responsibility system, meritorious domestic and international CSR practices and other information, help management personnel establish CSR values and facilitate the subsequent application of such values in the day-to-day operation and management activities.

### Management Enhancement Campaign

SASAC issued the Guidelines to Central Enterprises on Implementing Management Enhancement Campaign in March 2012. In the same month, Baosteel Group President's working conference conducted a special review of the Promotion Plan for Baosteel Management Enhancement Campaign and formed the Corporation management enhancement leadership panel and work panel. In terms of CSR enhancement, Baosteel conducted management diagnosis to identify deviations from standards throughout the Corporation, recognized improving community environment and maintaining community relationships as enhancement tasks and set forth the relevant enhancement measures in connection with the actual circumstances of iron and steel enterprises.

#### **CSR Research**

In 2012, Baosteel launched a researches project on the Evaluation of Baosteel's Corporate Social Responsibility.

The Corporation proposed that the CSR project should abide by the four principles of strategy-orientation, effectiveness-orientation, public-orientation and sustainability-orientation, established CSR project evaluation systems in the two dimensions of "Project Relevance to Corporate Strategy" and "Project Quality", analyzed the status quo of Baosteel's CSR projects and put forward suggestions for improvement.

## Responsibility Communications

### Communication Channels for Stakeholders



### Dialogue with United Nations Global Compact ——The Vanguard of China's CSR in Action

In July 2012, Mr. Xu Lejiang, Chairman of Baosteel, had a dialogue session with United Nations Global Compact, during which Chairman Xu expressed Baosteel's understanding and awareness of environmental protection and social responsibility and some thoughts on ways for Baosteel to fulfill its social responsibilities.

### Sunshine Breakfast

On the morning of September 15<sup>th</sup>, 2012, Baosteel Chairman Xu Lejiang, Secretary of CPC Committee Liu Guosheng, President He Wenbo and 30 representatives of employees, media and the community enjoyed the Sunshine Breakfast and engaged in face-toface communication to hear the voices of various stakeholders. (figure 2)

### Release of CSR Report

On June 28<sup>th</sup>, 2012, Baosteel held the "Amicable Baosteel" – 2011 Baosteel CSR Report Release Conference and Inauguration Ceremony of Baosteel Mineral Wool Science and Technology (Ningbo) Co., Ltd. Mr. He Wenbo, President of Baosteel Group Corporation and Mr. Chu Xuping, Deputy Director of SASAC Research Bureau of the State Council, attended the ceremony and inaugurated Baosteel Mineral Wool Science and Technology (Ningbo) Co., Ltd. Various stakeholders also attended the ceremony. (figure 3~4)

Note: Based on Baosteel's proprietary intellectual property rights, Baosteel Mineral Wool Science and Technology (Ningbo) Co., Ltd. is the first iron and steel waste recycling entity in the country to produce slag wool from hot molten blast furnace slag.

### SASAC-Sweden Sustainable Development Forum

On September 11<sup>th</sup>, 2012, Baosteel attended the Sustainable Development Reporting Seminar jointly organized by SASAC of the State Council and Swedish Embassy in China. Baosteel delegate delivered a keynote speech at the seminar.

### Official Weibo Launched

On April 18<sup>th</sup>, 2012, Baosteel launched its official Sino Weibo "Amicable Baosteel" with a view to staring the interaction with the general public in a more approachable and friendly manner and providing a variety of first-hand news and information of Baosteel. (figure 5)



### Opinion Solicitation for 2012 CSR Report

In 2012, Baosteel continued to conduct the survey on CSR issues in focus through its official website, distribution of questionnaires and telephone interviews so as to enable various stakeholders to acquire company information. A total of 194 questionnaires or interviews were distributed or conducted during the survey and 162 responses were obtained.

#### Top 10 Issues in Focus Number of Year-on-Year Contents People Change Economic indicators such as profit and sales Environmental protection strategy and measures Company Prospect Employee recruitment and career development Compensation and benefits Safety and protection of rights and interests Various environmental indicators Progresses of key projects Philanthropy Merger, acquisition and restructuring and Elimination of backward production capacity

Based on the survey results, we actively responded to and satisfied the stakeholders' need for the information of focus by adjusting the proportion of information disclosure and increasing the amount of data disclosed.







## Corporate Governance

Z

On October 17<sup>th</sup>, 2005, the first standardized Board of Directors among central Chinese enterprises was formed at Baosteel Group Corporation. The first board consisted of 9 directors, including 5 outside directors which were more than half of the board. In January 2009, the second Board of Directors was formed. In March 2012, the third Board was formed. The third Board of Directors had under it Nomination Committee, Audit Committee, Remuneration and Appraisal Committee together with Strategy and Risk Management Committee.

Honest business

	Director	Nomination Committee	Remuneration & Appraisal Committee	Audit Committee	Strategy and Risk Management Committee
Chairman	Xu Lejiang				• (Director)
Vice Chairman and Secretary of CPC Committee	Liu Guosheng	•(Director)			
Director and President	He Wenbo	•			•
Outside Director	Gan Yong		•	•	
Outside Director	Wang Xiaoqi	•	•		•
Outside Director	Kerwei (Buck) Pei	•		•(Director)	•
Outside Director	FUNG, Kwok King Victor		•	•	•
Outside Director	Wu Yaowen		•	•	•
Outside Director	Jing Tianliang	•	●(Director)	•	
Employee Director	Zhu Yiming				

Members of Board of Directors
assume the following positions in
specialized committees:

Note: Due to further optimization of the authorization mechanism by the Board and gradually decreasing operation frequency of the Executive Committee, the Executive Committee was dissolved. The Risk Management Committee is renamed as "Strategy and Risk Management Committee", indicating the strengthened guidance and concern of the Board on Baosteel's strategic development.

Number of conferences convened by the Board of Directors and special committees and number of matters reviewed in recent two years:

	Board of Directors		Specialized	Committees
	No. of Confer- ences Convened			No. of Matters Reviewed
2011	10	63	10	18
2012	9	44	11	17

#### Comment

In its board operations and practices, Baosteel turned SASAC's concepts and principles pertaining to the requirements on board operations into specific institutions and procedures and enabled more scientific and democratic corporate decision making.

— Mr. Shao Ning, Deputy Director and Deputy Secretary of CPC Committee of SASAC of the State Council

## Audit System

Baosteel has always upheld the principles of independence, objectivity and impartiality and attached equal importance to supervision and service in its internal audit so as to assist the company in value creation and enhancement of operation efficiency, with specific focuses on areas including optimizing the corporate governance structure, strengthening risk control, preventing the loss of assets, standardizing operation and management and enhancing management efficiency.

In 2012, the audit system has fostered an effective project implementation model with a multi-tier audit approach and equal emphases on supervision and service, which focused on strengthening the term responsibilities of the managers in operation audit and further enhanced the supervision and deterrent role of traditional audit. The management audit has established systematic methodologies from planning to implementation in an innovative manner, gradually expanded and fostered audit capacity in ten major areas including key functions and core businesses and helped and guided some key functions and businesses in the enhancement of their system capabilities. The investment audit has commenced in-depth analyses of projects and project clusters and strengthened optimization at the source of investment management. The development of internal control systems has been adopted as the main tool for risk prevention, and a management system integrating the development of online internal control and off-line audit and evaluation has gradually taken shape. Meanwhile the audit system has realized the centralized project planning and resource allocation as well as sharing of audit methods and results on the basis of the performance of tasks on the same platform of Baosteel Audit Management System (BAMS) to significantly improve audit efficiency and effectiveness. In addition, mechanisms such as the "appointment and evaluation of the persons-in-charge of auditing offices in subsidiaries as well as career development of auditing staffs" have been planned and drawn up to guide the further optimization of the audit system.

In 2012, the internal audit system of Baosteel has completed 353 audit projects and delivered the annual plan in 100%. A total of 2,794 problems have been detected and 2,569 audit suggestions proposed.

Summary Table of Audit Items Completed in 2012			Unit: Items
Type of Audit Item	2010	2011	2012
Financial revenue and expenditure audit	66	22	26
Economic accountability audit	64	98	89
Net asset of property right alteration audit	40	32	36
Investment project completion settlement audit	43	58	69
Investment project audit evaluation	-	16	12
Investment project cost audit	-	14	12
Management audit	116	94	109
Total	329	334	353
No. of investment project cost appraisals submitted for review	12(Projects)	506	391
Net reduced project cost after review	RMB 336 Million	RMB 449 Million	RMB 468 Million

## Anti-Corruption Campaign

Establish a Fundamental Corruption Prevention and Punishment Framework Compatible with Baosteel's Modern Corporate System In 2012, Baosteel has continued to strengthen the coordinated operations encompassing five main mechanisms, namely education, institution, supervision, punishment and control at source, in close connection with the core tasks of Baosteel's production operations, reform and development, revolving around the development of a punishment and prevention system and with focuses on the clean-handed conduct of leaders, managers and authorized personnel. Hence a basic punishment and prevention framework with Baosteel characteristics has taken its initial shape and been constantly improved. The framework has played a supervising, facilitating and supporting role in the complete performance of all tasks in the production operations and reform and development of the Corporation.

Strengthen Supervision on Power and Prevention of Risks

For the primary purpose of facilitating the scientific, open and transparent exercise of power, Baosteel has strengthened the supervision on the top management team and its members, in particular principal persons-in-charge and key areas, critical processes and sensitive positions, and focused on the development of a supervision system that suits the corporate governance structure with the aim to ensure that the power in exercised in a rightful and efficient manner. Baosteel has conducted special investigations into areas such as the implementation status of the "3+1" decision-making mechanism, the accelerated transformation of economic development model, transaction of special funds (assets) and steel materials, budget management, contract management, tender management and supplier management and arranged inspection tours to 18 primary entities to facilitate institutional improvements and procedural optimizations. The Corporation has implemented efficiency supervision in key areas such as project construction, procurement and sales, capital management, asset disposal and safety management and completed 195 efficiency supervision projects, proposed 546 supervision suggestions, made 26 supervision decision and facilitated the formulation of 428 provisions during the year.

### Strengthen Clean-handed Conduct

Baosteel has adhered to the education approach which focused on the fundamentals, tendencies and typical cases and strengthened the development of a clean-fingered culture emphasizing "Lawful Operations, Clean-Handed Practices, Honesty and Commitment, Diligence and Efficiency as well as a Healthy Taste" through the integrated application and continuous pursuit of anti-corruption education methods such as demonstrative education, deterrent education, informative education and the analyses and announcement of major cases. Baosteel has continuously enhanced the awareness of clean-handed conduct by improving the contents of anti-corruption education and expanding the case library, providing anti-corruption themed lectures to the newly promoted leaders, reserve cadres and newly employed university graduates, encouraging the leaders' commitment to clean-handed conducts and reporting and appraising on the fulfillment of such commitment by means such as democratic dialogue meetings, reports on duties and anti-corruption status, and democratic evaluation by the employees.

Baosteel has strengthened the institutional development to further regulate business practices. Rules and regulations, such as the Interim Rules of Baosteel Group Corporation on Inspection Tours, the Implementation Opinions on Strengthening Baosteel's Anti-corruption Risk Prevention and Control and the Implementation Rules for Punishment on Violations of Disciplines and Regulations, have been drawn up or revised and the relevant supporting systems, such as the "3+1" decision-making mechanism, internal control, job-related consumption and democratic supervision, have been optimized.

Clean-handed Conduct Item	2010	2011	2012
Number of anti-corruption education sessions	1,051	1,064	1,506
Person-times attending anti-corruption education (Thousand)	45.9	45	55
Number of persons making clean hand commitments	2,086	3,450	7,422
Amount of part-time remuneration turned in by leaders (RMB Million)	1.878	2.37	2.38
Person-times turning in cash gift, presents and marketable securities	1,781	2,071	2,245
Amount of cash gift, presents and securities turned in (RMB Million)	1.94	2.40	2.478

### Honest Business

Severely Punished on Violations of Disciplines and Regulations

Baosteel has always stressed the investigation and handling of cases as well as the value for addressing the root causes and continuously optimized the punishment mechanism integrating case investigation and handling, deterrent education, responsibility investigation and institutional improvement. Through investigations into petitions and cases, Baosteel has issued 26 letters of supervision suggestions, proposed 62 supervision suggestions, improved 135 institutional items, investigated into the responsibilities and liabilities of 19 leaders of the violating entities, conducted admonishment with 44 persons and provided 42 persons with petition notice (warning). Baosteel has also produced warning and education videos, such as the Lost Happiness and organized 5 case education seminars to further exploit the value of the cases for addressing the root causes. The Corporation has engaged in procuratorate-enterprise joint efforts to promote the prevention of job-related offences and been named the Meritorious Entity in Prevention of Job-related Offences of Pudong New Area. In addition, Baosteel has continued to put the "Implementation Opinions on Disclosing the List of Briber Entities and Resigned Persons on Account of Bribery within Baosteel" into practice and published the ninth batch of banned entities and persons list, with 33 entities and 469 persons denied of future business relations with Baosteel and written warnings demanding rectifications issued to 9 entities.

Item	2010	2011	2012
Number of petitions and offence report	245	109	106
Number of cases accepted and investigated	27	25	22
Number of cases closed	23	21	22
Number of people given Party disciplinary punishment	10	4	9
Number of people given administrative disciplinary punishment	16	18	13
Number of labor contracts terminated	3	2	9
Number of people transferred to the judicial authority	4	1	8

### Effectively Promote the "Five Transparencies" Development

For the primary purpose of realizing transparent information, procedures and outcomes in key areas and critical processes, Baosteel has systematically implemented controls at source which involved mainly the building of "Five Transparencies" and facilitated the development of a standardized and transparent operation system.

1. Transparency in Talent Selection and Recruitment. In 2012, totally 36 leadership positions were filled through competitive selection. The credibility of talent selection and recruitment at 15 affiliated entities has been assessed, with appropriate corrective measures implemented for issues reflected in the assessments, such as number of cadre positions and conduct development.

2. Transparency in Remuneration Management. Baosteel has conducted HR system evaluations, strengthened the analyses of remuneration distribution and the random inspection of remuneration payments, punished actions in violation of the eight disciplines for remuneration management and investigated into the liabilities of 3 leaders of primary entities involved in the appropriation of employee bonuses for unauthorized uses.

3. Transparency in Job-related Consumptions. Baosteel introduced regulations such as the Administrative Rules on Job-related Consumptions of Company Leaders and the Administrative Rules on Job-related Consumptions at Headquarters and engaged in special inspections on the management of company vehicles. Non-compliance at some entities, such as unauthorized purchase of company vehicles and prolonged use of short-term leases, has been rectified.

4. Transparency in Procurement and Sales. Baosteel has implemented supervision on issues such as the online transaction and RFQ processes, records of quotation and approval and transaction results and standardized urgent procurement, exclusive procurement and competitive procurement and rectified issues such as deciding suppliers on the spot and the lack of standardization in the review and approval of off-line procurement. The Corporation increased penalties on failure to delivery commitments and disqualified and eliminated a total of 387 suppliers.

5. Transparency in Project Construction. Baosteel escalated the cost management and contract management of major construction projects and rectified issues such as inadequate performance of contract, non-compliant alteration of contracts and flawed tendering and bid evaluation procedures. The Corporation also engaged in a special campaign against "falsification of qualification in the bidding process and illegal sharing of qualifications". Non-compliance such as illegally sub-contracting the construction of the deep foundation pit of the complex building and installation of the main steel structure has been revealed and rectified.

# Value Creation







Wang Xiaobo, Chief Researcher of Baoshan Iron \$ Steel Co., Ltd. The Research and Application of Accelerated Post-Rolling Cooling Control System and Process Model for Thick-Plate Project led by her won the Second Prize of Shanghai Municipal Science and Technology Awards.

## Direct Economic Performance

### Z

In 2012, Baosteel realized an annual profit of RMB 10.4 billion despite the sluggish global iron and steel market and losses suffered extensively throughout the Chinese iron and steel industry, including 31% from iron and steel operations, 37% from diversified industries and 32% from corporate headquarter and capital gains. This reflects healthy and reasonable industry structure and relatively strong risk resistance of Baosteel. The review results of Baosteel's credit rating by Standard & Poor's, Moody's and Fitch indicate that Baosteel has managed to sustain the highest credit rating among the global iron and steel enterprises.



### Sustained Industry Leadership and Awarded with Highest Credit Rating Among Global Iron and Steel Enterprises

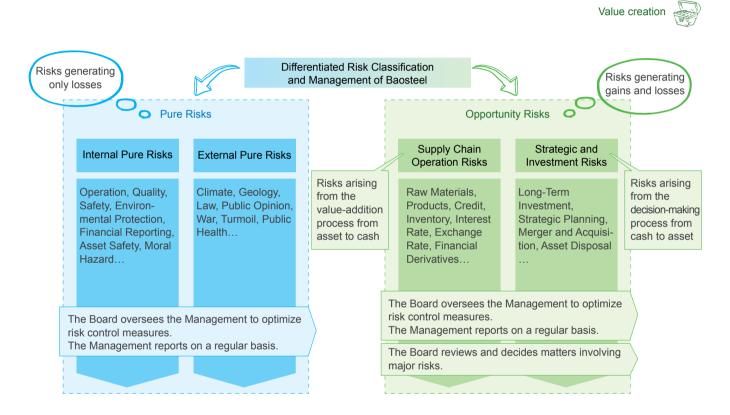
	2010	2011	2012
Total Revenue (RMB Billion)	272.98	316.25	288.23
Total Cost (RMB Billion)	254.68	302.03	293.21
Total Profit (RMB Billion)	24.23	18.15	10.42
Total Assets (RMB Billion)	432.13	467.30	498.44
Total Owners' Equity (RMB Billion)	260.18	266.24	277.13
Output of Crude Steel (Million Tons)	44.50	44.27	43.83



### Risk Management

### Z

In 2012, Baosteel focused on the management and control of strategic and investment risks, identified the direction of industrial restructuring in Baoshan region, optimized the feasibility study plan for Baosteel Zhanjiang Iron & Steel Project and regulated operating risks at their sources. In face of the harsh market environment, various departments strengthened their risk control in supply chain operations including inventory, capital, exchange rate and interest rate, responded quickly to market changes, endeavored to mitigate the impact of external systematic risks such as "Diaoyu Island Dispute" and "inadequate liquidity of steel traders" and handled all kinds of emergencies in a timely manner. With joint efforts from the Board of Directors, management and all employees, key and major risks remained fundamentally under control.



#### Comment by Outside Director

Baosteel has applied risk management theories to actual production practices, such as inventory risk management, to facilitate the practical exploitation of risk management theories in reality and therefore achieved the comprehensive and effective implementation of the risk management system.

## Major Projects

Z

Supported by the synergetic development of the related industries, Baosteel has adhered to its established strategy with iron and steel as its core business, spared no efforts in the continuous establishment of a highly efficient iron and steel supply chain and taken a systematic approach in the implementation of the large-scale restructuring of iron and steel assets and cross-regional adjustment in production distribution. The Corporation has been unhesitant in the elimination of all inefficient and ineffective assets and continued to set up new production bases and develop new production systems in pursuance of the established strategy with the aim to achieve the highest efficiency in the world. All diversified industries are striving for industry leadership in their respective fields.

Value creation

Zhanjiang Iron & Steel Project

The construction of Zhanjiang Iron & Steel is one of the specific actions taken by Baosteel to implement the National "Twelfth Five-Year" Plan for the iron and steel industry and a key breakthrough in the new "Two Deltas and One Borderland" development stage and the realization of the Pearl River Delta presence of Baosteel's primary operation in iron and steel as well as an important platform for Baosteel's secondary entrepreneurship. On May 24<sup>th</sup>, 2012, the Zhanjiang Iron & Steel Project was approved by the state government. On September 17<sup>th</sup>, 2012, the general meeting of Baosteel Co., Ltd. adopted a resolution that Baosteel Co., Ltd. would serve as the main investing entity in Zhanjiang Iron & Steel Project and that the registered capital of Zhanjiang Iron & Steel would be increased to RMB 8 billion upon completion of the acquisition. This acquisition of Zhanjiang Iron & Steel Co., Ltd. will facilitate the adequate utilization of Baosteel's existing technology and talent resources and benefit the construction and progress of Zhanjiang Iron & Steel Project. The designed annual production capacities of crude steel and steel products of Zhanjiang Iron & Steel Phase I Project are 8.71 million tons and 6.37 million tons respectively.

#### Comment by Outside Director

Zhanjiang Iron & Steel Project is a worthwhile undertaking! Despite large investments required, the project has great significance in helping Baosteel secure strategic highland in the future, as long as cash-flow allows. The project will break even soon after it commences production and becomes profitable in no time. Through market expansion relying on the internal advantages of the Pearl River Delta and influencing the external Southeast Asia region and advantageous logistics costs, the project will eventually foster advantages complimenting those of Baosteel.

----- Gan Yong, Deputy Director of Chinese Academy of Engineering

## Jiangsu Fine Wire & Cord Project of Baosteel Metal Jiangsu



Located in Haibao Metal Industrial Park in Haimen City of Jiangsu Province, Jiangsu Baosteel Fine Wire & Cord Project specializes in the production of steel cords for auto tires and sawing wires for the photovoltaic industry. The construction of the project is divided into two phases with Phase I commencing construction at the end of 2011 and commencing operation at the end of 2012. Upon full production, the annual production capacity of fine wires and cords will reach 50,000 tons, serving as a key link in the wire product industry chain between steel wire rods to finished products and indicating that Baosteel has officially entered the field of high-grade wire products.

Vietnam Can-making Project

Baosteel Develops Mineral Wool Project For the purpose of further expansion into overseas markets, Baosteel has constructed a new can-making project in Vietnam with designed annual production capacity of 600 million cans. The project has commenced trial production since November 2012.

