

# Content

Steel manufacturing is energy and resource-intensive and has an impact on the environment globally and locally. SSAB's high strength steels offer advantages for sustainable growth. SSAB's environmental strategy is long-term in nature and based on efficiency and innovation. One challenge facing the steel industry is to secure important competence in the future. Developing opportunities in a global and safe work environment are critical.

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#### Hardox Wearparts Center Stirling, Skottland

On the front page, SSAB's welders are shown repairing the customer's bucket on site, in order to increase productivity at the recycling center in Stirling, Scotland. SSAB has mobile work teams that are able to visit customers on short notice — with our customers all the way.

#### About this report

SSAB's Sustainability Report 2013 reflects the most important aspects of SSAB's activities from a sustainability perspective. The report covers events that occurred during the 2013 calendar year. Reported data has been compiled during the reporting period and covers all business areas and subsidiaries, unless otherwise stated. The environmental data refers mainly to the Swedish and North American part of operations. The Sustainability Report is published in Swedish and English. In the event of differences between the English translation and the Swedish original, the Swedish Sustainability Report shall prevail.

A complete content index, in accordance with Global Reporting Initiative (GRI) 3.0, is presented on pages 46–47, and SSAB has self-declared the reporting to be Application Level C. SSAB's Sustainability Report 2013 also constitutes Communication on Progress (CoP) reporting to Global Compact, where activities and results related to Global Compact principles are reported through cross-reference to a selection of GRI indicators. In the event of questions or comments, please contact SSAB at info@ssab.com.

# SSAB in brief

#### Vision

A stronger, lighter and more sustainable world.

## Strategy

**SSAB shall be:** a global leader within high strength steels, the leading supplier on our domestic markets, and the leader within value added services.

**In order to achieve this, we require:** flexible operations, a superior customer experience, and a high performing organization.

## Offering

SSAB is a leading supplier of high strength steels, offering a uniquely broad range of products with different qualities and dimensions. SSAB's solutions also include value added services, from concept to finished delivery.

Total shipments increased

6%

Needs on the aftermarket constitute an important driver in SSAB's development work and knowledge base. Proximity to the customers is very important as regards customer support and product development. Through the provision of advice either on site at the customer or at any of SSAB's research centers SSAB contributes knowledge regarding ways in which the qualities of high strength steels can be utilized to maximum effect. SSAB Wear Services also offers advice, repairs, and sales of spare parts to the aftermarket.

#### Markets and customers

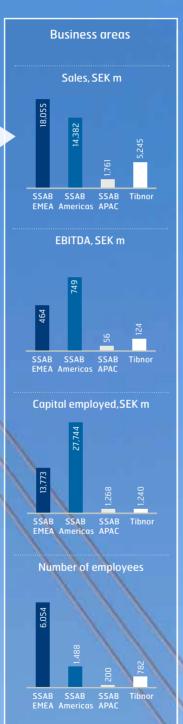
The business is organized into three business areas; SSAB Americas, SSAB EMEA and SSAB APAC as well as the subsidiary Tibnor, which is the largest steel distributor in the Nordic region. The largest customer segments are Automotive, Construction machinery, Material handling and Heavy transport. In 2013, the three largest markets comprised the US, Sweden and Germany.

## The steel industry

In 2013, the steel industry was characterized by excess capacity, reduced demand, and strong pressure on prices. The steel industry plays a key role in the structure of society and in our day-to-day lives. SSAB's high strength steels contribute many advantages to sustainable growth, which is predicated upon achieving the same goals by using fewer resources. At the same time, the steel production process is energy-intensive, harmful, and dependent on natural resources, and is thus governed by rigorous environmental and safety requirements.

## The year in brief

	2013	2012
Sales, SEK millions	35,022	44,640
Operating profit/loss, SEK millions	-1,131	2,512
Profit/loss after financial items, SEK millions	-1,728	1,998
Earnings pe <mark>r share, SEK</mark>	-3.29	4.82
Operating cash flow, SEK millions	1,956	2,200
Proposed dividend, SEK	0.00	2.00









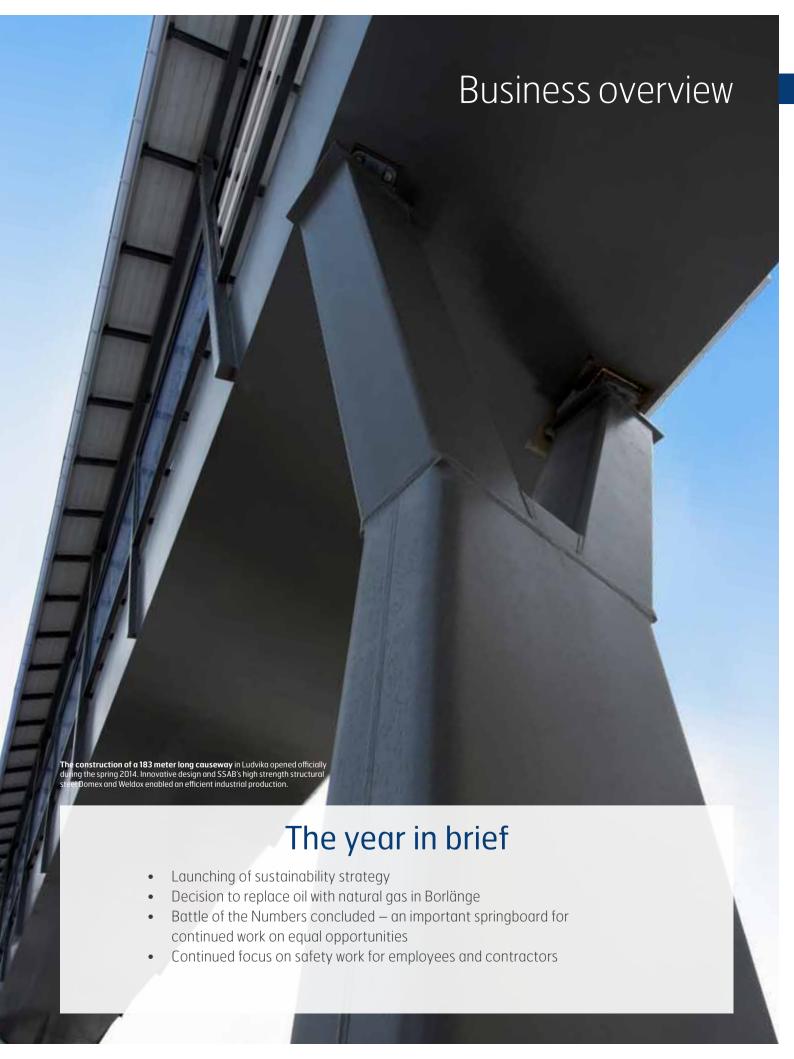














The weak trend on the steel market in 2013 meant a continued strong focus on cost control and production flexibility. At the same time, we continued to develop our high strength steels, which constitute an important part of our sustainability strategy.

#### Efficiency improvements prioritized

In many ways, 2013 was a challenging year for the steel industry. In Europe, the excess capacity on the market remained and many blast furnaces were mothballed during the year. Demand in Asia, especially China, did not take off as expected, and in the US the first signs of a clear recovery were not discernible until the second half of the year.

Challenging market conditions have imposed major demands for cost-efficient operations. The efficiency program that was introduced within EMEA in 2012 was completed during the first quarter, and the program will reach full effect in 2014. As part of this program, an agreement was reached with most of our employees in Sweden regarding reduced working hours and pay, during a period of six months. One of our blast furnaces in Oxelösund was also shut down temporarily this year. Many of the improvements that have taken place within EMEA are thanks to increasingly systematic work on what we refer to as SSAB One: a common work method based on creating improved flows, increased flexibility and improved quality in our operations. We have also continued efficiency improvements in our US operations. Our steel mills in the US, which have always been among our most cost efficient, demonstrated during the year that this position could be strengthened even further. All of these factors, combined with the resolute work and loyalty of our employees, meant that we were in a much stronger position to withstand the severe economic climate than we otherwise would have been.

#### Sustainability strategy and objectives

During the year, we have also adopted a sustainability strategy which supports SSAB's strategic objectives.

» It is now scientifically proven that the environmental benefits of high strength steels also greatly outweigh the impact on the environment from steel production.«

Based on our ambition of increasing the use of high strength steels, we are working with our customers to produce applications and solutions that are more durable than applications made of standard steels. We also have an ambition to minimize the environmental impact of our operations. Consequently, the sustainability strategy also includes targets for reductions in our use of energy,  $CO_2$  emissions, and waste. We have also continued our training in business ethics, which 87 percent of employees within the business areas had taken part in by the end of the year, and we will also continue to ensure compliance with our Code of Business Ethics.

During the year, we also participated in Battle of the Numbers, a multi-company project that aims to increase the number of females  $\,$ 

in manager positions. Ten of the largest companies in Sweden have participated in the project, and as a result, several initiatives have been developed to increase equal opportunities at SSAB, which will now be implemented.

One of our most important sustainability target is to reduce lost time injuries

per million work hours by at least 5 percent per year. We will achieve this by continuing with our safety work through OHSAS 18001 and by further emphasizing that safety improvements are always top priority. Despite our ambitious aims as regards safety in the workplace, during the autumn we suffered a severe accident when two people were killed while carrying out repair work at our plant in Luleå. This was a serious and entirely unacceptable occurrence. Everyone who works at SSAB — be they employees or contractors — must be safe in the workplace.

#### Tougher regulations and their consequences

During the year, the new rules for EU emission rights were announced, and our allocation will not be in line with our full production capacity. SSAB's blast furnaces already generate extremely low  $\mathrm{CO}_2$  emissions compared with our competitors, our blast furnace in Luleå for example is among the front runners from an international perspective. However, the competitiveness of SSAB and other European steel producers will be adversely affected by an excessively low allocation of emission rights. In the long term, this may result in increased steel production in countries where emissions are not regulated — which, of course, will benefit neither the steel industry nor the environment.

It is also worrying that the rules regarding ship fuel in the Baltic Sea, the North Sea and the English Channel are now being sharpened compared with shipping in other waters. This will lead to increased costs for the Swedish industry, since at present there are no well-functioning alternative means of transport. It is not possible to use

rail transport to a greater extent than at present and transportation of steel by truck is more expensive for the industry and less environmentally friendly. Thus, it is extremely important that the infrastructure be developed so that we can transport our products in a safe and environmentally-friendly manner.

#### Proven benefits of high strength steels

We frequently point out that high strength steels provide major economic and environmental benefits for our end customers. It is now also scientifically proven that the environmental benefits of high strength steels also greatly outweigh the impact on the environment from steel production. Within the scope of a research program lasting

several years called Stålkretsloppet (the Steel eco-cycle), researchers have assessed steel from a life cycle perspective and found that the environmental benefits are significant, especially in the automotive sector. This knowledge strengthens our continued efforts to realize our vision: a stronger, lighter and more sustainable world.

#### Stable basis for development

SSAB has been a signatory to the UN's Global Compact for several years, thereby making clear the responsibility we assume as regards the environment, people and communities that are affected by our operations. This report constitutes a part of our communication on how we operate based on the Global Compact principles. We will continue to support the UN Global Compact and its principles. Work is continuing on incorporating those principles into our strategy and ensuring that they become integrated into our culture and our day-to-day operations.

At the beginning of 2014, we were able to announce our proposed combination of the Finnish company Rautaruukki. We thus took a major step in the development of the steel industry in this part of the world. Rautaruukki shares our ambitions on sustainability issues. Together with Rautaruukki we can create a much more competitive company. We can operate our business even more flexibly and cost efficiently and we can strengthen the offering to our customers.

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Martin Lindqvist
President and CEO

» During the year, we have also

objectives.«

adopted a sustainability strategy

which supports SSAB's strategic

# Steel builds a modern world

# Drivers and challenges

Without steel, there would be no food, no clothes, no hospitals, and no bridges. In one way or another, modern society depends on products made of steel. Steel in agricultural machinery and tools used for growing and harvesting that ends up as food on the table. Steel in trucks that transport food products to the store. Steel in the fridge where the food is stored, and steel in the pot in which the food is prepared. Steel makes daily life possible, and steel can be recycled over and over again.

By innovation and through close cooperation projects with its customers, SSAB and its high strength steels contribute to a more sustainable society. Environmental issues are global, and so are the needs of SSAB's customers (and their customers, in turn) concerning process and product development. The more the benefits of high strength steels are exploited, the greater the beneficial effects for the environment.





#### INCREASED COMPETITION FOR COMPETENCE

The industry as a whole is facing a challenge when it comes to sourcing important competence for the future. Surveys indicate that in the western world interest in studying natural sciences and engineering is in decline, and unless this trend is reversed there is a risk of competence shortages in the future. Consequently, competition is increasing to attract jobseekers possessing desired competence and there are increasing demands on employers to be able to offer an attractive workplace with opportunities for development.

#### Great potential in the transport sector

People, products and goods around the world are being carried by various means of transport, every second of every day. Transportation accounts for 20 percent of total global primary energy use and approximately 13 percent of greenhouse gas emissions. High strength steel enables safer transportation through increased protection for passengers and freight. The use of high strength steel in transportation vehicles means that weight and thereby fuel consumption can be reduced, thus contributing to reduced emissions. New, innovative designs can further increase the efficiency of the vehicle. From a product life cycle perspective, there is potential to reduce passenger car greenhouse gas emissions by almost 70 percent.

Transportation accounts for:

20%

of total global primary energy use

13% of total global

greenhouse gas emissions



All facts regarding the global steel industry in pages 4-5 are from worldsteel, 2012

#### COMPETITION AND CO2 RESTRICTIONS

The EU  $\rm CO_2$  emission rights trading system is becoming increasingly restrictive as regards the allocation of emission rights. At the same time, European steel companies are competing in the global market. A distortion of competition runs the risk of hampering European production. To achieve an efficient global change in  $\rm CO_2$  emissions, more countries must introduce a corresponding system. Pressure is increasing on the US and Asia to introduce regulations. In 2012, Australia declared its intention to link its emission rights trading system with the EU's trading system as from 2015. This is a step towards increased international climate work.

#### Suppliers and raw materials

In the long term, demand is increasing for efficient use of resources and utilization of by-products in both the production and user stages. The objective is to secure access to raw materials from reliable suppliers evidencing a high level of responsibility for both people and the environment. The ability of companies to impose requirements and monitor conditions at their suppliers constitutes an important confidence issue. Stringent requirements regarding safe working conditions are imposed, particularly in respect to the raw materials industry which is often associated with a risk-prone work environment.



#### **DEVELOPMENT AND GROWTH IN SOCIETY**

In recent years, China and other emerging markets have demonstrated a higher rate of growth than other markets, and a need to develop their infrastructures in a sustainable and maintainable manner. An increasing population requires new buildings in which to live, study and work. Global urbanization demonstrates that growth is taking place primarily in metropolitan areas; greater numbers of people living within smaller areas. The use of high strength steels in structures, instead of standard steels, generates many advantages — fewer resources are used and the structures are lighter, stronger and more durable. More than 50 percent of global steel production goes to construction.



#### Resource efficiency and recycling

Steel is one of the most recycled structural materials in the world. When all sectors are considered, over 70 percent of steel is recycled globally. Efficient use of resources is an issue which has a bearing on both the economy and the environment. Obsolete steel structures give rise to new raw materials, instead of generating waste. In addition to surplus energy, the steel production process also gives rise to a number of by-products. For example, slag is processed into new products with various areas of use instead of being deposited in landfills, and energy-rich gases become electricity and district heating, instead of being burnt off. The industry's objective is to minimize waste and to deposit in landfills as little waste as possible.

#### THE STEEL INDUSTRY AND GLOBAL ECONOMY

The steel industry is a very cyclical industry which is greatly affected by the state of the global economy. The European steel market is currently characterized by excess capacity due to declining demand. Among other things, this is due to the slower rate of growth in China. This imposes strong demands to have flexible and efficient cost structures in place in order to be a competitive company when the economic climate recovers.

The EU, which is the second largest steel producer in the world, is reviewing structural and political measures in order to address the excess capacity in the steel industry. According to the OECD's forecasts, the future increase in demand will come primarily from the construction, transportation and engineering industries in developing economies.

#### CO2 TARGETS AND TECHNICAL DEVELOPMENT

The world's steel industry accounts for almost 7 percent of global  $CO_2$  emissions. In Sweden, SSAB accounts for a large share of the country's total emissions. At the same time SSAB's blast furnaces are among the most efficient in the world. The SSAB Group emits on average 1.2 tonnes of  $CO_2$  per tonne of produced steel, compared with a global average of 1.8 tonnes. With currently known technology,  $CO_2$  emissions from iron ore-based steel production can be reduced only marginally. Increased demands for reduced  $CO_2$  emissions require new steel production technology. In addition, carbon capture and storage are required to achieve a more radical reduction in emissions. Extensive research and development is taking place within these areas.

