

Sustainability Report

2009

Doing the right thing.  
Right?

ThyssenKrupp Steel



## COMPANY PROFILE

### ThyssenKrupp

Steel, capital goods and services represent the main areas of activity of the ThyssenKrupp Group, which employs almost 200,000 people worldwide. Dedicated and highly skilled, they offer customers innovative product solutions for sustainable progress. High-performance materials and equipment, components and systems provide answers to many of the economic and technical questions of the future.

### About this report

The ThyssenKrupp Steel Sustainability Report 2009 follows on from the first sustainability report published in May 2006. It covers the 2005/2006 to 2007/2008 fiscal years (each running from October 1 to September 30). By contrast with the first report which, in two sections (main report and “facts & figures”) covering more than 150 printed pages, presented a comprehensive assessment of the status quo and set out our position, this report concentrates on key topics for the convenience of readers. Additional information can be found on the internet at [www.thyssenkrupp-steel.com](http://www.thyssenkrupp-steel.com). External requirements were met by taking account of the third generation (G3) guidelines on sustainability reporting of the Global Reporting Initiative (GRI) and the GRI Mining & Metals Sector Supplement (cf. GRI index – [page 83 f.](#)) as well as feedback from the Institute for Ecological Economy Research (IÖW) within the framework of the 2007 ranking of German sustainability reports. With our map of raw material supply channels (cf. [page 47 f.](#)), we are already taking account of future GRI supply chain guidelines in our reporting.

ThyssenKrupp Steel is focused on the fast-growing market for premium carbon steel flat products and is a world-leading supplier of these materials. Its capabilities range from intelligent material solutions, product-specific processing and comprehensive service to finished parts. The business is led by the operating holding company ThyssenKrupp Steel AG, which is headquartered in Duisburg. 99.5% of its shares are held by ThyssenKrupp AG. In the reporting period it was divided into central directorates and customer- and process-oriented divisions responsible for operating business. The latter, together with their subsidiaries along the value chain, made up the business units Steelmaking, Auto, Industry and Processing. The Corporate business unit comprised the central administrative functions of ThyssenKrupp Steel AG and managed the strategic investment projects in Brazil and the USA.

Unless otherwise stated, the statements and data in this report relate to the former Steel segment with its Corporate, Steelmaking, Industry, Auto and Processing business units. The report includes subsidiaries in which ThyssenKrupp Steel AG holds an interest of at least 50%. Information which relates solely to the German companies (84% of sales volume) or in individual cases to the ThyssenKrupp Steel AG operating holding company will be indicated as such.

## SUSTAINABILITY INDICATORS AT THYSSENKRUPP STEEL

There have been several changes in the company structure since the publication of the first sustainability report in 2006. The key indicators relate to the Steel segment which came into being on October 1, 2005 and coordinates the carbon flat steel activities of the Group. The Metal Forming unit (sales: €1.5 billion, employees: 8,200) was also assigned to Steel with economic effect from October 1, 2006; this company was managed by the Automotive segment of the ThyssenKrupp Group until it was dissolved effective September 30, 2006. The figures for 2005/2006 were calculated on a comparable basis.

## THYSSENKRUPP STEEL KEY INDICATORS

		2005/2006	2006/2007	2007/2008
<b>Effectiveness: "Doing the right thing."</b>				
Order intake	million €	12,343	12,718	14,195
Sales	million €	12,087	13,209	14,358
Production				
Crude steel <sup>1)</sup>	1,000 t	13,837	14,459	14,212
Rolled steel	1,000 t	15,112	15,347	15,335
Productivity	t crude steel/man-year	651	672	664
R&D expense	million €	183	194	204
Proportion of shipments for multi-year and annual contracts	%	61	61	64
Capital expenditure	million €	603	1,659	2,596
<b>Efficiency: "Doing things right"</b>				
Earnings before taxes (EBT)	million €	1,406	1,662	1,540
EBIT	million €	1,482	1,761	1,700
ROCE	%	23.2	26.9	22.1
ThyssenKrupp Value Added (TKVA)	million €	876	1,138	1,007
Free cash flow	million €	1,146	281	(1,055)
<b>Resources: "Make careful use of everything we have."</b>				
Employees	(Sept. 30)	38,840	39,559	41,311
Germany	(Sept. 30)	29,387	29,578	30,102
Rest of Europe	(Sept. 30)	7,433	7,323	7,364
Rest of world	(Sept. 30)	2,020	2,658	3,845
Average age <sup>2)</sup>	in years	42.7	42.6	42.8
Apprentices <sup>2)</sup>	(Sept. 30)	1,650	1,645	1,663
Apprentice training rate <sup>2)</sup>	%	5.6	5.6	5.5
New apprentices <sup>2)</sup>		467	473	498
Training <sup>2)</sup>	days/employee	2.2	2.8	3.0
Health promotion <sup>2)</sup>	Sickness absence rate in %	5.0	5.0	5.3
Number of improvement suggestions awarded prizes <sup>2)</sup>		7,824	8,546	9,430
Use of primary energy and reducing agents	million GJ	244.2	240.0	239.2
Share of reducing agents	%	76	76	78
Bought-in raw materials (excluding scrap)	1,000 t	27,764	28,292	28,910
Iron ore	1,000 t	16,504	16,083	16,734
Coal	1,000 t	5,007	5,858	5,174
Coke/sintered fuels	1,000 t	1,855	1,917	2,054
Fluxes	1,000 t	4,126	4,176	4,176
Alloys/metals	1,000 t	262	258	232
Recycling (scrap input)	1,000 t	1,629	1,927	1,609
Outsourced scrap	1,000 t	852	1,201	877
In-house scrap	1,000 t	777	726	732
Water consumption <sup>2)</sup>	million m <sup>3</sup>	60.6	65.5	65.9
Recyclable water <sup>2)</sup>	million m <sup>3</sup>	1,103	1,186	1,187
Effluent <sup>2)</sup>	million m <sup>3</sup>	26.0	29.9	32.5

1) including share of Hüttenwerke Krupp Mannesmann production 2) ThyssenKrupp Steel in Germany 3) ThyssenKrupp Steel AG