Baosteel has applied its philosophy of environmental-friendly operation in practice and constantly improved the integrated recycling value of solid waste. In 2012, Baosteel constructed a pilot production line of granular wool from blast furnace hot slag with annual production capacity of 20,000 tons and the relevant supporting facilities in Ningbo, Zhejiang Province. The hot test run of the granular wool pilot production line is scheduled in September 2013. The construction of this project will expand the scope of solid metallurgic waste recycling and develop energy-conserving and environmental-friendly green materials.

#### **Overseas Shearing Centre**

For the purpose of providing strategic users overseas with better services, satisfying individualized needs, strengthening the management of overseas customer channels and enhancing the competitiveness of Baosteel's auto sheets in overseas markets, the Corporation has set forth the overseas marketing strategies and planning, planned and implemented a series of overseas shearing, distribution and processing centre projects. After the acquisition of the Italian shearing centre in 2011, the Corporation has set up joint ventures and established shearing, processing and distribution centers in South Korea, India and other countries in 2012. These projects are progressing in an orderly manner.

### Value Creation

Nanjiang Baicheng Iron & Steel Base Project of Bayi Iron & Steel In 2012, the construction of Nanjiang Baicheng Iron & Steel Base and its supporting projects has successfully met the planned milestones. By the end of the year, the integrated stock yard area has commenced operation and the joint commissioning for the sintering area has basically been finished. The installation of equipments in blast furnace area is being completed and individual commissioning of such equipments has commenced. The commissioning and installation of primary equipments in the steel-making and steel-rolling areas are being carried out as scheduled. The project is expected to commence operation in mid 2013.



### Baosteel Co., Ltd. Silicon Steel Follow-up Phase II Project

In order to enhance the product standards, optimize product variety structure and better satisfy users' needs, Baosteel Co., Ltd. decided in 2010 to develop the Silicon Steel Follow-up Phase II Project with a designed production capacity of 100,000 tons of HiB oriented silicon steel. The project has officially commenced construction in June 2011 and is expected to commence operation in July 2013. By then, the total oriented silicon steel production capacity of Baosteel Co., Ltd. will reach 300,000 tons/year.

### Thailand Steel Pipe Project

Baosteel has set up a joint venture and developed a seamless steel pipe project in Thailand. The project officially commenced construction in February 2012 and the first batch of steel pipes was successfully rolled in January 2013. This project will facilitate Baosteel's further expansion into the international steel pipe markets.

#### Iron and Steel Industrial Restructuring in Baoshan Region



The signing of the Cooperation Agreement for Iron and Steel Industrial Restructuring in Baoshan Region between Shanghai Municipal Government and Baosteel on July 4th, 2012 indicated the official start of the iron and steel industrial restructuring in Shanghai. In this restructuring process, Baosteel actively cooperated with the master urban plan of Shanghai and adopted the work approach of "Development through Reduced Capacity, Increased Efficiency and Restructuring" to restructure the enterprises in the industrial parks of Baoshan and Wusong as well as the Luojing Production Base in Shanghai. Upon completion of the scheduled restructuring tasks, it is estimated that the steel production capacity in Shanghai will be reduced by approximately 6.6 million tons and corresponding reduction in energy consumption will be approximately 3 million tons of coal equivalent. As a core enterprise of Baosteel Group, Baosteel Co., Ltd. will focus on the carbon steel plate business in which it enjoys the differentiation advantages, continue to step up input into R&D, gather outstanding talents, enhance the operational efficiency of the enterprises and improve the energy conservation and environmental protection standards and enhance and forge an elite iron and steel production base of Shanghai. Currently relocation of Corex iron-making facility to Xinjiang Bayi Iron and Steel, restructuring of the stainless steel production system and other tasks are being carried out in an orderly manner.

#### Comment by Outside Director

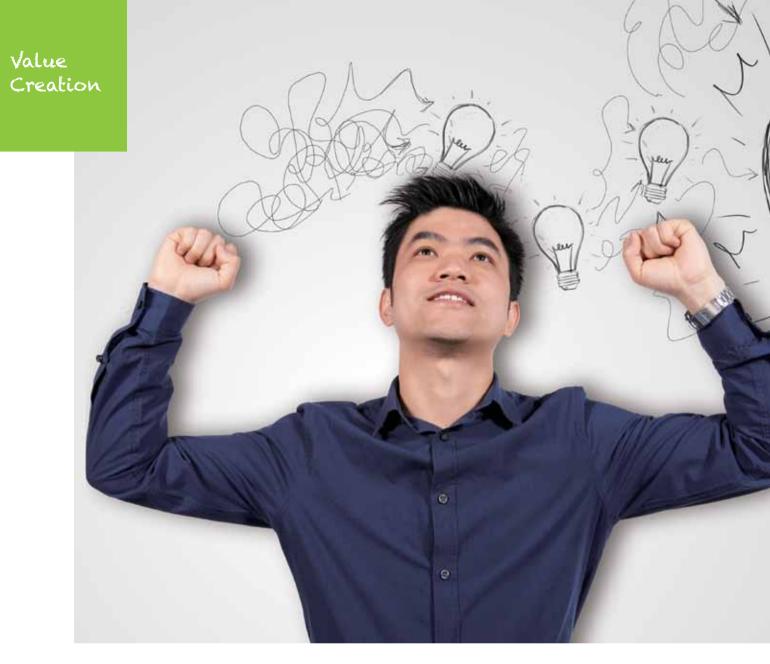
This iron and steel industrial restructuring in Baoshan region integrates not only the business transformation of Baosteel but also the requirements of urban development in the process, which means to fulfill its corporate social responsibilities. This task may have a temporary price to pay but will benefit the society in general.

— Jing Tianliang, Chairman of China Metallurgical Group Corporation

#### Industrial Gas Operation



In order to realize the transformation from manufacturing to services set forth under the new planning cycle, Baosteel prioritized the industrial gas operation as one of the key strategic operations, acquired and integrated the coking and air separation assets as well as oxygen, nitrogen and argon gas operations in Shanghai in June 2012. The project will facilitate the quick improvement of the market position of Baosteel's industrial gas operation in Shanghai and the nearby regions and optimize the allocation of gas resources in Shanghai's coking region.



## Z

Baosteel, accelerating the integration of technological resources, has established a technological innovation system with its own characteristics and sped up the enhancement of the overall technological capabilities of the Corporation through institutional reform and system innovation in accordance with the requirements of the Corporation's strategic development. The Corporation has formed a research and development system under which "production-marketing-research" and "industry-academy-research" are closely integrated through the research institute as the main entity, integrated engineering system combining production, R&D, design and equipment on the platform of engineering projects, and a continual improvement system focusing on the production site and characterized by stable enhancement and lean operation.

In 2012, Baosteel, under the guidance of its new development planning cycle, has adhered to the strategy of technological leadership and actively explored new industries and been commended by the country for a series of achievements with the support of its environmental-friendly operations with innovation, including the **China Metallurgical Science and Technology Special Prize** for the "Development and Industrialization of Low Temperature High Magnetic Induction Grain-oriented Silicon Steel Manufacturing Technology" and **the Second Prize of National Awards for Scientific and Technological Progress** for the "Development and Application of Two-piece Tinplate for Pop-top Cans". Baosteel has been jointly recognized by the Ministry of Industry and Information Technology and the Ministry of Finance as a "National Technology Innovation Model Enterprise".





Value Creation 
• CSR 2012

# Technology Innovations

Integrated engineering system combining production, R&D, design and equipment on the platform of engineering projects

Engineering as Carrier and R&D on the

Centering on Market and Accommodating Needs of Market, Project and Site

Focusing on Research and Engineering

Integration in the Process of R&D

Platform of Engineering Integration

legy

Research and Development System

Research and development system under which "production-marketing-research" and "industry-academy-research" are closely integrated through the research institute as the main entity

Continual improvement system focusing on the production site and characterized by stable enhancement and lean operation.

Engineering as Carrier

Platform of Engineering

Aiming at Improvement

and R&D Integrating with

Integration

Improvements

and Improvements on the

# Value Creation

# Technological Innovation System

## **R&D** Capability

#### Comment by Outside Director

Baosteel has indeed served as exemplary model in the iron and steel industry and played a leading role in the technological advancements of the industry. Baosteel has made available to the industry many of its generic technologies and actively promoted any technologies that may benefit the society. This is a very important aspect of Baosteel's performance of its social responsibilities – to guide technological advancements of the industry through practical actions.

—— Wang Xiaoqi, Vice Chairman of China Iron and Steel Association

Optimization of organizational system - On June 19<sup>th</sup>, 2012, Baosteel set up its Central Research Institute to integrate the R&D resources of the Group and make drastic changes to the R&D system and operation mechanisms.

Synergetic promotion through technologies - Baosteel supported the successful implementation of the cold-roll acid-washing and medium thickness plate, supported Ningbo Iron & Steel in realizing enhancement of manufacturing capability and acquired the capability to manufacture pipeline steel as well as the permit for the manufacturing of the pipeline steel below X70 grade and supported the significant cost improvement in Shaoguan Iron and Steel region.

Baosteel has achieved major progresses in the research and development of key new products and technologies. Baosteel was the first in the world to release the guenched and partitioned steel (980MPa grade Q&P cold-rolled steel sheet), which was one of the third-generation advanced high-strength steel technological approaches. The Corporation realized mass production of high-Si high magnetic induction oriented silicon steel (3.35% Si) and trial mass production of top-grade non-oriented silicon steel (B35A200). The application of Grade Super 13Cr Tube products with the largest specification (206.38×16mm) in China at Tarim Oilfield was also successful. Baosteel-made 690U pipes were successfully connected to No.1 evaporator of Fangchenggang nuclear power plant No.1 generator unit. The first unit of materials for ultra-supercritical units (Super 304 and HR3C pipes) was sold. Stainless steel for auto exhaust system was certified by automakers such as Nissan, Toyota and Honda, establishing Baosteel as a qualified supplier. Significant progresses have been achieved in the researches on key technologies, such as the third generation oxide metallurgy technology, composite rolling technology, new scale-removal and new generation of energy-conserving high-efficiency continuous heat treatment. The industrialization of the thin-strip continuous casting and rolling technology has progressed successfully, and currently the construction of industrialized production lines has commenced.

Baosteel has supported energy conservation and emission reduction efforts through technological innovation, accelerated researches on technologies such as the waste heat recycling for waste gas from sintering, integrated utilization and advanced treatment of waste water, production of mineral wool from blast furnace hot slag and steelwork exhaust-to-ethanol. Among these, waste heat recycling technology for waste gas from sintering, named by NDRC as a Low-carbon Development Demonstration Project, has achieved milestone progresses and realized preliminary industrial applications. The world's largest steelwork exhaust-to-ethanol pilot production facility constructed by Baosteel in cooperation with CAS and LanzaTech has achieved world-leading standards in indicators such as gas conversion rate and concentration of fermentation broth. The dream of turning exhaust gases of the iron and steel industry into raw materials of a new energy source will come true.

Baosteel has constantly explored new development paths of diversified industries. The diversified industries, actively increasing R&D inputs, have fostered the capability to enter new industries, driven industry transformation through innovation, engaged in extensive researches on cloud computing, high-grade wire rods, mineral wool from blast furnace slag and special bitumen and accelerated the exploration in new industries.

Case

# Technological Innovation Achievements

Item	Unit	2010	2011	2012
Ratio of R&D input	%	2.0	2.0	2.1
Amount of R&D input	RMB Billion	5.10	6.35	6.04
New product sales ratio	%	17.6	18.8	18.1
Number of patent applications (accepted)	_	1,426	2,287	2,445
Economic benefits of research projects	RMB Billion	2.26	2.33	2.27
Value of technology transaction contracts	RMB Million	94.85	94.62	162.27
Number of technology transactions	_	_	63	49

#### Baosteel National Key Laboratory for Auto Steel

The establishment of national key labs at enterprises is a key part of the national efforts to forge the three pillars of the innovation, namely innovative enterprises, technological innovation alliances and integrated innovation and technology platforms. Baosteel started to plan the establishment of its national key laboratory for the development and application of auto steel technologies in June 2010 with the aim to create a national research base for high-performance auto steel, cultivate outstanding technological talents in auto steel and establish a state-level innovation platform to encourage international exchanges. Since construction of the laboratory started two years ago, Baosteel has conducted researches on key technologies in areas such as the development of auto steel products, molding technologies, welding technologies, coating technologies and corrosion and protection technologies in light of the "light-weight, safe and enduring" technical requirements and industry development trends of the automotive industry and achieved significant results. The laboratory has also undertaken 5 state-level projects, submitted 35 patent applications, received 7 state-, provincial- and ministerial-level awards and taken charge of and participated in the formulation of 6 national standards and 8 industry standards during its establishment, therefore providing active support for and playing a leading role in China's auto steel industry.

In December 2012, the Baosteel National Key Laboratory for the Development and Application of Auto Steel Technologies passed the expert review and acceptance inspection organized by the Ministry of Science and Technology. The expert panel agreed unanimously that the laboratory had played a significant role in promoting innovation in key technologies of the industry, enhancing influences of technologies and facilitating the integration of industry, academy and research.

#### Two-piece Tinplate for Pop-top Cans (DI Material)

Two-piece steel pop-top cans enjoy the advantages of reduced production cost and energy consumption as well as easy recycling. In Europe where the iron and steel industry is well-developed, steel can has developed rapidly and taken up half of the market share. In order to satisfy the pop-top can production which requires high production speed, large deformation and low rejection rate, the tinplate for pop-top cans (also referred to as DI material) must have extremely high metallurgical properties (high purity and excellent processability) and geometric properties (extremely thin and high precision) which present the cold-rolled thin-strip technology level of a country. Before Baosteel started the manufacturing of DI materials, the relevant technologies have always been controlled by a handful of foreign iron and steel enterprises. In order break such technological monopoly and the pro-longed reliance on imported DI materials, Baosteel has commenced R&D on DI materials since 1998 and successfully developed China's only DI material production technology as well as the proprietary complete two-piece steel can manufacturing technology after more than a decade of hard work. These achievements, being the first in the field of DI material and two-piece steel pop-top can in China, has filed for 28 national patents and been awarded the Second Prize of National Awards for Scientific and Technological Progress.

# Environment Management





Mom tells me that it is iron and steel that creates a new future for mankind. — Chen Yunyi, a child of a Baosteel employee



## Environment Management

The production of iron and steel products to which we are dedicated is an undertaking that benefits the mankind. As an essential material in the social development and human life, iron and steel outperforms other materials with 100% recyclability and optimal strength-weight ratio. If we significantly reduce iron and steel production now and replace it with other alternatives to ensure the status quo of life, the carbon emission of the entire social and economic system will not decrease but increase instead. We have also realized that iron and steel production is a process with relatively high energy consumption, and the iron and steel industry faces significant challenges in the global climate of energy conservation and emission reduction. Based on such realization, Baosteel proposed its environment management strategy in 2009. Environment management refers to the full process of incorporating environmental protection into corporate management and governance and integrating environmental protection with corporate development. Therefore the environment management strategy of Baosteel differs from common competition strategies, such as differentiation and cost leadership, and covers the comprehensive process of the enterprise, including product development, product design and product manufacturing. It also binds and guides the behaviors of employees and industry chain partners. Specifically, Baosteel's environment management includes three integral parts, namely green manufacturing, green products and green

Environment management

industry.

## **Green** Vision

Becoming the most competitive resource-conserving and environmental-friendly iron and steel group in the world

#### **Management Guidelines**

Strictly comply with state laws, regulations and standards on energy conservation and environmental protection and implement international environmental conventions;

Implement more stringent internal control standards and continue to reduce energy consumption and environmental impacts in the course of corporate production and product usage;

Improve production technologies, optimize energy structure, reduce energy consumption, and cut down energy costs;

Systematically transform newly-acquired production units in energy conservation and environmental protection, and maintain the Corporation's overall level of energy conservation and environmental protection;

Promote waste reduction, reuse and recycling, and raise recycled use efficiency;

Care about stakeholders' opinions and demands and continuously improve the quality of community environment;

Encourage partners to continuously improve in energy and environmental management and performance;

Care about climate change, actively participate in domestic and foreign exchanges and cooperation on energy conservation and environmental protection, promote research, development and application of energy-saving and environment-friendly technologies, and improve the global ecological environment;

Enhance employee awareness and ability in energy conservation and environmental protection and motivate all employees to participate in energy conservation and environmental protection.

#### **Environmental Management System**

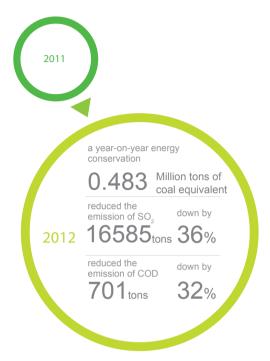
Baosteel Co., Ltd. initiated ISO14001 certification for environmental management system as early as 1998 and was the first among Chinese iron and steel enterprises to pass this certification.

Currently all affiliated iron and steel production enterprises of Baosteel, except for Baosteel Desheng which joined Baosteel Group in 2011, have passed ISO14001 certification for environmental management system.

In addition, 85% of the industrial enterprises in the diversified industries of Baosteel have passed ISO14001 certification for environmental management system.



# Green Manufacturing



Green manufacturing refers to the adoption of various management and technical measures in the iron and steel production process to maximize energy conservation and reduction of consumption and emission with the aim to realize clean production along with healthy economic returns and therefore harmonious co-existence with the environment of

such production. In 2012, Baosteel invested RMB **1.522** billion in energy-conservation and emission-reduction projects and successfully completed a series of key energy-conservation and emission-reduction projects, including the energy-conservation reconstruction of No.1 steel-making converter furnace of Baosteel Co., Ltd., sintering and desulfuration reconstruction at Bayi Iron & Steel headquarter, sintering and desulfuration reconstruction at Ningbo Iron & Steel and construction of gas-fired boiler at Shaoguan Iron & Steel Co., Ltd., despite the extensive losses suffered throughout China's iron and steel industry.

As compared with 2011, the Group realized a year-on-year energy conservation of 483,000 tons of coal equivalent and reduced the emission of SO<sub>2</sub> and COD by **16,585** tons (**36%**) and **701** tons (**32%**) respectively.

## Green Management System

Energy Management System	Baosteel is the first to initiated certification for energy management system in China's iron and steel industry.
	In 2012, Baosteel Co., Ltd. (Headquarter) and Baosteel-NSC/Arcelor Automotive Steel Sheets Co., Ltd. passed the review for the three-year pilot of energy management system. Baosteel's energy management system has maintained the standards under GB/T23331-2009 and the certification in pursuance of EnMSGT-2010 the Implementation Rules for Certification of Energy Management System of Iron and Steel Industry (Trial).
Clean Production Review	In 2012, Baosteel Stainless Steel passed the second acceptance inspection. Four entities, including Baotong Iron & Steel and Jiangnan Rolls Company, passed the first acceptance inspection and three entities, including Changxin Slag Company, initiated clean production review. Yantai Bao-Mit Steel Distribution Co., Ltd. under Baosteel International passed the clean production review and was recognized as an outstanding "Clean Production Enterprise" of Shandong Province. This is a breakthrough in the implementation of environment management in Baosteel's processing and distribution services.

#### Management and Project Construction of Energy Conservation and Emission Reduction







2012 was a crucial year for the comprehensive implementation of the National "Twelfth Five-Year" Plan. Baosteel segmented the energy conservation and emission reduction performance targets, implement such targets at all levels and ensured full control over energy conservation and environmental protection indicators through dynamic monitoring, follow-up and strict accountability practices on a monthly basis.

Currently the country has launched the first group of carbon emission trading pilots in seven provinces and municipalities, including Shanghai, Hubei and Guangdong. In response to that, Baosteel has organized carbon emission trading right pilots at concerned entities and actively cooperated with Shanghai in the research on and establishment of the monitoring and statistical methods for carbon emission of Shanghai's iron & steel industry.

In light of the requirement that all unit output energy consumption indicators should be appraised using comparable indicators during the National "Twelfth Five-Year" Plan and the difficulties in management of unit output energy consumption indicators by department, Baosteel has set up a comparable unit output indicator statistics and management system.

With regard to the development of energy conservation and emission reduction projects, 367 energy conservation and emission reduction projects have been established and 77 energy conservation and emission reduction projects as well as 62 environmental protection projects have been completed and implemented. Meanwhile, it is planned that 159 contractual energy management projects will be implemented over the next three years. These projects will enable an annual energy conservation capacity of 1.09 million tons of coal equivalent. New iron and steel production units joining Baosteel Group Corporation over the past few years, such as Bayi Iron & Steel, Shaoguan Iron & Steel Co., Ltd. and Baosteel Desheng Stainless Steel Co., Ltd., have promoted the comprehensive development of energy conservation and emission reduction projects and achieved remarkable results.

In 2012, Baosteel Co., Ltd. engaged in comprehensive and in-depth promotion of hot charge rolling <sup>Note</sup> in hot rolling areas and realized a year-on-year energy conservation of over 4,800 tons of coal equivalent. Meanwhile, the successful CC-HCR technological reconstruction at Shaoguan Precision Steel Wire Plant enabled the production to be more compact, efficient and energy-conserving.

Baosteel Co., Ltd. coke oven upgrading and integrated reconstruction project is put into production (Figure 2). The project applies the new generation large environmental-friendly JNX70-3 furnace and employs the dry quenching technique, coal moisture control devices and several coke oven smoke control technologies, such as dust removal systems for four major types of vehicles and coal tower dust removal system. Meanwhile, the waster water treatment device constructed is the first model device for zero emission of coking waste water in China and will be able to achieve clean production upon full operation.

Baosteel Co., Ltd. 1880 hot rolling production line reheating furnace exhaust gas waste heat recovery project has carried out reconstruction while sustaining production and is expected to be completed and operational by the end of the year. By then, the project will realize annual energy conservation of 11,300 tons of coal equivalent.