SSAB SUSTAINABILITY REPORT 2013 Drivers and challenges

# A stronger, lighter and more sustainable world Strategy for value creation

The vision indicates the long-term focus of SSAB's work. The economic climate of recent years imposes strong demands for perseverance, cost efficiency and innovation. SSAB's work has been focused on achieving increased efficiency and greater flexibility, aiming at being one of the most profitable steel companies in the world. During the year, SSAB launched a new sustainability strategy. SSAB's overall strategic priorities remain in place.

#### **VISION**

# A stronger, lighter and more sustainable world

Together with our customers, we will go further than anyone else in realizing the full value of stronger, lighter and more durable steel products.

# LAUNCHING OF SUSTAINABILITY STRATEGY

During the year, SSAB developed a sustainability strategy with clear monitoring goals, which is presented in this report. SSAB is a global company with operations in 45 countries and a strong position on its domestic markets, namely the Nordic region and North America. In the long term, we envisage increased demand for high strength steels on the emerging markets of Asia, Latin America, Eastern Europe and Russia. The strategy has been developed in order to support the overall strategic objectives and enhance SSAB's competitiveness.

As a global company, SSAB operates in environments that are characterized by different cultures, values and traditions. SSAB must operate a profitable business, while at the same time promoting long-term sustainable development. Our business must be characterized by high ethical standards, environmental responsibility and social responsibility. Thus, the sustainability

#### **VALUES**

#### The customer's business in focus

We always take an active interest in the customer's business and seek long-term relationships. By sharing knowledge, together we create value.

#### True

We are dedicated and proud of what we do. We build strong relationships by being open-minded, straightforward and honest, and by sharing information and knowledge.

#### Always ahead

We are result-oriented. To achieve the highest performance, we always proactively seek to be innovative and enhance our expertise further.

strategy contains targets for reducing the most significant sources of impact on the environment from the operations — energy consumption, emissions, and waste. Within the area of social responsibility, the targets relate to safety, employee development, and business ethics.

SSAB's vision of a stronger, lighter and more sustainable world focuses on how, together with our customers, we are to develop products that exploit the

possibilities provided by high strength steels. SSAB considers this to be the Group's most important contribution to more sustainable development. By using high strength steels, the customers can manufacture products that require fewer resources, are more durable as well as stronger and lighter than products made of standard steels. Thus, an increased share of high strength steels represents both a strategic objective and a sustainability objective.

#### Global Reporting Initiative G4

The fourth generation guidelines from Global Reporting Initiative (GRI), the international guidelines for sustainability reporting, were launched in 2013. SSAB currently applies G3 and intends to report in accordance with G4 as from the 2014 reporting year. As result of changes in the guidelines, particularly a clearer focus on materiality, SSAB has begun to prepare the transition to the updated reporting framework.



SSAB has been a signatory to the UN's Global Compact since 2010.

# SSAB's strategic, financial and sustainability objectives



#### STRATEGIC OBJECTIVES

SSAB's strategic objectives relate to the six parts of the strategy.

Strategy	Objective	Area	Objective
Leader in domestic markets	Leader in terms of profitability and volumes in North America and the Nordic region	Profitability	Taking into consideration the need to strengthen the balance sheet and dividend policy, the objective is that
Leader within high strength steels	High strength steels shall account for 50% of shipments, of which 35% to emerging markets		the return on capital employed over the business cycle shall exceed 15%
Leader within value added services	50% of shipments shall include value added services	Capital structure	The Group's operations are cyclical. The objective is a long-term equity ratio of approximately 50% and a long-term net debt/equity ratio of 30%
Superior customer experience	Leader in customer satisfaction surveys	Dividends	Dividends shall be adapted to the average earnings level
High-performing organization	Attractive employer with motivated employees. One of the world's leading steel companies in terms of health and safety		over a business cycle and, in the long term, constitute approximately 50% of profit after tax, taking into consideration the net debt/equity ratio. It shall also be possible
Flexible operations	Profitability at 70% capacity utilization		to use dividends to adjust the capital structure

FINANCIAL OBJECTIVES

SSAB has four financial objectives within three areas.

#### **SUSTAINABILITY OBJECTIVES**

SSAB's sustainability objectives have been produced in order to supplement and support the strategic objectives. These sustainability objectives consist of environmental targets aimed at minimizing the impact of operations on the environment, and SSAB's social responsibility objectives, aimed at achieving fairness for all involved. An increased percentage of high strength steels constitutes both a strategic objective and a sustainability objective that contributes to more sustainable products and solutions.

Sustainability strategy	Objective
Environmental responsibility	By the end of 2018, individual activities shall, in a sustainable manner and when taken together on an annual basis, have: • Reduced by 100,000 tonnes CO <sub>2</sub> emissions derived from fossil fuels • Reduced by 20 GWh the use of purchased energy • Reduced by 10,000 tonnes the quantity of material deposited in landfills or sent for destruction externally
Sustainable products	• High strength steels shall account for 50% of shipments, of which 35% to emerging markets
Social responsibility	<ul> <li>An annual reduction by at least 5% in lost time injuries per million work hours</li> <li>All employees shall have annual performance dialogues</li> <li>An Employee Satisfaction Index of at least 90</li> <li>Ensuring compliance with SSAB's Code of Business Ethics and behavior in accordance with our values</li> <li>All employees shall be trained in business ethics</li> </ul>

SSAB SUSTAINABILITY REPORT 2013 Strategy for value creation







Anna Nilsson

Helena Larson

#### "WE ARE SEEKING CLEARER DIRECTION AND TOUGHER OBJECTIVES"

Swedbank Robur is one of SSAB's largest shareholders, and SSAB is included in a number of its funds. SSAB's investor and CSR team meet regularly with Swedbank Robur's sustainability analysts. Anna Nilsson, Head of Sustainability Analysis, and sustainability analyst Helena Larson, give their impression of SSAB.

#### Large risk – large responsibility

"In our analysis, the "mining, metals and steel" sector is classified as a high risk industry, meaning that we consider the core operations to have a major social and environmental impact. Thus, we have high expectations that companies in the industry will demonstrate a high level of preparedness to address risks relating to the environment and people, and will continuously show results."

#### Top priority given to energy and safety

"As regards SSAB, we consider the top priority areas to be energy and climate, as well as health and safety.

When it comes to energy and climate, we note that SSAB is responsible for a large share of the total  $CO_2$  emissions in Sweden, but that the Company's high strength steel products are also able to contribute to major reductions in emissions by users. This represents an important opportunity for SSAB, on which we place

great value. This does not, however, divert focus away from our desire to see continuous improvements and measures to increase energy use efficiency and reduce  $\text{CO}_2$  emissions in the production processes. We are seeking clearer results and direction as regards the work.

With respect to safety, the implementation of OHSAS 18001 provides an important signal, underlining the fact that the work is serious. As outside observers, we wonder what are the differences between the work of the business areas, since the results are so different, and how experiences are shared within the Group."

# Increased demands for anti-corruption work and supplier monitoring

"Demands for work to prevent corruption, and a systematic approach to conditions and the impact on suppliers, are extremely relevant as regards SSAB. As the world changes, our demands and expectations are increasing as to



what constitutes sound preparedness on these issues, and the bar has been set higher. We welcome SSAB's work of recent years and expect continued development in these areas going forward."

#### Seeking a systematic approach and results

"As regards all areas that we consider relevant, we want companies to be able to show objectives, measures taken and results. We are looking for facts, data and descriptions of clear measures taken. Management commitment plays a key role in the work and we appreciate the fact that SSAB's CEO consistently addresses the most important sustainability issues in his presentations to the capital market.

In our analysis of development and trends, we see issues that may become relevant to SSAB in the future, for example an increased focus on conflict minerals, tax liability issues and risks in the customer chain."



#### **MEETING WITH MINISTER**

Dialogue with politicians and governmental authorities is important for SSAB since its operations are affected to a large degree by local and international rules and directives. In the autumn, SSAB Oxelösund hosted a visit by Sweden's Minister for the Environment Lena Ek. The meeting provided the opportunity to present the environmental benefits of SSAB's high strength steels in terms of product characteristics and effects in the user stage. The meeting also addressed the EU's emission rights trading system and how it affects SSAB.



#### **LOCAL DIALOGUES**

It is important to maintain good relations with the communities around SSAB's major plants. Within SSAB EMEA, SSAB has met the public at a series of different meetings dealing with, primarily, the impact of production on the immediate environment in the form of noise and emissions into the air. SSAB provides regular information about changes made and is attentive to comments.

The issue of air quality around the steel mills is also a subject which is being addressed within the international industry organization, worldsteel. During the summer, a working group on air quality visited SSAB in Luleå. The party discussed dust emissions and other emissions into the air.

#### **SSAB IN SUSTAINABILITY INDICES**

A number of investors and analysts assess SSAB's share based on the company's environmental, social and governance performance. SSAB has been selected for inclusion in the Ethibel EXCEL-LENCE Investment Register since 13/01/2014. This selection by Forum ETHIBEL indicates that the company performs better than average in its sector in terms of Corporate Social Responsibility (CSR). In addition, SSAB maintains its inclusion in the OMX GES Sustainability Sweden Ethical Index.







SSAB's offering is focused on products and solutions that utilize the productivity and environmental benefits provided by high strength steel. Together with the customers this enables stronger, lighter and more durable results. By strengthening its offering on the wear steel aftermarket, SSAB is also supporting the end-users who wish to increase the lifespan of equipment which is subjected to tough use. Efficiency and innovation allow SSAB to identify new areas of use and markets for by-products from the steel production process.



# Swedish Steel Prize celebrates 15 years

The aim with the Swedish Steel Prize is to inspire steel companies around the world to develop new, innovative solutions which utilize the potential of high strength steel. The prize, which was established to encourage the use of high strength steels, is aligned with SSAB's vision of creating a stronger, lighter and more sustainable world.

#### 15 YEARS OF INNOVATION

The Swedish Steel Prize was arranged for the first time in 1999. Since then, the number of entries and participants has increased steadily, and the prize has established itself as one of the most prestigious in the industry. This year's event attracted more than 750 visitors from 45 countries and a large number of different industries. Over the course of the years, 800 entries have been submitted, of which more than 60 in 2013. The prize is independent and open to all users of high strength steels, not only SSAB's customers.

#### A MEETING PLACE FOR INNOVATIVE THINKING

The event, which lasts for three days, is an important forum for networking, exchanging knowledge, as well as ideas about the future development of high strength steels. Visitors have the possibility to participate in Experience Days with visits to the production plants in Sweden. In addition to plant visits, they can choose to see different segments based on industry and interest; this includes "steel dating" in which specific issues is discussed together with SSAB's steel experts.

2012 saw the establishment of University Challenge, a special prize awarded to students who have either developed their own product or further developed an already existing product. The award attracts university students from around the world. The 2013 winner, Universida de Estadual de Campinas from Brazil, represented by a student team that developed a racing car with reduced weight and enhanced performance.

SSAB SUSTAINABILITY REPORT 2013 Swedish Steel Prize 1

# **Endless possibilities**

## A shared vision concerning the future of steel

All nominations and winners demonstrate that there are always new angles for producing stronger, lighter and more durable solutions. The theme for this year's event was "Moments".

#### Winner of the Swedish Steel Prize 2013

This year's winner was Mack Truck Inc., part of the Volvo group. Their new suspension system includes two Y-shaped components made of high strength steel which replace conventional plate springs. The result is a multifold improvement in performance for heavy vehicles — improved safety and better road grip, increased driver comfort, and a reduction of up to 25 percent in tire wear and tear. This benefits the transportation economy and the environment. The solution is a pioneering improvement and will have a major impact.

#### Other nominees

This year's winner was chosen in the face of tough competition from three other nominees. From Poland, PESA Bydgoszcz's contribution was a new chassis for train carriages in which high strength steel has been crucial as regards collision safety. It satisfies all four collision safety requirements in accordance with the new European standard. The high strength steel design contributes to a significant increase in absorbed energy in the event of a collision.



Condeco Technologies from Switzerland was nominated for its cookware made of high strength steels. The steel improves food preparation conditions and, in addition, has reduced the time in the actual manufacturing process, thereby contributing to significant energy savings.

The Australian company Tuff Trailers presented a new trailer with an innovative design. High strength steel combined with closed ramp beams contributes to a more flexible, safer, lighter and more efficient vehicle. Production costs are much lower thanks

to reduced welding. Improved aerodynamics also contribute to a reduction in fuel consumption.

#### Moments from the history of the prize

The 15th anniversary was an opportunity to look back at winners over the years. The first winner, the Swedish company Bromma Conquip, was able to increase the lifting capacity by up to 80 percent of some of its harbor-based lifting yokes, by using high strength steels. The 2007 winner, Baryval Serviplem from Spain, succeeded in reducing by 2 tonnes the deadweight of its semitrailer and cement mixer, thereby increasing the payload by almost 20 percent. In 2010, Van Reenen Steel from South Africa won with its truck body for mining dumper trucks, where high strength steels made possible an 8 tonne reduction in weight.

The US company Deere & Company received the prize in 2011 for its harvester, in which high strength steel generated significant manufacturing productivity gains.





»At the beginning of the prize's history, focus was placed on application and performance — weight reductions were achieved by replacing soft steel with high strength steel. Today, we see that environmental benefits, end user benefit, and a holistic approach to the product from design to production, are the drivers for competition entrants, whose objective is to enhance their competitiveness by utilizing high strength steels! «

says Jan Kuoppa, one of the founders of the prize

# Enhancing the customers' competitiveness

Products and solutions that benefit productivity

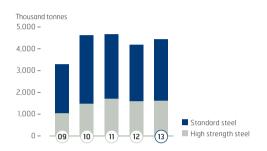
SSAB's strength lies in solutions which enhance the customers' competitiveness through high-quality steel products and unique knowledge about the characteristics of the steel. This relates to many small improvements as well as important, revolutionary breakthroughs.

#### STRONGER, LIGHTER AND MORE DURABLE

The Swedish Steel Prize entries illustrate the wealth of possibilities that high strength steels — the core of our offering — can contribute to the customers. A winner one year was an entrant where the weight of a truck bed had been reduced by no less than 8 tonnes by replacing standard steel with high strength steel, with the vehicle's fuel consumption being reduced by 10 percent. Another example is that a truck bed with a frame made of SSAB's high strength steels can achieve weight reductions of 1,300 kg, compared with using standard steels; this can be translated into a reduction of 30 tonnes in CO2 emissions over the life–span of the truck.

Many innovations come about through close cooperation with the customers, for example through SSAB Knowledge Service Center. Thus, the number of development projects conducted together with our customers throughout the world is a gauge of success; during the year, that number increased by almost 20 percent.

#### **SHIPMENTS**



#### MORE DURABLE, LONGER

During the year, SSAB launched a new customer offering called Wear Services. SSAB aims to be a complete supplier of services to the wear steel aftermarket. This is also one of the main objectives in the strategy. The objective is that SSAB, together with its co-operation partners, shall be developed into a One-Stop-Shop for Wear Services. The segments on which SSAB aims to focus are primarily mining, infrastructure. recycling and construction machinery. This means that the life of already durable products can be extended even further. In times when the customers' customers – the end-users – are choosing to put major investments on hold, this provides a possibility to contribute to upgrading and extending the life of the products.



#### In the customer's cellphone

SSAB was one of the first steel companies to launch a cellphone app for its customers, providing information and functional tools. The app was updated in 2013 with new functions, including the WeldSaveCalc™ tool which calculates production savings in the welding process. In addition to the app, SSAB has also developed other valuable software, such as Instant ValueCalc™. The tool can calculate the economic and environmental savings when upgrading to steel from SSAB. It calculates fuel savings, payload revenue, effects on lifespan, and reduced emissions when upgrading to Hardox and Domex. The tool is particularly suitable for calculations relating to applications connected to beds, semitrailers, buckets and containers. The calculation service is available in seven different languages and in different currencies.

#### Cars of the future

Vehicles and transportation have great improvement potential in terms of environmental impact. SSAB is actively participating in FutureSteelVehicle (FSV), an international project for designing a light car made of steel. The project has produced a new steel chassis weighing 177 kg, which is thus 39 percent lighter than today's cars and comparable with chassis made of, e.g. aluminum and other similar materials. The aim is to meet the requirements that enter into force in 2020 for a modern, 'green' electric car. The chassis is designed to provide space for batteries and the technology required in such a car.



SSAB SUSTAINABILITY REPORT 2013 Products and solutions

# SSAB seeks specific political solutions

During the year, the EU Commission presented an action plan for the European steel industry. The plan points out the challenges and conditions required to strengthen the steel industry. At the same time, industry associations in Europe and Sweden are taking initiatives regarding the industry's prospects and possibilities. SSAB is participating in the dialogue and seeks more specific proposals for solutions from political quarters.

#### What is the EU saying?

The EU Commission notes that the industry is suffering from low demand and global excess capacity, while at the same time high energy prices and investments to make production more environmentally adapted are placing a burden on operations. Even if the EU foresees a slow increase in global demand, demand for steel in the EU is still 27 percent below the pre-crisis level. The EU accounts for 11 percent of total global steel production, making the region the second largest producer after China, which accounts for almost one half of all production. Between 2007 and 2011, 10 percent of jobs in the industry disappeared.