		2005/2006	2006/2007	2007/2008
<b>Impact: "Minimize impact in everything we do."</b>				
Operating expense for environmental protection	million €	302	339	368
CO <sub>2</sub> emissions	million t	16.4	16.7	18.0
Dust emissions <sup>2)</sup>	1,000 t	5.0	5.0	6.0
NO <sub>x</sub> emissions <sup>2)</sup>	1,000 t	15.0	14.9	17.7
Waste volume <sup>2)</sup>	1,000 t	1,440	1,463	1,088
of which recycled	1,000 t	744	526	507
of which hazardous waste	1,000 t	108	137	135
Accidents (4 to n) <sup>2)</sup>		301	224	248
Accident frequency rate (4 to n) <sup>2)</sup>	per 1 million hours worked	6.9	5.2	5.9
<b>Solidarity: "Look at the bigger picture in everything we do."</b>				
Share of employees in companies regulated by collective agreements <sup>2)</sup>	%	99.5	99.7	99.7
School cooperations <sup>3)</sup>	number of schools	8	10	10
Participation in activities <sup>3)</sup>	number of students	2,834	3,025	3,296
<b>Justice: "Remain decent and fair in everything we do."</b>				
Distribution of value added to	million €	3,581	3,863	3,910
Employees (wages, salaries, social security contributions, pension expense)	million €	2,149	2,172	2,302
Shareholders (net income before profit transfer agreement)	million €	891	1,076	673
Lenders (interest rates and similar expense)	million €	15	21	4
State	million €	515	585	867
Minority interest	million €	11	9	64
Local value added <sup>3)</sup>	Procurement volume of our sites in a 100 km radius in %	56.0	55.3	50.6
Share of female employees in the workforce <sup>2)</sup>	%	7.7	8.1	8.3

1) including share of Hüttenwerke Krupp Mannesmann production 2) ThyssenKrupp Steel in Germany 3) ThyssenKrupp Steel AG

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## Foreword by the Chairman of the Executive Board



Dear readers,

Initial signs of the global economic collapse were already in evidence as we concluded the data collection and draft text of our sustainability report on fiscal 2005/2006 to 2007/2008. At the end of 2008, however, it was not possible to foresee exactly how deep the recession could become. But after the first quarter of 2009 it became clear that the world was entering its deepest crisis since the end of the 1920s. This downturn has impacted ThyssenKrupp Steel severely in the current fiscal year – order intake has declined dramatically and steel prices have fallen constantly. The sustainability report was originally conceived under very different circumstances.

This is also a difficult situation for me in my new role as Chairman of the Executive Board of ThyssenKrupp's steel subsidiary. We are responding with cost reduction measures to cushion the impact. We have had to introduce short-time work in all areas. Sustainability is also an aspect in these measures – i.e. we have taken them with as much foresight as is currently possible with respect to business prospects, our workforce and protecting the environment. However, I must emphasize that only an economically healthy company can survive against competitors and retain and create secure jobs.

Steel is and will remain by far the most important material in the 21<sup>st</sup> century. Once the global economic crisis is over, it will increasingly be needed for infrastructure development in emerging and developing countries and its potential will once again be in greater demand in the global industrialized regions.

Aside from the current crisis, our business is affected by numerous long-term ecological and social issues. It is not possible to manufacture steel without using finite resources and emitting carbon dioxide. As we aim to do business on a sustainable basis, this poses particular challenges for our company. We are making great efforts to use raw materials and energy efficiently and minimize negative effects for the climate by every means possible. On the other hand, our material is also part of the solution to many environmental problems. It makes cars lighter, thus helping to save fuel. It improves the efficiency of electrical equipment, thereby conserving resources. Pursued systematically, these technical achievements help the global environment more than some political initiatives.

The production of high-quality steel is a long-term business. Many of our investments are in operation for decades. We have been active at our core location in Duisburg for 120 years. August Thyssen believed in using the best possible technology – as did the Krupp family in Essen – and we remain true to this tradition today. Our mills represent benchmarks with respect to environmental protection both here in Germany and elsewhere. As a good neighbor, we also use state-of-the-art technologies at all international locations and in new construction projects, including our steel mill in Brazil and our processing plant in Alabama in the Southwestern USA.

We are in constant dialogue with our employees: ThyssenKrupp Steel trains young people far in exceed of its own needs, demonstrating its solidarity with the regions in which it is active. However, in terms of HR, we do have one weakness – we are only making slow progress in increasing the proportion of female employees. As a manufacturer of high-tech materials, we need engineers and technicians. Yet it is in precisely these areas that Germany has been suffering shortages for some time. There is also a particular lack of skilled women in these professions.

We believe we have a social responsibility to help eliminate this major engineering deficit. Together with our holding company ThyssenKrupp AG, we are working to counter this problem. For example, a total of well over 500,000 parents and children visited the three Ideas Parks held by ThyssenKrupp AG in Gelsenkirchen (2004), Hanover (2006) and Stuttgart (2008). This technology show, to which we have contributed many ideas and which is intended to raise enthusiasm for technology even in the very young, has proved an extraordinary success. We are confident that we have effectively convinced many of the highly interested visitors of the benefits and importance of technology.

The currently necessary savings measures also include dispensing with the expensive printed version of the second sustainability report. It will only be published on the internet, which is becoming an increasingly important source of information and is available globally. I believe that you, as the reader, will understand our decision. We would be pleased to receive your questions and comments on this report. This report is aimed at employees, customers, suppliers, politicians, authorities, NGOs, people in the regions in which we are active and also analysts and investors even though we are not listed on the stock exchange. Its content and data are based on the Global Reporting Initiative (GRI) Guidelines. This facilitates comparability with other companies.

Yours,



Edwin Eichler

## HOW WE ASSESS DEVELOPMENTS IN OUR FIELD

### STEEL MARKET A VICTIM OF THE GLOBAL FINANCIAL CRISIS – FUNDAMENTAL BASIS REMAINS POSITIVE

Since the fall 2008, the economic situation has declined dramatically in virtually all regions as a consequence of the global financial crisis. The world economy has experienced an unexpectedly severe downturn which has affected industrialized nations as well as the emerging markets, which had experienced growth beforehand. The global recession has intensified further since the beginning of 2008.