The "Energy-Conservation Reconstruction of Cinder Flushing Pump for the Casting House of 750 Blast Furnace" and "Reconstruction of Cooling Tower of No.2 Cold Rolling Machine Water Treatment, Purification and Recycling System" projects implemented by Baosteel Stainless Steel in 2012 are expected to realize annual energy conservation of 500 tons of coal equivalent upon completion and operation.

In 2012, Bayi Iron & Steel increased investments in projects such as resource utilization and energy conservation and consumption reduction. The implementation of sintering machine waste heat generation project, supported by a 33MW generator unit, will generate 260 million KWh of electricity per year. The newly constructed blast furnace top gas waste pressure generation project, supported by an 18MW generator unit, will generate 40 KWh of electricity per ton of iron. The steam turbine driven method applied to the newly constructed 430m<sup>2</sup> sintering machine will realize annual energy conservation of 100 million KWh. Power generation through steam produced by the newly constructed pure gas-fired boiler fueled by surplus blast furnace gas and coke oven gas in place of steam coal significantly improved the atmospheric environment and reduced costs. Combined heat and power generation phase II project achieved annual power generation capacity of 320 million KWh. A 120,000m<sup>3</sup> converter gas tank was newly constructed to recover the converter gas from the newly constructed 2×150 tons converters and can recover 75m<sup>3</sup> of converter gas per ton of steel. In addition, 10 energy conservation and emission reduction projects of Bayi Iron & Steel have been elected as the Key Energy Consuming Entity Energy-Conservation and Low-Carbon Project under the Twelfth "Five-Year" Plan for the Xinjiang Uygur Autonomous Region.

In 2012, the integrated energy conservation reconstruction projects for all 6 stainless steel annealing furnaces of Baosteel Desheng Stainless Steel Co., Ltd. have been completed and commenced operations. The 125 ton/hour dry quenching and waste heat power generation projects have commenced construction and the dry quenching power generation and on-grid generation of the power plant will be realized by the end of 2013 according to the schedule.

Note: Hot charge rolling is the technique of charging the continuous casting slab from the casting machine directly to the hot rolling reheating furnace so as to adequately utilize the residual heat of the slab, reduce heat losses and therefore lower energy consumption of the hot rolling reheating furnace. In practical production, keeping the slab hot throughout the casting process faces much difficulty due to restrictions in output-consumption matching, product variety structure, production organization, logistics and other factors and demands higher standards in the basic site management and coordination capability between various processes.

## Environment Management

Active Exploration of the Application of New Energy Technologies



Energy Centre Building 130 KW Photovoltaic System Project



the "Golden Sun Demonstration Project"

#### Optimization of Whole-Process Management of By-Product Resources



Recycling of Iron Oxide Sludge

In order to accumulate experiences in on-grid photovoltaic power generation projects, Baosteel Co., Ltd. launched the "Energy Centre Building 130 KW Photovoltaic System Project" in March. The project commenced on-grid power generation in May and laid solid foundation for Baosteel's full involvement in solar photovoltaic power generation projects.

Baosteel Co., Ltd. has undertaken the implementation of the "Golden Sun Demonstration Project" in steelwork. The project, with an installed capacity of 50MW, is expected to generate 50 million KWh per year, making it the largest steelwork solar power generation demonstration project currently in China. The project generates power from solar energy absorbed directly by solar arrays installed on rooftops and occupies no land resources.

Meanwhile, Baosteel has also piloted the "Golden Sun" photovoltaic projects in diversified industries outside Shanghai. On the morning of November 28<sup>th</sup>, the contract for Changzhou Xinbei District Industrial Building Rooftop Photovoltaic Generation Demonstration Project, Baosteel's first photovoltaic project outside Shanghai and the winner of the national "Golden Sun" government grant, was signed. The project features an installed capacity of 10MW and an operation term of 25 years, implemented in the form of contractual energy management. Upon completion and operation, the project is expected to generate over 9.75 million KWh of electricity every year, achieve energy conservation of 3,266 tons of coal equivalent and reduce the carbon dioxide emission by nearly 8,000 tons.

Note: The "Golden Sun Demonstration Project" is a policy implemented by China since 2009 to support the domestic promotion of the technological advancements and large-scale development of photovoltaic power generation and to cultivate strategic emerging industries.

Baosteel Development Inland River Dock Vertical Mill Production Line and Technological Reconstruction Project and Baolong Solid Waste Resource Integrated Utilization and Environmental-friendly and Energy-Conserving Reconstruction Project were launched. They promoted the construction of slag micro powder pilot production line of MMC Baosteel Technology Service Co., Ltd. and thorough utilization of slag products, such as water permeable bricks and shot blasting materials, constructed the green energy-conserving sample estate using Baosteel's by-product resources as raw materials and paved slag water permeable bricks on the pedestrian walks along main roads in the factory area, such as Weisan Road.

The construction of Xinjiang Baoxin Shengyuan Building Material Corporation Phase III Slag Micro Powder Production Line Project was launched. Upon completion of the project, an annual integrated production capacity of 3 million tons of slag micro powder will be formed, which will be sufficient to digest the water-granulated blast furnace slag from Bayi Iron & Steel and reduce carbon dioxide emission by nearly one million tons per year. The Bayi Iron & Steel Pyrolytic Slag Processing and Production Line was completed and commenced operation, realizing 100% utilization of steel slag and reducing unorganized fume dust emission by 3,000 tons every year. Shaogang Jiayang Slag Powder Phase III Project and Shaogang Hengran Zinc Hazardous and Waster Materials Integrated Utilization Project have been completed.

The research and application of new processing technology for by-product resources have been strengthened. The research and development of hot rolling plant ferric oxide mud briquetting for reuse in steel-making and steel pipe plant grinding briquetting for reuse in production have increased both the by-product resource utilization rate and by-product re-utilization rate in production of Baosteel Co., Ltd. headquarter to historical highs of 98.8% and 27.9% respectively.

# Case

# Baosteel Resources "Metal Scrap Processing and Distribution Centre Demonstration Base" Inaugurated

On the morning of May 16<sup>th</sup>, the inauguration ceremony of "Metal Scrap Processing and Distribution Centre Demonstration Base" was held by China Association of Metal Scrap Utilization at Baosteel Resources Huangnitang metal scrap base. Baosteel Resources and 8 regional metal scrap bases under its portfolio (with size of 2 million tons and processing capacity of 1.3 million tons) were recognized by China Association of Metal Scrap Utilization as "Metal Scrap Processing and Distribution Centre Demonstration Bases".

#### Renewable Metal Resource Comprehensive Utilization Creativity Contest

For the purposes of strengthening the environment management awareness among employees, promoting the technological advancement in the comprehensive utilization of renewable resources, improving achievement transformation quality and gathering social resources to accelerate the industrialization of the comprehensive utilization of renewable resources, Baosteel Development Co., Ltd. organized the Renewable Metal Resource Comprehensive Utilization and other organizations under the theme of "Limited Resources, Unlimited Creativity, Low-Carbon is Up to Me" at the end of 2011. The Contest received overwhelming responses from Chinese universities, scientific research institutes and various affiliated entities of Baosteel and witnessed the emergence of a large number of new product and new project creativity Contest Special Forum concurrently with the Contest, including four sub-forums on industrialization of building materials from metallurgical solid waste, magnetic material and its future development, metal packaging and factory energy-conservation technologies.



#### Discovering Treasure in Waste, Finding Warmth in Steel

In 2011, Baosteel Stainless Steel Co., Ltd. introduced the "Blast Furnace Cinder-Flushing Water Waste Heat Utilization" contractual energy management project after thorough research and study, based on the core concept of low-temperature waste heat and high-efficiency heat exchange and relying on the platform of the contractual energy management project to improve the utilization efficiency of waste heat and reduce energy consumption of domestic facilities of the Corporation and successfully realized indirect heat exchange between the cinderflushing water (industrial water) for cooling cinder at over 400℃ in the 750m³ blast furnace and the domestic water at ambient temperature through high-efficiency heat exchange facilities, heating up the domestic water to around 90 $^\circ$ C with the waste heat. The heated domestic water is then channeled into the storage tank. The project commenced operation and yielded heated water in February 2012. After inspection and assessment by Shanghai Putuo District Centers for Disease Control, the high-temperature domestic water from heat exchange satisfied the relevant water quality standards and realized a heat exchange efficiency of up to 93%. With stable heat sources being formed, Baosteel Stainless Steel and Baosteel Energy expanded the supply of hot water to the nearby community. After more than half a year of operation, the stainless steel hot supply has reached out to over 20 hotels, schools, bathhouses and organizations in Baoshan, Zhabei, Putuo and other districts in Shanghai with the daily average hot water supply exceeding 1,000 tons. This amount of domestic hot water heated with low-temperature metal waste heat would otherwise require 23,000 tons of steam and therefore reduced the consumption of bunker coal by over 2,800 tons and carbon dioxide emission by over 7,800 tons every year. The project also received Shanghai Energy Conservation and Emission Reduction Special Grant for its resource conserving and recycling features.

Environment Management





# Green Manufacturing Performances of Baosteel Co., Ltd.

Note: All indicators in the table, except for "Comprehensive Utilization Rate of Solid Waste Resources", use 2009 as the benchmark year.

Name of Indicator	Unit	2009	2010	2011	2012
Comprehensive Energy Consumption Per Ton of Steel	%	100	96.64	98.55	102.62
Total Amount of Waste Energy Recovered	%	100	99.93	113.81	93.92
New Water Consumption Per Ton of Steel	%	100	97.46	98.38	101.62
Sulfur Dioxide Emission Per Ton of Steel	%	100	61.71	50.86	45.95
COD Emission Per Ton of Steel	%	100	88.84	83.74	90.32
Fume Dust Emission Per Ton of Steel	%	100	91.65	88.75	92.31
Comprehensive Utilization Rate of Solid Waste Resources	%	98.26	98.58	98.81	98.9

# Green Manufacturing Performances of Bayi Iron & Steel

Note: All indicators in the table, except for "Comprehensive Utilization Rate of Solid Waste Resources", use 2009 as the benchmark year.

Name of Indicator	Unit	2009	2010	2011	2012
Comprehensive Energy Consumption Per Ton of Steel	%	100	89.85	88.42	86.87
Total Amount of Waste Energy Recovered	%	100	146.21	159.75	190.91
New Water Consumption Per Ton of Steel	%	100	81.28	68.95	65.30
Sulfur Dioxide Emission Per Ton of Steel	%	100	73.50	69.17	54.69
COD Emission Per Ton of Steel	%	100	53.41	47.60	24.53
Fume Dust Emission Per Ton of Steel	%	100	109.49	89.79	56.35
Comprehensive Utilization Rate of Solid Waste Resources	%	70.51	73.50	69.17	83.49

# Green Manufacturing Performances of Ningbo Iron & Steel

Note: All indicators in the table, except for "Comprehensive Utilization Rate of Solid Waste Resources", use 2010 as the benchmark year.

Name of Indicator	Unit	2010	2011	2012
Comprehensive Energy Consumption Per Ton of Steel	%	100	99.56	97.49
Total Amount of Waste Energy Recovered	%	100	124.82	146.15
New Water Consumption Per Ton of Steel	%	100	102.97	82.18
Sulfur Dioxide Emission Per Ton of Steel	%	100	151.26	130.61
COD Emission Per Ton of Steel	%	100	129.88	78.95
Fume Dust Emission Per Ton of Steel	%	100	83.33	93.48
Comprehensive Utilization Rate of Solid Waste Resources	%	90.33	93.77	91.95

#### Green Manufacturing Performances of Baosteel Stainless Steel, Baosteel Special Material and Shaoguan Iron & Steel Co., Ltd.

Note: Baosteel Stainless Steel and Baosteel Special Material joined Baosteel in April 2012 and Shaoguan Iron & Steel Co., Ltd. officially joined Baosteel in October 2012. The above performance table indicates the actual performance indicators of these three iron & steel production units throughout 2012.

Name of Indicator	Unit	Baosteel Stainless Steel	Baosteel Special Material	Shaoguan Iron & Steel Co., Ltd.
Comprehensive Energy Consumption Per Ton of Steel	Kg of Coal Equivalent/Ton	575.85	686.34	641.36
Total Amount of Waste Energy Recovered	Kiloton of Coal Equivalent	146.4		105.0
New Water Consumption Per Ton of Steel	Ton/Ton	3.86	10.3	5.28
Sulfur Dioxide Emission Per Ton of Steel	Kg/Ton	0.21	0.001	1.21
COD Emission Per Ton of Steel	Kg/Ton	0.051	0.089	0.053
Fume Dust Emission Per Ton of Steel	Kg/Ton	0.40	1.03	0.48
Comprehensive Utilization Rate of Solid Waste Resources	%	99.2	97	99.75

# Green Products

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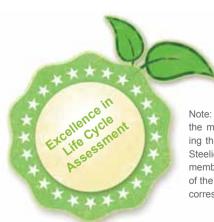
For Baosteel, green products refer to the products that conserve energy, lower consumption and reduce emission of pollutants throughout their lifecycles of design, manufacturing, transportation, use, recovery and recycling and make contributions to improvement of environmental quality and reduction of damages to human health.

Environment management

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## Green Product Research Tool

Baosteel has pioneered in China's research on Life Cycle Assessment (LCA) of iron and steel products since 2003 and consistently engaged in the development and optimization of LCA models for iron and steel products over the years, obtaining LCA results for a variety of products, including hot-rolled plate, cold-rolled plate, galvanized sheet, silicon steel and stainless steel. In recent years, Baosteel has actively promoted the generalization and application of LCA in the upstream and downstream industry chains of iron and steel enterprises through channels such as release of environmental declaration, green procurement, ecological design and green marketing and services and led the compilation of the national standard Technical Norms for Life Cycle Assessment of Iron and Steel Products for the continued standardization of LCA in China's iron and steel industry.

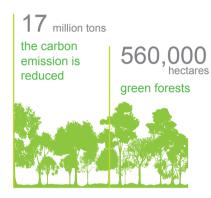


On the 46th Annual Conference of World Steel Association held on October 12<sup>th</sup>, 2012 in New Delhi, India, the World Steel Association organized the Third "Steelies<sup>Note</sup>" Award Presentation Ceremony and Baosteel won the "Excellence in Life Cycle Assessment" Award for its Excellent LCA Cases

Note: The "Steelies" Award of the World Steel Association is awarded to the most influential work or activities in the iron and steel industry during the year and includes seven awards appraised annually. This year's Steelies is the third event. Nominees for the awards will be submitted by members of the World Steel Association to the corresponding committees of the World Steel Association and the final winners will be decided by the corresponding expert panels.



# Green Product Category



In 2012, Baosteel Co., Ltd. published the classification criteria for Baosteel's green products and classified all Baosteel products into three main categories. The first category includes basic products in compliance with the environmental regulations of various countries and regions

(BASE). The second category includes superior products with excellent environmental

performances (**BETTER**). The third category includes cutting-edge products with outstanding environmental and economic performances and employing breakthrough technologies (**BEST**).

In 2012, Baosteel Co., Ltd. produced 5.11 million tons of BETTER products and 550,000 tons of BEST products in total, accounting for 26.6% of its total products. In the next planning cycle, the carbon emission is expected to be reduced by 17 million tons through the promotion of green products, which is equivalent to raising 560,000 hectares of green forests.



# Environment Management

Contribution to Downstream Processing and Final Use		Energy Efficiency Utilization Rate	Environmenta and Control o Hazardous	f Toxic and	Extended Ser Convenient	
Downstream Industries	BETTER	BEST	BETTER	BEST	BETTER	BEST
Automotive Industry	High-strength Auto Steel Auto Friction Plate Steel Double Layers Welded Pipe Steel	Ultra-high Strength Auto Steel Fine-blanking Steel High-efficiency Non- oriented Silicon Steel for Electric Motor High Hole Expansion Steel			Wear Resistant Steel Pre-phosphated Auto Shell Plate	Armor Steel
Light Industry and Household Appliance Industry	Deep Drawing Steel High-strength Enameled Steel Boracic Enameled Steel Aluminized/Galvanized Steel for Electrical Cabinets Aluminized/Galvanized Thin Steel Sheet for Household Appliances Tinplate for Electronic Components Low-loss High-efficiency Non-oriented Silicon Steel	Ultra-deep Drawing Steel Aluminized/Galvanized Ultra-thin Steel Sheet for Household Appli- ances Embossed Pre-painted Products for Household Appliances	Chrome-free Environmental Friendly Non-oriented Electrical Steel		Sulfuric-acid and Dew-point Corrosion Resistant Steel	
Power and Energy Industry	High-strength Pipeline Steel Electromagnetic Pure Iron High Magnetic Induction Oriented Silicon Steel Pipeline Steel	Top-class High-grade Oriented Silicon Steel Steel for Cryogenic Vessel/Storage Tank	Hydropower Steel	Key Materials for Nuclear Power		Acid Resistant Pipeline Steel
Transportation Industry		Coiled Tubing Steel High-strength Hot Galva- nized Container Steel High-strength Thin Pre- painted Container Steel Pre-painted Marine Deco- ration Steel Quenched and Tempered/ Cryogenic Ship Plat	TMCP Ship Plate		Weathering Steel Special Steel for Gasoline Tanks	High-strength Weathering Steel Highly Resistant Weathering Steel Marine Corrosion Resistant Steel
Construction Industry	High-strength Aluminized/ Galvanized Construction Steel High-strength Pre-painted Base Plate Pre-painted Deep Drawing Products	Fluorocarbon Coated Pre-painted Products Seismic Resistant Low Yield Point Steel Sheet			Weathering Con- struction Steel	Thick-plate Weathering Steel
Metal Packaging Industry	Low Oil Coating Oil Drum Plate DR Materials Low-tin Steel High-end Milk Powder Can TFS	Ultra-Iow Oil Coating Oil Drum Plate Ultra-thin DR Materials Reduced-thickness Crown Lid Tinplate	High-end Environmental- friendly Tinplate	DI Material Tinplate		
Engineering and Machinery Industry	Quenched and Tempered Steel	High-strength Structural Steel	TMCP Machinery Structural Steel			Thick-plate Wear Resistant Steel
Maritime Engineering Industry	Structural Steel	Maritime Engineer- ing Tooth Bar Steel				Seawater Corrosion Resistant Steel
Other Industries	Die Steel/Textile Machinery Steel				Clicker Die Steel	

Case

#### High-strength Auto Steel

Baosteel have formed strategic alliance on automobile light-weight technological innovation with its automaker customers and been consistently dedicated to the research and application of high-strength steel product series. Advanced new types of high-strength steel can be applied in more refined and agile vehicle body designs, increase the impact resistance performances and fuel efficiency of the automobiles and reduce the total emission of greenhouse gases. Take a classic five-seat passenger car with a total weight of 1,260kg for example. The BIW structure weights 360kg. The replacement of BIW with optimized structure made of Baosteel's high-strength steel product could lower the total weight by 117kg (9%). According to LCA analysis, every one ton of Baosteel's high-strength steel used, the vehicle can conserve 0.72 liter of gasoline over every 100km and the total carbon dioxide emission throughout the life cycle of this vehicle will be reduced by 5.2 tons.



#### Antibacterial Stainless Steel

Antibacterial stainless steel is an achievement of Baosteel's R&D efforts with full dedication. The product is produced from ordinary stainless steel by adding antibacterial elements and special heat treatment. The antibacterial elements in the antibacterial stainless steel are distributed evenly across the stainless steel base body and surface could sustain excellent antibacterial properties even after long-term usage. Tableware made of antibacterial stainless steel not only retains the original properties of stainless steel but also enjoys the additional excellent antibacterial performances.

The antibacterial stainless steel products, offering similar mechanical and corrosion resistance properties to those of ordinary stainless steel, complies with the health safety requirements and enjoys advantages including long designed useful life, lasting antibacterial effects, outstanding broad-spectrum antibacterial properties and antibacterial ratio of over 99% against pathogenic bacteria such as Escherichia coli and staphylococcus aureus. Antibacterial stainless steel products, featured with safety, durability and health, is ideal for application environments which require frequent washing or involve significant wear and tear and therefore can be applied in tableware, household appliance, kitchenware, sanitary ware, food industry, medical devices and a wide array of other industries.



#### Comparison of Antibacterial Properties

Product —	Antibacterial rate in 24 hours (%)				
FIOUUCI	Escherichia Coli	Staphylococcus Aureus			
Antibacterial Stainless Steel	>99	>99			
Ordinary Stainless Steel	0	0			

# Green Industry

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The green industry of Baosteel involves the integrating energy-conserving and environmental friendly technologies, developing energy-conserving and environmental friendly industries, expanding the application of energy-conserving and environment-improving technologies accumulated by the iron and steel industry both internally and externally, conducting systematic commercial development of energy-conserving and environmental friendly technologies, fostering the capability to provide parties within and outside the industry with energy-conserving and environmental friendly solutions, providing the society with valuable products and services and at the same time realize mutual gains in the corporate

Baosteel's Green Industry covers three main business areas, namely energy conservation, environmental protection and integrated resource utilization. In 2012, Baosteel's Green Industry realized sales revenue of RMB **3.42** billion and a profit of RMB **785** million and recycled **8.42** million tons of solid waste resources.

Environment management

## **Energy Saving**

#### Baosteel Energy Conservation



Baosteel Co., Ltd. 1880 Hot Rolling Production Line Reheating Furnace Waste Heat Recovery Project

Baosteel has embarked on its basic approach and implementation strategy for contractual energy management and energy-conservation service industry and established "Baosteel Energy Technology Co., Ltd." since 2010. Over the past two years, Baosteel has organized internal and external experts to conduct all-around and in-depth researches on business models of contractual energy management and achieved relatively comprehensive results in research projects. Such research results were extensively adopted by the energy-consuming entities and also provided the industrialization practices of Baosteel Energy in its early years with precious methodological and management basis.