The action plan which the EU Commission presented in June 2013 considers the need for a new political strategy for the steel sector. The proposal involves establishing a high level group which will contribute to enhancing the competitiveness of the European steel industry by promoting innovation, securing competence and jobs in the case of major restructurings resulting from the excess capacity, and creating growth. This involves strengthening demand for EU-produced steel on the domestic markets and outside the EU by ensuring a level playing field for competition. The Commission also wishes to cut the industry's costs (including

the costs resulting from EU regulation), and contribute to innovation and research.

#### Eurofer is seeking a holistic approach

During the year, the European industry organization, Eurofer, issued its response to the EU Commission's "Energy roadmap 2050".

In its response, Eurofer calls into question the degree of realism in the EU's plan in light of the possibilities currently available, and states that the EU is running the risk of driving the steel industry out of the region. Eurofer cites studies carried out by Boston Consulting Group showing a likely scenario that the steel industry will be able to reduce CO<sub>2</sub> emissions by 15 percent between 2010-2050 through best available technology, process optimization and increased use of recycled iron raw material. The level of  $CO_2$ reduction that the EU is seeking is not possible without major technological breakthroughs in steel production methods. The trials that are currently taking place are far from achieving any concrete or large-scale results.

Eurofer argues in favor of a holistic approach and points to another study from Boston Consulting Group which indicates the potential to reduce emissions from other industries through smart steel applications. Reduced automobile weight and more efficient power plants are cited as examples. Eurofer believes that the potential reductions in emissions far exceed the steel industry's carbon footprint and that this should, instead, form the basis for EU policy.

#### "Steel shapes a better future"

The Swedish steel industry has formulated a vision for 2050 which is based on the theme of challenging and pushing boundaries to drive development. The vision is encapsulated in the words "Steel shapes a better future". SSAB is a member of the Swedish Steel Producers' Association and has participated in the production of the vision. With the vision, the industry gives three undertakings, which can be summarized as follows:

- To lead technical development through research and innovation, as well as steel which pushes the boundaries of technology
- To produce creative individuals to offer stimulating work environments to achieve creative societal solutions through global cooperation
- To create environmental benefit to guarantee products of benefit to society with resource-efficient production



Although the steel market is currently weaker than anticipated, we have a long-term belief in the future. The world needs steel and steel can contribute to a better future.«

Martin Lindqvist, President and CEO of SSAB



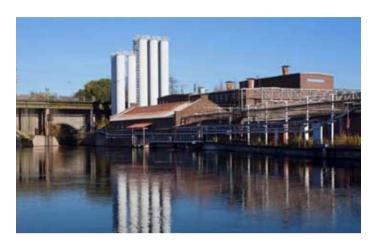
# The environment **Domex Profile 700 structural hollow profiles** are developed to replace mild steel and aluminum profiles in applications where demands are imposed on high payload capacity in combination with light weight. Such applications are for example agriculture equipment and trailer body structures.

# SSAB's environmental work

The environmental work at SSAB involves systematic improvement work focused on energy, efficient use of resources, and climate issues. With production at less than full capacity, optimizing the operational processes represents a challenge. During the year strong focus was placed on recycling by-products and materials for use as raw materials in the production process.

# Continuous improvements

## Focusing on resource and energy efficiency



#### FROM OIL TO NATURAL GAS

During the year, SSAB's Board of Directors decided on an investment enabling that the reheating furnace for slabs at the rolling mill in Borlänge is to be converted from fuel oil to natural gas. SSAB's environmental target of reducing nitrogen oxide emissions will thereby be achieved. In addition,  $CO_2$  emissions will be reduced by 40,000 tonnes per year and nearly all emissions of sulfur dioxide will be eliminated. The conversion will mainly be carried out during 2014 and is estimated to be completed at the beginning of 2015. The liquid gas must be heated in order to become flammable gas and this will take place using heat from the district heating network's return pipeline. An area of use has thus been found for this low value energy, thereby contributing to more efficient resource utilization for Borlänge Energi, a local energy company.

# New environmental targets by the Environment Council

Parallel with the work on producing new environmental targets for the Group, the SSAB Environmental Council has worked on producing environmental targets for the different parts of the business. As an example, SSAB APAC has established targets for reducing energy use and reviewing its waste flows, primarily sewage, waste and dust emissions.

#### **FOCUS ON RECYCLING IN MOBILE**

The plant in Mobile has entered into a new, long-term agreement with a purchaser of dust separated and captured from the electric arc furnace. This will result in significant cost savings of up to USD 1 million per year. In Mobile, bricks from the lining of ladles in the steel shop account for the largest volumes of production waste. However, thanks to recycling the waste volume is being reduced by 75 percent, with cost savings of up to USD 250,000 being achieved.

#### REVISED ALLOCATION OF EMISSION RIGHTS

During the autumn, the EU Commission revised the preliminary allocation of  ${\rm CO_2}$  emission rights for the 2013 – 2020 trading period. Notice had earlier been received from the Swedish Environmental Protection Agency in December 2011. SSAB's allocation of free emission rights for 2013 equals 71 percent of the allocation in 2012, and will be gradually reduced to 62 percent by 2020. The low allocation is not unique to SSAB, but instead affects the entire European steel industry. SSAB believes that the current system distorts competition from a global perspective. SSAB has appealed the allocation decision.

As in previous years, the environmental work is focused on measures which generate gains in terms of resources and the environment, in both the short term and long term. In 2013, SSAB also worked on producing and distributing new environmental targets for the Group.



# New quenching tower in Luleå

In Luleå, a new quenching tower will replace the current quenching tower, which dates from 1974. The decision was taken by the Board of Directors in 2013 and is aimed at significantly reducing dust emissions, to less than 25 grams of dust per tonne of coke. The tower will be equipped with an emissions monitoring system which will provide improved possibilities for regular monitoring. The new quenching tower is expected to be operational by 2015 at the latest.

Continuous improvements SSAB SUSTAINABILITY REPORT 2013



# THE SWEDISH ENERGY AGENCY AND RESEARCH PROGRAM

The Swedish Energy Agency, together with the Swedish Steel Producers' Association, has decided on a new research program, "The iron and steel industry's energy use – research and development", extending over the period 2013—2017. The program will receive a grant of up to SEK 85 million from the Swedish Energy Agency, subject to total co-financing from the industry of at least SEK 127.5 million.

The program's long–term vision is that the Swedish iron and steel industry in 2050 shall be competitive, a leader in know–how on the international market, and deliver products that are energy efficient, as well as climate and environmentally friendly. The research areas include increased resource efficiency, and energy efficiency in particular, as well as reductions in the use of fossil fuel and lower  $\mathsf{CO}_2$  emissions.

#### NEW HOT STOVES IN OXELÖSUND AND LULEÅ

In summer 2014 a new hot stove in Oxelösund will be operational. The investment will increase operating safety and, thanks to a higher temperature of the hot blast air, the energy (coal and coke) used in the blast furnace process will be reduced. In September 2013, it was decided to undertake a major renovation of one of the four hot stoves in Luleå in order to increase energy efficiency.

#### From landfill to raw material with Merox

The work of SSAB's subsidiary, Merox, is focused on optimizing the processing of by-products, scrap and waste from steel production in Sweden. The aim of using as much material as possible led to the digging up and sifting of an old stack of deposited small pieces of scrap. In total, almost 18,000 tonnes of scrap, most of which was in pieces of less than 4 mm, was mixed into briquettes for the blast furnace. Just over 2,000 tonnes was so coarse that it could be charged directly into the blast furnace. During the year, trials have continued on producing pellets out of sludge from the LD converter's gas purification facility. The sludge is rich in iron and the manufactured pellets can replace part of the normal iron ore pellets. During the year, more than 1,000 tonnes of pellets were produced from LD sludge.

Merox has a presence at all of the Swedish production centers and has been able to contribute significantly to raw material optimization within EMEA.

#### **CHEMICAL-FREE CYANIDE PURIFICATION**

When starting up or reducing operation in the blast furnace, cyanide is formed in the blast furnace gas. The cyanide is captured in the water which is used to purify the blast furnace gas. Previously, large volumes of chemicals were used to purify the blast furnace gas from cyanide, but SSAB's personnel have developed a purification method based solely on water and sunlight. The reduced quantity of chemicals is positive for both the environment and financially.

#### International cooperation projects

In 2013, SSAB also actively participated in two projects within the European cooperation project called ULCOS, both of which are aimed at achieving a 50 percent reduction in  $CO_2$  emissions from steel production. Both projects include carbon capture and storage in order to achieve the target.

During the year, a decision was taken to put on hold a planned demonstration facility for the ULCOS blast furnace in France.

Among other things, this was due to the fact that the financing is linked to the price on emission rights, which at present is low

and difficult to assess, and also due to infrastructure problems and increased opposition to  $CO_2$  storage in Europe. The EU Commission's requirement for providing a grant from the EU, NER300, is that the demonstration project must begin  $CO_2$  storage in 2015. It was an excessively narrow time-frame for carrying out the testing and obtaining the permits required.

The second ULCOS project, HIsarna, involves an entirely new type of process which uses coal and iron ore in its natural state, instead of processed raw materials

coke and sinter. A pilot facility has been constructed at Tata Steels' plant in the Netherlands. SSAB participated in the initial trials, but has decided not to take an active part in the continued development, since the technology is considered to have little strategic value for SSAB.

The members of the ULCOS project have decided to produce an updated list of developments and ideas regarding new steel production technology involving low  ${\rm CO_2}$  emissions.

#### TIBNOR AND PLANNJA ACHIEVE THEIR GOALS

Tibnor has established a number of environmental targets for the year. of which the one with the greatest impact is the fill rate in outgoing transports. Transportation accounts for most of Tibnor's carbon footprint, which can be reduced through constant development of logistics systems. In 2013, Tibnor increased the fill rate by 9 percent compared with the previous year and reached its fill rate target (60 percent). In 2014, adjustments to Tibnor's transportation system will continue, with the aim of achieving a 70 percent fill rate.

Plannja is focused on maximizing the use of raw materials in production and reducing wastage, in order to mitigate the impact on the environment and improve production economy. Plannja has achieved further improvements through continued development of work methods for handling coils and material in the production lines at all plants. The result is a raw materials use rate of 95.6 percent newly produced steel (compared with 95.1 percent last year), thereby meeting the target set for 2013.



#### Water research in the steel industry

Plentiful access to water is crucial for steel production, particularly in order to rapidly introduce quenching into the processes. The water circulates in closed systems, but a part is released into water-courses in a purified state. In Oxelösund, for example, more than 90 percent of the water in the processes circulates in closed systems. The operations are governed by environmental permits and guidelines regarding discharged water. In Montpelier and Mobile, millions of tonnes of water are recycled in a system which quenches the steel and protects machinery and equipment.

Starting 2013, SSAB is participating in a three-year EU project aimed at studying the use of water within the European steel industry, as an element in making the industry more efficient. Together with steel companies and steel research companies from England and Italy, SSAB will study water flows from the steel processes and their content in order to identify a way of optimizing the processes.

#### PERMIT MATTERS AND DIALOGUE WITH GOVERNMENT AGENCIES

The work relating to the Dannemora mine, where SSAB conducted operations in the past, continued during the year. Sample testing was carried out, which will form the basis for proposals regarding cleanup measures in places where the ground is contaminated and a report based on the sample testing and previous studies will be completed in 2014.

In connection with start-up following the maintenance outage in July, a minor explosion occurred at the coking plant in Luleå. The incident temporarily led to increased emissions of sulfur dioxide and nitrogen oxide, and also disabled the biological water purification plant. It was, however, possible to take care of the waste water until the purification process was restored. The explosion did not cause any other damage.

An independent firm has reviewed and tested the melt shop baghouse in Montpelier to verify that it complies with dust emission standards. The tests, which were monitored by the environmental agency in lowa, showed satisfactory results.

In Oxelösund, two oil leakages into the sea occurred in 2013, corresponding to approximately 1 cubic meter of hydraulic oil. SSAB carried out cleanups and notified the occurrences to the County Administrative Board.

#### Work and results for reducing $CO_2$ emissions, 2010-2013

SSAB is constantly engaged in reducing  $CO_2$  emissions from its operations through systematic analysis, upgrading of equipment, and investment in new technology. Presented below is a brief summary of some of the most important measures taken in recent years.

- Since 2010, efficient production planning and recycling have reduced CO<sub>2</sub> emissions in Luleå by more than 100,000 tonnes per year.
- In 2010, hot stoves for the smaller blast furnace in Oxelösund were replaced. New technology reduces CO<sub>2</sub> emissions by

- 5,000 tonnes per year by releasing 10 million cubic meters of coke oven gas.
- In 2012, a project was completed for increasing the degree of filling the torpedoes in Oxelösund. Among other things, the loss of hot metal in conjunction with sulfur purification was reduced, leading to a reduction of 7,000 tonnes in annual CO<sub>2</sub> emissions.
- In 2012, a new energy recycling plant was brought into operation in Finspång which uses chimney gas from the organic coating line and provides 1,500 individual homes with district heating, thereby reducing the

- municipality's  $CO_2$  emissions by 4,000 tonnes per year.
- Focused endeavors in 2013 to increase the percentage of scrap metal in blast furnace 4 in Oxelösund resulted in a reduction in coal and coke. This corresponds to a reduction of 50,000 tonnes in annual CO<sub>2</sub> emissions.
- In 2013, a decision was taken to convert from oil to natural gas in one of Borlänge's two reheating furnaces for slabs at the hot rolling mill. It is estimated that CO<sub>2</sub> emissions will be reduced by 40,000 tonnes per year.

Continuous improvements SSAB SUSTAINABILITY REPORT 2013

#### **№ FOCUS: THE STEEL ECO-CYCLE**

# Environmental benefit outweighs environmental impact

The environmental research program Stålkretsloppet (the Steel eco-cycle) shows that, from a life-cycle perspective, the environmental benefits of high strength steels outweigh the impact on the environment from the steel production process. The research makes a ground-breaking contribution to the debate concerning the impact on the local environment from production, on the one hand, as compared with the environmental value for society and global possibilities, on the other.

#### Life-cycle analysis

Steel is almost 100 percent recyclable. In order to understand the impact of steel on society and the environment from an overall perspective, Stålkretsloppet carried out a number of life-cycle analyses (LCAs). An LCA assesses the impact on the environment from an eco-cycle perspective of changes in raw materials, steel production processes, recycling and transportation, as well as the manufacture and use of steel constructions.

The largest benefits can be gained before and after the steel production, through environmental improvements in the raw material stage and the user stage, as well as in conjunction with recycling. Despite the fact that the environmental impact actually increases somewhat when producing advanced steels (as compared with standard steels), when the impact is considered per unit of weight of the steel, this is far outweighed by the environmental benefit in the user stage.

#### Cars or bridges

The environmental benefits are greatest in active constructions, usually vehicles. A reduction in the weight of the vehicle leads to an immediate reduction in fuel consumption. The use of active constructions is considered to account for 90 percent of their total environmental impact, primarily resulting from fuel consumption. Consequently the

The results show that new steels shape a safer and better future. Life-cycle calculations confirm the environmental benefit of the steel for lighter steel constructions and more efficient manufacturing processes. The new knowledge constitutes an important tool for demonstrating the importance of steel for sustainable development in society. «

Göran Andersson, Stålkretsloppet Program Manager

reduced  $\text{CO}_2$  emissions are many times greater than those associated with the production of the actual steel.

In the case of passive or fixed constructions, such as buildings and bridges, the environmental impact is primarily connected to the production of the steel, the life of the construction, and the possibilities for recycling. High strength steels have a longer useful life, and are almost 100 percent recyclable.

#### Improved production economy

Nine projects have also been environmentally assessed based on the steel production process technology. Stålkretsloppet has, among other things, identified ways to improve the production economy by combining a number of adjustments of the process parameters with a reduction in the heating temperature. For the steel producer, this means major energy gains and a

reduction in the process time, while at the same time the material qualities of the high strength steel are improved even further.

# Providing knowledge regarding the environmental impact of steel

The Stålkretsloppet research has resulted in software called EcoSteel which calculates the environmental and economic effects of using high strength steels in constructions. An important aspect of the project involves disseminating knowledge about the technology, materials and environmental impact.

Facts about Stålkretsloppet: Between 2004 and 2013, the Stålkretsloppet steel eco-cycle program worked on promoting increased understanding of the value of steel in society. The research program was a cooperation project involving Mistra (the Swedish Foundation for Strategic Environmental Research), the steel industry, the engineering industry and the recycling industry. The results comprise several concrete instruments for calculating the environmental value of steel from a life cycle perspective, focusing on broad societal benefit. Read more on www.stalkretsloppet.se

40%

High strength steels can reduce up to 40 percent the weight in steel constructions.

5-10%

High strength steels in active constructions can reduce CO<sub>2</sub> emissions by 5-10 percent during the life cycle of the construction.

10-40%

Hight strength steels in passive constructions can reduce  $CO_2$  emissions by 10-40 percent during the life cycle of the constructions.