At first glance, global crude steel production – following the sharp rises of the years since the beginning of the millennium – fell by only 2% to 1.33 billion metric tons in 2008. However, eight outstanding months during which the steel industry continued to work to full capacity were offset by a disastrous final quarter. In the fourth quarter of 2008, global crude steel production was 20% down against the comparable prior-year period. A significant decline in global steel production is expected for 2009; it is not yet possible to forecast the extent of this decline.

In Germany, order intake in the fourth quarter of 2008 fell by 47% – the sharpest decline since the war. The recession in the steel industry is a consequence of the collapse of important customer sectors, in particular vehicle and machinery manufacture, continuing liquidity bottlenecks on the markets and excessive inventories at distributors and customers.

ThyssenKrupp Steel had to make massive production cutbacks in all areas as a result of the poor order situation. Initial operating adjustments took the form of running down working time accounts, using up remaining leave and collectively agreed free time. Short-time work was introduced from January 2009. We need to respond to this crisis and use all instruments available to us to secure the competitiveness of our company in the long term.

In the medium term we expect the steel industry to return to a growth course, as the fundamental basis remains unchanged. With its thousand-year history, steel will remain by far the number one industrial material in the long term and is irreplaceable. ThyssenKrupp Steel is equipping itself to leverage its proven strengths in the upturn phase. Our ongoing initiatives to improve efficiency and productivity as well as sustainably reduce costs will then pay off.

### IMPACT OF EMISSIONS TRADING WILL DAMAGE COMPETITIVENESS

The impact of the third period of emissions trading from 2013 to 2020 cannot yet be quantified. The concept is still under debate in Brussels. We would be significantly less competitive if we were to have to purchase all CO<sub>2</sub> emission certificates required for production up to 2020. As overseas competitors are not affected by this and – unlike energy producers – we will have little chance to pass on these costs as a result of the fierce competition on the steel markets, we will have no choice other than to stop investments in Europe. This will not aid climate protection as we are already a technology leader and there remains little potential for further reducing CO<sub>2</sub> emissions. In other parts of the world however, there is still a significant need for improvement in less environmentally effective steel mills. ThyssenKrupp Steel is confident that governments will take account of the issues of the energy-intensive steel sector in their decisions.

## “PROFUTURE” IS OUR RESPONSE TO DEMOGRAPHIC CHANGE

Major HR policy challenges lie ahead. Demographic change in Germany and the age structure of the workforce represent a central issue. The “ProFuture” program is our response to longer working lives, the impending shortage of skilled workers and increasing importance of knowledge. Our company systematically supports talented employees, our health management activities focus on prevention and avoiding unhealthy behavior, and know-how in the company is being retained and disseminated via clearly defined standards (see [pages 39–41](#)).

## INNOVATIVE CAPACITY STRENGTHENS GERMANY AS A LOCATION

Every industrial location must regularly ask itself what competitive advantages it currently offers and how it can remain competitive in the future. It can only keep pace with the formidable speed of advancing globalization if it can provide convincing answers to these questions. For Germany, this “taking stock” means remaining focused on our internationally recognized innovative capacity and implementing measures to strengthen this advantage. Research and development are Germany’s success factors. New materials drive innovative developments in forward-looking technologies in vehicle, environmental, energy and production engineering.

We are responding to these challenges. Our powers of innovation are a decisive factor for success. They set ThyssenKrupp Steel apart from its competitors, open the door to new sales markets and contribute to further improving the position of steel in competition with other materials. We act as a system partner to our customers, integrating knowledge from different technical disciplines and actively supporting customers with the implementation of new materials for innovative products. We are building on these strengths and thinking the future of steel.



The integrated steel mill under construction in Brazil: in close proximity to high-quality iron ore deposits.



High-tech hot-dip coating line in Dortmund: Our business is the production of high-quality carbon steel flat products.

## WHAT WE UNDERSTAND BY SUSTAINABILITY

ThyssenKrupp Steel's understanding of sustainability is based on the classic United Nations principles. As a company we strive in our decision-making to contribute to sustainable development which meets the needs of the current generation without compromising the ability of future generations to meet theirs.

ThyssenKrupp Steel can only meet its resultant obligations vis-à-vis customers, authorities, society and the environment now and in the future if the company is successful on the market in the long term. With this in mind, our understanding of sustainability combines economic necessity with ecological reason and social responsibility.

Many of the problems that confront us daily cannot be assigned to the classic triangle of "environment – business – social responsibility", which provides only a very inadequate representation of everyday business life with its diverse interactions. We have decided on a sustainability strategy which addresses these interdependencies, sets priorities, and fully integrates the central aspects. For us the focus is always on the company's capacity to act now and in the future. To secure this, we carefully consider the various interests in dialogue with all stakeholders in our social environment. This understanding is illustrated by our six success factors: effectiveness, efficiency, resources, impact, solidarity and justice.

### EFFECTIVENESS: "DOING THE RIGHT THING."

Effectiveness describes how well an objective is accomplished, how effective actions and measures really are. This initially means meeting our customers' requirements in terms of performance, quality, service and price. We must constantly question whether we are active in the right markets with the right products and services. But effectiveness also means constantly developing and harnessing technology potential so as to differentiate ourselves from our competitors and strengthen ties with our customers.



Health & safety at ThyssenKrupp Steel: Integral component of corporate policy.



The new blast furnace 8 in Duisburg: Fitted with state-of-the-art pollution control equipment.

### EFFICIENCY: “DOING THINGS RIGHT.”

Efficiency is the classic indicator of economy, describing the economic success achieved with the resources used. From the point of view of investors, an adequate return on capital is a measure of efficiency. Their requirements can only be met if decisions are based on the principle of profitability. Value-based thinking and continuous improvement processes in all areas of the company are essential factors in this. But our long-term efficiency also depends to a large extent on the general conditions and associated decisions on investments and locations.

### RESOURCES: “MAKE CAREFUL USE OF EVERYTHING WE HAVE.”

All economic activity is based on the premise that resources are available in the required quantities and qualities. Resources have to be procured and maintained. In this dynamic process we face constant rivalry from other companies and substitution competition from other materials.