Baosteel Energy has taken a series of milestone projects, including the Baosteel Desheng Stainless Steel Annealing Furnace Integrated Energy Conservation Reconstruction and Baosteel Co., Ltd. 1880 Hot Rolling Production Line Reheating Furnace Exhaust Gas Waste Heat Recovery Project, as examples, actively enhanced capabilities in project management and technological planning, further optimized and standardized the relevant systems and procedures of contractual energy management and laid solid foundation for the large-scale and low-risk implementation of contractual energy management projects. So far, Baosteel Energy has secured 45 EMC contracts with total contract value of RMB 940 million and expected energy conservation of 277,000 tons of coal equivalent.

Currently, Baosteel Energy is expanding into energy industry sectors, such as decentralized energy and Building Integrated Photovoltaic, and successfully signed the Changzhou Xinbei District Industrial Building Rooftop Photovoltaic Generation Demonstration Project. The "Ningbo Beilun District User-side Centralized Contiguous 20MW Photovoltaic Generation Project" submitted by Baosteel Energy has been listed among the second group of National Golden Sun Demonstration Projects and officially approved by four state-level authorities (namely Ministry of Finance, Ministry of Science and Technology, Ministry of Housing and Urban-Rural Development and National Energy Administration). The successful implementation of these projects will further expand the Baosteel Group's application scope in the field of renewable energy and actively promote the rapid development of Baosteel's "Green Industry".

#### Comment by Outside Director

Iron and steel is a major energy-consuming industry. If Baosteel could realize a breakthrough in its manufacturing process to achieve maximum energy efficiency with minimum input, it is possible that such a new breakthrough could develop into a new industry and therefore bring about the advancement of the entire iron and steel industry, if not the entire manufacturing industry. This will also fulfill Baosteel's social responsibilities. An enterprise should go beyond philanthropy to create forward-looking services, products and industries needed by the society.

— Kerwei (Buck) Pei, Professor of accountancy at Arizona State University and Executive Dean of W. P. Carey in China

## **Environmental Protection**

Exhaust Gas to Ethanol

In March 2011, Shanghai Baosteel LanzaTech New Energy Co., Ltd. was jointly founded by Baosteel and LanzaTech to promote the industrialization development of the microbial gas fermentation technology in China. The microbial gas fermentation technology converts steel-work coal gas and other industrial exhaust gases rich in carbon monoxide into ethanol and other chemical products through microbial fermentation in biological reactors, not only creating high added value for the factory but also reducing the corporate carbon footprint through the generation of clean energy – turning wastes into an opportunity.

In late October 2012, the National Energy Administration under the NDRC conducted comprehensive technical verification on the operation and pilot test results of Baosteel LanzaTech's ethanol plant. According to the verification report, the microbial process of steelwork exhaustto-ethanol employed by the plant has achieved stable equipment operations, reasonable process flow design, the largest scale in the world and world-leading standards in indicators such as gas conversion rate and concentration of fermentation broth. The technologies have been recognized as systematic, original and advanced and NEA therefore recommended that industrialization planning for such technologies should commence as soon as possible. The microbial process of industrial exhaust-to-ethanol, involving Baosteel, LanzaTech and CAS, has completed the pilot test stage and entered the industrialization stage. As planned, the construction of the first industrialization plant will commence at a chosen location after successful pilot test.

Currently, exhaust gases produced by steelwork in iron- and steel-making (BFG and LDG) are mainly used in gas-fired power generation or discharged, producing large amounts of carbon dioxide. The process converts steelwork exhaust gases into liquid ethanol and hence significantly reduced carbon dioxide emission. The fuel ethanol produced therefrom can also be applied extensively as a new energy additive for gasoline. In addition, China's fuel ethanol is mainly produced from grain feed stocks which involve high costs and large amount of arable land. The advanced microbial gas fermentation ethanol production process, on the other hand, enjoys many advantages including sufficient feed stocks, low costs and extensive application and therefore can satisfy the development requirement of "Competition Neither with People for Grain nor with Grain for Arable Land". The use of non-grain feed stocks completed avoided the reliance on grain and arable land.

## **Resource Utilization**

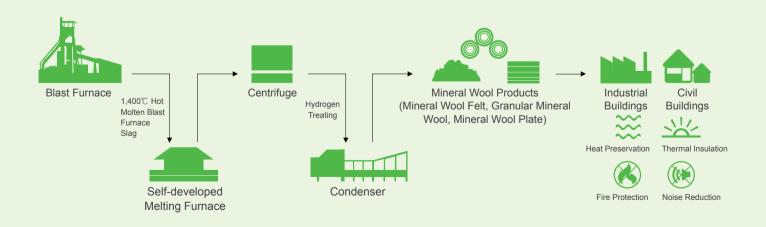
Baosteel's resource regeneration business has achieved new progresses in 2012. Currently the two major categories of resource regeneration products which have formed mass production capabilities realized annual sales revenue of RMB 2.3 billion. Among such, new building material business has developed seven product lines, including slag micro powder and slag composite powder. New magnetic material business has developed three product lines, including lithium iron phosphate battery anode material. The annual sales revenue of Baosteel Magnetic has reached RMB 510 million.

# Mineral Wool from Blast Furnace Slag

On the 46<sup>th</sup> Annual Conference of World Steel Association held on October 12<sup>th</sup>, 2012 in New Delhi, India, the World Steel Association organized the Third "Steelies" Award Presentation Ceremony and Baosteel won the "Excellence in Sustainability Reporting" Award for its Direct Production Technology of Mineral Wool from Hot Melted Blast Furnace Slag. Slag wool, also know as "mineral wool", offers excellent heat insulation, sound absorption and fire resistance properties and is widely applied in the heat preservation, thermal insulation, fire protection and noise reduction in all types of industrial and civil buildings. It is internationally acknowledged as the main energy-conserving material in the "Fifth Conventional Energy" and enables a reduction in total building energy consumption of 50% to 65% with its outstanding heat insulation properties.

In June 2012, Baosteel Mineral Wool Science and Technology (Ningbo) Co., Ltd., an joint venture of Baosteel Development, Ningbo Iron & Steel and Baosteel Engineering, was inaugurated for the construction of a granular wool pilot production line with annual capacity of 20,000 tons. Baosteel Mineral Wool is uses hot melted slag as the main feedstock in place of cold blast furnace dry slag in traditional process and employs new melting furnace process. Upon completion and operation, the project will reduce energy consumption by 51% from that of traditional process, i.e. realizing annual energy conservation of 3,295 tons of coal equivalent or reducing carbon emission by approximately 8,764.7 tons. Compared with rock wool products, the exploitation of basalt can be reduced by 17,000 tons every year.

After the project commences production next year, Baosteel will become the first Chinese iron and steel enterprises to successfully produce mineral wool from hot melted slag, enabling Baosteel to assume a leading position among Chinese counterparts in the high value-added utilization of metallurgical slag and play a exemplary role in the development of a recycling economy as well as energy conservation and emission reduction in China's iron and steel industry.



# Green Idea and Initiatives

#### **Education and Training**

Since the environment management strategy was drawn up in 2009, Baosteel has timely incorporated the concepts of environment management into its training programs which were implemented across all levels of the company, including managers, technicians, intermediate & senior operators and maintenance staffs, procurement and marketing staffs as well as new entries. As of the end of 2012, 30 different training sessions have been organized for 1,921 trainees. Meanwhile, Baosteel has developed a series of courses, including "Concepts and Practices of Environment Management", "Environment Management of Baosteel", "Environment Management and Green Manufacturing of Baosteel" and "Environment Management and the Low-Carbon Development of Iron and Steel Industry" by continuously drawing from the environment management experiences accumulated. Through timely communication of the Corporation's new environment management concepts and relevant policy information as well as learning and sharing of practical experiences and discussion on solutions to relevant problems, the environment-management-themed training sessions helped employees to reinforce their understanding of the environment management concepts and awareness of the importance of the Corporation's efforts to implement environment management. Therefore these training sessions inspired the employees' enthusiasm towards practicing the environment management concepts in their day-to-day work and helped employees to enhance their capabilities to create value for the Corporation through environment management.

#### Technology Exchange

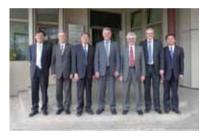
Academic and technological exchanges are an integral part of green development and therefore Baosteel has always emphasized and actively participated in the relevant exchanges between internal and external parties which have turned out to be fruitful.

On March 15<sup>th</sup> to 16<sup>th</sup>, the "China Iron & Steel Enterprise Energy-Conserving Technology Seminar" was held by Baosteel and experts and scholars in the relevant area from iron and steel enterprises, including Anshan Iron & Steel, Wuhan Iron & Steel, Shougang Jintang Steelwork, Taiyuan Iron & Steel, Jinan Iron & Steel, Magang (Group), Tangshan Iron & Steel and Anyang Iron & Steel, as well as industry associations and institutions of higher education, including China Iron and Steel Association, University of Science and Technology Beijing and Northeastern University were invited to gather at Baosteel to exchange views on and explore the application of energy-conserving technologies in iron and steel enterprises and the relevant practical experiences and discuss the energy conservation and emission reduction solutions during the "Twelfth Five Year Plan" so as to effectively facilitate the energy conservation and emission reduction efforts in China's iron and steel industry.

In June, a Baosteel delegation visited Swerea MEFOS and engaged in technology exchanges with SKAB, LKAB, OUTOKUMPU, RUUKI and other companies in the fields of iron-making and steel-making. The delegation also visited German Iron and Steel Institute (VDEh). After a tour at the BFI Experiment Centre of German Iron and Steel Institute, the parties discussed issues in relation to cooperative researches in areas such as steel-making, rolling and testing.

The Corporation also actively sent out delegations to participate in relevant academic exchange conferences of the international iron and steel industry, such as the AISTech 2013 The Iron & Technology Conference and Exposition, Materials Science and Technology 2012 Conference & Exhibition, The 165<sup>th</sup> and 166<sup>th</sup> ISIJ Meeting, 9<sup>th</sup> International Conference on Zinc and Zinc Alloy Coated Steel Sheet, 4<sup>th</sup> International Conference on Thermomechanical Processing of Steels, 7<sup>th</sup> International Conference on Electromagnetic Processing of Materials and International Conference on Superconductivity and Magnetism.

On April 17<sup>th</sup> to 18<sup>th</sup>, 2012, the "Thirteenth Baosteel - Sinosteel Scientific and Technological Exchange" was held at Baosteel. This exchange covered contents from technology expansion to technology management and the parties exchanged views on three topics, namely R&D management, quality consistency management and thick-plate technology.



Visit to BFI Laboratory Center of Verein Deutscher Eisenhuttenleute



Visit to Swerea MEFOS



Thirteenth Baosteel - Sinosteel Scientific and Technological Exchange

#### **Development in Cooperation**

In order to adapt to the requirement of Baosteel's technological innovation and development and optimize the international scientific and technological cooperation platform, Baosteel Co., Ltd. established International Technological Cooperation Online Management Platform in 2012 and launched international technological cooperation, covering energy and environmental protection, material development, surface technology and metallurgical process, with the U.K. Oxford University, The Welding Institute, Italian Metal Research Institute and Canadian C-FER and expanded the sources of technologies and knowledge for Baosteel's technological innovation.

"The Research on Key Technology for the Industrialization of Thin-Strip Continuous Casting", a Shanghai Key Technological Support Project undertaken by Baosteel Research Institute involving Baosteel Engineering, Baosight Software, Shanghai Jiaotong University and Shanghai University, passed expert review and acceptance in 2012 and entered the industrialization stage. 110 patent applications have been submitted through this research project among which 62 have been granted. In addition, totally 58 applications for enterprise technological secrets have been submitted.

Meanwhile, the "New Generation Energy-Conserving High-Efficiency Continuous Heat Treatment Key Technology Research and Demonstration" project under the National "Twelfth Five-Year" Technological Support Plan, organized by China Iron and Steel Association, led by Baosteel and involving several Chinese universities such as University of Science and Technology Beijing, Northeastern University and Shanghai Jiaotong University, was launched in 2012.

#### Active Support for the Sustainable Development Efforts of World Steel Association

Baosteel has been appointed as the chair organization of China 2020 Project under the Economic Committee of World Steel Association, the Clean Atmosphere Project under the Technology and Environment Committee and the Sustainability Reporting Project under the Sustainable Development Committee.

Apart from the clean atmosphere, raw material improvement, sustainable development reporting, energy benchmarking, equipment maintenance, key indicators and other projects that Baosteel has participated in, Baosteel further participated in World Steel Association's nomination and research for NOx Project, Mercury Emission Reduction Project and Livingsteel Forum.

# Green Achievements

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In 2012, Baosteel's comprehensive energy consumption per ton of steel was 4% lower than the energy conservation and emission reduction target.  $SO_2$  emission was 16,600 tons less than the annual target. COD emission was 701 tons less than the annual target. Refer to the following table for details. Baosteel had no environmental-protection-related violations or any related penalties in 2012.

#### Environment management



	Name of Indicate	or	Description of Indicator	2012 Actual Performance
	Major Investment Protection	s in Environmental	Major investments in environmental protection and technological reconstruction within the statistical cycle	RMB 1.522 Billion
Green Manufacturing	Emission Reducti Pollutants	ions in Main	$\mathrm{SO}_{\rm 2}$ and COD emission year-on-year reductions within the statistical cycle	SO <sub>2</sub> : 16,585 tons COD: 701 tons
Manufacturing	Total Energy Conserved		The amount of conserved energy through the technological reconstructions and management measures implemented within the statistical cycle	483,000 tons of coal equivalent
	Ratio of BETTER and BEST Green Products		The percentage of BETTER + BEST Products as defined by Baosteel in all products (BASE+BETTER+BEST).	26.6%
	Social Carbon Emission Reduction Attributable to Application of Green Products		Carbon emission reductions realized for the downstream industries through the application of green products (currently using household appliance industry as example)	398,000 tons
Green Products	No. of Green Solutions Provided to Customers		The number of new market expanded and new products marketed and applied in new product development, market expansion and technical services through the "Three Alternatives" of iron and steel products (alternative steel type, alternative material, and alternative purpose).	9
	Percentage of Green Certification of Raw Material and Fuel Suppliers		Based on the statistical data on the certifications of raw material and fuel suppliers, calculated as the percentage of raw material and fuel suppliers with ISO14001 certificates, ISM and DOC certificates in all suppliers/contracted operators	28%
	Percentage of Material and Spare Part Suppliers Passing Environment Management System Certification		The percentage of manufacturing suppliers passing environment management system certification in all manufacturing suppliers	37%
		Annual Energy Conservation	Total amount of energy conservation realized for customers through energy-conserving services every year	70,000 Tons of Coal Equivalent
Green Industry	Social Contribution of	Amount of Solid Waste Resources Recycled	Total amount of solid waste resources recycled	
	Green Industry Industrialization Ratio of Solid Waste Resources			

# Employee Performance

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Xie Lu, a Second-round "Green Apple" candidate

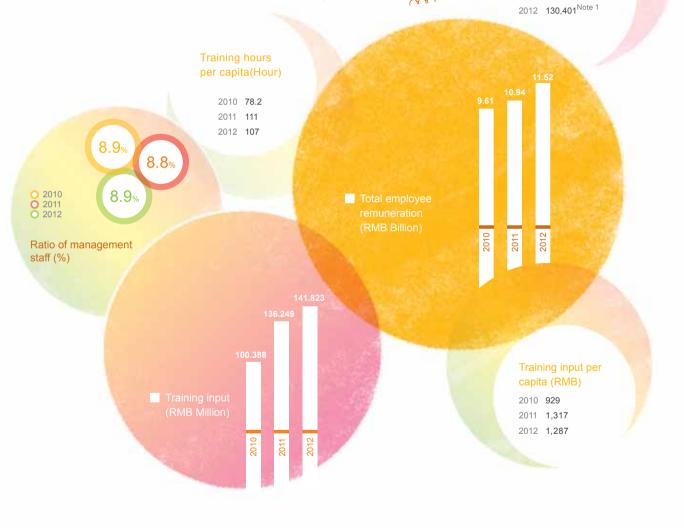


# Employee Performance

"Becoming a corporate model for joint development of staff and the Corporation" is one of the three visions of Baosteel. Baosteel has firmly upheld the philosophy that talents are the primary resource. Over the years, Baosteel has continuously increased employee investment and actively fostered a healthy growth environment under which talents are assigned to the most appropriate positions, constantly improved the employee growth and development system, consistently engaged in research and evaluation of employee satisfaction and employee dedication and has been committed to standing the employees' test, and thus incorporated employee development into the objectives of corporate development planning with the aim to maximize corporate value, realize comprehensive development of talents and therefore promote the joint development of both staff and the Corporation.

Total number of employees 2010 118,500

2011 116,702



Employee performance

Note1: In 2012, Baosteel completed the restructuring of Shaoguan Iron & Steel Co., Ltd. from which a total of 13,821 employees joined Baosteel.

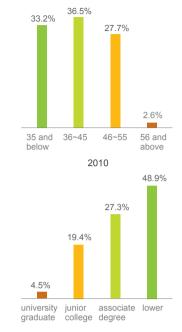
33.6% 34.3%

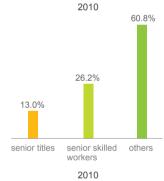
Age structure among 35 and below, 36-45, 46-55, 56 and above

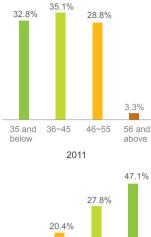
Education background structure among postgraduate, university graduate, junior college, associate degree and lower

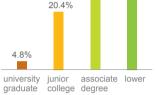
Structure of professional titles among intermediate & senior titles, senior skilled workers and others (note 2)

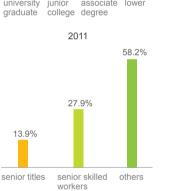
Note 2: Senior skilled workers refer to personnel with senior skills or above



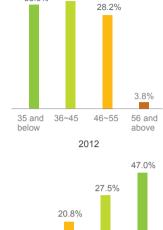


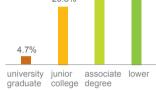


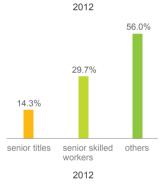




2011







	2010	2011	2012
Number of female employees	25,199	24,275	26,828
Number/ratio of newly on-board employees	2,292/1.9%	4,684/4.5%	6,893/5.3%
Number/ratio of resigned employees	1,378/1.3%	1,414/1.4%	1,912/1.6%
Ratio of females in management	10.0%	10.3%	9.7%
Percentage of local employees at overseas companies	37.8%	42.0%	65.3%
Number of dispatched staffs	 68,443	17,455	19,607

# Employee Development

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In 2012, Baosteel's employee education and training expenses reached RMB 142 million and the training hours per capita achieved 107 person-hour. In addition, a special series of talent development projects has been launched with the aim to realize the Corporation's development strategies and provide talents most in need to support the business development.

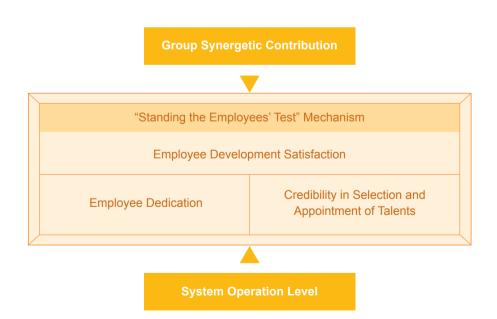
Employee performance

#### Comment by Outside Director

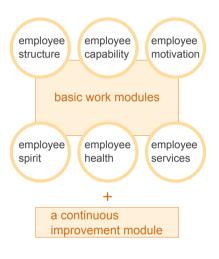
In my impression, Baosteel people represent very high standard. They are highly professional, open-minded and eager to explore new thinking outside.

----- FUNG, Kwok King Victor, Chairman of Fung Group, Honorary Chairman of Li & Fung Limited

## Experienced and Examed by the Staff



In 2012, Baosteel continued to strengthen the development of the assessment-driven mechanism to stand employees' test and satisfy employees' experiences and promote the Baosteel HR assessment-driven mechanism integrating four main components of the employee development reporting system, employee devotion survey, evaluation of credibility in selection and appointment of talents and HR system appraisal. The Corporation has fostered an "Employee-Oriented" institutional environment and cultural atmosphere based on the actual needs of employee development and embodied the concepts of "common development of staff and the Corporation" advocated by the Corporation.



#### **Employee Development Satisfaction Assessment**

Baosteel has opened up to opinions and suggestions through research and survey, assessment of the satisfaction of employees, in particular field employees, at all positions and all levels on employee development efforts, on-site releases at all entities and face-to-face dialogue between HR management staffs and employees. The employee development efforts at all entities have been constantly improved in light of the voice of the end human resource "users".

In 2012, the employee development satisfaction assessment was conducted for 12 subsidiaries and 3 secondary entities of Baosteel. The assessment covered six basic work modules, namely employee structure, employee capability, employee motivation, employee spirit, employee health and employee services, and a continuous improvement module.



#### **Employee Devotion Assessment**

Employee devotion assessment measures the level of dedication to work of employees. The driving factors behind employee devotion and the order of priority of such factors are identified through involvement of randomly selected employees in third-party independent assessment and thorough statistical analyses to reveal the driving factors that are most likely to boost level of devotion and channel attention and actions to driving factors that may pose threats to employee devotion.

In 2012, the employee devotion survey was conducted for the Group headquarter, overseas employees and 12 affiliated entities and reasonably assessed employee devotion status through 16 driving factors in six aspects, namely "Personnel, Work, Opportunity, Quality of Life, Regulations and Total Remuneration". Based on the survey results, improvement and enhancement strategies have been systematically drawn up with focuses on prioritized driving factors, such as resources, salary and benefits, career development path, performance and fairness. After three years of continuous implementation, milestone achievements have been realized: employee devotion have been significantly enhanced. After continuous efforts, the employee devotion level of Baosteel has increased from 46% in 2010 to 52% in 2012.