# High-performing organization

# Focusing on a safe and stimulating workplace

#### STRATEGIC FOCUS

During the year, work has continued on identifying future competence needs and developing the organization based on supporting the strategy. SSAB has developed a model for identifying competence needs. It shows, among other things, the importance of more specialized sales expertise in order to further increase the benefit to the customer, in line with our strategy.

A new Wear Services customer offering renders possible a composite approach within a strategically important area. The unit includes staff from all of SSAB's business areas. Parallel with the organization within Wear Services, SSAB EMEA's sales organization has been reviewed with the aim of increasing efficiency and strengthening proximity to the local market.





A High-performing organization is one of the cornerstones of SSAB's strategy. This involves long-term work on developing and strengthening the performance culture, zero vision as regards accidents, and continuing to be an attractive knowledge company. Developing employees and creating exciting career opportunities are important priorities. During 2013, SSAB participated in the 'Battle of the Numbers', an equal opportunities initiative, which is now continuing within the Group.

#### Battle of the Numbers

Together with nine other companies in Sweden, SSAB participated during 2013 in an equal opportunities initiative called Battle of the Numbers, which is aimed at increasing the number of females in management positions. Ten future or current female managers from each of the participating companies act as internal consultants and are included in a network.

SSAB's working group has proposed a number of initiatives as to how SSAB can work to promote equal opportunities, and has presented the proposals to the Group Executive Committee. Six of these areas are prioritized as immediate focus areas:

 Diversity scorecard: Defining measurable targets and implementing key performance

- indicators, to be monitored quarterly per business area and for the Group.
- Diversity training: An important priority is to increase knowledge and awareness among all managers. In 2014, a workshop is to be held for the Company's most senior managers. In stage two, it is proposed that all managers undergo mandatory diversity training.
- Female role models: Use a concept to promote female role models in order to show possibilities and career paths within SSAB.
- Succession planning: A target for succession planning for managerial positions and other key positions is that at least one female and one male employee shall be identified as possible candidates.
- Recruitment: In order to broaden the re-cruitment base for vacant managerial positions, at least one of the candidates should be female. With respect to recruitment of vacation temporary replacement staff, at least 50 percent shall be female. This applies also to recruitment to our Business Development program, which consists of young professionals who are to work on strategic projects.
- Career planning: Establish individual career development plans for a number of female managers and managerial candidates.
   The aim is to broaden their expertise and experience within areas such as sales, marketing and production.

SSAB SUSTAINABILITY REPORT 2013 High-performing organization



#### STAFFING AND FLEXIBILITY

SSAB has continued to work on reducing its costs and creating greater flexibility in order to adapt the operations to the prevailing economic climate. Previously announced cost reduction and flexibility improvement activities have been carried out.

During the period December 2012 to May 2013, a program was implemented involving reduced work hours and pay at SSAB's operations in Sweden. For a period of six months, work hours were reduced to 80 percent (plus 10 percent organized voluntary preventive health care activity), while wages and salaries were cut to 90 percent. Approximately 4,000 employees participated in Sweden. About half of the

savings achieved by the Company were allocated to resolving redundancies which followed the announcement of a curtailment of operations in the autumn of 2012.

Within SSAB EMEA, a reduction in personnel was carried out in accordance with the redundancy notice given in 2012. 450 employees, primarily within production, were affected at the plants in Oxelösund, Borlänge and Luleå.

Administrative parts of the HR, Finance and Purchasing support functions in the SSAB EMEA business area have been outsourced in order to increase flexibility.

#### Business ethics via e-learning

SSAB's training in business ethics covers the entire Group and is focused on SSAB's Code of Business Ethics, Instructions regarding the prohibition of bribery, and the Whistleblower reporting routine. The training, that was initiated in 2013, is available in three languages —Swedish, English and Chinese.

At the end of 2013, more than 87 percent of employees in the business areas had taken the training.



#### COMPETENCE PLANNING IN SSAB APAC

There is intense competition for qualified employees and competences. At the beginning of the year, SSAB APAC launched an in-depth program aimed at attracting, retaining and developing employees. The program includes indentifying key employees for key positions.



#### WOMEN WITHIN THE STEEL INDUSTRY

During 2013/2014, SSAB holds the presidency of the Association of Women in the Metal Industries (AWMI). The association has just over 1,100 members from 32 companies in North America (the US and Canada) and has the aim of supporting development and careers for women in the metal industries.

AWMI focuses its efforts within four main areas: Education, Growth, Network and Mentorship. Education activities can relate to metallurgy, green energy and female leadership. The Growth area focuses on leadership and communications capability, while Network and Mentorship provide the members with the possibility to exchange experience and inspire development.



#### Serious accident in Luleå

During the year, two people employed by a contractor carrying out maintenance work at SSAB's plant in Luleå lost their lives in an accident. The Swedish Work Environment Authority, the police and SSAB have opened investigations into the cause of the accident. The investigations are expected to be completed in 2014. Read more on page 24 about SSAB's safety work regarding contractors, and more generally about safety work in the operations on page 41.

#### SAFETY INSPECTIONS AND AUTHORITY REQUIREMENTS

During the year, both of the plants in the US have undergone safety inspections within the scope of SSAB's insurance cover for accidents and losses. The inspection reports pointed out a number of improvement measures to be taken, including clearer fire safety equipment, but no adverse comments were made requiring immediate measures. SSAB regards inspections as an opportunity to verify and receive feedback regarding the preventive safety work which is aimed at protecting both employees and property.

Government authorities in North America require that SSAB employers carries out extra health checks for employees who are exposed to potentially harmful gases or substances. This may, for example, include exposure to lead. SSAB conducted biological sample testing for comparison with established standards and guidelines. In this way, early signs of any side effects from exposure can be identified and necessary measures taken.

#### INNOVATIVE SAFETY INITIATIVES IN SSAB AMERICAS

At the operations in Mobile, SSAB works with safety ambassadors—referred to as Safety Champions. A selected group of employees has particular responsibility for serving as role models on various safety issues at the plants during a specific period of time, with rotating responsibility. The members of the group receive extra support or, if needed, training in order to act as ambassadors. This elected position contributes to increased knowledge and awareness on the part of the employee and is temporarily included as part of the employee's work duties.

During the year, a safety initiative focusing on lifting crane work was launched covering all operations in Americas. The background to the initiative is that a disproportionately large number of reported incidents involve lifting cranes. SSAB aims to identify the underlying causes by studying lift crane procedures in greater detail. The initiative is focused on two aspects — the equipment (design, maintenance, operational safety) as well as attitudes and behavior (including training).

#### Continued focus on safety in SSAB APAC

Within SSAB APAC, safety work has continued with several new initiatives during the year. Among other things, a crisis and preparedness plan has been produced, and information about it has been distributed throughout the business area.

#### **VOCATIONAL TRAINING FOR MAINTENANCE ENGINEERS**

In order to tackle the problem of a shortage of engineering competence in the future, SSAB has initiated an entirely new vocational training course for maintenance engineers, together with Borlänge Municipality, Dalarna University and Campus Nyköping. A quarter of the training course involves practical training, which will be carried out primarily at SSAB's plants in Borlänge. There are initially 70 participants.

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#### **SSAB CHALLENGES STUDENTS**

As part of Swedish Steel Prize, for the second time SSAB is inviting universities to participate in the University Challenge competition. The primary aim of the competition is to increase awareness among students regarding the benefits of high strength steels. The secondary aim is to increase awareness of SSAB and its products, and also as a prospective employer. The competition criteria for University Challenge are the same as for the Swedish Steel Prize. The 2013 winner was the Brazilian contribution from Universida de Estadual de Campinas — UNICAMP. A faster, stronger and lighter racing car was the aim of the 40 engineering students from the University in Brazil. With the help of high strength steels, they succeeded in winning both Formula SAE competitions and the Swedish Steel Prize University Challenge 2013. Read more about the Swedish Steel Prize on page 11.

SSAB SUSTAINABILITY REPORT 2013 High-performing organization

# An important responsibility for all

A safe work environment is top priority for SSAB. Since 2010, the focus and intensity of the safety work has been greater than ever before. It applies not only to SSAB's employees, but also equally to partners and contractors. The year's serious accident in Luleå provides a reminder of why this is a top priority.

#### Serious accident

In October 2013, two people lost their lives in an accident in Luleå when carrying out maintenance work. Both were employed by a contractor retained by SSAB. The Swedish Work Environment Authority, the police and SSAB have opened investigations into the cause of the accident. The investigations are expected to be completed in 2014. The Company is assisting the Work Environment Authority and the police in their investigations into the accident.

#### Contractor responsibility

Contractors play an important role at SSAB. They often possess the expertise and authorization that SSAB lacks to carry out various types of work. There may also be mandatory requirements that inspections be carried out by a third party.

At the production plants in Sweden, SSAB EMEA is responsible for coordinating work with contractors. This responsibility involves ensuring that different activities do not expose those taking part to risks during the course of the work. The retained contractor is, in turn, responsible for conducting a risk assessment regarding the work.

According to the Swedish Work Environment Authority's regulations, work permits are required for work which is characterized as "hazardous hot work", namely cutting, welding and such. SSAB goes further and, in Luleå, Borlänge and Oxelösund, requires work permits for all temporary work. SSAB carries out a risk review together with the contractor in order to identify possible risk aspects. Each risk review, together with agreed measures, is documented in the written work permit.

All contractors working at SSAB must also undergo the industry's safety training course, SSG Entre. This includes information about work environment legislation, risks in the workplace, and preventive work. SSAB provides local safety reviews and information

about its internal safety guidelines. Where work extends over several days, regular follow-up meetings are held regarding the work environment work.

#### Work environment forum

SSAB is working in various ways to get across the importance of safety. A work environment forum for contractors was established in Luleå two years ago, with the aim of jointly creating a safe workplace. SSAB wishes to promote a culture in which both its own employees and contractors' employees are

We must stop and instruct employees and contractors when they take a risk or fail to comply with established safety rules. All work which is not carried out in a safe manner must be discontinued.«

SSAB EMEA's work environment policy. Read more on pages 23 and 41 about SSAB's preventive work regarding safety in the workplace.

safe and are able to report any safety risks. The work environment forum has been welcomed and well attended. Participants include employer representatives and employee representatives from both SSAB and the contractors.

Regular work environment meetings are held with contractors also at SSAB EMEA's other production centers. For example, there are safety committees for contractors aimed at following up events and exchanges of experience. In Oxelösund, work environment meetings are held with larger contractors (30-40 in number) at which they present their work environment work to SSAB.

#### Cooperation with contractors

SSAB EMEA has taken the initiative for a series of seminars to be held at the respective production centers together with management representatives from the contractor companies. The seminars will be held during the first quarter of 2014 with the aim of achieving cooperation regarding challenges and risks within the work environment area.

In accordance with governing legislation, during the year a number of events were reported to the Swedish Work Environment Authority since they were classified as "serious". In those cases where contractors are involved, the investigation is always carried out in cooperation with the contractor company in order to jointly pinpoint the basic causes, take measures, and prevent any repeat of the occurrence.

#### Reporting

Contractors must report risk observations, incidents and accidents directly to SSAB's personnel. The aim is, of course, to increase safety in the workplace, both for contractors and SSAB's employees. In Borlänge, a pilot project is underway in which the ten largest providers of contracting work within SSAB EMEA report in MIA (The Metal and Steel Industry's work environment information system).

#### Systematic safety work

Compromising with safety is not accepted and SSAB has a zero-tolerance program. A safety and work environment management system, OHSAS 18001, is implemented in all major production sites. The two steelmaking plants in the US are regarded as among the best in the industry in terms of safety work, which also covers contractors. Since 2012, contractors are obliged to report their own preventive safety work and must be able to present a documented safety program in line with SSAB Americas' safety work requirements.

# Training to support business ethics goals

The year has seen continued focus on what business ethics mean within SSAB and what is expected of our employees. Several training courses have been held with the aim of strengthening and disseminating SSAB's regulations and guidelines, and placing them in a practical context.

#### Targets provide clarity

Business ethics are an important part of SSAB's work relating to sustainability and social corporate responsibility. As the business becomes increasingly global and more complex, the need for training in business ethics increases. This is also reflected in the tougher legislation enacted in several countries in recent years.

SSAB sees great potential for steel products to emerging markets in Asia, Latin America and Eastern Europe. More than one third (35 percent) of shipments of high strength steels shall go to emerging markets. Several of the countries in these markets top international corruption indices, a factor which requires SSAB to ensure that its employees are familiar with, and work against, corruption.

Two of SSAB's new sustainability objectives relate to the business ethics area:

- Ensuring compliance with the Code of Business Ethics and behaviour in accordance with our values
- All employees shall be trained in business ethics

#### E-learning reaches many

Shared ethical guidelines are fundamental in a global group such as SSAB. With a global e-learning module, it is possible to reach out to as many employees as possible in order to provide basic training in business ethics and implement SSAB's anti-corruption work. The project was launched in 2012 with a target that 75 percent of all employees within the business areas would take the course in 2013. By the end of 2013, that target had been exceeded and 87 percent of the employees had taken part. It has been a prioritized issue for the business areas that as many employees as possible take the course.

The training focuses on SSAB's Code of Business Ethics, rules prohibiting bribery, and the Whistleblower reporting function. The



training is available in three languages — Swedish, English and Chinese. The meaning of SSAB's guidelines is explained through the use of graphics and clear language. Employees who have taken the course are then tested by being presented with a number of ethical dilemmas, which they must resolve based on SSAB's guidelines.

# Training in SSAB APAC and SSAB Americas

During the year, employees in Kunshan and Beijing in China have undergone business ethics training. The training, which was previously carried out for SSAB EMEA's employees, is aimed primarily at employees who have contacts with customers in their day-to-day work, for example sales staff and marketing personnel. The purchasing func-tion is included.

The training is based on SSAB's values, policies and guidelines. During the course of the training, clarification is provided as to what is meant by corruption and bribery, and how SSAB's anti-corruption rules are structured. This is followed by a discussion focused on practical, real life examples.

Within SSAB Americas, employees receive regular training regarding relevant business ethics rules as a supplement to the Group's global training. This is due, for example, to antitrust laws, conflict minerals regulations and anti-corruption laws, including the US Foreign Corrupt Practices Act.

#### Constant new ethical dilemmas

As a supplement to, and reminder of, business ethics, SSAB has continued to present examples of ethical dilemmas via the intranet, in order to encourage continued internal dialogue. The examples illustrate various practical situations to which SSAB's employees may be exposed, and how a particular situation is to be handled in accordance with SSAB's guidelines. The examples are simple and taken from everyday life and can involve everything ranging from an employee being offered concert tickets, deliveries on the side from suppliers, or how problems involving close relatives are to be handled.

# Reporting of improprieties – Whistleblower

Everyone working at SSAB must feel responsibility to react when improprieties are uncovered. Several years ago, SSAB established a Whistleblower function for the entire Group to which employees can report serious improprieties and violations of the Company's policies. Employees can report anonymously and are protected against reprisals or punishment.

In order for all employees to be familiar with the Whistleblower function and how it operates, the function is included as a mandatory element in the e-learning business ethics course. In 2013, nine complaints were reported to the Whistleblower function.

# Securing the supply chain The next stage in the work

During the course of the year, SSAB continued to provide the organization with the means to ensure sustainable and responsible purchasing work. Focus continued to be placed on suppliers of raw materials, but the work also extends to suppliers of, for example, service operations and transportation.

#### DEVELOPMENT OF MONITORING PLATFORM

SSAB has continued the work of developing and implementing a purchasing system for the business areas. With a joint purchasing system, improved conditions will be created for the continued work on monitoring suppliers. During the year, gradual implementation of the purchasing system began in SSAB EMEA and SSAB Americas.

During the year, SSAB informed and trained SSAB EMEA's purchasing organization about the new supplier monitoring process, which is based on self-assessment and visits to suppliers.

#### IDENTIFICATION OF SUPPLIER RISKS

During the year, the work was completed on a systematic identification of risks relating to the Group's suppliers. The survey places suppliers in various risk categories based on the countries in which they operate. It illustrates risks relating to, for example, human rights, labor conditions and corruption. The risk survey indicates that few suppliers are in the high-risk group; it is on that group that SSAB focuses its work.

#### Service suppliers in India and the Czech Republic

SSAB has outsourced parts of the service operations to India and the Czech Republic in order to increase operational efficiency. SSAB has signed an agreement with a supplier which is a signatory to, and works in accordance with, the Global Compact's ten principles. The agreement entitles SSAB to carry out audits and to monitor the supplier's compliance with statutes and regulations on site. The agreement was preceded by site visits. The supplier has demonstrated that its work on human rights, labor conditions and corruption is in line with SSAB's guidelines. In India, SSAB's supplier is particularly active in work concerning equal opportunities issues and creating proper conditions for Indian women to participate in working life.

SSAB has the possibility to monitor the operations in India and the Czech Republic to ensure that the suppliers comply with SSAB's guidelines. The agreements stipulate that SSAB is also entitled to take measures in the event the suppliers fail to perform with their obligations.