**Human resources:** One central resource are our employees. They place their manpower, their motivation, their knowledge and their expertise at our disposal. To retain these valuable resources we have to strike the right balance of give and take. And this involves more than just monetary compensation. Of equal importance are aspects such as job security, personnel development, healthcare and training opportunities. To secure and expand our intellectual capital, it is of central importance to us both to maintain the technical qualifications (knowledge and skills) of our employees and to support and promote their social competencies (communication, networking and team-working ability).

**Natural resources:** As a company in the steel industry, we require substantial amounts of renewable and non-renewable natural resources. We handle these resources responsibly and economically, as in many cases their use is irreversible. As we are reliant on access to natural resources, the extent and ways in which we use them influence our capacity to act in the long term. If we wish to preserve this capacity, we must successfully meet the economic and technical challenges involved in the conservation of resources.



Focus on the future: The ThyssenKrupp Ideas Parks generate enthusiasm for technology among all age groups.



Constructive dialogue: ThyssenKrupp Steel promotes the intercultural skills of employees in seminars and training courses.

#### IMPACT: "MINIMIZE IMPACT IN EVERYTHING WE DO."

Both material and immaterial influences must be considered when protecting our society and our employees from the impact of our economic activities. These influences always occur at the interface between stakeholder groups and systems. Mankind itself, flora and fauna, but also political, social and cultural systems can be impacted by economic activities. The degree of impact essentially determines the harmfulness of these activities and thus their justifiability. And the more we succeed in protecting the environment from impacts, the greater the acceptance of our activities, and the more we can expect a tolerant, understanding and supportive response in extraordinary situations.

#### SOLIDARITY: "LOOK AT THE BIGGER PICTURE IN EVERYTHING WE DO."

Solidarity means our commitment and responsibility for the social system in which our company operates. Solidarity means pooling individual interests to serve the common good. That requires mutual consideration and balance, but it also means that those in positions of corporate responsibility see it as their duty never to use their own strength to the detriment of those who are weaker.

#### JUSTICE: "REMAIN DECENT AND FAIR IN EVERYTHING WE DO."

Justice for our company means acting within the law in all our decisions, granting everyone their rights and treating everyone as equals. We promote and actively enforce justice. Justice calls for fairness and honesty. It means restraint in enforcing the interests of our company and its management, in the knowledge that too much or too little can damage our relationships with our stakeholder groups.



Responsibility for the environment and the climate: Energy efficiency and conservation of resources are standard practice at ThyssenKrupp Steel.

### CAPACITY TO ACT AS PRIME OBJECTIVE

We regard maintaining our ability to act as the prime objective of our business activities. Only if we have sufficient latitude to act in all matters of concern to us will we be in a position to review strategic options and select the optimum solution. The greater this latitude, the greater our independence from external constraints, be they political, ecological or financial.

### SUSTAINABILITY MANAGEMENT SYSTEM UNDER DEVELOPMENT

To allow us to coordinate and focus our sustainable development activities, we have begun implementing a sustainability management system. Existing systems in the company will be linked together, and existing and future activities will be recorded, centrally consolidated, assessed, planned, managed and controlled. At the same time, external and internal communication on sustainability will be intensified. The introductory phase is expected to be completed in fiscal 2008/2009 with the adoption of a sustainability policy and completion of the initial steps to set up the management system. The aim of the system is to develop action options for our sustainability strategy and systematically integrate sustainability into our business strategies and practices. To this end we have appointed a sustainability management officer for the company, set up a coordination office and formed an interdisciplinary sustainability team.



# Doing the right thing.

ThyssenKrupp Steel is responding to the concentration and globalization process in the steel industry with its own growth strategy in premium carbon steel flat products. Key factors in this strategy are major investments in Brazil and North America which will secure our competitiveness on a sustainable basis. In parallel with this we are strengthening our position on our core European market.

# EFFECTIVENESS



Tinplate in a new dimension: ThyssenKrupp Steel subsidiary Rasselstein processes material supplied by Duisburg into high-tech packaging materials.

## SUCCESSFUL BUSINESS MODEL

ThyssenKrupp Steel is focused on the attractive market for premium carbon steel flat products. The foundations of the growth strategy have been laid by our successful business model in Europe.

2007 STEEL COMPANY RANKINGS BY SALES in billion €

Arcelor-Mittal		76.8
Nippon Steel		24.7
Tata-Corus		23.1
ThyssenKrupp <sup>1)</sup>		22.0
Posco		21.8
JFE Holdings		19.8
Baosteel		12.3

1) Steel and Stainless sales

Source: WV Stahl

In recent years the portfolio has been systematically focused on products with high value added. A key role is played by the subsidiaries of ThyssenKrupp Steel AG which provide additional processing steps along the value chain. Capabilities include intelligent material solutions, custom processing and comprehensive services through to finished products. The constant development of new steel grades and products in joint R&D activities with our key customers secures our strong position in a premium market. Thanks to our premium product mix, ThyssenKrupp's steel operations ranked fourth worldwide in terms of sales in 2007, whereas in terms of crude steel output they ranked only 16<sup>th</sup>.

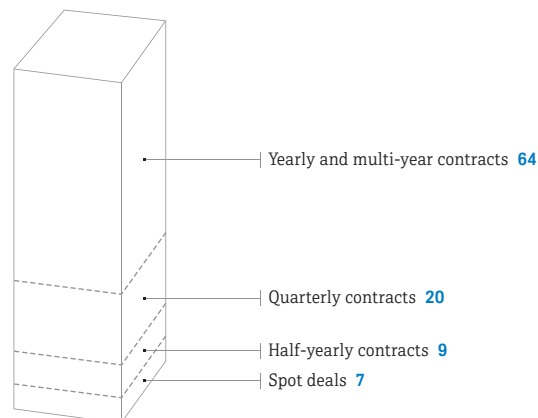


Carbon steel flat products from ThyssenKrupp Steel: That means a broad spectrum of sizes and steel grades – tailored to the individual requirements of customers.