# Talent Reservation

# Training Future Management Elites for Baosteel– Management Trainees

In 2012, Baosteel selected 11 outstanding graduates from top universities across China with extraordinary capacities in learning and creativity, strong curiosity and excellent cooperation capabilities, inter-person influence and presentation skills as the inaugural "Management Trainees" of Baosteel. The plan is to enable the management trainees to make smooth career transition, quickly accumulate capabilities and grow into future management elites for Baosteel through a five-year cultivation period that offers experiences on multiple positions, expansion of global perspectives, responsibilities in major projects, continued training and development and the two-mentor mechanism.

# Strengthening International Capacity Development of Employees

In face of the accelerated internationalization process, Baosteel has grown an increasingly appetite for international talents. In addition to continued implementation of regular programs, such as attraction of high-end overseas talents, foreign language aptitude enhancement trainings and mutual visits with strategic partners, Baosteel officially launched its overseas key training program in May 2012 and made the first attempt in open selection of talents and engaged in fruitful exploration and practices in areas such as innovative talent selection models. The selection process upholds the principles of "Open and Fair, Clean and Transparent and Integration of Cultivation with Appointment" and ensures that the scarce quality resources are provided to the most appropriate ones so as to cultivate a team of backbone talents with global concepts and perspectives, familiarity with international rules and the ability to expand the international businesses. After many rounds of selections and interviews, 26 employees were eventually selected to pursue advanced study at renowned international universities, such as Harvard Business School and Stanford University.



## Talent Training System



Operation and Management Talents

#### The Daily Progress Future Entrepreneur Training Camp

Supporting Baosteel's development of new industries, new businesses and new products with the training and reserve of a group of entrepreneurial talents with both entrepreneurial spirits and capabilities, for the purpose of strengthening the cultivation of international entrepreneurial talents, the "Daily Progress Phase II Project" was launched in 2012 on the foundation of Phase I Project and 20 younger trainees with great potentials were selected and included in the program. The number of "Daily Progress" trainees later increased to 41. A series of entrepreneurial capability study and self-study activities were conducted in 2012 during which the trainees read classic Chinese literatures such as Book of Changes, The Analects and History As A Mirror and absorb the wisdom and humanistic spirits from traditional Chinese culture. The trainees visited Wanxiang Group, SANY Group and Geely Automobile to engage in discussions with and learn experiences from famous entrepreneurs. They also traveled overseas to the U.S. Harvard Business School, the United States Military Academy at West Point, Yale University and Boston City Hall to draw wisdom and strengthen from the western management theories.

#### Launched Pilot Program for Leader "Office Term System

In order to further inspire the entrepreneurial initiative and operation initiative of the corporate operation and management staffs, Baosteel, as Party A, signed the Operators and Operating Teams Office Term Contract and Office Term Performance Responsibility Pledge of Party Group Leaders with pilot entities (Baosteel Resources and Baosteel Metal), as Party B and commenced a two-year office term pilot program, which served as the breakthrough point in the escalated reform in corporate management personnel system and corporate management.

The Baosteel Management Personnel Office Term Pilot Program highlighted that appointment of management personnel should comply with the operation plan, adhered to the thorough integration of Party's governance of the management personnel and the appointment of such personnel by the operators in pursuance of laws, emphasized the guiding responsibility of the operators, requested for simple and straight-forward office term performance indicators, stressed management expectations, encouraged challenges and sought the inspire initiatives and talent achievement.

Since the Term Office Pilot Program started two years ago, the management teams and the entire workforce of the two pilot entities, namely Baosteel Resources and Baosteel Metal, have made concerted efforts to actively cope with the difficult market climate, focused on the development of the internal motivation transmission mechanisms and continuously improved their soft strengths, achieving not only satisfactory operating performances but also desirable changes in the management approaches and morale of the management teams as well as the congeniality among employees.

#### **Technical Talents**

# Talent Training System

The "Golden Apple Program". The aim of the program is to bring up leading technological innovation talents with international influence who can create proprietary innovative technologies that leave Baosteel's mark in the development history of the world iron and steel industry in 8-10 years. Work in 2012 focused mainly on reinforcing and promoting the "Golden Apple" Program, establishing internal communication platform, founding the "Golden Apple" professional academic seminar, setting up learning rooms and conducting 15 special learning sessions. The "Star Specialists' Classroom" chose topics in close connection with the work objectives and actual needs of the "Golden Apple" team and invited renowned experts from home and abroad to introduce the most cutting-edge technologies in their respective fields. The "Specialized Learning Session" focused closely on the technical difficulties faced by Baosteel in site practices. Over the past three years, the "Golden Apple" Program has developed a series of advanced technologies and proprietary new products, was granted over 100 invention patents and applied for 10 overseas patents.

The "Green Apple Program". After 4 years of continuous implementation, Baosteel has selected over 200 high-potential youths over 4 rounds for trainings under the Green Apple Program. The program has yielded preliminary results as the trainees are gradually growing into key figures in the technical operations of their respective jobs, among which 16 has made to management positions. A series of management and innovation learning sessions on five core competences, namely "Moral Ethics", "Strategic Thinking Capability", "Creativity", "Influence" and "International Capacity" were held in 2012. 10 trainees were sent to Taiwan on a research visit to study the differences and similarities between the corporate management and development models of Mainland and Taiwan enterprises.

The "Professional Partner Program". The program is a typical example of the application of action-based learning in Baosteel's trainings. The program, with the aim to resolve problems at production sites and cultivate backup technical experts for the Corporation, is a comprehensive learning program jointly organized and implemented by all concerned departments and involved professional technical staffs from the same profession and work process but different geographic regions engaging in theoretical studies and practical exchanges on core technologies in the production processes to jointly explore solutions to problems at production sites. A series of learning activities, including the "Energy-efficiency Power Plant Partners Program", "Induction Power Partners Program", "Shaoguan Steel Blast Furnace Partners Program" and "Waste Heat Recovery Partners Program", were conducted in 2012.

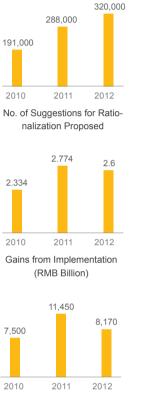
The "TOP10 Learning Sessions". The program is a series of themed learning activities planned and conducted for chief engineers, head engineers and technical backup staffs from technological areas and production units of Baosteel and adequately leverages the overall strengths of the Corporation in knowledge resources to address 10 most typical issues with product quality and difficulties in production technology and discover the root causes of such issues through learning and discussion and therefore identify solutions, create synergy among departments, actively facilitate the elimination of isolated technological island, enhance the technical staffs' ability to solve real issues and therefore constantly satisfy the requirements of the production sites and production operations of the Corporation. In 2012, the "TOP10" Learning Sessions were held 9 times with 254 participants.

Operation and Maintenance Talents

**Released policies to support employee innovation.** In 2012, Baosteel formulated two fundamental institutional regulations for on-the-job employee innovation, namely the Administrative Rules for Employee Economic and Technological Innovation Activities and Opinions on Implementation of Baosteel Employee Innovation Studio Standardization Development to provide more standardized institutional support for on-the-job innovation activities.

**Continued to increase input into training resource for skilled talents.** Baosteel has made constant efforts to develop and optimize the "Technician Training Centre" and "Occupational Skill Testing Centre", conducted training and certification of technicians and intermediate and senior skilled talents; actively utilized external resources in the development of 1 State-Level Skill Master Studio and 4 Shanghai Skill Master Studio; and established over 100 employee innovation studios with help from skilled experts. In 2012, totally 2 Baosteel employees were awarded the title of National Technical Expert, 1 awarded the title of Shanghai Outstanding

# Operation and Maintenance Talents



No. of JK Results

## Learning Online

Technical Expert, 4 awarded the title of Shanghai Technical Expert. Baosteel Talent Development Institute was awarded the 2012 Shanghai "Outstanding Contribution Award for Training of Skilled Talents".

Training of Master-level Senior Skilled Talents at OTM Training Camp. Baosteel Co., Ltd. planned and implemented the Operator of the Top Masters (OTM) Training Camp Program for Senior Skilled Talents. The trainees are high-end operation and maintenance staffs with rich working experiences at site and relatively strong innovation capabilities. Skilled experts and key trainers are invited to form the mentor team and centralized trainings are combined with practical trainings on teaching topics and star trainer's guidance with expanded communications to guide trainings throughout practical trainings on teaching topics. The program consolidates foundations while also enhances capabilities and stresses the cultivation of master-level skilled talents with innovative thinking, superb skills and attention to inheritance.

The first group of OTM trainees submitted several applications for advanced operation methods, technical secrets and patents during the course of their training and realized economic gains of over RMB 4.5 million. Among such, the "Wireless Smart Doll Car for Monitoring Status of Belt Conveyor" Project came in first runner-up under the "Factory" Category of the 2012 Phoenix xplore New Automation Award.

#### **On-the-Job Innovation Achievements**

In 2012, Baosteel employees proposed a total of over 320,000 suggestions for rationalization and over 220,000 such suggestions were implemented, generating a total gain of RMB 2.6 billion. Totally 1,660 employee economic and technological innovation groups and 119 employee innovation studios were established. Altogether 8,170 JK achievements were obtained and 1,530 patent applications (including 366 applications for invention patents) arose from on-thejob innovation activities, representing a year-on-year increase of 30.8% from 2011.

In 2012, Baosteel elected and commended the third group of 9 Baosteel Worker Inventors. So far, 24 front-line staffs have been awarded the title of "Baosteel Worker Inventor". As the innovation leaders in their respective regions and professions, these award winners are playing an increasingly significant exemplary and guiding role in on-the-job innovation, career development and achievements among technical staffs.

In 2012, Baosteel Group collectively took part in the 111<sup>th</sup> Paris International Invention Exhibition with 9 participating projects, which won 3 gold, 4 silver and 2 bronze awards. Among these, 5 inventions came from front-line workers. The Group also collectively took part in the 7<sup>th</sup> International Exhibition of Inventions (Kunshan) and the 129 participating projects won 29 gold, 28 silver and 42 bronze awards.

The Baosteel Learning Management System was established with the help of information technology. The Corporation and the affiliated entities realized individual-specific training requirements and online execution and implementation of training programs. Based on the corporate development strategy, position-specific capability requirements and employee career development needs and in connection with the annual performance appraisal results and feedbacks of the employees, the Corporation and its subsidiaries set forth level-specific and category-specific training programs every year to ensure that appropriate trainings are available to employees in their respective career development stages.

#### E-Learning System

In 2012, Baosteel e-Learning System offered 4,484 lesson-hours of online courses on 382 subjects and 6 main categories of Party Development and Corporate Culture, Leadership and Management, Specialized Technologies and Skills, Language and Tool Methods, Baosteel Humanistic Wisdom Lecture Series and Baosteel Safety Hazard Case Analyses. Every Baosteel employee has an individual account and can access the needed courses at any time or location via the intranet and extranet of the Corporation. In the year we had 141,900 persontimes of employee online learning and 42.5% of the training programs at the Talent Development Institute were implemented wholly or partially through e-Learning.

# Remuneration and Welfare

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In 2012, Baosteel's total employee remuneration continued to increase and the total remuneration paid was RMB 11.52 billion for the year.

There are a total of 155 independent entities under Baosteel Group participating in the Baosteel annuity plan, covering 124,887 employees. Baosteel annuity officially commenced investment operations on March 25<sup>th</sup>, 2009 under the guidance of the reasonable and prudent investment strategy of the annuity management organization. As of December 31<sup>st</sup>, 2012, the cumulative rate of return was 19.63%, outperforming Thomson



Reuters China Pension Index and the cumulative interest rate of resident personal deposit over the same period and thus ensuring reasonable returns for the employee annuity investment.

In 2012, Baosteel set up a master framework for guiding the implementation of flexible benefit plan by subsidiaries under the Group. The plan, covering family members and a dozen of items, emphasizes autonomous decisions and will bring about greater convenience in the life and learning of employees and better sharing of the development accomplishments of the Corporation.

Employee performance



	Living A	Living Allowance		Education Grants		Medical Relief		
	Amount (RMB Million)	Person-Time Aided	Amount (RMB Million)	Person-Time Aided	Amount (RMB Million)	Person-Time Aided		
2010	11.82	24,203	0.91	902	8.47	2,070		
2011	17.32	24,647	1.05	1,190	8.65	3,683		
2012	21.16	32,903	1.17	1,251	9.46	2,744		
Total	50.30	81,753	3.13	3,343	26.58	8,497		

#### 2010-2012 Employee Aid Statistics

## Health Care Programme

As at the end of 2012, the Baosteel "Employee Health Plan" has been implemented by 12 entities and covered 62,967 employees. The number of gymnasium facilities in Shanghai offering fitness services to Baosteel employees increased by 9 from 2011 to 34. These fitness centers cover sports disciplines such as swimming, basketball, football, badminton, table tennis, tennis, billiards and body building.





#### Good Life Employee Service Platform

In order to provide employees with on-going, stable and convenient services, Baosteel commenced on the development of the "Good Life Employee Service Platform" in 2011 which integrated multiple functions, including health consumption, group activities, training, information service, knowledge education, venue management and statistical summary, on the foundation of Employee Health Plan to serve employees in a more direct and human-oriented manner.

As at the end of 2012, the platform has deployed 51 terminal equipments at various service venues and served 62,967 employees, among which 27,185 have activated. The average daily user volume is 2,796 person-times.

Case

## **Cultural & Sports Activities**

In June 2012, a Baosteel delegation participated in the five-month First Shanghai Citizen Sports Meeting. Over 160 employees from various field units competed in 15 sports and achieved remarkable results in all competitions, taking home 10 champions, 6 first runner-ups and 14 second runner-ups. On the closing ceremony of the Citizen Sports Games, Baosteel was also honored with the top award in the organization category – the gold cup of "Citizen Well-being Award".

Before the National Day celebration, Baosteel organized the "Ode to the Motherland" Employee Chorus Contest; launched the "Journey of Culture" to the Grass-roots Campaign with the theme of "An Amazing Baosteel and Its Vigorous Employees"; and also held the "Amazing Employees" Seventh Baosteel Work Group Talent Contest.

Baosteel, adhering to the guiding philosophy to "Reflect Humanistic Care of the Corporation, Realize Employees' Physical and Mental Health, Enrich Employees' After-work Life, Relieve Employees' Work Pressure and Optimize Employees' Quality of Life", has organized 84 after-work training classes for employees, including Tai Chi, the 9<sup>th</sup> Radio Exercises, badminton, swimming, Yoga, the game of go, table tennis, tennis, billiards, Diablo, Egyptian dance, Jazz dance, hosting, vocal music and instrumental music, and 4 lectures on painting and calligraphy, photography, tea art and ballet, attracting 3,200 person-times of participants.



### Happy Life after Retirement

Set-Up of University for the Elderly

In 2012, Baosteel's University for the Elderly launched 40 curricula and 136 classes and enrolled 5,072 persontimes of students. The University, in light of the thirtieth anniversary of the promulgation of the Cadre Retirement Regulations and the 18<sup>th</sup> National Congress of CPC, staged the "Embrace the 18<sup>th</sup> National Congress and Achieve Greater Glory Together" educational result reporting performances and organized a series of solicitations for articles, paintings and photography works. The works of six students from the print-painting class of the university for elder cadres were selected to take part in the "10<sup>th</sup> Shanghai Print-Painting Exhibition" sponsored by Shanghai Artists Association and the works of 10 print-painting students were exhibited at the "First Shanghai-style Culture Festival – Southern China Style Shanghai Contemporary Folks' Painting Exhibition" held in Taipei, Taiwan to showcase the artistic talents of Baosteel's retired elderly to the Taiwan Island.

## Enriched the Life of the Elderly

Baosteel Songtao Chorus won the silver prize in the 14<sup>th</sup> "Forever Glorious" National Elderly Choral Festival competition. The chorus was also invited by Shanghai Municipal CPPCC and Shanghai Huaxia Culture and Economy Promotion Association to travel abroad for the first time and take part in the 2012 Bushan International Choral Festival. Baosteel's elderly sports delegation competed in the 9<sup>th</sup> Shanghai Elderly Sports Meeting and won 6 collective first prizes, 65 person-times of individual first-prizes and 82 person-times of second prizes. There are 12 elderly sports associations at the activity centre and the venue is always open to the retired employees free of charge.

Safety and Protection

Improved and optimized corporate safety management system

Continued to implement safety management theories and practical trainings

Learned from External Experiences and Internal Best Practices



Safety Management Exchange Session between Baosteel Chemical and Baosteel-NSC/Arcelor Automotive Steel Sheets

Special Campaign to Combat Illegal and Law-violating Production Operations Achieved Planned Objectives

Accident Reporting

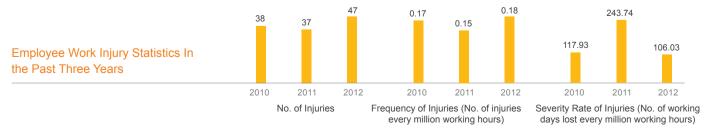
In order to further strengthen corporate safety management and enhance the effectiveness of safety regulation, the responsibilities of the Production Safety Supervision Department have been adjusted. The responsibilities of the Production Safety Supervision Department involve mainly planning and implementing the safety management system, supervising, assessing and guiding the safety management tasks of various units, providing management and technological support for the safety management tasks of various units and representing the Corporation in liaison with the concerned government authorities.

The Experience-based Safety Practical Training Base of the Talent Development Institute has completed 6,032 person-times of trainings this year and the development and application of the Practical Training Base has received much attention from the concerned local authorities and enterprises. Baosteel subsidiaries have also organized safety discussion, learning and training sessions for leaders, managers, employees and other persons in a wide variety of training methods, such as field work group study session, case study sessions and special study sessions. The safety management awareness and knowledge of leaders and managers at all levels and the safety awareness, understanding and skills of the general employees have been enhanced through such discussions and trainings.

Baosteel learned from the safety management experiences of Shenhua Group and distributed the Guiding Manual for the Administration of Enterprise Production Safety promulgated by SASAC of the State Council and studied the benchmarking against the safety management experiences of three State-owned Enterprises. The Corporation set forth implementation measures and exchanged view on excellent practices, such as the safety management system of Baosteel Co., Ltd., safety management methods of Baosteel Special Material, safety management planning of Baosteel-NSC/Arcelor Automotive Steel Sheets Co., Ltd., standardization of safety management in the work zone of Baosteel Chemical, and accountability management of Shaoguan Iron & Steel Co., Ltd.. The implementation of the above tasks facilitated the optimization of Baosteel's safety management system and promoted the enhancement of the basic safety management.

On the basis of ensuring the legal and compliant production operations of the Corporation, Baosteel has made it clear that the focus of the "Combat Against Illegal and Law-violating Production Operations" is on "law-violating production operations" coordinated and planning and concerted efforts in the implementation process and effectively achieved "Four Integrations", i.e. integration with production safety potential safety hazard screening and rectification, integration with corporate production safety standardization development, integration with special rectification campaign in key industry areas and integration with of state-owned enterprise management enhancement activities.

On February 23<sup>rd</sup>, 2012, a servicing unit of Meishan Iron & Steel under Baosteel Co., Ltd. suffered a relatively large accident causing 6 dead and 8 injured. On December 17<sup>th</sup>, 2012, the steelwork of Baosteel Co., Ltd. suffered a relatively large accident of molten steel overflow causing 3 dead and 12 injured. The occurrence of accidents indicated that there are blind spots and weak links in our safety management system, including insufficient supervision of and support for servicing subcontractors and assisting personnel as well as inadequate pertinence and effectiveness of employee safety education and training. Baosteel has learned a real lesson and drawn inference from the accidents and released the "Safety Management Norms for Equipment Maintenance and Servicing Items" to standardize the integrated management of maintenance and servicing items (planning, classification and asset management), supplier management for external projects (qualification review, safety clearance, safety agreement, management and control of subcontracting, staff access and review and evaluation), process management of project (project confirmation, preparation, implementation and completion), management assessment and other areas. The steelwork of Baosteel Co., Ltd. has systematically re-identified the risk points in the process of hoisting molten metal, proposed risk control measures and issued two management standardization manuals, namely the "Four Guarantee and One Furnace" and "Hoisting and Vehicle Transporting of Liquid Molten Metal".





## Communication with Employees

## Interaction Between Staff and Enterprise



#### Addressed Top Concerns<sup>Note</sup> of Employees

In 2012, Baosteel included the *Implementation and Reconstruction of the Enterprise Single Quarters Youth Activity Centre in Shanghai*, the *Follow-up on the Pilot Construction of Transitional Low-rent Housing for Young Employees* and the *Feasibility Study on the Implementation of Flexible Employee Benefit Plan* in the 2012 "Top Concerns" of Employees 4D Project of the Group based on the seventh "Baosteel Manager Questionnaire" survey conducted throughout the Group and with approval from the Corporation. The project, of which Baosteel President served as its responsible leader and Union Chairman as the chief executive, has been implemented as at the end of December 2012. The subsidiaries have established 97 subsidiary-level tasks, covering areas such as transitional low-rent housing for young employees, remuneration and benefits, domestic installations, aid for the disadvantaged, labor protection, culture and sports, in addressing the "Top Concerns" of the year after thorough research and study on the survey results and through procedures including discussion and review, project approval and scheme formulation.

Note: Baosteel has conducted the "Manager Questionnaire" survey every year since 2005 to gather and address the top concerns of the employees that are most realistic and closely-related to their work and life.

## Engaged in Collective Consultation and Standardized Collective Contracts

In 2012, Baosteel covered 100% of its employees with the collective contract and added or modified 120 clauses in the collective contract through adequate consultation between the employee party and administration party with focuses on areas such as labor safety and hygiene programs, grass-root team building, health plan and physical examination and aid for the disadvantaged. By doing so, the Corporation has strengthened the pertinence of the collective contract and enabled the collective contract to become an important system to regulate labor relations and protect the rights and interests of the employees.