#### Responsible transportation suppliers

SSAB purchases large volumes of transportation services and cooperates with large, medium-sized and small companies within all types of transportation. It is important for SSAB that the suppliers we engage comply with laws and regulations and adhere to signed agreements. This means, for example, that any truck driver not using mandatory safety equipment will be sent away from SSAB's plants without being able to load. SSAB also cooperates with the police's heavy vehicles unit which, on a number of occasions during the year, carried

out inspections to ensure that freight is securely loaded and that truck drivers are complying with mandatory driving and rest hours.

At the beginning of 2014, SSAB decided to initiate its own audits of carriers, focusing on heavy road transports, to further strengthen quality requirements. As a member of Q3 — Forum for Sustainable Transports —SSAB has access to support for further clarifying requirements regarding the work environment, road safety and the environment in conjunction with transportation.

Securing the supply chain SSAB SUSTAINABILITY REPORT 2013

#### PFOCUS: VISIT TO SUPPLIER IN RUSSIA

# Visit to a Siberian coal mine

During the year, SSAB's purchasing organization together with the Corporate Social Responsibility function visited a coal supplier in Russia. The visit provided an opportunity to test the supplier inspection assessment models that were developed during the year and provided useful experience for the future.



#### **Established cooperation**

The visit was part of the regular quality inspections that are carried out at important suppliers of raw materials, but with increased focus on social and environmental responsibility. For more than ten years, SSAB has purchased injection coal from the supplier in Russian Siberia, and is well acquainted with its operations. During the year, in addition to visiting the mine SSAB also visited laboratories and the export ports in Ust-Luga in Russia and in Riga, Latvia, which are part of the supply chain to SSAB.

Agreements with suppliers of raw materials include social and environmental responsibility issues. Therefore, it was particularly relevant to include issues relating to those areas in conjunction with the visit.

#### Assessment

Prior to the visit, the risk assessment that SSAB had made that regards all suppliers was checked and a self-assessment questionnaire regarding social and environmental conditions was sent to the supplier. The questionnaire must be completed before a new agreement can be signed.

SSAB also had a checklist as a tool for observations when touring the area. The checklist includes a number of questions, the answers indicate whether there is reason to address the question in greater detail: for example, whether there are emergency exit signs, whether safety instructions are clearly posted, and the type of safety equipment borne by the employees.

#### On-site observations

SSAB's impression is that the standard was comparable to mining operations in Australia or North America, with conscious work being carried out to minimize risks and conduct operations efficiently. During the visit, discussions were held concerning labor conditions and wages, and the status of the labor union at the workplace.

"Generally speaking, I was able to conclude that, since the last visit in 2008, conditions have improved for the population in the area in which the mine is located, as has also infrastructure such as road networks and railways," says Anne Lexelius, Coal Purchasing Manager at SSAB.

SSAB SUSTAINABILITY REPORT 2013 Focus: Visit to supplier in Russia 2

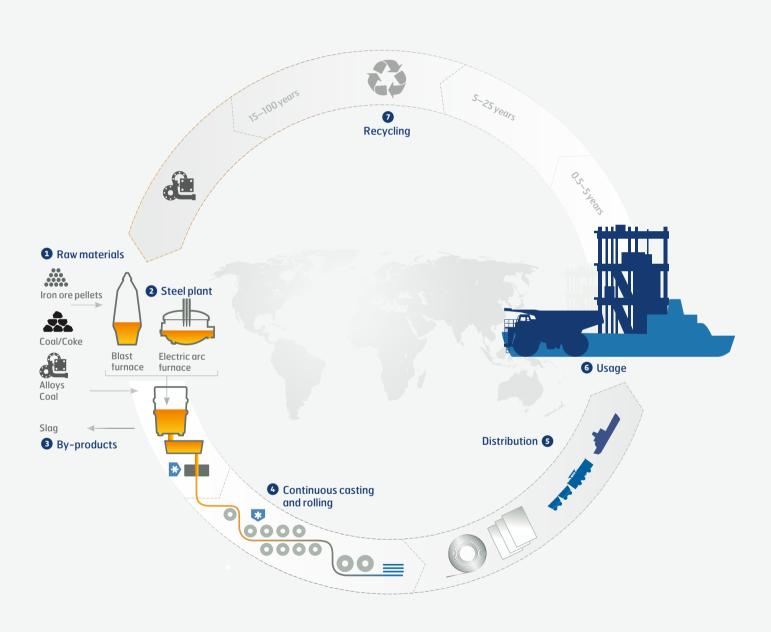




# Systematic sustainability work

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# SSAB in a sustainable world



SSAB in a sustainable world SSAB SUSTAINABILITY REPORT 2013

The steel industry plays a key role in the development of society, and SSAB's high strength steels possess several advantages from a sustainability perspective. With efficient production, SSAB is well positioned in a global market in which focus is placed on the environment and sustainable growth. SSAB's focus on high strength steels contributes to attaining its vision — A stronger, lighter and more sustainable world.

Through the use of high strength steels, customers are able to produce products which use less material, are more durable, stronger and lighter than

products made of standard steels. This has major advantages for both the customers and the environment.

The steel industry is energy-intensive and dependent on natural resources. Increasingly stringent environmental demands experienced by SSAB's customers are important drivers leading to the use of high strength steels. The attainment of the same goals using fewer resources constitutes a prerequisite for sustainable growth. SSAB's strategy unites economic growth with sustainable development.

#### Raw materials

1 Responsibility in the supplier stage

Raw materials are SSAB's most important purchases. The Swedish company LKAB supplies iron ore pellets. Scrap metal is purchased locally in the US. Metallurgical coal is secured from suppliers in Australia and the US. Injection coal is sourced from a mine in Russia, while coke comes from Japan. Alloys are purchased from some 30 suppliers. Work is underway to coordinate purchasing processes and introduce into contracts with suppliers principles regarding labor standards and human rights.

#### **Processing**

2 Efficient and safe steelworks

Two different processes are used in the production of SSAB's steels: iron-ore based production in blast furnaces and scrapbased production in electric arc furnaces. The impact on the environment can be mitigated by constantly improving and increasing the efficiency of the various stages in steel production. Within the steel industry, there are a number of cooperation projects aimed at reducing the impact on the environment and climate from the production processes. The safety of employees and contractor employees stands high on the agenda.

#### 3 Market for by-products

The exact process control in the steel production processes gives rise to by-products. In Sweden, SSAB Merox develops high value products based on by-products from the steel operations. The work is aimed at returning the by-products to the processes, internally or through external sales, and identifying new areas of use as alternatives to depositing in landfills.

#### 4 Continuous casting and rolling

In the continuous casting line, large volumes of water are used to cool down the molten steel. The cooling water circulates in closed systems. The water is purified through sedimentation and filtration before it leaves the plant area. The steel strands are cut into slabs and placed on cooling racks before being transported to the rolling mill for processing into strip or plate. The heating furnaces use natural gas, coke oven gas, LPG, oil and electricity.

#### Distribution

5 Efficient transportation and intelligent logistics

Most of SSAB's slabs and end-products are shipped by railway and by boat. The logistics departments have the objective of making the transportation as efficient as possible in order to save money and help save the environment. The use of return freight between plants and shipping ports is one way of achieving more efficient transportation systems. Increasing load capacity on the railways represents another alternative.

#### Usage

6 A stronger, lighter and more sustainable world

SSAB's high strength steels have many areas of use in society. High strength steels build stronger, lighter and more durable solutions. From a life cycle perspective, the high strength steels generate lower  ${\rm CO_2}$  emissions than standard steels, while providing an improved total economy. Achieving the same goals using less materials is important, not least in conjunction with infrastructure development in emerging economies.

#### Recycling

7 Part of the eco-cycle

Steel is one of the most recycled materials in the world. SSAB's plants in the US produces steel which is based solely on recycled scrap metal. Certain amounts of coal and natural gas are used in the production process, but electricity is mainly used for melting the steel scrap. All in all,  $CO_2$  emissions are less than 1/10 of the emissions generated when steel is produced from iron ore.

SSAB SUSTAINABILITY REPORT 2013 SSAB in a sustainable world

# Policies and guidelines

SSAB has adopted an Environmental and Sustainability Policy. The Policy establishes the most important ambitions for SSAB's sustainability work and covers the environmental and social aspects which play a key role in a sustainable development of SSAB's business. SSAB's Code of Business Ethics provides guidelines on how SSAB is to act vis-à-vis stakeholders and in the market.

## Environmental and Sustainability Policy

SSAB has adopted an Environmental and Sustainability Policy in order to support the day-to-day work in the organization. The Policy essentially entails the following:

- SSAB shall continue to develop products and services in cooperation with customers, so as to actively contribute to environmentally sound and profitable business
- SSAB attaches importance to the efficient use of raw materials and energy, while minimizing the generation of waste
- SSAB shows respect for employees and provides a safe and fulfilling work environment
- Transparency and openness are sought after

#### **Code of Business Ethics**

SSAB's Code of Business Ethics lays down guidelines for SSAB's behavior vis-à-vis stakeholders and in the market. The provisions of the Code take precedence over all other policies on a business area or subsidiary level and, in certain cases, may be more farreaching than national laws and regulations.

SSAB's Code of Business Ethics provides guidance within:

- Employee health and safety
- Diversity and internationally recognized labor law guidelines
- Business ethics and integrity
- Human rights
- Stakeholder and community relations
- The environment
- Communication

Diversity and equal opportunities issues are addressed in a separate policy. SSAB has issued special Instructions regarding the prohibition of bribery.

On a limited number of occasions in recent years, SSAB has discovered that personnel have abused their position or acted in a disloyal or criminal fashion. SSAB has thereupon acted to investigate the events and concluded that ignorance or deliberate criminality have been involved. The consequences have been, for example, dismissals and prosecutions.

#### Risk awareness and systematic risk

Management systems and action plans ensure that the Group systematically carries out its work on critical sustainability issues. Several different management systems and tools are used to effectively control the operations in accordance with SSAB's objectives, the Environmental and Sustainability Policy, and the Code of Business Ethics. Systems developed in-house as well as third party certified systems are in place.

The environmental and climate work takes place primarily within the scope of the ISO 14001 environmental management

standard and via local energy management systems. The OHSAS 18001 standard for systematic health and safety work has been implemented at all major production plants.

Environmental risks and work environment risks are covered by SSAB's internal risk controls and internal audits. Insurable risks within the scope of SSAB's property and liability insurance are analyzed annually together with the insurance companies. Sound management of risks associated with injury to individuals and damage to the environment and plants is a sine qua non for being able to take out insurance cover.

#### Whistleblower

A Whistleblower function for the entire Group allows all employees to report serious irregularities and violations of SSAB's various policies.



SSAB is a signatory to the UN's Global Compact and supports its ten principles within the areas of human rights, labor standards, the environment and anti-corruption. Read more about SSAB's new sustainability strategy and objectives on page 6-7.

## Corporate governance

SSAB's organization is characterized by a decentralized work method in which responsibilities and powers are, to a large degree, delegated to the respective business areas and subsidiaries. SSAB is listed on Nasdaq OMX Stockholm and complies with its Rule Book for Issuers and applies the Swedish Code on Corporate Governance (the "Corporate Code").

#### The Board's responsibilities

The overall task of the Board of Directors is to manage the Company's affairs on behalf of the shareholders in the best possible manner. The Board of Directors shall regularly assess the Group's financial position and evaluate the operational management. The Board of Directors decides, among other things, on questions concerning the Group's strategic focus and organization, and decides on important capital expenditures (exceeding SEK 50 million).

Each year, the Board shall prepare proposals for guidelines regarding determination of pay and other compensation for the President and other members of the Company's senior management, to be decided upon at the Annual General Meeting.

#### The Board's Rules of Procedure

Each year, the Board adopts rules of procedure, including instructions to the President, which among other things govern the

allocation of work between the Board and the President. The rules of procedure also regulate the manner in which Board work is allocated among the directors, the frequency of Board meetings, and the allocation of work among Board committees. The rules of procedure state that there shall be a compensation committee and an audit committee. Prior to each Board meeting, the directors receive a written agenda and full documentation to serve as a basis for decisions. At each Board meeting, a review is conducted regarding the current state of business, the Group's results and financial position, and prospects. Other issues addressed include competition and the market situation. The Board also regularly monitors health and safety work, including the Group's accident statistics.

#### Chairman of the Board

The Chairman of the Board of Directors presides over the Board's work, represents the company on ownership issues, and is responsible for the evaluation of the work of the Board. In addition, the Chairman is responsible for regular contacts with the President and for ensuring that the Board of Directors performs its duties.

#### Composition of the Board

According to the by-laws, the Board shall consist of no fewer than five and no more than ten members elected by the general meeting. The

More information regarding corporate governance in SSAB is available on www.ssab.com

Board is quorate when more than half of the total number of directors is present. Taking into consideration the Company's operations, phase of development and the circumstances in general, the Board must have an appropriate composition which is characterized by diversity and breadth as regards the expertise, experience and background of its members. New directors undergo an introduction course to rapidly acquire the knowledge which is expected in order to best promote the interests of the Company and its shareholders.

#### General meeting

The General Meeting is the Company's highest decision-making body; it is where share-holder influence in the Company is exercised. At the Annual General Meeting (Ordinary General Meeting), the shareholders decide, among other things, on the following:

- Adoption of the annual report and consolidated financial statements
- Allocation of the Company's profit/loss
- Discharge from liability for the Board of Directors and the President
- Election of the Board, its Chairman and auditors
- Method of appointment of the Nomination
   Committee
- Compensation to the Board and the auditors
- Guidelines for compensation to the President and other senior executives

Shareholders/ **Nomination Committee External auditors General Meeting** Board **Compensation Committee Audit Committee** of Directors President and Other **Group Executive** Internal audit Committee **Business** areas **Distribution operations SSAB SSAB** SSAB Tibnor APAC **EMEA Americas** 

Important external and internal rules and policies which affect corporate governance:

#### Important internal rules and policies

- Bv-laws
- The Boards rules of procedure incl. instructions to the President and instructions to board committees
- Accounting manual (Financial Guidelines) and finance policy
- Code of Business Ethics

#### Important external rules

- Swedish Companies Act
- Swedish Accounts Act
- Swedish Annual Reports Act
- Rule Book for Issuers Nasdaq OMX Stockholm, www.nasdaqomx.com
- · Swedish Corporate Governance Code,

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www.bolagsstyrning.se

SSAB SUSTAINABILITY REPORT 2013 Corporate governance

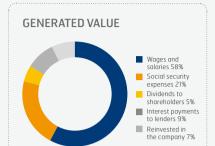
# SSAB's offering

SSAB's high strength steels provide advantages in the form of stronger, lighter and more durable solutions. This leads to improved total economy, a reduced impact on the environment, and products with a longer lifespan. The by-products from the steel production processes are used in new, innovative solutions. This contributes to closing the eco-cycle and creates new markets for SSAB.

### Beneficial for the economy and the environment

SSAB's high strength steels provide an improved economy and environment in all stages. From a life cycle perspective, the high strength steels generate lower  $CO_2$  emissions than standard steels. Light and durable steel designs save material and energy, both in the production and user stages. High strength steels are stronger than standard steels. Consequently, less steel is used when manufacturing a product, which also reduces emissions.

SSAB's high strength steels applications have a direct role to play in the transition towards a more sustainable society. Rapid infrastructure development is taking place in emerging markets. At the same time, natural resources are limited and increased importance is being attached to achieving the same goal using less material. The automotive industry is developing lighter cars, and cars with greater load capacity in order to reduce fuel consumption. Steel is also included in constructions for renewable energy plants, such as wind towers, solar power plants, and various types of hydro-electric power plants.



#### **DIRECT AND INDIRECT VALUE**

SSAB's operations and business create both direct and indirect economic value. In addition to the direct value generated in the form of profits to the shareholders and wages and salaries to employees, SSAB is part of the community's economic cycle. SSAB contributes to the local economies in those places where it operates through taxes and charges. The Company also contributes to the local economy by purchasing and contracting locally.

#### $Research \, and \, development$

SSAB has a Research and Development Council tasked with leading the development and realizing the potential of high strength steels. The Council coordinates work within the area and is entrusted with ensuring a continuous transfer of technology between the business areas.

SSAB's Knowledge Service Center is represented in the different business areas. The aim is to strengthen SSAB's position as a leading producer of high strength steels, while at the same time developing the markets in

North and Latin America and Asia through advanced offerings based on SSAB's cutting edge expertise. The Center makes it possible for numerous customers to develop production efficiency and product design in close cooperation with SSAB.

Local process development within the various production units is also carried out at SSAB's major production centers.

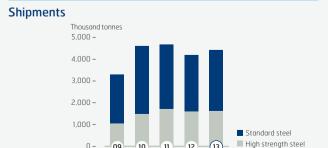
#### The market

In 2013, SSAB delivered 1, 619 (1, 585) thousand tonnes of high strength steel products, representing 37 (38) percent of the total number of shipments. SSAB's strategy is to increase shipments of high strenght steel to 50 percent of total shipments.

#### No conflict minerals in SSAB's steel

Conflict minerals is a term used for minerals from areas characterized by large-scale internal strife, where mining of minerals risks contributing to, or financing, continued conflict and violation of human rights. Minerals from the Congo (including gold, tin, tungsten and tantalum) are examples of conflict minerals. In the US, the Securities and Exchange Commission (SEC) requires that public companies disclose whether they use conflict minerals in their products or production. SSAB does not use conflict minerals and, upon request, provides customers with certification affirming this.