### CLOSE CUSTOMER RELATIONSHIPS THROUGH LONG-TERM CONTRACTS

The premium market is characterized by strong customer loyalty. The very high proportion of long-term contracts (64%) and the fact that more than 90% of business is done with regular customers are an indication of trusting customer relationships. As a result, pricing is not so heavily dependent on short-term effects. However, the steep cost increases for raw materials in the 2007/2008 fiscal year, which could not be expected in this magnitude, meant that the yearly contracts had to be switched prematurely to different terms and conditions. These are now more strongly based on the deals made for our main raw materials, and therefore create much greater transparency. The changeover met with strong acceptance from the majority of our customers and was achieved through intensive discussions.

SALES STRUCTURE 2007/2008 BY CONTRACT DURATION in %



### HIGH TECHNOLOGICAL EXPERTISE

A cornerstone of our differentiation strategy is our high technological expertise. ThyssenKrupp Steel is no longer simply a materials supplier but a system partner to our customers. Our research and development efforts are focused on driving this strategic development forwards. Modern steel solutions are increasingly being offered to customers as intelligent combinations of new materials and

coating methods in conjunction with modern part designs. The integration of the Metal Forming group with effect from October 1, 2006 offers great potential for expanding our technological expertise along the process chain. This business is currently undergoing restructuring. ThyssenKrupp Steel is currently the only steel producer whose capabilities range from the material itself to engineering services and application technology through to the manufacture of components and assemblies.

To expand these strengths, ThyssenKrupp Steel spent around €204 million on research and development in fiscal 2007/2008. In the segment as a whole, 1,580 employees work in this area.

Partnerships with universities and external research institutes such as the Fraunhofer and Max Planck Societies are an integral part of our R&D network. An current example of the public private partnerships set up in this area is the establishment of the Interdisciplinary Centre for Advanced Materials Simulation (ICAMS) at the Ruhr University Bochum, in which ThyssenKrupp is the lead industrial partner. The aim is to model new materials on the computer and reliably predict their properties. This will allow us to bring improved materials to the market faster and using fewer resources in the future. The institute began work in early 2008 and is the only institute of its kind in Europe.

Joint development projects with customers also allow intelligent steel solutions to be introduced into volume production more quickly. The aim of development networks is to shorten innovation cycles and quickly translate research results into marketable products.

## STEEL MAKES AUTO BODIES LIGHTER AND SAFER

Remarkable progress has been made in recent years with concepts for lightweight auto construction with steel. To this end there has been a major drive to develop steels with high strength and good formability. Over the past 15 years, modern multi-phase steels have proved by far the most successful weight-saving materials in the car body, achieving significantly higher growth rates than aluminum or magnesium. High-strength steels today account for 60% of the product mix at ThyssenKrupp Steel. We are currently working on the development of a new class of multi-phase steels which will have the same strength levels as conventional grades and offer five times better formability.

Alongside materials for lightweight construction, ThyssenKrupp Steel offers a broad spectrum of tailored products. Made from steels of different thickness, strength and finish to match the requirements of the finished part, tailored blanks permit weight savings of 20% to 40%, depending on part.

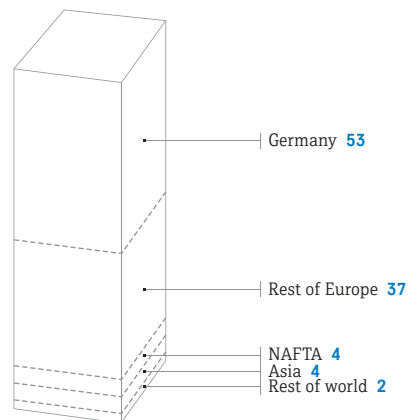
At the same time we are developing concepts to optimize body design to take full advantage of the potential of our material. With the NSB® NewSteelBody we used modern steels to produce a body-in-white which is around 25% lighter than a benchmark volume-produced vehicle – with no reduction in safety and virtually no increase in cost. This means that significant weight savings can be achieved which reduce fuel consumption and CO<sub>2</sub> emissions. (More details can be found in the section “Impact” on [pages 53–54](#).)

## INCAR: RESEARCH INITIATIVES FROM THYSSENKRUPP

InCar, a wide-ranging research and development offensive for innovations and products in automotive construction, was unveiled at the 2007 Frankfurt Motor Show. This cross-segment project brings together the know-how of the Steel segment and the expertise of the automotive companies in the Technologies segment of the ThyssenKrupp Group. InCar is designed as a solutions and ideas pool for body, chassis and powertrain products. For all parts, assemblies and systems examined, numerous alternative solutions are developed for different customer objectives and validated in terms of structural mechanics and manufacturability. The development platform is a manufacturer-independent benchmark structure representing the projected state of the art in 2009. Newly developed parts and assemblies are comprehensively tested as part of the vehicle structure. In addition to the validation of manufacturability, a precise cost analysis is conducted. This allows our customers to introduce developed parts and modules into volume production quickly and easily.

A further strength is the development of new concepts for coating premium carbon steel. With the surface engineering center Dortmunder OberflächenCentrum (DOC®) we have one of the world's most efficient development centers for steel finishes. The center's work focuses for example on improved corrosion protection, increased scratch resistance and easy-to-clean surfaces. A current example is the innovative coating ZMg EcoProtect®, a zinc-magnesium coating applied by a hot-dip process. Compared with conventional hot-dip coating it offers significantly higher corrosion protection.