## New Media Platform Gradually Becoming a Major Platform of Ideological Guidance for the Youth

On the 2011-2012 annual planning meeting of Baosteel's "Bridge" work panel, the Work Evaluation Method for the Employee Forum (Interim) was adopted. The Communist Youth League Committee launched its official Weibo on Sina.com and released the "Implementation Opinions on the Extensive Work-related Use of Weibo in Baosteel's Communist Youth League Organization", successfully achieving the objective of showcasing the work of Baosteel's Youth League on multiple new media platforms. Currently Baosteel Group's Communist Youth League Committee and various grass-root CYL organizations have set up 132 official Weibos, among which 106 have been certified. In addition to that, cadres and young employees of Communist Youth League have set up 169 Weibo sites along with 65 other new media platforms such as websites and MMS newsletters.

Baosteel's Day

On September 15<sup>th</sup>, 1985, Baosteel No.1 Blast Furnace, the first super-large blast furnace of China, was successfully ignited and commenced production, unfolding the Chinese people's dream of developing a strong nation through the iron and steel industry and setting up a spiritual beacon shining with the light of the "85.9" spirit. On September 15<sup>th</sup>, 2012, Baosteel held

the celebration ceremony for the first **"Baosteel's Day"** and called for all Baosteel people to remember the **"85,9"** spirit forever.



Safeguarding the National Unity

Currently Bayi Iron & Steel has 25,067 employees from 27 nationalities, including Uygur, Han, Hui, Kazak, Mongol, Manchu, Zhuang, Xibo, Monguor and Uzbek, among which 5,101 existing employees are from minority nationalities, accounting for 20.35% of the total employees. Since its establishment over sixty years ago, the employees of Bayi Iron & Steel from all nationalities have always strived diligently together. In light of the actual circumstances, Baiyi Iron & Steel has launched a National Unity Pair-up Campaign throughout the company and over 5,000 national unity pairs have been formed to strengthen emotional bond and congeniality among employees in six areas, namely ideology, business, technology, life, learning and safety, and therefore realize joint development of employees and the company. This campaign has altered the ideologies of employees and significantly improved their moral as well as the job-related skills, techniques and actual work performances. Since the launch of this campaign, inter-nationality relationship at Bayi Iron & Steel has become more harmonious and therefore been commended by the State Council, the State Ethnic Affairs Commission, the Xinjiang Uygur Autonomous Region, SASAC authorities of the Autonomous Region and Urumchi city. The honors received include 13 (times) Model Enterprise for National Unity and Progress and 13 (person-times) Model Individuals. In addition, 59 field units, 309 collectives and 421 individuals have been commended by Bayi Iron & Steel.

#### Rose-Corner Female Employee Culture and Art Forum

In March 2012, the Female Employee Committee of Baosteel Trade Union planned and organized a series of talent show and cultural exchange activities for female employees under the theme of "Cultural Nourishment for the Mind and Life" to enhance the physical and mental qualities and enrich the cultural life of the female employees. Female employees from Shanghai and other cities came up stage to share their growth stories and personal experiences and therefore showcase "Loving, Creating, Sharing and Growing" spirit of today's female employees of Baosteel. Baosteel Rose-Corner Female Employee Culture and Art Forum in Celebration of Women's Day was honored with the title of Top 10 Employee Cultural Programs by Shanghai Wu Yi Cultural Award.



## Staff's Endeavor Obtains the Affirmation of Company

At the end of each year, Baosteel will officially commend exemplary individuals and groups on the Person of the Year Award Presentation Ceremony through the orderly presentation of major measures and happenings of the Corporation so as to communicate the Corporation's value orientation, strategic directions and management approaches and to showcase the aspirations, vibrancy and initiatives of Baosteel people in the Corporation's second entrepreneurial endeavor. The Person of the Year Award Presentation Ceremony has become a signature event in the development of Baosteel's corporate culture.

The 2012 Baosteel Person of the Year Award Presentation Ceremony was closely linked with the Corporation's strategies and core tasks and commended the most typical figures among pioneers and in the areas of best practices and value creation during Baosteel's second entrepreneurial endeavor and conveyed positive energy through demonstration of the enterprising and entrepreneurial spirits of the meritorious groups and exemplary individuals to inspire among more employees the passion to pursue dreams and achieve excellence.

The Award Presentation Ceremony, divided into chapters such as "Voices of Grass-roots and Strengths of the Foundation", "Fighting for Ideals, Striving for a Dream-like Baosteel" and "The Voice of Baosteel" and Baosteel people's diligent work on their respective positions, efforts to blaze new trails, determination to pursue reform and enterprising spirits in face of the difficult market environments over the past year. This year's ceremony was featured by the addition of a fresh and lively presentation touch. The "Voice of Baosteel" which reflects Baosteel's attempts and exploration in the reform of three systems, the "Impression · An Intelligent Future" which shows the active integration of diversified industries into the urban development and the growth of young employees in the entrepreneurial process, micro film "Kite", short video "Baosteel Style" and musical drama "One Dream, One Baosteel" have been widely acclaimed.







# Social Performance

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Chen Zhaorong, a Baosteel employee and a member of China's 25<sup>th</sup> Antarctic Expedition Team, was personally involved in the construction of Kunlun Station, China's first Antarctic inland station.

## General Information about Donations

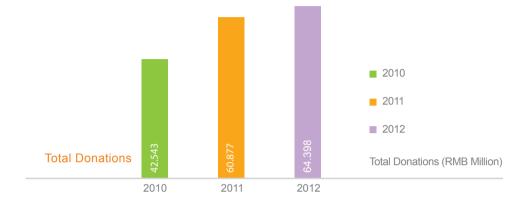
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In 2012, Baosteel conducted its donation management in strict compliance with the Administrative Rules for Donations and Sponsorships of Baosteel Group Corporation (Second Edition). Donations to external parties during the year totaled RMB 64.398 million. The Corporation also won China Charity Award, the top government award in Chinese philanthropy, for the fourth consecutive year.

Social performance



Social Performance 
O CSR 2012



Type of Donation	Amount (RMB Million)	Percentage
Public Relief and Donations to Public Welfare	28.5382	44.3%
Aid for the Disadvantaged and Baosteel-aided Construction	31.3204	48.7%
Donations to Construction of Public Infrastructure	1.00	1.6%
Donations to Education Sector (Education Grants)	0.93	1.4%
Donations to Medical and Health Sector	0.62	1.0%
Donations to Culture and Sports Sector	0.20	0.3%
Other Donations	1.7894	2.8%

## Community Relationships

## Shanghai

"New Year's Goody Bags" to Disadvantaged Elderly	Baosteel has the social issue of aging population on its mind and has continued to work with Shanghai Senior Citizens Foundation in 2012, after cooperating with the Foundation for four consecutive years from 2008 to 2011 and supporting projects such as the "Ten Thousand Shanghai Elderly at Expo" and "Age-friendly Housing Project for Disadvantaged Shanghai Elderly", to issue New Year's Goody Bags to the underprivileged elderly in Shanghai so that they could enjoy a pleasant Chinese New Year. Over 1,400 elderly benefited from this proj- ect. Ge Qingzhen living in Yuepu Town said emotionally to the reporter during the interview, "Baosteel has always taken good care of us old fellows and organized activities every year. When we were in poor health, Baosteel also sent us sympathy gifts. Baosteel has our sincere gratitude!" (figure 1)
New Countryside Project	On February 23 <sup>rd</sup> , 2012, Baosteel Development launched the second round of Baoshan Dis- trict New Countryside Development Pair-up Aid Project to provide such aid to Huahong Village and Haixing Village of Luojing Town and Lianhe Village of Luodian Town over a three-year period. Key project items include reconstruction and expansion of village factories into public service centers and construction of closed-off village management facilities.
Walk for An Egg	In 2012, Baosteel cooperated with NGO Shanghai United Foundation and organized Baosteel employees to participate in the "Walk for An Egg" campaign and raise egg donations from their close friends through the innovative Family-and-Friends (FAF) model by taking on a bet whether they could walk a crazy 50km and therefore to enable students in poverty-stricken regions such as Yunnan Province to have one egg per day. The campaign received overwhelming responses from Baosteel employees, with 14 teams participating in and nearly one thousand donated in support of the event. A total donation of RMB 163,000 was raised, which could be used to purchase 204,000 eggs and provide eggs for 2,272 children in the poverty-stricken region for one semester. (figure 2)

Shanghai Charity Partnership Day

After supporting the first Shanghai Charity Partnership Day, Baosteel participated in the second Shanghai Charity Partnership Day in December 2012 and received the Charity Partnership Memorial Award. On the closing ceremony of the event, Baosteel successfully signed a cooperation agreement with Shanghai Senior Citizens Foundation to extend cooperation between the parties to the fifth year in a row.



"New Year's Goody Bags" to Disadvantaged Elderly



Walk for An Egg

### Guangdong

Shaoguan Iron & Steel Co., Ltd. has, in pursuance of the poverty aid and development work plans of Guangdong Provincial CPC Committee and the Provincial Government, paired up with Zhengzi Village of Huilong Town, Xinfeng County to provide poverty aid. Over three years, Shaoguan Iron & Steel Co., Ltd. has invested RMB 1.5 million to support the development of the village. Main projects included construction of the village's demonstration farming base which would generate collective income for the village, renovation of village committee office and founded village-level culture activity venues, renovation of water channels and improvement on water conservancy facilities, repairing and construction of dilapidated buildings. In these three years, the net income per capita of poverty-stricken households in Zhengzi Village increased by 368% from RMB 1,430 to RMB 6,569. The all poverty-stricken households with labor capacity have achieved the net income per capita target of RMB 2,500 and above and the poverty elimination mission assigned by the Provincial CPC Committee and the Provincial Government has been fully accomplished.

In addition, Baosteel has continued to actively participate in the "Guangdong Poverty Aid Day" campaign and so far made a cumulative donation of RMB 8 million.

Kalasu Township of NilKa County, Ili Kazakh Autonomous Prefecture, and Xinjiang Uyghur Autonomous Region is a key poverty-alleviation township of the Autonomous Region relying mainly on stock farming supported by agriculture as well. The township has a total of 2,586 households and a population of 13,825, including 964 poverty-stricken households which represent 28% of the total population. Bayi Iron & Steel has paired up with this township since 1998 to provide poverty aid with an annual input of RMB 1 million to improve infrastructure, support the poverty-stricken agricultural and pastoral population and help implement the seismic resistant safe housing project by leveraging the technological strengths of the company. After years of poverty aid and development, Kalasu Township has gone through drastic changes and the living standards of the agricultural and pastoral population has been constantly improving.



Jiangsu



### Australia

The Meishan Sub-district Xinmei Civic Plaza Lighting Project donated and constructed by Baosteel Chemical Meishan Branch has been completed and unanimously acclaimed by the local parties and the general residents. The addition of the large electronic screen cost RMB 300,000 and the plaza lighting cost RMB 800,000.

Ever since the lighting up of the Meishan Sub-district Xinmei Civic Plaza, the formerly empty and dark Xinmei Plaza has become an ocean of lights. The district, sub-district and community have launched a series of events to serve their residents on the well-lit plaza. The sub-district has engaged in a series of publicity activities, including publicizing policies, delivering holiday greetings and offering life tips, for the residents using the electronic screen. The dancing team (with around 400 members) self-organized by the local residents has fully occupied the central area of Xinmei Civic Plaza. Sports-enthusiastic families are also playing badminton in the surrounding areas along with residents, old and young alike, participating in all kinds of leisure activities. While enjoying their time, the residents also showered words of praise on this civil well-being project from Baosteel Chemical Meishan Branch.

Paraburdoo Primary School, located in the remote region in west Australia, had very limited fund for second language education. In order to provide its students with better chance to receive education (especially in second language), Baosteel will spend five years and a total investment of over RMB 1 million to help the school launch its Chinese education program.



## Xinjiang

## Social Contribution

### **Baosteel Education Foundation**

Baosteel Scholarship was set up with RMB 2 million in 1990 and increased to RMB 100 million in 2005. The scholarship has five awards, namely Baosteel Outstanding Student Award, Baosteel Outstanding Student Special Award, Baosteel Outstanding Teacher Award, Honorable Mention for Baosteel Outstanding Teacher Special Award and Baosteel Outstanding Teacher Special Award. In 2010, Baosteel set up another scholarship for students from Hong Kong, Macau and Taiwan that covered 12 universities and colleges, to encourage more students from Hong Kong, Macau and Taiwan to pursue higher education in mainland China.

As of 2012, altogether 18,817 teachers and students from over 100 universities and colleges had received Baosteel Education Awards. Among them, one teacher received Baosteel Outstanding Teacher Grand Award, 209 teachers received Baosteel Outstanding Teacher Special Award, 36 teachers received Honorable Mention for Baosteel Outstanding Teacher Special Award, 4,013 teachers received Baosteel Outstanding Teacher Special Award, and 13,666 students received Baosteel Outstanding Student Award, including 304 from Taiwan and 277 from Hong Kong and Macau. Over the past twenty-three years, over RMB 160 Million of Baosteel Education Fund has been contributed to educational awards and funding.

Since its inception, Baosteel Education Fund, adhering to the tenet of "rewarding the outstanding talents, making all efforts to practice of respecting teachers and attaching importance to education, boosting the cooperation between production and learning and supporting the development of education", has standardized its operation and built its sound image across education walk and society. The fund is recognized as one of the national awards boasting broad coverage, abundant prize amount, high degree of honor and respect from teachers and students in the high institutions across the country. For the past 23 years, quite a number of the outstanding teachers and students who received the fund have been active in management and technical positions across the frontlines of government, economy and science and technology.



#### Acceptance Speech

"A strong and mutual emotional bond ties Baosteel with the students." I am very grateful for the help and encouragement Baosteel gave me and so many other students. It is more than just material help, but more of a spiritual inspiration. It is an acknowledgement of my past achievements and a motivation for me to achieve more.

Zhang Yujiao, Baosteel Outstanding Student Special Award Winner from Tibet University

## Poverty-alleviation Assistance in Specific Areas

In 2012, Baosteel's aids to Tibet totaled RMB 19.1 million and the cumulative aid over the past 11 years totaled RMB 150 million. The aid funds have been used to fund the construction of local kindergartens, municipal facilities and roads, agricultural and pastoral supporting projects and low-rent housing supporting projects, the reconstruction and expansion of the primary and secondary schools and senior homes in towns, procurement of medical and health equipments for counties and townships. In 2012, Baosteel continue to provide an aid of RMB 9.15 million to four counties in Pu'er, Yunnan Province. The aid funds from 2008 to 2012 totaled RMB 57.95 million and covered 166 aid projects in 29 townships and 171 villages.

### The Antarctic



Baosteel continued to explore the boundaries of the Antarctic Pole with its expertise and wisdom. In October 2011, Baosteel Engineering & Technology Group Co., Ltd. and Polar Research Institute of China signed the EPC Contract for the "Kunlun" Station Project under the Chinese Antarctic Scientific Research Station Project and undertook the construction of basic structures such as the complex building phase II structure and experiment scaffolds in the ice core drilling area and emergency area as well as the construction of equipments including dual-fuel integrated boiler system, heat recovery system, oxygen generation system, power generator system and other integrated mechanical and electrical installations. The launch of this project indicated that Baosteel's support for China's Antarctic scientific researches had gone beyond simple provision of pre-painted poly polyester plates to a comprehensive range of products and services from iron and steel products to design, equipments and construction and installation leveraging Baosteel's integrated and professional engineering technology and service capabilities. The technical staffs of Baosteel, in light of actual environmental conditions such as an altitude of approximately 5,000m, an average annual temperature of -58.4  $^{\circ}$ C and a barometric pressure of 57,660 Pa, optimized the project design which passed the expert panel review by China Aerospace Architectural Design and Research Institute and other concerned entities in April 2012. The joint commissioning of the equipments was completed in October. On November 5th, a team of four Baosteel employees joined China's 29th Antarctic Expedition and went to the Antarctic Pole on the Chinese icebreaking research vessel MV Xuelong. After over 160 days of continuous work at Kunlun Station, the construction was successfully completed.

## Iron & Steel Research Foundation

On August 28<sup>th</sup>, 2000, Baosteel and the National Natural Science Foundation of China signed an agreement to officially set up the Iron & Steel Research Foundation in Beijing. The Foundation gives priority to new metallurgical technology in urgent need in the steel industry of China, and to the basic research projects of scientific significance and value of application with respect to processes, materials, energy, environment, equipment and information. The Foundation encourages innovation, inter-disciplinary research and industry-university-institute collaboration, and gives top priority to young scientific talents.

As at the end of 2012, Baosteel and the National Natural Science Foundation of China had contributed a total of RMB 110 million (50% from each party) to the Iron & Steel Research Foundation, which had been used to fund a total of 234 projects at over 50 Chinese institutions of higher education and research institutes and the training of nearly 350 doctorate, 600 masters and 40 post-doctorates. The achievements of some of these projects funded by the Foundation had received National Awards for Scientific and Technological Progress. The Iron & Steel Research Foundation has become an important platform for fundamental researches in China's iron and steel industry and a bridge between the basic and applied research in the field.

Chen Xiaodong, marketing executive of Special Steel of Baosteel Pudong International Trading Co., Ltd., is responsible for the sales and market development of stainless steel wire products of Baosteel Special Material. His products have been widely applied in 3C products, such as Apple, and the high-speed railway project.





## Supply Chain Performance



## Develop with Suppliers

## Help the Development of Suppliers

### Fair and Just Procurement Platform

#### Sunshine Procurement

Baosteel has compiled and implemented the manual of guidelines for categorized procurement strategies to enable transparent internal management operations. The Materials & Spare Parts Procurement Department of Baosteel Co., Ltd. commenced the compilation of the categorized procurement strategy manual in 2009 and realized generally effective management and control in the selection of procurement strategies for a procuring organization with over 300,000 procurement varieties, nearly one thousand eligible suppliers and over 100 purchasers. The Manual of Guidelines for Categorized Procurement Strategies compiled in 2012 optimized the pricing strategies by dividing them into competitive strategies and non-competitive strategies; and added the guiding strategies for supplier cooperation and resource development plan. The general guiding principle is to minimize the ratio of non-competitive pricing strategies, promote resource allocation in accordance with the market mechanisms and control procurement costs.

## Industrial Products Supermarket Platform

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In 2012, the Materials & Spare Parts Procurement Department of Baosteel Co., Ltd. established the industrial products supermarket platform for standard and generic goods in small quantities. The industrial products supermarket platform discloses demand information to suppliers and enables price bidding throughout the procurement process so as to find competitive suppliers in a more extensive and efficient manner and discover the market prices. The platform enables the customers to place orders based on their needs and therefore realizes the reasonable balance of different customers between quality and price.





In pursuance of the Classification Standards of SMEs (MIIT and Enterprises [2011] No. 300), SME suppliers are defined as enterprises with registered capital of no more than RMB 10 million (foreign currency will be converted into RMB). The actual statistics of materials & spare parts that Baosteel Co., Ltd. headquarters has procured from SMEs in the past three years (excluding import procurement) are illustrated in the above figure.

### Green Procurement

#### **Procurement Status of Green**

As at the end of 2012, Baosteel has conduct Green Attribute identification for over 150,000 varieties of materials and spare parts (over 100,000 as at the end of 2011), accounting for approximately 46% of all such varieties procured by Baosteel Co., Ltd. headquarters. Statistics of green products (identified) over the past three years are illustrated in the following figure.

#### Baosteel Co., Ltd. HQ Green Procurement of Materials and Spare Parts Amount (in RMB 100 Million) / Percentage of Green Procurement



As at the end of 2012, the percentage of suppliers of Baosteel Co., Ltd. Raw Material Procurement Center passing ISO14001 certification had reached 13%.





Local suppliers refer to the manufacturing enterprises registered in Shanghai (excluding trade companies, agents and foreign-invested Chinese companies). The actual statistics of materials & spare parts that Baosteel Co., Ltd. HQ has procured from local enterprises in the past three years are illustrated in the above figure.

#### Percentage of Suppliers Passing Environment Management System Certification

Over the past three years, the percentage of the material and spare part suppliers of Baosteel Co., Ltd. HQ passing the environment management system certification is illustrated in the following figure:

## Environment Management Certification Status of Material and Spare Part Suppliers of Baosteel Co., Ltd. HQ



## Provide Customers with Quality Service

### Worldwide Service Network

#### **Domestic Sales Network**

Baosteel has essentially established in China a steel sales service network for the sales, processing and delivery of carbon steel, stainless steel and special steel products offering a comprehensive range of products and with numerous outlets distributed across the country as well as a steel processing and distribution service system with the largest steel processing volume, cutting-edge equipments and processes and processing outlets covering major regions in the country.

As at the end of 2012, Baosteel had 101 marketing outlets in China, including 6 regional companies, 6 franchisees, 3 other trading companies, 11 branches, 23 representative offices and 52 steel service centers with a cumulative processing capacity of 7.04 million tons (including 5.52 million tons of shearing capacity, 1.3 million tons of blanking/pendulum shearing capacity and 220,000 tons of cutting and pre-processing capacity), tailored blank laser welding capacity of 25.57 million pieces, 9.25 million wheels, 900,000 strokes of hot pressing and 880,000 strokes of hydraulic pressing.