SSAB's offering SSAB SUSTAINABILITY REPORT 2013

# Systematic environmental work

Steel production involves large-scale use of energy and resources and has a significant impact on the environment, both globally and locally. SSAB's environmental strategy is long-term and based on efficiency improvements and innovation in order to mitigate the environmental impact. Industry-wide cooperation is important for identifying the solutions of tomorrow.

#### Most important environmental aspects

Steel production is energy intensive and causes  $CO_2$  emission. In Sweden, SSAB's blast furnaces are among the largest sources of  $CO_2$  emissions in the country. SSAB's blast furnaces are among the most efficient in the world in terms of minimizing emissions, but there is still some room for further improvement. The impact on the local environment in the vicinity of SSAB's plants has decreased significantly in recent decades. Technical developments and increasingly stringent external demands dictate constant improvements in the operations.

The most important environmental aspects for SSAB are:

- Reduced emissions into the air of CO<sub>2</sub>, nitrogen oxides, sulfur oxides and dust
- Reduced emissions into water of nitrogen and suspended substances
- Efficient use of raw materials and energy
- A reduction in the volume of process waste sent for landfill

#### New Group environmental targets

In order to focus on these issues in the coming years, SSAB has produced three environmental targets for the entire Group. By the end of 2018 at the latest, individual activities shall together have achieved the following results on an annual basis:

- CO<sub>2</sub> emissions derived from fossil fuels shall have been reduced by 100,000 tonnes
- Use of purchased energy shall have been reduced by 20 GWh
- The quantity of material sent for deposit in landfills or external destruction shall have been reduced by 10,000 tonnes

#### **Environmental organization**

The Company has a joint group body, the Environmental Council, for coordinating issues concerning the external environment. The Environmental Council focuses on the overarching and strategic environmental work, and monitoring of that work. The Environmental Council, which meets each quarter, includes representatives from the three business areas (SSAB EMEA, SSAB Americas and SSAB APAC), as well as the subsidiaries Tibnor, Plannja and Merox. The Council is chaired by SSAB's Environmental Director.

### Environmental management system and local environmental work

The objective is that the business areas shall handle the day-to-day environmental work.

# Each business area and subsidiary has a separate environmental department which is responsible for monitoring compliance with laws and agreements and for handling permit matters. It is also responsible for taking measures and the reporting of environmental data.

All manufacturing units are certified in accordance with ISO 14001 and each production center has identified its most important environmental issues. Targeted activities are carried out within these areas in order to achieve improvements. Special self-inspection programs ensure monitoring of the local environment at all of SSAB's production plants, e.g. by collecting water, air and noise samples. The results are reported to the relevant supervisory authority.

#### Research cooperation projects

Some of the most important cooperation partners include:

- The industry cooperation project ULCOS (Ultra-Low CO<sub>2</sub> Steelmaking)
- The Swedish Energy Agency and the Swedish Environmental Protection Agency
- The institutions Swerea MEFOS, Swerea KIMAB, and IVL Swedish Environmental Research Institute
- The PRISMA skills center
- Mistra (the Swedish Foundation for Strategic Environmental Research)
- The Swedish Steel Producers' Association
- · Eurofer and Euroslag
- The US Department of Energy and the US Environmental Protection Agency (EPA)
- The American Iron and Steel Institute (AISI)
- Worldsteel

#### Environmental permits and legislation

SSAB's operations are subject to environmental permits containing hundreds of environmental conditions governing production levels, emissions into the air and water, noise levels, and rules regarding landfill sites. All production units comply with relevant local environmental requirements and the Group holds mandatory environmental damage as well as liability insurance covering damage to third parties.

#### Permitted production at the Swedish plants $^{1)}$

Thousand tonnes	Locality	Permitted production	Production 2013
Coke	Luleå	1,100	641
	Oxelösund	530	368
Hot metal	Luleå	_ 2)	2,025
	Oxelösund	2,000	873
Steel slabs	Luleå	3,000	1,910
	Oxelösund	1,900	884
Hot-rolled steel	Borlänge	3,200	1,948
	Oxelösund	820	471
Pickled steel	Borlänge	2,500	1,241
Cold-rolled steel	Borlänge	1,400	752
Annealed steel	Borlänge	650	463
Metal-coated steel	Borlänge	400	277
Organic-coated products	Borlänge	140	70
	Köping	30	12
	Finspång <sup>3)</sup>	40	18

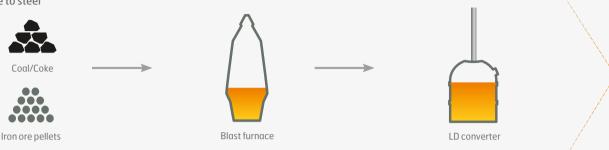
<sup>1)</sup> In North America, production levels are determined in the form of maximum permitted hourly production volumes.

<sup>2)</sup> Not regulated.

 $<sup>^{3)}</sup>$  Unit million  $m^2$ .

# More efficient processes reduce environmental impact

#### 1. From iron ore to steel



#### Raw materials

Coal undergoes dry distillation in the coking plant to produce coal. Energy-rich gas is formed which can be used as fuel in furnaces and combined heat and power plants. Other usable by-products includes tar, ammonium sulfate, benzene, sulfur and sulfuric acid. The dust content in the emissions from the coking plant is measured and reduced to a minimum. Iron ore pellets from LKAB are transported by rail to Luleå and from there by ship to Oxelösund. The iron ore in the pellets is magnetite, which emits heat during production; consequently, less energy is used than in the case of hematite-based pellet production.

#### Hot metal

In the blast furnace, the iron pellets are mixed with coke, lime and additives. Liquid hot metal and slag are poured off from the lower part of the furnace. The slag is separated and constitutes an important by-product. The energy-rich gas which exits from the top of the blast furnace, and also the coke oven gas, is purified and used as a source of energy in the steel production, as are the coke oven gas and LD gas in Luleå. This meets approximately 50 percent of the electrical power needs in the Swedish operations. In addition, district heating is delivered to external parties.

#### Crude steel

In the LD converter, the carbon content of the hot metal is reduced for conversion into steel through the addition of oxygen which binds the carbon and is released as gas. Contaminants are reduced through the use of lime. The process creates surplus heat, and scrap metal is added to achieve cooling. From the LD converter, the steel is poured into steel ladles, where alloys are added. The temperature and composition of the steel are fine tuned. Half the slag from the converter is returned to the blast furnaces. The slag contains 15–20 percent iron and 40 percent lime, which reduces the need to purchase iron ore and lime.

#### 2. From scrap metal to steel



Scrap steel



Electric arc furnace

#### Raw material

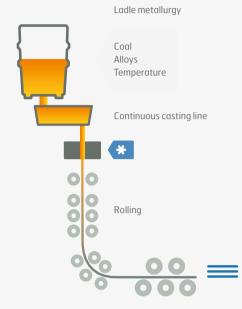
In the US, scrap steel is purchased on the open market. SSAB's two electrical steel plants in Montpelier and Mobile have been located based on the potential market and access to scrap metal as raw material. This strategy minimizes the environmental impact of transportation since all plants have access to railways. In North America, the inland waterway system is also used.

#### Crude steel

Scrap metal is smelted in electric arc furnaces where the smelted scrap becomes new crude steel. Both Mobile and Montpelier have twin furnaces in which the scrap in one of the vessels is pre-heated using natural gas, while the scrap in the second vessel is smelted using electricity through an electric arc being formed with an extremely high temperature when the high tension voltage is

connected. Certain amounts of coal and natural gas are used in the electric arc furnace, which generates CO<sub>2</sub>, but by no means to the same extent as when steel is produced from iron ore. A large percentage of the coal required is derived from recycled coal residue, which has thereby reduced the quantity of deposited waste and replaced up to 60 percent of purchased coal.

More efficient processes SSAB SUSTAINABILITY REPORT 2013



#### **Processing**

In ladle metallurgy, the crude steel is finely adjusted in accordance to specific recipes and, among other things, through the addition of alloying materials. Furthermore the carbon content is adjusted. Whether the steel is to be hard or soft is determined in the ladle metallurgy process. The SSAB recipe books contain almost 500 different steel grades. In the continuous casting line, the steel is converted from liquid to solid form. The steel strands are cooled in order to solidify and be cut into slabs. The water used for cooling circulates in closed systems. The slabs are rolled into strip or plate. The heating furnaces for slabs and steel use natural gas, coke oven gas, LPG, oil and electrical power. In North America, natural gas is primarily used as a source of energy. The combustion generates certain emissions of CO2 and nitrogen oxides.



http://www.ssab.com/Steel-making-process

#### **Steel processes**

Two different processes are used in the production of SSAB's steels: ore-based in blast furnaces and scrap-based in electric arc furnaces. The processes have different conditions from a carbon footprint perspective. The impact on the environment can be mitigated by constantly improving and increasing the efficiency of the various stages of the steel production process. SSAB's work is also aimed at reducing waste by recycling by-products in the processes or by identifying new areas of use as an alternative to depositing.

### The blast furnace process generates CO<sub>2</sub> emissions

SSAB EMEA's steel production is blast furnace-based. Hot metal is produced by the reduction of iron ore, through coal and coke being added to the blast furnaces. The process gives rise to  $CO_2$ .

With current technology, it is not possible to produce steel without CO<sub>2</sub> being formed. The process has been continuously developed and improved to become

extremely efficient, with waste energy being utilized in the form of district heating and for the production of electricity. International comparisons show that SSAB's blast furnaces are at the forefront as regards low  $\rm CO_2$  emissions per tonne of hot metal. The blast furnace in Luleå is state-of-the-art from an international perspective. There are several reasons for this: the use of high-grade raw materials in the form of iron pellets, high

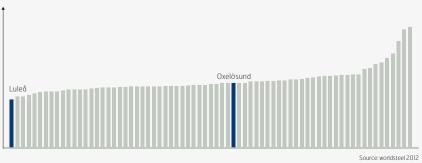
quality coke and efficient production processes in which the blast furnaces produce without disruption. In order to utilize the raw materials as much as possible, a large number of usable by-products are also produced, including slag. In addition, use is made of the excess heat and gases formed in the processes.

Certain waste products which contain carbon, lime and/or iron can be returned directly

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#### CO<sub>2</sub> emissions per tonne crude steel in blast furnace production 2012

CO<sub>2</sub> per tonne crude steel



SSAB SUSTAINABILITY REPORT 2013 More efficient processes



■ Materials and energy balance as well as CO₂ emissions from the production of one tonne of steel in the SSAB Group in 2013. The flows also include the heat and power plants in Luleå and Oxelösund, which primarily use residual gases from SSAB's operations.

to the processes, and in this way SSAB reduces waste from the production process and the need for new coal, iron ore pellets and lime. The energy-rich coke oven and blast furnace gases which cannot be used in the steel production are used in combined heat and power plants, among other things to supply SSAB with approximately 50 percent of the electricity needs of the Swedish operations. In addition, district heating is supplied to over 70 percent of the households in Oxelösund and Luleå and to 15 percent of the households in Borlänge.

#### Less CO<sub>2</sub> with recycled steel

Steel is one of the most recycled materials in the world. SSAB's plants in the US produce steel based exclusively on recycled scrap metal. Small amounts of coal and natural gas are used in the production process, but mainly electricity is used for smelting the scrap metal. All in all,  $CO_2$  emissions are less than onetenth of the emissions generated in conjunc-

tion with iron ore-based steel production.

SSAB uses approximately 20 percent scrap metal in conjunction with steel production in Sweden, and 100 percent in the US.

The Swedish operations have little scope to increase the percentage of recycled scrap metal. However, it is possible to recycle the scrap generated in the steel production process to a greater degree. This reduces raw material costs and  $\text{CO}_2$  emissions, since less hot metal need be produced. Within SSAB, a number of substitution projects are underway aimed at increasing the percentage of finished steel relative to the percentage of hot metal.

#### Waste and useful by-products

Thanks to the exact processes involved, steel production gives rise to a number of valuable, high quality by-products. Among other things through its subsidiary Merox, SSAB develops and sells in the market by-products from the Swedish operations.

Ongoing research areas are aimed at identifying new areas of use and conditions for converting additional material into relevant offerings to the market. One example is the zinc-rich dust from the electric arc furnaces in the US, which now goes to a recycling plant instead of being deposited in landfills.

There are waste products from the production processes for which at present there is no environmentally or economically justified area of use, or which should be removed from the use cycle for environmental reasons. At SSAB, this waste largely consists of flue gas dust and steel slag which cannot be used due to its physical or chemical characteristics. The waste is either destructed or deposited in landfills. The management and monitoring of the Company's landfills sites are strictly regulated by governmental agencies. Deposited waste must be handled in such a way that these resources, too, might be utilized in the future.

#### Absolute emissions1)

	Country <sup>2)</sup>	Volume	20131)	2012	2011	2010	2009	2008	2007	2006
Dust	Sweden	Tonne	522	575	583	748	551	888	919	942
Nitrogen oxide	Sweden	Tonne	1,206	1,230	1,315	1,392	1,118	1,657	1,709	1,801
CO <sub>2</sub>	Sweden <sup>3)</sup>	Thousand tonne	4,889	4,807	5,806	5,974	3,711	6,187	6,410	6,229
CO <sub>2</sub>	USA <sup>4)</sup>	Thousand tonne	680	666	675	688	_	_	_	_

<sup>1)</sup> The information for 2013 is preliminary.

<sup>2)</sup> The reporting with respect to Sweden covers operations at the plants in Oxelösund, Borlänge and Luleå.

With respect to Luleå, emissions are also included from LuleKraft AB (which is 50-percent owned by SSAB), the operations of which are based on SSAB's process gases.

 $<sup>^{3)}</sup>$ Co<sub>2</sub> emissions from the Swedish operations correspond to those reported to the EU trading system; this does not include transportation.

 $<sup>^4</sup>$ ) 2010 was the first year in which the US authorities requested information regarding CO<sub>2</sub> emissions from SSAB's plants in Mobile and Montpelier.

#### Merox in SSAB's value chain

Thanks to expertise and long experience regarding the properties of the by-products and how they can be utilized to the best effect, Merox creates added value for SSAB, Merox, a wholly owned subsidiary of SSAB, is a resource company in Sweden whose main task is to manage and develop SSAB's eco-cycle. This is done primarily by reusing the Company's waste products such as scrap, iron-rich dust and slag in SSAB's own processes, where they replace iron ore, coal and coke and, to a certain extent, also alloying agents and lime. Approximately 45 percent of the total volume of by-products and waste is used in this way. Where this is not possible, needs are identified on other markets, such as agriculture, steel and chemical industries, road construction, as well as the cement and concrete industry, where the material can be sold as separate products. This applies to approximately 35 percent of the total volume.

Merox is a flexible company with a small business organization. Most of the sales organization is located in Oxelösund, where production, marketing, research and development have been brought together under one roof. Merox's operations in Luleå have been structured in the same manner, and Merox is also established in Borlänge, but on a smaller scale.

The sales organization possesses a breadth of skills within widely differing areas and markets. Through cooperation with external parties, Merox creates conditions for being able to jointly deliver high-quality products.

One of SSAB strategic aims is to achieve increased flexibility. In times of high tempo production, a large flow of by-products is obtained which can be sold externally or returned to the production process. When production is slower, SSAB saves on costs through greater use in the production process of raw materials derived from by-products.

CHALLENGES AND OPPORTUNITIES
Steel production generates large volumes of slag which are sometimes difficult to sell. Factors such as research, social changes, legislation, the price of  $CO_2$ , and political decisions determine the value derived from the use of such slag. With an increased focus on  $CO_2$ , the slag can be attractive for the cement industry since it then represents a  $CO_2$ -neutral alternative due to the fact that, technically speaking, the  $CO_2$  emissions occur during the steel production process. Focus on reduced use of natural gravel and crushed rock also results in greater demand for the material.

A general increase in interest in closing the eco-cycle creates great opportunities for Merox. This is the focus of a number of research projects into the way in which byproducts from the steel industry might be used in other operations.

### Railways, an important means of transport

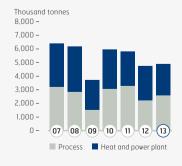
Transportation takes place primarily by railway and ship, but also by truck. All of SSAB's business areas have their own logistics departments with the objective of making transportation efficient and economical. The main parameters when evaluating logistics solutions are cost, environment and level of service.

In Sweden, raw materials are transported to Luleå and Oxelösund mainly by train or ship. Transportation of slabs between the production plants takes place by rail. The locations for SSAB's electric arc furnace steel plants in Mobile and Montpelier were chosen, in part, based upon access to rail services which are used both to ship raw materials, such as scrap metals, into each facility, as well as ship products from the plant to customers and other SSAB processing facilities. This strategy minimizes the impact on the environment since all plants have access to railways. In North America, the inland waterway system is also used.