SALES BY REGION 2007/2008 in %



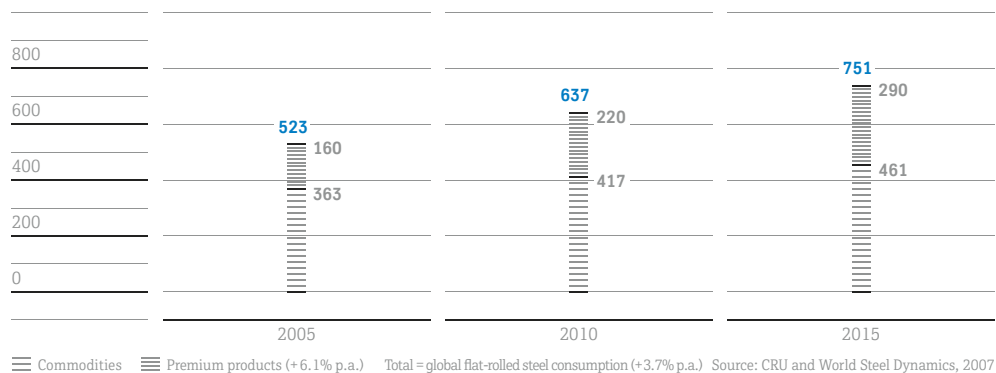
Today, apart from minor processing and coating locations in other regions, ThyssenKrupp Steel does most of its business in its core market of Western Europe. This is where we generate 90% of our sales. That will change fundamentally in the coming years with the expansion of our international operations.



Investment in Brazil: Construction work on the strategic project in Santa Cruz is in full swing.

## GROWTH IN PREMIUM SEGMENT

GLOBAL MARKET FORECASTS FLAT STEEL UP TO 2015 in million t/year



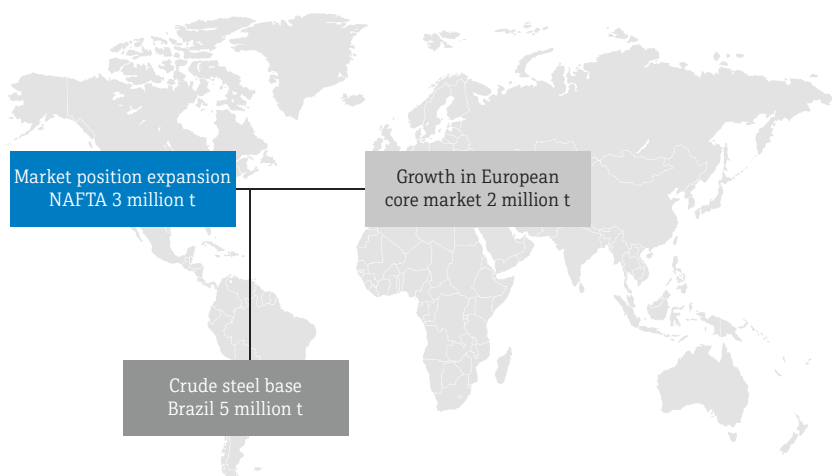
We are pursuing a growth strategy to expand our market position internationally and increase our deliveries from 14 to 20 million tons of carbon steel flat products per year. The strategy has three core elements: the building of a slab plant in Brazil and a downstream processing plant in the USA, and the expansion of our processing and coating capacities in Germany.

Our strategy is based on long-term market forecasts for premium carbon steel flat products. Up to 2015 average growth of 6% per year is expected in this segment, whereas the flat steel sector as a whole is projected to grow at less than 4% in the same period. Almost 50% of the premium products are consumed in the volume markets of Europe and North America. To strengthen its market position in these regions, ThyssenKrupp Steel will be investing more than €7 billion in capacity expansion in the coming years as part of a transatlantic strategy. We believe this strategy is right, despite the current crisis situation, because the fundamental data on the market for premium carbon steel flat products have not changed. After a consolidation phase, the market will continue to grow.



Growth in premium segment: In the future 5 million tons of slabs will be produced in Brazil.

#### THYSSENKRUPP STEEL GLOBAL GROWTH TARGETS



#### ADDITIONAL CRUDE STEEL CAPACITY IN BRAZIL

To implement our growth plans, we need additional crude steel capacity. This is currently being created with the construction of an integrated steel mill in Brazil which is designed for an annual output of 5 million tons, of which 3 million tons will be processed in the USA and 2 million tons in Germany. Key to the choice of location of Santa Cruz in the state of Rio de Janeiro were cost advantages based on direct access to the Atlantic Ocean and the rail line, ending at the site, for the transportation of iron ore from the Minas Gerais region. With an investment volume of around €4.5 billion, the overall complex comprises a port, raw material handling facilities, coke plant, sinter plant, two blast furnaces, a BOF melt shop and a power plant to utilize the energy network. After the ramp-up of the facilities from the end of 2009, we will produce high quality steel slabs at an optimum cost level in Brazil. These advantages form the basis for our growth strategies in Europe and the NAFTA region.

## EXPANSION IN THE NAFTA MARKET

The flat steel market in North America is characterized by a large premium segment with long-term growth prospects. This opens the way for ThyssenKrupp Steel to leverage its leading technological capabilities and transfer its successful European business model to this market. The capacities of local steel companies are not sufficient to meet demand for high-quality flat products. The NAFTA region is therefore today a major net importer of flat steel and will remain reliant on imports to a large extent in the future. To date ThyssenKrupp Steel has only had a presence on this market through its export strategy, which is supported by local service centers and tailored blanks operations. Our strategic goal is to increase our market share from currently less than 1% to at least 5%.

## CONSTRUCTION OF A NEW PLANT IN ALABAMA

A major step is the construction of our own plant in the USA under a joint project of the ThyssenKrupp Steel and Stainless segments, which was launched with the groundbreaking on November 2, 2007. The plant complex is being built in the province of Mobile in the south of the US state of Alabama. Located on the Tombigbee River with direct access to the Gulf of Mexico, the site has excellent inbound logistics for the supply of starting materials. Optimum outbound logistics to customers in the modern industrial centers in the southern USA and Mexico are a further advantage. ThyssenKrupp Steel's investment budget for the new plant, scheduled to enter into operation in 2010, is around US\$3.25 billion.

The key element will be a wide hot strip mill to be used by both segments with a capacity of over 5 million metric tons, of which more than 4 million tons will be used to produce flat-rolled carbon steel. A substantial proportion of this material will be processed into high value-added products on cold rolling and coating lines. The plant will be supplied with 3 million tons of slabs from Brazil for the production of carbon flat steel. Additional slabs will be purchased on the global markets.

ThyssenKrupp Stainless will produce up to 1 million tons of stainless steel slabs in its own meltshop at the new plant, which will also be processed on the wide hot strip mill. Downstream cold-rolling facilities are also available on site. Some of the stainless steel hot-rolled will be supplied to the cold-rolling mill in Mexico, which until now has been supplied with starting material from Europe.