#### East China

Shanghai Baosteel Steel Products Trading Co., Ltd. Wuxi Branch Nanjing Branch Zhenan Branch Xuzhou Branch Shanghai Bao-Mit Steel Distribution Co., Ltd. **Baosteel High-strength Steel** Hangzhou Bao-Mit Steel Processing & Distribution Co., Ltd. Nanjing Baosteel & Sumitomo Steel Products Co., Ltd. (Nanjing Baozhu) Anhui Baosteel Steel Distribution Co., Ltd. Wuxi Bao-Mit Steel Distribution Co., Ltd. Shanghai Baosteel-ArcelorLaser Tailor Welded Blanks Co., Ltd. Ningbo Baosteel Stainless Steel Co., Ltd. Ningbo Representative Office Hangzhou Representative Office Wenzhou Representative Office Ningbo Bao-Mit Steel Processing & Distribution Co., Ltd. Shanghai Baosteel Hot Stamping Parts Co., Ltd. Shanghai Baosteel Hydroforming Parts Co., Ltd. Wuxi Summit-Bao Metal Products Co., Ltd. Shanghai Baosteel Stainless Steel Trading Co., Ltd. Wuxi Branch Wenzhou Branch Nanjing Representative Office Putuo Representative Office Ningbo Representative Office Shanghai Baosteel Pudong International Trading Co., Ltd. Taizhou Branch Changzhou Representative Office Baosteel Baoshan Steel Trading Co., Ltd. Wuxi Branch Ningbo Branch Jiangwan Representative Office

Baosteel Ship Plate Processing & Distribution Co., Ltd. Baosteel Economic & Trading Co., Ltd. Wuxi Branch

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Xinjiang Representative Office Xi'an Representative Office Songyuan Representative Office Puyang Representative Office Dagang Representative Office Shanghai Baosteel Steel Pipe Plant Shanghai Baosteel Wheels Co. Ltd.

#### South China

Guangzhou Baosteel Southern Trading Co., Ltd. Guanoxi Representative Office Guangzhou Guomao Jieyang Baosteel Stainless Steel Trading Co., Ltd. Xiamen Baosteel Precision Metal Products Co., Ltd Liuzhou Baosteel Auto Steel Parts Co., Ltd. Guangzhou Huadu Bao-Mit Auto Steel Parts Co., Ltd. Dongguan Baosteel Metal Products Co., Ltd. Chang'an Representative Office Foshan Baosteel Stainless Steel Co., Ltd. Shenzhen Representative Office Jiangmen Representative Office Fuzhou Bao-Mit Steel Co., Ltd. Guangzhou Baosteel Fengjing Auto Steel Processing Co., Ltd. Guangzhou Baosteel Jingchang Steel Distribution Co., Ltd. Guangzhou Bao-Mit Steel Processing Co., Ltd. Haikou Baosteel Materials Co., Ltd. Foshan Sanshui Baosteel Steel Parts Co., Ltd. 📩

2012 New Outlets



#### North China

Baosteel Northern Trading Co., Ltd. **\*** Baosteel Tianjin Trading Co., Ltd. Tianjin Bao-Mit Steel Distribution Co., Ltd. Yantai Bao-Mit Steel Distribution Co., Ltd. Jinan Baosteel Steel Processing & Distribution Co., Ltd. Tianjin Baosteel Steel Processing & Distribution Co., Ltd. Qingdao Bao-Mit Steel Distribution Co., Ltd. Yantai Baosteel Wheels Co., Ltd. ShanDong BAohua Abrasion Resistant Steel Co., Ltd. **\*** 

#### Central China

Wuhan Baosteel Central China Trading Co., Ltd. Zhengzhou Baosteel Steel Processing & Distribution Co., Ltd. Nanchang Baojiang Steel Processing & Distribution Co., Ltd. Changsha Baosteel Steel Products Trading Co., Ltd. Hunan Baosteel Wheels Co., Ltd. MI BAO Metal Processing Zhengzhou Co., Ltd. \*

#### **Baosteel Call Centre**

## 400 820 8590

Please feel free to contact us at Baosteel Call Centre. Adhering to the principle of "Answering Every Call and Satisfying Every Customer with Exceptional Services", we are fully committed to satisfying our customers with "one-stop" services including business consultancy, acceptance of quality objections, complaints and suggestions.

customer@baosteel.com

#### West China

Baosteel Western Trading Co., Ltd. Chongqing Branch Kunming Representative Office Xinjiang Representative Office Lanzhou Representative Office Chengdu Baosteel Western Trading Co., Ltd. Xi'an Baosteel Steel Processing & Distribution Co., Ltd. Chongqing Bao-Mit Steel Distribution Co., Ltd. Chongqing Baosteel Auto Steel Parts Co., Ltd. Chongqing Baosteel Wheels Co., Ltd.

#### North East China

Baosteel North Eastrn Trading Co., Ltd. \* Tiexi Representative Office Dalian Representative Office Harbin Representative Office Changchun Baosteel Steel Products Trading Co., Ltd. Changchun Faw Baoyou Steel Processing Delivery Co., Ltd. Jilin Faw-Baosteel Auto Steel Parts Co., Ltd. Shenyang Baosteel Steel Products Trading Co., Ltd. Dalian Baosteel & Sumitomo Metal Products Co., Ltd.



## Provide Customers with Quality Service

### Worldwide Service Network

#### **Overseas Network**

The overseas marketing service network of Baosteel, stretching all across the world with first-tier representative offices in four major regions including the Europe, Africa and Middle East region, the Southeast Asia and South Asia region, the Northeast Asia and Australia region and the Americas region, consists of 4 regional headquarters, 13 subsidiaries and representative offices and 2 processing centers which are responsible for the overall overseas trading services of Baosteel. After the establishment of NSM, the first overseas steel processing center of Baosteel in Italy in 2011, the construction of BGM, the first overseas new steel processing and distribution centre, in Korea has also commenced.





Baohuarui Mining Ltd. Baosteel Brazil Trading Co., Ltd.

Russia Representative Office

Baosteel Kazakhstan Trading Co., Ltd. Tianshan Grant Pipe Co., Ltd.

Uzbekistan Representative Office

East Europe Representative Office

Baosteel Europe GMBH

Baosteel España, S.L.

Baosteel Italia Distribution Center SPA

Baotong Middle East FZE

Mumbai Representative Office India Representative Office

Burwill Holdings Limited

Howa Trading Co., Ltd. Baosight Japan Co., Ltd.

- Seoul Office Baosteel-GM Steel Processing & Distribution Co., Ltd.
- Baosteel Resources International Co., Ltd. (Hong Kong) Baosteel Transportation Co., Ltd. ("Baoyun")

Baosteel Metal Co., Ltd. ("Baojin") Hong Kong Haibao Shipping Co., Ltd. Hong Kong Baosight Co., Ltd.

Thailand Representative Office

Wietnam Representative Office

Baosteel Singapore PTE LTD

Baosteel Resources (Indonesia) Co.

Baosteel Resources South Africa Pty Ltd. (Johannesburg)

Baosteel Australia Mining Pty Ltd. Baosteel Australia Pty Ltd. Baosteel Glacier Valley Pty Ltd.

- Overseas companies (including all subsidiary sole proprietorships and joint ventures)
- Overseas offices

### Operation model of Production, Sales and Research

In 2012, Baosteel has gradually established and optimized its production-marketing-research operation mechanism for solving customers' problems in the production-marketing-research promotion system, which involved systematically channeling various problems reported by the customers to the respective production-marketing-research SBU groups, delegating the primary responsibility for solving the all types of customer problems to these SBU groups and following up, evaluating and promote the resolving of the customer problems in accordance with PDCA through systematic planning. The project commenced test operation in September and has since made various production-marketing-research promotion objectives more explicit and specific through the channeling of various customer problems and effectively enhanced the response speed of production-marketing-research activities to customer needs through the effective execution and resolving of such customer problems

### Listen to the Users

**Customer Satisfaction Survey** 

	Q1 Performance	Q2 Performance	Q3 Performance	Q4 Performance
2010	90.1	90.7	89.0	90.6
2011	90.5	90.1	89.9	90.8
2012	90.5	91.0	90.8	91.0

In 2012, Baosteel had zero complaint from customers for breach of privacy and no penalties for violation of laws and regulations.

#### Key Account Director System

For the purpose of realizing the transformation towards customer-oriented operation, enhancing response speed to customer requests and catering to the integrated needs of specific key accounts, Baosteel has explored the key account director service model under which dedicated service teams are responsible for supporting the development strategies of key accounts, establishing long-term communication and cooperation mechanisms with customers and planning and maintaining comprehensive strategic partnerships. The service teams will also play a leading role in the research, formulation and implementation of individual strategic solutions by various departments; devise individual marketing schemes and formulate marketing plans covering areas such as marketing plans, pricing policies, credit policies and customer visit plans.

Baosteel set up the pilot service team for SAIC Motor Corporation Limited (hereinafter referred to as "SAIC Motor") on March 5<sup>th</sup>, 2012 to provide SAIC Motor with a comprehensive array of integrated inter-department services.

Service Hotline

In 2012, Baosteel Co., Ltd. Call Centre launched several "Customer Care" services, such as sending greeting messages (such as holiday greetings, birthday wishes and e-cards), reminder messages (such as acceptance of quality objections) and other information push services to gain better understanding of and tighten the connection with customers, forge excellent customer relation management capacity, continuously improve the customers' awareness of Baosteel Calling Centre and therefore enable the Call Centre to become a multi-functional and integrated customer interaction centre.

In 2012, the Call Centre answered a total of 17,436 incoming calls from customers with an average call completion rate of 98.75%. During the 251 working days, around 70 customer incoming calls were answered on daily average and the on-the-spot satisfaction rate of the Call Centre hotline was 96.55%.

In 2012, Baosteel engaged in thorough efforts in all aspects of the entire customer visit process from planning, execution, implementation, feedback to improvement and made steady progresses with the help of the information system platform. Baosteel has planned and formulated 72 Top Management Visit Plans in 2012 by considering the dimensions of key accounts and products and summarizing the contribution levels of customers and strategic significance of products. By combining technical visits and business visits, Baosteel has drawn up a total of 4,052 visit plans to customers at direct supply and above levels led by various product sales departments and regional companies in the year. Through adequate planning in early stages and active day-to-day implementation, a total of 4,646 visits to customers at direct supply and above levels were implemented during the year (including 4,022 planned visits and 624 outof-plan visits). The cumulative completion rate of the annual customer visit plan was 99.36%. During the year, 69 top management visits and exchanges were carried out. Through active interaction with the customers, these visits have made positive contributions to the promotion of exchanges and cooperation between Baosteel and its customers. In addition, the top management visits and exchanges have strengthened the strategic partnerships with key accounts and enabled Baosteel and its customers to better complement each other with their own strengths in areas such as market expansion and material application and realize joint development through collaboration.

Marketing and e-commerce applications of Baosteel have always been dedicated to providing customers with convenient, efficient and value-added services and experiences. In order to adapt to the transformation towards a "customer-centered" corporate marketing mechanism, Baosteel has actively explored innovative e-commerce service models for customers. In 2012, Baosteel developed its mobile e-commerce services and designed and developed the Baosteel Online Mobile Commercial Services based on the Baosteel Mobile Commercial Services Middleware, among which the mobile marketing services for mobile phones were launched in June 2012 and the mobile marketing services for tablet computers were launched in December 2012. In order to enable convenient selection of materials by the customers, Baosteel designed and developed a customer-oriented professional product marketing service platform – dedicated pre-painting service area which was officially launched on October 28<sup>th</sup>, 2012.



#### Customer Visits

#### E-Commerce

## Listen to the Users

Account Representative Management The Technical Service Account Representatives of Baosteel Co., Ltd. provide strategic and key customers with one-stop one-on-one technical services and information communications, assist in tasks including customer technical services and product development and serve as the bridge and link between Baosteel and its customers. In 2012, the Technical Service Account Representatives of Baosteel Co., Ltd. eagerly participated in the application, promotion and trial use of high-growth new materials in key national projects and actively helped customers to source for substitutes for imported materials. 48 account representatives have visited and served customers on 5,295 working days, gathered 3,826 pieces of customer need information, resolved 2,491 problems through coordination and conducted 2,108 internal and external training and communication sessions.

The customer technical service team of Baosteel, creating numerous "win-win through cooperation" best practices in their services to key accounts, has not only realized economic gains but also fostered a reputable social image as well as social and customer recognition for Baosteel through its "Customer-Centered" operation approach and mechanism, despite the wintry iron and steel market with meager product profitability.

Case

#### Value Creation Through Services

Right after the 2012 Chinese New Year, an African customer factory hoisted the national flag of China. The story began before the Chinese New Year when a key electrolytic tinning customer reported defects in some electrolytic tinplates, including shrinkage cavity and spots on surface, which involved around 500 tons of products. The incident coincided with the peak demand season for local fish cans and missing this peak season could possibly cause greater indirect losses. The situation was critical. Upon learning about this, Baosteel Europe GmbH. (hereinafter referred to as "Baosteel Europe") closely coordinated and interacted with the sales system in China to come up with solutions for the customer. Despite that it was the traditional Festival of Lanterns of China, Baosteel immediately dispatched a quick response team on a long journey to the factories in South Africa and Kenya.

In order to minimize the impact on the normal operations of the customer, the team exploited any time opening in the operation for testing and meticulously designed several testing plans. After extensive testing, it was finally discovered that the problem arose from the defects in the coating roller recently displaced by the customer. Although it did not concern the quality of Baosteel products, the team not only provided the customer with an objective explanation of the cause but went further to offer the customer professional suggestions on ways to improve the printing roller and coatings as well. The team convinced the customer and coating supplier with a comprehensive solution.

The customer was very moved after realizing that the Baosteel team gave up holiday time for them and said, "Chinese good, Baosteel good!" When the team was about to leave, the customer highly commended and acknowledged the Baosteel team and expressed their hope to maintain and expand cooperative relationship. They also hoped that Baosteel experts could visit regularly and keep in contact "like friends".

Over recent years, the African business volume of Baosteel Europe has sustained continuous growth, which is largely attributed to Baosteel's individualized after-sale services for the customers.

### Awards by Customers

#### **Customer Awards**

General Motor - Global Supplier of the Year

2012 - Shanghai Hitachi Household Appliances Co., Ltd. - Most Valuable Supplier

2012 - Shandong Nuclear Power - Outstanding Supplier

2012 - Dongfeng Commercial Vehicle Company - Best Supplier

2012 - China Export & Credit Insurance Corporation - Excellent Partner

CIMC Raffles - Outstanding Supplier

Hualing Xingma Automobile - 2012 Outstanding Supplier

#### **Customer Testimonials**

Mr. Ye Yongming, General Manager of Shanghai General Motors Co., Ltd. (GM), remarked about Baosteel, "The cooperation between Shanghai General Motors and Baosteel goes way back and our cooperation is close and strong. Baosteel has offered Shanghai General Motors with many options in automotive cost reduction, strength improvement and new product applications and the success of such proven cases has been applied by GM globally."

Mr. Xu Jianyi, Chairman and Party Secretary of FAW Group Corporation remarked about Baosteel, "For many years FAW Group and Baosteel have engaged in in-depth cooperation in areas such as domestic production of materials, weight reduction, R&D of new materials, JIT delivery and information technology development and such cooperation has been very fruitful. The signing of this agreement for new strategic cooperation cycle indicates that the parties will take our years of mutually beneficial cooperation to a broader and higher level."

Mr. Xu Liuping, Chairman and Party Secretary of China Changan Auto Group Corporation (CCAG) remarked about Baosteel, "Over recent years, CCAG has strengthened the R&D and production planning and the R&D and manufacturing of proprietary brands is the focus of CCAG's future development. Baosteel is an important steel supplier of CCAG and we hope that Baosteel will continue to further our cooperation in many areas, such as R&D of new vehicle models, technical services and supply chain, and assist in the R&D and production of CCAG's proprietary auto brands."

### Awards

January – 2011 Metallurgical Product Quality Award "Gold Cup Prize" was announced and three hot rolled stainless steel products of Baosteel, namely 304, 316L and 430, received the top quality award in the industry – "Superb Quality Award".

February 14<sup>th</sup> - The Development and Application of Two-piece Tinplate for Pop-top Cans project jointly executed by Baosteel Co., Ltd. and Baosteel Metal received the Second Prize of 2011 National Awards for Scientific and Technological Progress.

February – In the 2011 Project Implementation with Customer Satisfaction Award by China Association for Quality, Baosteel Chemical's Special Improved Pure Benzene product won the title of Products with Nationwide Customer Satisfaction again.

On March 1<sup>st</sup> – Baosteel ranked 25<sup>th</sup> among the 2012 World's Most Admired Companies by Fortune magazine, up by 7 positions from the 32<sup>nd</sup> position in 2011, and named again as the most admired company in the metal industry.

March 1<sup>st</sup> – Baosteel Group Corporation was awarded the title of Meritorious Entity Among State-owned Enterprises in Stability Preservation on the State-owned Enterprises Stability Preservation and Letter Petition Work Conference held by the SASAC of State Council.

March – Baosteel Co., Ltd. ranked among the Top 100 Chinese Corporate Social Responsibility Performers by the Fortune magazine again. It ranks 5<sup>th</sup> among the top 50 local enterprises, up from the 3<sup>rd</sup> position in 2011 and the 1<sup>st</sup> among the 12 local raw material enterprises on the list.

March – Baosteel Group Corporation was awarded the title of Meritorious Collective Among State-owned Enterprises in Statistical Work for Foreign Direct Investment.

## Highlights 2012

April – In the Seventh China Charity Award, Baosteel was awarded the title of 2011 China Charity Award – Most Caring Donor Enterprise. This was the fourth time Baosteel received the China Charity Award.

April – The Research and Development of Advanced Highstrength Thin-strip Steel Product-Process-Equipment Integrated Technology project of Baosteel Co., Ltd. won the First Prize of Shanghai Municipal Awards for Scientific and Technological Progress.

April – Baosteel was awarded the title of Global Supplier of the Year by General Motors again and the only iron and steel enterprise which was awarded the title of 2011 Global Supplier of the Year by General Motors

April – Baosteel ranked the 329<sup>th</sup> among 2012 Forbes Global 2000 with annual sales revenue of USD 30.7 billion, profit of USD 2 billion and assets of USD 32.6 billion.

April 22<sup>nd</sup> – Baosteel ranked among the 2012 China Top 100 Green Companies, a multi-industry assessment of the sustainable competitiveness of enterprises. May – Shanghai Baosteel Magnetic Co., Ltd. of Baosteel Development Co., Ltd. was listed among the first group of Industrial Recycling Economy Major Demonstration Projects announced by the Ministry of Industry and Information Technology and became the first in China's iron and steel industry as well as among Shanghai industrial enterprises to be awarded this honor.

May – Baosteel Trade Union was awarded the title of Meritorious Entity in Shanghai Employee Quality Project and the Baosteel Employee Innovation Activity Base of the Baosteel Talent Development Institute was awarded the title of the Top Ten Brands in Shanghai Employee Quality Project.

May – Baosteel won 3 gold, 4 silver and 2 bronze awards on the 111<sup>th</sup> Paris International Invention Exhibition. The three gold award winners were the Integrated Technology of Emulsion Emission and Consumption Reduction invented by Wang Kangjian from Baosteel Co., Ltd. cold rolling plant, Complete Equipment Technology of High Conversion Rate Energy-Conserving and Environmental-Friendly Hot Rolling Laminar Cooling invented by Wang Jun from Baosteel Co., Ltd. hot rolling plant and Molten Steel Vacuum Refine and Top-Blow Multi-Purpose Lance invented by Wu Jianhua from Baosteel Engineering.

May – In the Second Shanghai Outstanding Employee Sports Program jointly conducted by Shanghai Federation of Trade Unions and Shanghai Sports Bureau, the Health Express – Baosteel Group Employee Healthcare Plan was named one of the Top Ten Shanghai Outstanding Employee Sports Program Brands. June – In the 2012 China Software R&D Productivity Ranking by Industry, Baosight Software claimed the only 2012 Excellent IT Service Provider in China's Software Industry grand award.

June – In the sixth Worthy Trust awards, Huabao Trust was awarded the Worthy Trust Corporate Excellence Award. This was the sixth consecutive year Huabao Trust had received this award.

July 9<sup>th</sup> – The 2012 Fortune Global 500 was released. Baosteel entered the top 200 for the first time and ranked the 197<sup>th</sup> with the operating revenue of USD 48.9163 billion and a net profit of USD 1.8667 billion, up by 15 positions from the 212<sup>th</sup> position in 2011. This was also Baosteel's highest ranking in Fortune Global 500 in consecutive nine years.

July – Baosteel Stainless Steel Co., Ltd. was awarded the title of Honorable Enterprise and Entity with Outstanding Contribution at the Sixtieth Anniversary of China's Industrial Production of Stainless Steel. September 3<sup>rd</sup> – The Top 500 Chinese Enterprises sponsored by China Enterprise Confederation and China Enterprise Directors Association was released. Baosteel ranked the 21<sup>st</sup> among top 500 Chinese enterprises and the 6<sup>th</sup> among top 500 manufacturing enterprises.

September 11<sup>th</sup> – On the 2012 China Iron & Steel Industry Science and Technology Conference held in Beijing, the Development and Industrialization of Low Temperature High Magnetic Induction Oriented Silicon Steel Manufacturing Technology project was awarded the only Grand Prize for China Metallurgical Science and Technology and four other projects, including the Research and Application of New Methods for Evaluating the Thermal Properties of Highly Reactive Coke, were awarded the First Prize.

September 26<sup>th</sup>. The Fortune (China) magazine released the 2012 Most Admired Chinese Enterprises, among which Baosteel ranked the 10<sup>th</sup> and was the only iron and steel enterprise.

September – Baosteel Group was named the Shanghai Double Support Model Entity. It was the 9<sup>th</sup> consecutive year Baosteel received this title since 2004.

October – On the 13<sup>th</sup> World Knowledge Forum, Baosteel Co., Ltd. was named Asia's Most Admired Knowledge Enterprise and became the first Chinese manufacturing enterprise to receive this award.

October – On the First Shanghai Citizen Sports Meeting, the Baosteel sports team took home 10 champions, 6 first runnerups and 14 second runner-ups and was also honored with the top award in the organization category – the gold cup of Citizen Well-being Award.