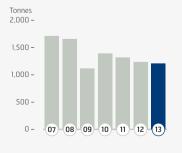
SSAB is working strategically on transportation issues through, among other things, the Swedish Shippers' Council, in order to influence long-term political investment strategy within the infrastructure area.

For more information about the environmental work and special events in 2013, see pages 15–19.

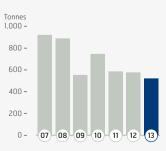
#### Carbon dioxide 1) 2)



#### Nitrogen oxide 1)



#### Dust 1)



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<sup>&</sup>lt;sup>1)</sup> The report covers the Swedish operations at the plants in Oxelösund, Borlönge and Luleå. With respect to Luleå, emissions are also included from the half-owned LuleKraft, which bases its operations on SSAB's process gases. Transportation is not included. The information for 2013 is preliminary.

<sup>&</sup>lt;sup>2)</sup>With respect to the Swedish plants, the emissions correspond to those reported within the EU's trading system

# Employees and competence

Sourcing competence for the future represents a challenge for the steel industry and SSAB, while at the same time being a prerequisite for a High-performing organization. SSAB strives to be considered an attractive employer and to promote the availability of the right competence on the labor market. Opportunities to develop in an exciting global and safe work environment are critical factors.

#### High-performing organization

The following overall targets dictate the systematic work within the strategically defined area, High-performing organization:

- SSAB shall achieve an annual reduction in lost time injuries per million work hours by at least 5 percent
- All employees shall have annual performance dialogues
- An Employee Satisfaction Index (ESI) of at least 90 (measured every second year in SSAB's global employee climate survey, Voice)

Clarity concerning goals, anticipated performance and feedback are central to being a High-performing organization. It is in the annual dialogue between employee and manager that performance is measured, feedback given, new goals set, and individual development is planned.

In 2013, more than 93 percent of SSAB's

employees had at least one performance dialogue. During the year, work has been carried out on ensuring the quality of performance dialogues. Action plans have been drawn up in all business areas. Examples of activities are seminars for the management team in setting targets, peer review in the target-setting process, and training managers in how to conduct performance dialogues with employees.

Employee satisfaction (measured as ESI) shows a positive trend and has increased for each year in which Voice has been carried out. In 2012, the ESI was 89.

#### **Prioritized** areas

In SSAB's systematic work relating to employees and organization, priority is given to the following areas:

- Leadership
- Long-term sourcing of competence
- Equal opportunities and diversity
- Safety in the work environment
- Preventive health care

#### Leadership

SSAB conducts an annual management review. All managers and candidates for managerial positions in the Group are evaluated based on SSAB's manager criteria and individual performance relative to the demands of the position. One important aim

of the management review is to ensure that there are suitable internal candidates for every vacant managerial position, thereby facilitating exchanges of experience and skills development within the Group. The results from the management review are used actively during the year to plan development activities and as a support in organization development activity and succession planning.

#### Sourcing of competence

SSAB is a knowledge-based company whose success depends on the competence of current and future employees. Various activities are carried out to promote access to competence:

- SSAB works actively vis-à-vis schools, colleagues and universities in Sweden through the University & College Group, a cross-functional team comprising employees from different functions.
- SSAB's participation in the Tekniksprånget project, which was initiated by Industrivärden and Nordstjernan and includes approximately ten industrial companies.
   During the year, six students graduating from high school natural science and engineering programs were offered fourmonth internships at SSAB through the Tekniksprånget project.
- Cooperation with other Swedish companies

#### Average number of employees, gender breakdown

	Number of employees		\	Women, %	
	2013	2012	2013	2012	
Parent Company					
Sweden	57	57	49	51	
Subsidiaries					
Sweden	5,789	6,402	21	20	
USA	1,325	1,273	12	12	
Other	1,023	963	30	29	
Total	8,194	8,695	21	20	

#### Number of employees at year-end

	2013	2012	Change,%
SSAB EMEA	6,054	6,504	-7
SSAB Americas	1,488	1,394	7
SSAB APAC	200	220	<b>-</b> 9
Tibnor	782	797	-2
Other	188	63	198
Total	8,712	8,978	-3

- in order to meet Chinese university students in Beijing and Shanghai.
- Since 1998, SSAB Americas has been cooperating with various universities through the "The Cooperative Education Program" (Co-op Program), whereby students can gain practical experience from the industry and at the same time SSAB has a chance to position itself as an employer of first choice.

#### **Equal opportunities and diversity**

SSAB operates in a traditionally maledominated industry. An important starting point for SSAB is that the percentage of female employees in the Group shall be reflected in the percentage of female managers.

The percentage of female managers is currently somewhat lower than the percentage of female employees. Within SSAB, a number of employees have been identified as potential managers of the future; since almost one quarter of them are women, this represents a favorable basis for increasing the percentage of female managers.

Two out of the nine members of the Group Executive Committee are women. Women account for almost 20 percent of the management teams answerable to the Group Executive Committee.

Since 2006, women have accounted for 32 percent of the participants from SSAB

taking part in external management development programs conducted by IFL at the Stockholm School of Economics - FEM — Executive Management Program and IMP International Management Program. In addition to level-enhancement management and leadership development programs, SSAB works with mentor programs and female networks, such as Ruter Dam and the Association of Women in the Metals Industry (AWMI) among other things.

#### Safety and work environment

SSAB shall be one of the world's leading steel companies as regards health and safety. Within the Group, work is carried out systematically to eliminate harmful work situations and comply with strict routines and rules regarding risk-prone aspects. At the same time, work is taking place to improve safety by influencing attitudes and behavior and by strengthening the safety culture.

All major production plants within SSAB are certified in accordance with OHSAS 18001, an international safety management system. The work has contributed to further strengthening routines for ensuring safer working methods, creating clearer instructions and safer workplaces. The plant in Johannesburg, South Africa, is also certified in accordance with OHSAS 18001. In the long-term, plans are also in place for certifying

plants within SSAB APAC. Within the Group, Tibnor is certified in accordance with OHSAS 18001.

The operations within SSAB Americas continue to show low accident statistics, and SSAB Americas is an industry leader as regards safety work.

Sick leave was largely at the same level in 2013 as in 2012. Preventive healthcare activities within the scope of the reduced work time program in the Swedish operations were an example of preventive and health-promoting activities. SSAB makes preventive health care programs available to employees within all parts of the business.

### Contractor reporting of near accidents and accidents

In SSAB Americas, every contractor engaged for business or who wishes to be considered for business must register in the certification system. In conjunction with registration, the contractors must provide information regarding their own preventive safety work and present a documented safety program in line with SSAB Americas' safety work. In addition, the contractors must provide a historic safety track record.

The contractors must report risk observations, incidents and accidents directly to SSAB's personnel. The aim is to increase safety at the workplace for both contractor

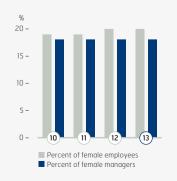
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#### Percentage of female managers 1)

2013,%	
SSAB EMEA	20.3
SSAB Americas	11.8
SSAB APAC	20.0
Tibnor	12.9
SSAB Group	17.5

 $<sup>^{1)}\</sup>mbox{The}$  data is from the first quarter of 2013.

#### **Equal opportunity**



employees and SSAB's employees. In Borlänge, a pilot project is underway in which the ten largest suppliers of contracting work within SSAB EMEA report in MIA (the Metal and Steel Industry's work environment information system).

In Luleå, Borlänge and Oxelösund, SSAB EMEA requires a so-called work permit for each contractor engagement, whereby SSAB conducts a risk review together with the contractor in order to document any risks.

SSAB APAC provides safety training for APAC's most important contractors. All contractors are provided with instructions and instructors. As an aid, a manual has been produced providing information about SSAB's principles.

#### Dialogue and reporting

It is important for SSAB that employees are able to speak their mind and contribute their views on the business and how it should be developed. The surveys are an important tool in the implementation of improvement work within the organization. Based on results from the employee surveys, each supervisor devises improvement areas which address areas for development. Every second year, an employee survey is carried out covering the entire Group.

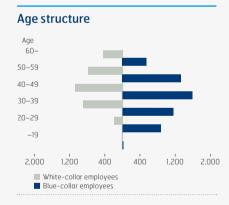
SSAB employees should feel a responsibility to act in the event irregularities are uncovered. Since 2010, a whistleblower system has been in place for the entire Group, to which employees can anonymously report

serious irregularities and violations of the Company's policies. Since 2012, an e-learning course regarding business ethics and the Whistleblower function is available to all employees.

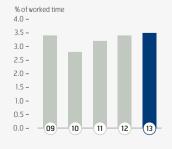
In 2013, 9 (10) complaints were reported to the Whistleblower function, of which to date four matters have resulted in SSAB taking measures. Following an investigation, three matters were considered not to justify any measures being taken by the Company, and two matters are still under investigation.

For more information regarding employee activities and special events in 2013, see pages 20–27.

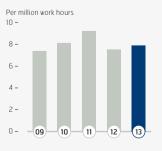




#### Sick leave



#### Number of accidents



## Suppliers

SSAB has a large number of suppliers of, among other things, raw materials from different parts of the world. Thus, SSAB has an interest in ensuring that the Company's suppliers comply with international guidelines and SSAB's own policies with respect to social conditions and environmental conditions.

#### Responsibility for the supply chain

With a global supply chain, it is important to be able to survey risks at the suppliers and their ability to address social and environmental issues. Sustainability issues are an integral aspect of the purchasing operations and management of the supply chain. During the year, SSAB's CSR function, together with CSR Ambassadors appointed from each business area as well as Tibnor and Plannja, have worked on strategic development of the sustainability work in the supply chain.

The work has resulted in joint guidelines and more efficient processes in order to survey the risks in the supply chain. The raw materials industry, which is often associated with a risk-prone work environment, is an industry in which rigorous demands must be imposed for safe working conditions. SSAB has, therefore, focused its supply chain work on raw materials, raising social and environmental issues with relevant suppliers.

#### Guidelines and governance

SSAB has a procurement policy which governs all of the Group's purchases. SSAB is a signatory to the UN's Global Compact and its principles are applied in the work with suppliers. SSAB's Code of Business Ethics reflects Global Compact principles and represents the most important control document as regards work with suppliers. The Code of Business Ethics places particular emphasis on the abolition of forced labor and child labor.

In its contracts with suppliers, SSAB communicates the Code of Business Ethics and encourages suppliers to respect the principles in the Code, and also SSAB's Environmental and Sustainability Policy. SSAB has Instructions regarding the

prohibition of bribery. The Instructions provide employees with clear information on how SSAB defines bribery and improper benefits, and how employees are expected to act in relation to suppliers, customers and other business partners.

#### Identification of supplier risks

During the year, the work was concluded on a systematic identification of risks relating to the Group's suppliers. The survey places suppliers in various risk categories based on the countries in which they operate. It illustrates risks relating to, for example, human rights, labor conditions and corruption. The risk survey indicates that few suppliers are in the high-risk group. SSAB endeavors to carry out more intense monitoring of suppliers located in countries considered to be high risk countries.

#### System and assessment

Work is taking place on developing a purchasing system for the business areas. With a joint purchasing system, improved conditions will be created for the continued work on monitoring suppliers. During the year, implementation of the purchasing system began in SSAB EMEA and SSAB Americas.

SSAB has developed guidelines for supplier control involving a uniform risk assessment and risk survey of its suppliers.

The assessment of suppliers takes place primarily through a self-assessment question-naire applicable throughout the Group which contains questions about, for example, social conditions and environmental conditions at the suppliers. Suppliers who are placed in the medium or high risk category will be required to complete the self-assessment question-naire. Unsatisfactory answers will be investigated. SSAB's business areas and the Tibnor and Plannja subsidiaries are responsible for carrying out their respective supplier assessments.

The process also includes SSAB conducting regular visits to major suppliers of raw materials around the world, including high risk suppliers. During the visits, purchasers and quality managers get to visit production plants and conduct quality inspections. Issues such as the suppliers' social and environmental conditions are important and will be given greater scope in conjunction with future visits to suppliers. It takes time and resources to visit suppliers and this constitutes long-term work.

During the year, SSAB informed and trained SSAB EMEA's purchasing organization about the new process for supplier control.

#### Sources of SSAB's raw materials



SSAB purchases iron ore pellets from a Swedish supplier, LKAB. Metallurgical coal is purchased from a small number of major suppliers in Australia and the US, while injection coal is sourced from a specific mine in Russia. Scrap metal is purchased locally in the US. Coke is purchased in Japan. Alloying agents are purchased from some 30 different suppliers.

SSAB SUSTAINABILITY REPORT 2013 Suppliers 43

# SSAB in the community

SSAB is actively engaged in the community in the localities where it operates and contributes to, and supports, projects of importance to its employees and its local presence. SSAB maintains an open dialogue with politicians, governmental agencies, the media and the public with the aim of contributing to knowledge about steel and steel production.

#### SSAB EMEA's local activities

At the localities where it operates in Sweden, SSAB contributes to creating a wide range of recreational activities which can be enjoyed by SSAB's employees and their families. Examples include sponsorship of local sports organizations and an exchange of knowledge with schools. SSAB also has the possibility of supporting associations in which employees are involved, primarily within sports and culture.

SSAB EMEA contributed to the Harbor Festival in Luleå and the large spring market in Oxelösund organized by the local Lions club.

TIBNOR SUPPORTS TOTALSKIDSKOLAN
In Sweden, Tibnor cooperates with Totalskidskolan in Åre. This is a non-profit organization which has the aim of providing disabled people of all ages with a chance to ski or learn to ski based on their own circumstances. In addition to a financial contribution, cooperation takes place through various customer and supplier activities at which Totalskidskolan often holds inspiration presentations.

### CHRISTMAS PRESENT DONATED TO CHILDREN IN NEED

SSAB EMEA and the head office have jointly entered into a cooperation project with the SOS Children's Villages organization to support a children's village in the Central African Republic, one of the poorest countries in the world. Specifically, SSAB is contributing to building a family house for ten to twelve orphaned or abandoned children in a village called Bullerbyn. This is the third children's village in that country being constructed by SOS Children's Villages, and SSAB's building will be one of twelve buildings. The construction has been delayed due to turmoil in the



country. SSAB chose to give this Christmas present to its employees, and they will be able to monitor its progress through regular information on the Company's intranet.

### Strong employee involvement in SSAB Americas

SSAB Americas has a long tradition of involvement in the community.

One of the largest organizations supported by SSAB is United Way, a charitable organization which supports the needy through donations, education and volunteer work. Employees' contributions are matched by the Company.

In Mobile, car tires are recycled for use as a raw material in steel production. The financial savings generated have been invested in an educational foundation which each year donates money to local school partners. Employees also participate as volunteers in the annual Fill the Bus campaign, which SSAB initiated in 2005 in order to provide children from disadvantaged homes with textbooks and school material.

The employees in Montpelier sponsor and support The Make-A-Wish Foundation, an organization which aims to realize the dreams of very sick children. Support from the Company in Montpelier also goes to The Community Foundation of Greater Muscatine, which supports smaller organizations and charitable projects in the region.

#### School supported by APAC

In connection with the start of school in the autumn, an initiative was carried out in which SSAB donated schoolbags, books and recreational material such as jump ropes and footballs to pupils at the Jiangbian Elementary School in Jinghong City in Yunnan province in south-western China. The school has 53 pupils and is located in the mountains approximately 300 km outside the city, near the border to Laos.

The initiative is a way for SSAB to express its social responsibility and support the local community by improving conditions at the school.

### Roofing sheet to Haiti and the Philippines

In the event of crisis situations which severely hit communities and their inhabitants, SSAB is able to lend a hand and provide support in ways other than through purely financial contributions.

In November 2013, the Philippines were badly hit by Typhoon Haiyan, which caused great devastation. As a contribution to the large-scale aid work which is now taking place in the country, SSAB and Plannja have contributed 10,000 square meters of roofing sheet. The sheet was transported by the Human Bridge organization and taken care of in the Philippines by the humanitarian organization Hoppets Stjärna (Star of Hope). SSAB and Plannja have previously contributed roofing sheet and cooperated with both organizations in connection with the earthguakes that hit Haiti in 2010. Just as in Haiti, the sheet is primarily intended to be used for housing, schools and hospitals.



 ${\sf SSAB} \ is \ a \ partner \ company \ to \ {\sf SOS} \ Children's \ Villages.$ 

# Reporting and dialogue

SSAB's operations affect people and the environment, and SSAB is constantly endeavoring to mitigate negative effects and contribute to positive development through products and services. Internal and external stakeholders play an important role in the work and SSAB wishes to facilitate external assessments through transparent and relevant reporting. In the sustainability work, it is particularly important to obtain comments in order to take proactive measures and foster confidence in SSAB.

#### Reporting in accordance with GRI

Since 2008, SSAB self-declares the report to be Application Level C in accordance with the GRI (Global Reporting Initiative), G3, guidelines for reporting on sustainability activity. This is the most established international reporting regime for sustainability work, a factor which facilitates comparisons with other companies and industries. SSAB will apply G4 as from the 2014 reporting year, and has begun making preparations for the transition to the updated framework.