The state of Alabama is giving ThyssenKrupp Steel its full support (see quote from Sam Jones, Mayor of Mobile, [page 66](#)) with the expansion of the infrastructure and recruitment of future employees. A sales strategy has been developed to secure our expansion in the NAFTA market for carbon steel flat products.

## GERMAN LOCATIONS TO BENEFIT FROM GROWTH STRATEGY

But ThyssenKrupp Steel is not only investing overseas. Our high-performance German sites will also benefit from the additional crude steel capacity in Brazil. We are investing €400 million in the expansion of our processing and coating capacities to allow us to process the additional 2 million tons of slabs from Brazil. One key area is the expansion of hot strip capacities in Duisburg and Bochum. Measures to increase the performance of existing hot-dip coating facilities have already been completed under separate individual projects. At the same time, infrastructure and slab logistics are being expanded at the plant port in Duisburg-Walsum.

## BLAST FURNACE TO STRENGTHEN METALLURGY OPERATIONS

A further milestone in our future concept was the start-up of our new blast furnace 8 in Duisburg, which was blown in on December 8, 2007. The ramp-up was extremely successful. It will not have any effect on capacity because blast furnace 4 has been shut down and will serve as a reserve unit in the future. Another part of the extended modernization program is the relining of blast furnace 9. With these investments Duisburg will remain one of the most efficient steelmaking locations in the world. 1,200 jobs will be secured directly and 3,600 indirectly (see example on [page 59](#)).

## INVESTMENTS AT SUBSIDIARIES

Under our growth strategy, some of the additional volumes will be used to support the expansion programs of our subsidiaries in the areas tinplate, medium-wide strip, electrical steel, steel services and tailored blanks. Following significant investment in recent years, Rasselstein GmbH has expanded Andernach into the world's largest tinplate site with a capacity of 1.5 million tons. Hoesch Hohenlimburg GmbH aims to increase its medium-wide strip capacity by 10% to 1.1 million tons on the basis of growth with its key customers. ThyssenKrupp Electrical Steel is investing in the upgrading of its portfolio and a small capacity expansion.

To access the market in Central and Eastern Europe, the European steel service centers opened a new service center in Poland in May 2007. In Germany a new site is under construction at the port in Krefeld at which the production operations of the existing locations in Bochum, Breyell and Leverkusen will be combined. Processing capacity will increase from 450,000 to 600,000 t. Following the start-up of a new location in Turkey in September 2007, ThyssenKrupp Tailored Blanks opened a new plant in the Czech Republic.

## GROWTH MARKET CHINA STILL IN OUR PLANS

Despite our strategic focus on the transatlantic region, the growth market of China remains in our plans. ThyssenKrupp Steel is investing there in careful steps in the still small premium segment, above all in the areas of hot-dip coating, tailored blanks, metal forming and steel service centers.

A current investment project is the construction of a second hot-dip coating facility in the northern Chinese city of Dalian, built together with our partner Ansteel. Like the first line in production since 2003, it will have a capacity of 420,000 tons. The facility began trial operation in December 2008. With this we are responding to the increasing demand – primarily in the auto sector – for hot-dip coated products of a high quality standard.

At the beginning of fiscal 2007/2008 ThyssenKrupp Steel completed a 100,000 ton capacity steel service center in Changchun in the north of China, also built in partnership with Ansteel. It complements the existing tailored blanks factory at this location. Steel is represented in Wuhan with Tailored Blanks and Metal Forming production sites.

## INTENSIVE COOPERATION WITH JAPANESE STEEL PRODUCER JFE

In the interests of forming an international alliance, a cooperation agreement was signed in 2002 with JFE Corporation, Japan's second largest steel producer, relating to the joint development of flat-rolled steels for the auto industry. Under the agreement, the partners grant each other among other things licenses for ultra-high-strength complex-phase steels, allowing each company to manufacture the other's material. This means that we can guarantee the global availability of high-performance steel materials for our customers.

Because virtually all research and development resources in the Japanese auto industry are concentrated at the OEMs, Japan is an attractive market for engineering projects. The JEVISE joint venture between ThyssenKrupp Steel and JFE is successfully proceeding with the task of implementing the early vendor involvement concept – already standard practice in Europe – in joint development projects with Japanese auto producers.



“The international steel industry faces major challenges. The consolidation process is continuing. The companies have to find their own individual answers to strengthen their position in the global market. With innovative forward strategies, steel companies in Germany are making good progress along a path that can guarantee sustainable success.”

Hans-Jürgen Kerckhoff,

President of the German Steel Industry Association (Wirtschaftsvereinigung Stahl)



### **BRAZIL STEEL MILL: BEST PRACTICE TO INTERNATIONAL STANDARDS**

ThyssenKrupp Steel is currently implementing the biggest foreign investment in Brazil with the construction of a new slab mill in the state of Rio de Janeiro. Some 22,000 workers are busy erecting the facilities at the site. On a visit to the construction site in February 2008, Brazil's President Luiz Ignácio Lula da Silva not only emphasized the importance of this investment for his country but was also impressed by the high safety standards.

After start of production at the plant, which is expected to take place at the end of 2009, ThyssenKrupp will create 3,500 jobs in the region directly and up to 14,000 indirectly. The Brazilian supplier Vale will supply 8.5 million tons of iron ore on the basis of long-term contracts. 3.8 million tons of coal will have to be imported. Annual purchases of other products and services in the region will amount to R\$250 million/year (almost €100 million).

The Brazilian subsidiary ThyssenKrupp CSA itself will employ around 2,200 people, most of them Brazilian. They will be supported by no more than 100 expatriates, with care being taken to strike a balance when filling management positions. Employees are mainly being recruited from the neighboring communities and the western regions of the state of Rio de Janeiro. The theoretical training for our future workforce was organized in association with the Brazilian training center SENAI. Following on from this, practical training will take place in association with our partners in the Brazilian steel industry. The training program for the first group of engineers and technicians with steel industry experience began in

August 2007. To ensure the project's success, the future workforce will operate on the basis of ThyssenKrupp's corporate culture and high quality standards. By paying attractive wages and salaries, we aim to secure skilled employees in the face of local competition.