October – The World Steel Association held the Third Steelies Award Presentation Ceremony and the Excellent LCA Cases and Direct Production Technology of Mineral Wool from Hot Molten Blast Furnace Slag projects submitted by Baosteel received the Excellence in Life Cycle Assessment Award and the Excellence in Sustainability Reporting Award respectively.

November 16<sup>th</sup> – In the 2012 Chinese Corporate University Rankings, the Talent Development Institute was named the 2012 China's Best Corporate University with the highest overall score.

November – Baosteel University for the Elderly was named the Meritorious Entity in the National Elderly University Campus Culture Development.

December 2<sup>nd</sup> – The second Shanghai Charity Partnership Day was officially launched and Baosteel, as a representative of outstanding project partners of first Shanghai Charity Partnership Day, received the Charity Partnership Memorial Award.

December – On the Summarization and Commendation Conference for the National Share Our Ideals and Compare Our Contributions Campaign, Baosteel was named Meritorious Collective in the National "Share Our Ideals and Compare Our Contributions" Campaign again after being awarded this title in 2008 and 2010.

December – The 2012 National Demonstration Enterprises for Technological Innovation results were announced and Baosteel Group Corporation was awarded the title of the National Demonstration Enterprises for Technological Innovation.

December – On the Ninth China Knowledge Management Summit and the 2012 China MAKE Award Presentation Ceremony, Baosteel Co., Ltd. was named China's Most Admired Knowledge Enterprise again.

December – Totally 31 affiliated entities of Baosteel passed the class-I review of the work safety standardization of metallurgical enterprises by the State Administration of Work Safety. Baosteel had previously been named one of the 22 National Demonstration Enterprises for Promoting Work Safety Standardization by the State Administration of Work Safety.

December – The Technology and Equipment for Flexible Manufacturing of Advanced High-strength Thin-strip Steel developed in-house by Baosteel received the Second Prize of National Awards for Technological Inventions. The Safe and Efficient Development Technology and Industrialization Application for Super-large Ultra-deep High-sulfur Gas Field jointly submitted by Baosteel and PetroChina received the Grand Prize of National Awards for Scientific and Technological Progress.

#### January

7<sup>th</sup> – A CPPCC research delegation led by Ms. Zhang Meiying, Vice Chairperson of CPPCC and First Vice Chairperson of the Central Committee of China Democratic League visited Baosteel for investigation and survey.

13<sup>th</sup> - The 2011 Baosteel Person of the Year Award Presentation Ceremony was held at the Opera Hall of Shanghai Oriental Art Center.

16<sup>th</sup> – Baosteel held the 2012 Work Conference and Fifth Session of the Second Employees' Congress.

20<sup>th</sup> – Baosteel Special Steel Co., Ltd. (referred to as Baosteel Special Steel) and Shanghai Baosteel Stainless Steel Co., Ltd. (referred to as Baosteel Stainless Steel) were established.

#### February

 $2^{nd}$  – Baosteel held the 2012 Party Conduct Development and Anti-Corruption Conference.

 $9^{\text{th}}-\text{Baosteel}$  headquarter held the 2012 Collective Consultation Meeting for Collective Contract.

10<sup>th</sup> – "Baosteel Mobile Online" was successfully launched. Baosteel Mobile Online was a mobile business application platform offered by Baosteel to its customers, enabling them to inquire about and trade Baosteel's spot goods resources through smart phones or tablet computers while also enjoying excellent customer services.

14<sup>th</sup> – On the National Science and Technology Awards Conference, Baosteel received the Second Prize of 2011 National Awards for Scientific and Technological Progress for its Development and Application of Two-piece Tinplate for Pop-top Cans project.

22<sup>nd</sup> – Baosteel successfully issued RMB 2.9 billion of offshore RMB-denominated bonds. As the first non-financial enterprise from Mainland China to directly issue RMB-denominated bonds in Hong Kong, Baosteel successfully completed the bond issuance tasks and raised RMB 6.5 billion of funds.

#### March

 $1^{st}$  – The Fortune magazine announced the 2012 World's Most Admired Companies  $25^{th},$  among which Baosteel ranked the  $25^{th},$  up by 7 positions from the  $32^{nd}$  position in 2011, and named again as the most admired company in the metal industry.

12<sup>th</sup> – The Foundation Laying Ceremony for the Vietnam Baosteel Can Making Project was held in Bình Duong VSIP Industrial Park. On October 18<sup>th</sup>, the project conducted joint commissioning. At the end of October, the first of finished cans passing the quality inspection were produced. The construction of this project indicated that Baosteel's metal packaging business has taken the first step in its overseas development.

15<sup>th</sup> – Baosteel Group Corporation and China National Petroleum Corporation signed agreement for new strategic cooperation.

15<sup>th</sup> – Baosteel Co., Ltd. sold its stainless steel and special steel operations to Baosteel Group Corporation.

 $19^{\rm th}$  - Steel Business Briefing (SBB) announced the Top 20 International Iron and Steel Enterprises by Output of Crude Steel, among which Baosteel ranked the  $4^{\rm th}$  with an output of 43.30 million tons.

26<sup>th</sup> – Baosteel Co., Ltd 1580 Hot Rolling Production Line EIC Revamping Plate Thickening Area successfully passed hot run test.

28<sup>th</sup> – Baosteel held the Establishment and the First Meeting of its third Board of Directors. The third Board of Directors of Baosteel consisted of 4 inside directors and 6 outside directors, including Chairman Xu Lejiang, Vice Chairman Liu Guosheng, Director He Wenbo, Employee Director Zhu Yiming and Outside Directors Gan Yong, Wang Xiaoqi, Kerwei (Buck) Pei, FUNG, Kwok King Victor, Wu Yaowen and Jing Tianliang.

29<sup>th</sup> – The achievement of the Development and Industrialization of Low Temperature High Magnetic Induction Oriented Silicon Steel Manufacturing Technology project of Baosteel passed the expert panel review.

#### April

10<sup>th</sup> –CPC Assembly of Baosteel Group Corporation was held. 8 delegates, namely Ma Guoqiang, Wang Li, Fu Zhongzhe, Liu Zhanying, Liu Guosheng, He Wenbo, Zhang Yang and Xu Lejiang, were elected as Baosteel's representatives at the Tenth CPC Congress of Shanghai.

10<sup>th</sup> – Baosteel was awarded the title of 2011 China Charity Award – Most Caring Donor Enterprise. This was the fourth time in a row Baosteel received the China Charity Award.

 $11^{\rm th}$  – Baosteel inaugurated the operation entity of stainless steel and special materials businesses, namely Baosteel Stainless Steel Co., Ltd. and Baosteel Special Material Co., Ltd.

16<sup>th</sup> – Baosteel and Shanghai Pudong Development Bank signed the Bank-Enterprise Strategic Cooperation Agreement.

18<sup>th</sup> – The Baosteel Group Guangdong Shaoguan Iron & Steel Co., Ltd. jointly funded and incorporated by Baosteel Group Corporation and Guangdong Provincial SASAC was inaugurated, and Guangdong Shaoguan Iron & Steel Co., Ltd. officially became a member of Baosteel Group Corporation.

19<sup>th</sup> – The Guangzhou Thin Plate Co., Ltd. jointly funded and incorporated by Baosteel Group Corporation and Guangzhou Iron and Steel Enterprises Group was inaugurated, indicating substantial progress in the restructuring of Guangzhou Iron & Steel by Baosteel.

19<sup>th</sup> – Baosteel and PetroChina signed the Strategic Procurement Agreement.

21<sup>st</sup> – Baosteel issued an official circular on dissolving the Development and Reform Department of Baosteel Group.

23<sup>rd</sup> – Mr. Sheng Huaren, Former Vice-Chairman of National People's Congress and his delegation visited Baosteel.

26<sup>th</sup> – The contract for the BGM Shearing, Processing and Distribution Centre, Baosteel's first foreign direct investment project in South Korea, was signed. This was also Baosteel's first overseas steel processing and distribution centre new construction project.

April – On the 2011 Shanghai Municipal Science and Technology Awards Conference, the Research and Development of Advanced High-strength Thin-strip Steel Product-Process-Equipment Integrated Technology project of Baosteel Co., Ltd. won the First Prize of Shanghai Municipal Awards for Scientific and Technological Progress.

April – The U.S. Forbes magazine released the 2012 Forbes Global 2000 and Baosteel ranked the 329<sup>th</sup> with annual sales revenue of USD 30.7 billion, profit of USD 2 billion and assets of USD 32.6 billion.

#### May

3<sup>rd</sup> – Meishan Iron & Steel successfully issued RMB 1 billion of medium term notes and short-term financing bonds, including RMB 500 million of 3-year medium term notes and RMB 500 million of 1-year short-term financing bonds.

9<sup>th</sup> – The Baosteel Co., Ltd. Sintering System Energy Conservation and Environmental Protection Reconstruction Project commenced construction.

12<sup>th</sup> – Meishan Iron & Steel held First Pour Ceremony for No. 4 Continuous Casting Machine, indicating the completion of the Meishan Iron & Steel Phase II Steel-making Continuous Casting Project.

16<sup>th</sup> – "The Metal Scrap Processing and Distribution Centre Demonstration Base" of Baosteel Resources Co., Ltd. was inaugurated.

31<sup>st</sup> – The Inauguration Ceremony for Baosteel Guangdong Zhanjiang Iron & Steel Base Project was held on Donghai Island of Zhanjiang.

May – The Integration of Metal Detection Technologies for Bulk Material Conveyor Belt of Ship Unloader project of Baosteel Co., Ltd. received First Prize of 2011 China Awards for Port Technological Progress.

May – Du Guohua from Baosteel Engineering & Technology Group Co., Ltd. and Li Yuchao from Baosteel Group Bayi Iron & Steel Co., Ltd. were awarded the National May Day Labor Medal.

May –Mr. Xu Lejiang, Chairman of Baosteel Group Corporation, was elected as a member of the  $10^{\rm th}$  Shanghai CPC Committee.

May – China Banking Regulatory Commission qualified Huabao Trust Co., Ltd. for commissioned overseas wealth management.

#### June

 $8^{\rm th}$  – Baosteel and Northeastern University signed an agreement for a new round of comprehensive cooperation (2010-2018).

18<sup>th</sup> – The signing ceremony for Baosteel Gases – Shanghai Coking and Air Separation Asset Restructuring Cooperation was held.

19<sup>th</sup> – Baosteel issued an official circular on the establishment of the Baosteel Group Central Research Institute (Technical Centre). The Baosteel Group Central Research Institute (Technical Centre) and Baosteel Research Institute commenced integrated operations.

26<sup>th</sup> – The 2011 Baosteel Group CSR Report was published.

26<sup>th</sup> – Baosteel and Shenhua Group signed a strategic cooperation agreement under which the parties would strengthen cooperation and complement each other with their respective strengths in areas such as steel materials and R&D to realize a mutually beneficial relationship.

26<sup>th</sup> – Baosteel Mineral Wool Technology (Ningbo) Co., Ltd., a joint venture of Baosteel Development Co., Ltd., Ningbo Iron & Steel Co., Ltd. and Baosteel Engineering & Technology Group Co., Ltd., was inaugurated. The Corporation would rely on Baosteel's proprietary intellectual property and be the first in China to recycle metal scrap through production of slag wool from hot molten blast furnace slag.

### Major Events

#### July

4<sup>th</sup> – Baosteel and Shanghai Municipal Government signed the Cooperation Agreement for Iron and Steel Industry Restructuring in Baoshan Region to restructure the enterprises in Shanghai Baoshan Wusong Industrial Park and the Luojing Production Base.

9<sup>th</sup> –The 2012 Fortune Global 500 was released and Baosteel ranked the 197<sup>th</sup> with an operating revenue of USD 48.9163 billion and a net profit of USD 1.8667 billion, up by 15 positions from the 212<sup>th</sup> position in 2011. This was also Baosteel's highest ranking in Fortune Global 500 in the consecutive nine years.

 $9^{th}$  – World Steel Dynamics published its ranking of World's Top Steel Enterprises, among which Baosteel ranked the  $5^{th}$ , up by 9 positions from the  $14^{th}$  last year.

26<sup>th</sup> – Zhanjiang (Shanghai) Investment Briefing was held at Shanghai Dongjiao State Guest Hotel. Baosteel and Zhanjiang Municipal Government expressed their full dedication to the construction of Zhanjiang Green Iron and Steel Production Base.

31<sup>st</sup> – Baosteel and China Development Bank signed a comprehensive strategic cooperation agreement.

#### September

 $3^{rd}$  – The 2012 Top 500 Chinese Enterprises was published, among which Baosteel ranked the 21<sup>st</sup>.

10<sup>th</sup> – Baosteel Co., Ltd. Coke Oven Upgrading and Integrated Reconstruction Project commenced full production.

10<sup>th</sup> – Baosteel Group Central Research Institute (Technical Centre) officially inaugurated. Altogether 6 academicians from the Chinese Academy of Sciences and the Chinese Academy of Engineering are engaged as members of the Academic Committee of Baosteel Group Central Research Institute.

11<sup>th</sup> – On the 2012 China Iron & Steel Industry Science and Technology Conference held in Beijing, the Development and Industrialization of Low Temperature High Magnetic Induction Oriented Silicon Steel Manufacturing Technology project was awarded the only Grand Prize for China Metallurgical Science and Technology. Baosteel Co., Ltd., Baosteel Engineering and Baosteel Metal were awarded the title of Meritorious Entities in the Technology Development of China's Iron and Steel Industry.

12<sup>th</sup> – Baosteel Co., Ltd. 1580 Hot Rolling Production Line EIC Revamping Project passed full hot run test.

14<sup>th</sup> - Baosteel Co., Ltd., Baosteel Engineering, Baosteel Special Material and SKF China signed strategic partnership agreement.

15<sup>th</sup> – Baosteel Group held the first Baosteel's Day with the aim to communicate corporate brand values and inspire the employees to contribute to the second entrepreneurial endeavor. During the event, the Classic Stories of Baosteel Culture (Volume 1) and the Interpretation of Baosteel's Second Entrepreneurial Endeavor were debuted.

#### August

 $15^{\rm th}-{\rm Baosteel}$  and Dongfeng Motor Corporation signed a new strategic agreement.

 $17^{\text{th}}-\text{Baosteel}$  Co., Ltd. 2030 Cold Rolling Unit successfully rolled 50 million tons of steel.

27<sup>th</sup> - Baosteel Co., Ltd. decided to repurchase its shares at no more than RMB 5 per share with total repurchase amount not exceeding RMB 5 billion and invest in the equity of the West-to-East Natural Gas Transportation No. 3 Pipeline Project of PetroChina Company Limited with total investment not exceeding RMB 10 billion.

August – Baosteel commenced the compilation of its 2013 – 2018 Development Plan.

August – The construction of Baosteel Group Xinjiang Bayi Iron & Steel Co., Ltd. Nanjiang Base progressed as planned and the No.1 bar unit passed the first hot run test.

21<sup>st</sup> – Baosteel and Commercial Aircraft Corporation of China, Ltd. signed a new framework agreement in Shanghai for supply of steel materials and structures for construction projects.

25<sup>th</sup> – Baosteel-made 690U pipes were successfully connected to No.1 evaporator of Fangchenggang nuclear power plant No.1 generator unit. This was the first time nuclear power 690 U-shape pipe was installed and applied on China's nuclear generators ever since its domestic production and the first time a China-made material was used in the "core" unit.

26<sup>th</sup> – The Fortune (China) magazine published the 2012 Most Admired Chinese Enterprises, among which Baosteel ranked the 10<sup>th</sup> and was the only iron and steel enterprise.

September – Baosteel realized the large-volume supply of 80kg-Grade Ultra-high-tenacity Super-thick Plate for Marine Engineering. The product was used in key components on maritime hoisting equipments and one of the most difficult products in thick-plate manufacturing. The successful mass production by Baosteel was the first in China.

September – After a decade of exploration and experimentation, Baosteel successfully realized the industrial production of Quenched and Partitioned Steel, the Third-generation Highlymoldable Ultra-high-strength steel, and supplied the product to FAW Car in large volume. So far, Baosteel has become the world's only enterprise to realize large-volume and stable supply of the new generation economic highly-moldable ultrahigh-strength steel (third generation ultra-high-strength steel) as well as the world's only iron and steel enterprise capable of the industrial production of a comprehensive series of first, second and third generation ultra-high-strength steel.

#### October

12<sup>th</sup> – Baosteel and Yangpu District signed framework agreement for strategic cooperation. Both parties were dedicated to forging the Ergang region into an iron and steel service industry park featuring modern characteristics and with centralized planning, integrated functions, novel models and ecological harmony.

14<sup>th</sup> – The river-ocean ship MV Hong Sheng, loaded with over 10,000 tons of fine ore, arrived at Meishan Iron & Steel raw material terminal and therefore successfully completed its maiden voyage.

18<sup>th</sup> – Baosteel Development Co., Ltd Baosteel Logistics (Jiangsu) Co., Ltd. Haibao Wharf Phase I Project was officially launched.

 $18^{\rm th}$  – Ningbo Baoxin Stainless Steel Co., Ltd. Stainless Steel Engineering Technology Centre was inaugurated. The Centre would undertake tasks such as the technology analyses and process researches in the stainless steel industry chain.

19<sup>th</sup> – Baosteel and FAW Group signed a new framework agreement for strategic cooperation. The parties would engage in cooperation in areas such as supply chain cost and value management, R&D of new materials and early involvement in new car models.

30<sup>th</sup> – Baosteel Co., Ltd. announced that the economic operations in Luojing region would be suspended and the CO-REX assets and key production technologies would be wholly transferred to Baosteel Group. Meanwhile, Baosteel Co., Ltd. also planned to acquire the 71.8032% of Zhanjiang Iron & Steel shares held by Guangzhou Municipal SASAC.

30<sup>th</sup> – The National Energy Administration under the NDRC conducted comprehensive technical verification on the operation and pilot test results of Baosteel's metal exhaust-toethanol project plant and determined that the plant achieved world-leading standards in indicators such as gas conversion rate. NEA believed that the pilot test had been successfully completed and recommended the project to enter into the industrialization stage.

October – The three main rating agencies, namely Standard Poor's, Moody's and Fitch, completed the rating review for Baosteel Group Corporation and Baosteel sustained the highest credit rating in the global iron and steel industry.

#### December

 $5^{\rm th}$  – Baosteel and Siemens VAI jointly organized the first Technology Day. Technical staffs from Baosteel and Siemens VAI engaged in in-depth communications on topics such as energy conservation and environmental protection, rolling technologies and quality, processes and models and COREX.

 $6^{\rm th}$  – Baosteel Silicon Steel Phase III Project No. 4 Single Stand Reversible Rolling Machine successfully passed hot run test.

18<sup>th</sup> – Meishan Mining Phase II Extension Project was completed and commenced operation. This project was an extension on the basis of Phase I Project, Phase I Extension Project and Phase II Expansion Project from 330m below ground to 420m below ground. The cumulative extension volume was over 500,000 m<sup>3</sup>.

21<sup>st</sup> – Baosteel and the Bank of China signed the Master Framework Agreement for Global Cash Management Service.

#### November

 $5^{\rm th}$  – Nantong Baosteel Iron & Steel Co., Ltd. Large Electric Furnace Project successfully passed full-scale load test run.

 $12^{\rm th}$  – On the  $7^{\rm th}$  International Exhibition of Inventions, Baosteel won 29 gold, 28 silver and 42 bronze prizes for its inventions.

16<sup>th</sup> – The Talent Development Institute was named the 2012 China's Best Corporate University by Overseas Education College of Shanghai Jiaotong University and the National Business Daily newspaper with the highest overall score.

19<sup>th</sup> - Baosteel was recognized jointly by the Ministry of Industry and Information Technology and the Ministry of Finance as the National Demonstration Enterprise for Technological Innovation.

28<sup>th</sup> - The contract signing ceremony of the Changzhou Xinbei District Industrial Building Rooftop Photovoltaic Generation Demonstration Project, Baosteel's first photovoltaic project outside Shanghai and the winner of the national "Golden Sun" government grant, was held in Changzhou. This was also the first rooftop photovoltaic generation demonstration project contracted by Baosteel Energy Tech Co., Ltd. of Baosteel Engineering and Technology Group Co., Ltd.

November – Chairman of Baosteel Group Corporation Xu Lejiang was elected as an alternate member of the  $18^{\rm th}$  CPC Central Committee.

November – Baosteel fully completed the construction of phase I project of the first cloud centre among Chinese iron and steel enterprises and officially commenced commercial operations. This indicated that Baosteel had achieved a break-through in promoting the corporate digitalization development and entered an era of cloud computing in the transformation and upgrading towards information-driven industrialization.

December – The 2012 Baosteel Education Awards were announced. Totally 705 students, such as Zhang Chengguang, won the Baosteel Outstanding Student Award. Altogether 101 students from Taiwan, such as Wang Jizhao, and 92 students from Hong Kong and Macau, such as Ke Lixiang won Baosteel Outstanding Student Award across Taiwan, Hong Kong and Macau regions. There were 50 students, such as Zhang Junfeng, wining the Baosteel Outstanding Student Special Award. There were 249 teachers, such as Zhang Haiyang, winning the Baosteel Outstanding Teacher Award. Altogether 9 teachers, such as Zhao Naiqin, won the Baosteel Outstanding Teacher Special Award. Other 8 teachers, such as Zhang Xinxin, won the Honorable Mention for Baosteel Outstanding Teacher Special Award.

December – Baosteel's National Key Laboratory for the Development and Application of Auto Steel Technologies passed the review and acceptance organized by the Ministry of Science and Technology.

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Thank you for reading this Baosteel CSR Report 2012. Baosteel greatly values your comments and suggestions so that we are able to make improvements accordingly. Please feel free to scan the following QR codes and log on to our official website to fill out the "Survey Form for Stakeholders' Issues of Concern".



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