SSAB engages in the production of relevant, joint key performance indicators for the entire Group. Clarification as to which business areas and subsidiaries are covered is provided regularly and in connection with the reporting of data. As a general principle, acquired companies are included in the reporting commencing the date on which a controlling influence is obtained. The reporting for 2013 is in accordance with the same principles as in previous years.

The table on the next page states where information sought in GRI is available in the 2013 Sustainability Report. Since the Report is a supplement to the 2013 Annual Report, the table also includes references to that information, as indicated by the initials 'AR'. The GRI table contains all core indicators, as well as such additional indicators as SSAB considers relevant for its operations. This is based on the Company's most important sustainability issues.

Since SSAB is a signatory to the UN Global Compact, the way in which the ten principles of the Global Compact are reported is presented by means of cross-references to relevant indicators in the GRI table.

#### Questionnaires and surveys

SSAB's Sustainability Report is aimed at providing a transparent basis for those who wish to review and trace the development of SSAB's sustainability work. It is the basis for inclusion in various sustainability indices or funds, such as the OMX GES Sustainability Sweden Ethical Index in which SSAB is included.

In addition to the reporting, every year SSAB is presented with a large number of questionnaires and forms from various stakeholders, particularly various analysis companies or investors. SSAB responds to them to the extent time and resources allow, and refers to the Sustainability Report as the primary source for sustainability information.

#### Many different areas of contact

Different stakeholders have shown interest in different types of issues in their dialogue with the Company. SSAB welcomes dialogue and sometimes actively seeks comments from different stakeholders by inviting them to open forums or presentations. Examples of these are summarized in brief in the table below.

#### Dialogue with SSAB's stakeholders

Stakeholder	Forum	Issues	Read more on page
Shareholders	Investor meetings for shareholders and analysts	<ul> <li>Sustainability strategy</li> <li>Economic development</li> <li>Safety issues</li> <li>Risks relating to suppliers</li> <li>Climate issues</li> </ul>	6-7 Edge 23-24,41-42 26-27,43 4-5,16-19
Employees	Performance dialogues, employee surveys, information meetings	<ul> <li>Feedback from performance dialogues</li> <li>Planning of development opportunities</li> <li>Work environment and safety</li> <li>Strategic issues</li> </ul>	40 21–22,40 23–24,41–42 6–7
Customers	Knowledge Service Center, customers seminars and trade fairs, Swedish Steel Prize	<ul> <li>Profitability and environmental benefits with high-strength steels</li> <li>Exchange of know-how</li> <li>Delivery certainty and quality</li> </ul>	11–13, 19, 34 11–13, 14, 19 21, 34
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Authorities and organizations	Industry organizations, research cooperation projects, consultation and negotiations on permit matters	Trading in emission rights and competition conditions Technological development Reporting of environmental matters	14,16 4-5,11-13 18,35
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Compact

Page reference

Degree of

reporting

Explanation of degree of reporting: ■ ■ Fully reported ■ ■ Partially reported ■ ■ Not reported AR = Annual Report 2013

SSAB has been a signatory to the UN Global Compact (GC) since 2010 and supports its ten principles. Activities and results related to Global Compact principles are reported above through cross-reference to a selection of GRI indicators.

#### Global Compact's principles

#### Human rights

- Businesses should support and respect the protection of internationally proclaimed human rights; and
   Make sure that they are not complicit in human rights
- abuses.

#### Labor standards

- Businesses should uphold the freedom of association and the effective recognition of the right to collective
- bargaining; and
  4. The elimination of all forms of forced and compulsory
- 5. The effective abolition of child labor; and
  6. The elimination of discrimination in respect of employment and occupation.

#### Environment

- 7. Businesses should support a precautionary approach to environmental challenges; and 8. Undertake initiatives to promote greater environmental
- responsibilities; and.
- 9. Encourage the development and diffusion of environmentally friendly technologies.

#### Anti-corruption

10. Businesses should work against corruption in all its forms, including extortion and bribery.

SSAB SUSTAINABILITY REPORT 2013 GRI-table 47

# Steel Talk ABC — a glossary

A Advanced high strength steels — Multi-phase steels which contain balance of strength and formability as compared to conventional high

**After-treatment** – Heat treatment, cooling, etc., in order to endow the steel with certain qualities; also galvanizing, organic coating, and cutting to size

Alloy – A substance composed of two or more metals

**Alloy Steel** – An iron-based mixture is considered to be an alloy when minimum quantities of alloying elements are present, e.q. silicon, manganese, chromium, nickel and molybdenum

Alloying material — Material that is added to the molten metal during the steelmaking process and which combines with iron or other metals and changes the metal's qualities

Anneoling – A thermal cycle involving heating to, and holding at a suitable temperature and then cooling at a suitable rate, for such purposes as reducing hardness, improving machinability, facilitating cold working, producing a desired microstructure, or obtaining desired mechanical or other properties

Application — Area of use; a product which uses a certain arade

 $\begin{tabular}{ll} \textbf{Applications engineer} - \textbf{Trained specialists in the qualities of the} \\ \textbf{material and its areas of use; problem solvers and developers} \\ \end{tabular}$ 

B Blast Furnace — Continuously operating shaft furnace for the reduction of iron ore. The end product in the blast furnace is called pig iron or hot metal

Blast air - Heated air which is blown into the blast furnace under

f C  $f CO_2$  –  $f CO_2$ , colorless gas, soluble in water to form carbonic acid; included in carbonated drinks and comprises 0.04% of the atmosphere and is identified as a greenhouse gas

Carbon monoxide - CO, colorless and odorless energy-rich gas which burns with a blue flame; noxious. Upon combustion,  $CO_2$  is formed Carbon steel - Unalloyed steel

Charging — The act of loading material into a vessel. For example, iron ore, coke, and limestone are charged into a blast furnace; a basic oxygen furnace is charged with scrap and hot metal, and an electric arc furnace is charged with steel scrap and fluxes

Coilbox – Rolling machinery; box for coiled steel employed to promote temperature uniformity during the hot rolling process Coiler – Mechanical part which captures plate, sheet or strip from the rolling mill and coils it

Coke – Dry distilled coal, the basic fuel consumed in blast furnaces in smelting of iron ore

Cold rolling – Metalworking process in which the thickness of a sheet,

Continuing—Preduced by folling at ambient temperature

Continuous casting—A process by which molten metal is solidified into a semi-finished billet, bloom, or slab for subsequent rolling

Construction steel—See structural steel

Corrosion protection – The minimization of corrosion by coating with a protective metal

Cowper stoves – Heating apparatus; ceramic towers used for pre-heating blast gir, also called hot stoves

Crude steel — Steel in its solidified state directly after casting. This is en further processed by rolling or other treatments, which can

Cutting station - Place for cutting the steel strand into slabs

- D Dry distillation process Combustion without entry of oxygen **Dual-phase steel (DP)** – High-strength steel that has a one soft (ferrite) and one hard (martensite) microstructure which allows for desired combination of good formability with high strength
- E Electric arc furnace (EAF) Steel-making furnace where scrap is generally 100 percent of the charge. Heat is supplied from electricity that arcs from the graphite electrodes to the metal bath
- F Fatigue The progressive and localized structural damage that occurs when a material is subjected to cyclic loading at stresses considerably below the ultimate tensile strength

Formatting – Marking, wrapping or cutting the steel into desired

Four-high rolling mill – Mechanical equipment; comprises fou cylindrical rollers with extremely high pressure which press slabs into plate by repeatedly rolling backwards and forwards

- $\boldsymbol{\mathsf{G}}\;\;\boldsymbol{\mathsf{Galvanization}}-\mathsf{The}\;\mathsf{process}\;\mathsf{of}\;\mathsf{applying}\;\mathsf{a}\;\mathsf{protective}\;\mathsf{zinc}\;\mathsf{coating}\;\mathsf{to}$ teel or iron, in order to prevent rusting or corrosion
- H Hardening Process that increases the hardness of steel, i.e. the degree to which steel will resist cutting, abrasion, penetration, bending, and stretching

**Hearth** – Lower part of the blast furnace; area for collection of molten

Heat treatment – Heating and cooling a steel product in such a

manner as to obtain desired conditions or properties Hematite – Fe<sub>2</sub>O<sub>3</sub>, non-magnetic iron ore or blood ore

**High strength steels** – Strong steel with high resistance to tensile stress before fatigue and breaking may occur

Hot dip galvanization — Method for adding a rust protection surface or example, adding zinc and aluminum in hot molten form on

the steel. The opposite to zinc-plating, an electrochemical method of applying a coat of molten zinc to the surface of steel for the purpose of enhancing corrosion resistance

Hot metal – The name for the molten iron produced in a blast fur- $\rm nector = 100$  multiplier for the molten iron produced in a blast furnace. It proceeds to the basic oxygen furnace in molten form or is cast as pig iron

Hot strip rolling mill —A mill for rolling heated slabs through a series of rolling stands to produce sheet steel in coil form

**Hot rolling** – A metalworking process in which slabs are heated to high temperatures and then deformed between rollers to form thinner ross-sections

Injection coal — Coal powder which is injected into the blast furnace under high pressure without being converted to coke

**Iron ore pellets** – Iron ore particles rolled into small balls and compacted by heating

L Ladle – A "bucket" lined with refractory (heat resistant) bricks, used to transport molten steel from process to process in a steel plant Ladle change - Switch from an empty to a full container of steel

Ladle Metallurgy Furnace (LMF) — An intermediate steel processing unit that further refines the chemistry and temperature of molten steel while it is still in the ladle. The ladle metallurgy step comes after the steel is melted and refined in the electric arc or basic oxygen furnace, but before the steel is sent to the continuous caster

Ladle treatment method — Different methods for ladle metallurgy LD converter (Lina Donawitz) — Oxygen steelmaking process employing a converter (vessel) and top blowing oxygen lance to refine the blast furnace hot metal into crude steel

Low alloyed steel grades — A steel, other than a carbon steel, that requires the minimum content for each specified alloying element to be lower than the applicable limit for the definition for alloy steel

M Magnetite – Fe<sub>3</sub>O<sub>4</sub>, magnetic iron ore, black iron oxide

Martensities treated—Steel with a very hard form of steel crystalline structure called martensite that is formed by displacive transforma-tion. The martensite is formed by rapid cooling (quenching) of austenite which traps carbon atoms that do not have time to diffuse out of the crystal structure

**Material design** – Control of the steel chemical composition and processing to achieve a microstructure that offers a combination of properties desirable for an intended product or application

Metallurgy – The science and technology of metals

Microalloying — In the case of advanced fine grain steels with particularly stringent yield strength and tensile strength requirements, small quantities of alloying elements such as niobium, vanadium, or titanium are added

Mold - Casting mold

- ${f N}$  Niche products In SSAB's case advanced high strength steels and
- $\hbox{ \hbox{\bf 0} {\bf 0re \, car}-Railcar for transportation of lump ore, iron ore concentrate }$

Oxide scale – An oxide of iron which forms on the surface of hot

Oxygen lance — Pipe-shaped lance for treatment using oxygen

P Pair of rollers – A pair of cylindrical rollers for rolling steel to thinner

dimensions under high pressure

Particulates filter – Purification plant for gas or air in which

particulates are separated and condensed for recycling

Phases – Steel has different crystal structures at various temperatures and the phase(s) present depend on heat treatment, alloy quantity, hardening, quenching, etc. Best known are the martensite (quick hardening) phase, ferrite phase (pure iron) austenite (non-magnetic) phase and bainte phase

Pickling line – A processing line which chemically removes oxide or scale from the steel surface to obtain a clean surface for subsequent

**Plate** — Flat rolled steel product which is typically classified as over 1,200 mm (48") in width and 4.5 mm (0.180") in thickness

 $\textbf{Process gas} - \mathsf{Gas} \ \mathsf{from} \ \mathsf{metallurgical} \ \mathsf{processes}; often \ \mathsf{energy} \ \mathsf{rich}$ Process methods – Methods for extracting raw materials and

manufacturing products in a continuous cycle without disruption **Process water** – Water from cooling or treatment in the processes.

ys undergoes purification and can often be re-circulated

Profiled - Profiled (or corrugated) steel which is pressed in order to

Protection steel - Structural steel with ballistic qualities

- **Q Quenched steels** Hardened or toughened steel. SSAB's quenched steels are also high strength
- R Recycling Return of used products or by-products to enter a new cycle of production and use

**Reduction agents** – Carbon or hydrogen used to remove oxygen from iron ore to produce iron

Rolling mill — Any of the mills in which metal undergoes a rolling process. For plate, sheet and strip, these include the slabbing mill, hot rolling mills, cold rolling mills, and temper mills. Any operating unit that reduces gauge by application of loads through revolving cylindrical rolls; operation can be hot or cold. The elevated temperature rolling mill is the Hot Mill and is capable of reducing the gauge of a slab

Roll pass — Number of times a billet or slab passes through a pair of

Rougher - Two rough cylindrical rollers which press the steel to thinner dimensions prior to hot rolling

Runner – Ceramic-lined spout for controlling molten, hot metal

S Scrap – Ferrous (iron-containing) material that generally is re-melted and re-cast into new steel

SEN – Submerged entry nozzle, a ceramic pipe which protects the steel from exposure to air, in conjunction with casting

Sheet pile – Long structural sections with a vertical interlocking system that creates a continuous wall. The walls are most often used to retain either soil or water

 $\begin{tabular}{ll} \textbf{Shot blasting} - \textbf{Cleaning} \ and \ descaling \ metal \ by \ means of a stream of abrasive powder or shot. The shot can be sand, small steel balls of various diameters, granules of silicon carbide, etc. \end{tabular}$ 

**Sintering** – A process that combines iron-bearing particles, once recovered from environmental control filters, into small pellets.

Skirt – Pipe around the blast furnace for the supply and allocation of hot blast air, also known as a bustle pipe

Slab furnace – Furnace for heating steel slabs to rolling temperatures Slabs – The most common type of semi-finished steel, used for production of flat steel products

Slag – Solution of mainly liquid oxides. Flux such as limestone may be added to foster the congregation of undesired elements into a slag. Because slag is lighter than iron, it will float on top of the pool, where it

can be skimmed **Slitting** – A metalworking process involving shearing which is typically employed to cut a wider steel coil into one or more narrower coils

 $\begin{tabular}{ll} \textbf{Smelting reduction process} - \textbf{Reduction of iron ore which takes} \\ \textbf{place in a smelting phase} \end{tabular}$ 

Special steel - Alloyed steel

Standard steels - Steels with lower strenath (vield strenath 235–275 N/mm<sub>2</sub>). Used within more conventional applications within the engineering industry and building sector

Steckel mill — A four-high reversing rolling mill, the Steckel mill allows the rolling of a large slab by providing heated coil furnaces or boxes on both sides of the mill to store the increased length produced during rolling

Steel - Alloy of iron and carbon with a carbon content of less

Steel hath - The hot malten steel in a container

Steel shuttle – Train system for transportation of steel slabs between Luleå, Borlänge and Oxelösund production facilities

Strand – The continuous cast slab within the continuous casting machine prior to cutting into individual slabs

Strength - Properties related to the ability of steel to oppose applied forces. Forms of strength include withstanding imposed loads without a permanent change in shape or structure and resistance to

Structure — The steel's molecular form following different treatment methods; crystalline structure. May also refer to the size, shape, and arrangement of phases within the steel

Structural steel — Steel intended for, e.g. load-bearing structures, e.g. crane girders. Important qualities include strength, weldability, bendability and toughness

Strip — Thin, flat steel that resembles hot-rolled sheet, but it is normally narrower (up to 300 mm, or 12" wide) and produced to more closely controlled thicknesses

**Sulfur purification** — In oxygen-blown steelmaking processes, the reduction of the hot metal's carbon content during refining by the use of gaseous oxygen

Sulfur purification — Method for removing sulfur from the hot metal or the steel, e.g. through the addition of caustic lime

**Surface treatment** — Cleaning, polishing or coating of surfaces; for example, through galvanization or organic coating

T Temper Mill — A type of cold-rolling mill, usually a four-high, single stand mill, used to provide a relatively light cold rolling reduction stand min, used to provide a leading light color folling reduction to hot rolled, cold rolled, or coated flat steel products to improve flatness, minimize surface disturbances such as coil breaks, and to alter mechanical properties

 $\begin{tabular}{ll} \hline \textbf{Tempering} - \text{Heating to 200-500} ^\circ\text{C degrees in order to make steel} \\ \text{tougher and less brittle} \\ \hline \end{tabular}$ 

Tensile strength — Ability to withstand tensile stress. (See Strength) Thermo-mechanical treatment – Heat treatment/quenching of the steel in order to achieve special material qualities

Torpedo — Cylinder-shaped brick-lined railway car used fo transporting hot, molten metal

**Tundish** – An intermediate container in the casting process to facilitate ladle change without disruption in the process

- V Vacuum Degassing An advanced steel refining facility that removes oxygen, hydrogen and nitrogen under low pressures (in a vacuum) to produce high quality steel for demanding applications
- **W Wear resistance** Ability to resist the erosion of material from the surface as a result of mechanical action, e.g. abrasion and friction Wear steel — Steel with qualities adapted to withstand wear, e.g.

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