We also meet the highest requirements in terms of environmental protection. The plant has been designed with state-of-the-art technology. Gases arising in the production process will be used in the energy network. This includes a 490 MW power plant which not only covers the plant's own electricity requirements but will mostly be used to supply external customers. We comply not only with the Brazilian environmental standards but also with the more stringent European requirements. The local authorities recognized this import of best practices in the approval procedure. In particular, our open dialogue with almost 130 interest groups was acknowledged. This strengthened people's trust in ThyssenKrupp Steel as a responsible company.

Bridges have been built across the protected mangrove forests along the coast to minimize the impact of the plant's port on this habitat. The fishing grounds in the Bay of Sepetiba will not be directly affected by the construction of the port. Pollution in the bay was moved at great expense to a safe underwater disposal site – with a method already used successfully in Rostock and Bremerhaven in Germany. Water quality is constantly monitored by an independent institute, which has found that the decontamination of the seabed has led to an encouraging increase in marine diversity.



Efficiency

# Doing things right.

The ThyssenKrupp Group – and so also the Steel segment – is managed and controlled according to a value-based management system. The main priority is to achieve an appropriate return on invested capital. Over recent years Steel's contribution to earnings and value added in the Group has increased steadily. In addition to good market conditions, this was attributable to a continuous improvement process.

# EFFICIENCY



The Schwelgern coke plant in Duisburg – the world's most advanced coke plant when it started operation in 2003 – continues to set international standards in environmental protection.

#### STEEL SEGMENT KEY FIGURES

		2005/2006	2006/2007	2007/2008
Order intake	million €	12,343	12,718	14,195
Sales	million €	12,087	13,209	14,358
Crude steel output <sup>1)</sup>	million t	13,837	14,459	14,212
Earnings before taxes (EBT)	million €	1,406	1,662	1,540

1) including production share of Hüttenwerke Krupp Mannesmann

#### SALES GROWTH ON BACK OF FULL WORKLOAD

Over the past three fiscal years, ThyssenKrupp Steel has benefited from pleasingly solid demand for premium carbon steel flat products. In some areas demand could not be met fully for capacity reasons. In fiscal 2007/2008 order intake rose by 12% to €14.2 billion, reflecting an increase in volumes and prices.

Crude steel production including supplies from Hüttenwerke Krupp Mannesmann (HKM), in which we hold a 50% interest, was 2% down from the year before at 14.2 million tons. In-house production was lower due to the relining of the Schwelgern 1 blast furnace. For this reason, productivity in terms of crude steel production was 1% lower than in 2006/2007 at 664 tons per employee and year. However, in the years prior to this productivity had increased continuously. To ensure adequate supplies of slabs for our processing operations, we purchased additional volumes on the market. Rolled steel production for customers remained stable overall at 15.3 million tons.

Sales in the Steel segment climbed 9% in fiscal year 2007/2008, mainly as a result of higher prices. Shipment volumes increased by 2% to a new record level. Sales activity was slightly more subdued in the final quarter of the fiscal year. Due to the high share of annual contracts, most of them previously with a contractual term based on the calendar year, there is a time lag before the positive effect of higher steel prices filters through to sales. In talks with our customers in the final quarter of 2007/2008, we succeeded in renegotiating most of our annual contracts prematurely to take account of the higher raw material costs with changed contractual terms from July 1, 2008 to June 30, 2009 and higher prices.



Premium coke with fine coal: The Schweglern coke plant produces around 2.6 million tons of premium quality blast furnace coke per year.

### SIGNIFICANT COST INCREASES ON THE RAW MATERIALS SIDE

In the 2007/2008 fiscal year significant cost increases had to be absorbed for all starting materials used in steel production. The share of raw materials in the production costs of a ton of hot-rolled strip averaged almost 70%. In a market characterized by bottlenecks, iron ore producers were able to push through price increases of around 66% for fine ores in 2008. This means that prices have quintupled since 2002. Coking coal prices under the new contracts increased by as much as 200% and are therefore now six times higher than in 2002.

### COST INCREASES NOT FULLY OFFSET

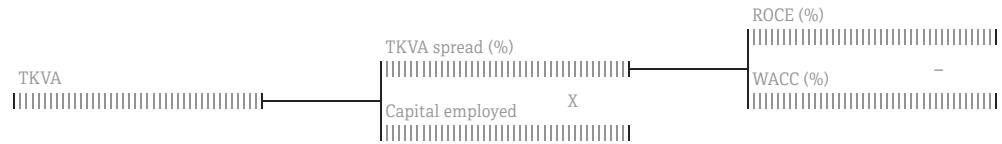
At €1,540 million, the Steel segment's earnings before taxes were €122 million lower than a year earlier but higher than our expectations thanks to the positive performance of special products. Efficiency gains and additional cost reduction programs in all business units only partially offset the cost increases for raw materials and energy. In addition, the pre-operating costs for the new plants in Brazil and the USA, and the restructuring charges at Metal Forming weighed significantly on earnings.

### VALUE-BASED MANAGEMENT

In the interests of our investors, the focus of value-based management at ThyssenKrupp is to achieve a continuous and sustainable increase in the value of the enterprise by concentrating on businesses which offer attractive development opportunities on a global scale. But this does not mean that we neglect the justified interests of our employees, suppliers and customers. Anchoring value management at operating level is necessary to secure our production sites in the global marketplace and allow the company to offer viable jobs. Ensuring we achieve an appropriate return on capital generally requires value-based planning and decision-making, rigorous controlling and benchmarking of results, and employee incentives as part of the compensation system to encourage value-based actions.

The central performance indicator is ThyssenKrupp Value Added (TKVA), which compares earnings before interest and taxes (EBIT) – i.e. operating income excluding financing factors – with the weighted cost of capital (WACC).

#### CALCULATION OF THYSSENKRUPP VALUE ADDED (TKVA)



ROCE (Return on Capital Employed) is the ratio of EBIT to interest bearing capital employed. When it exceeds the weighted average cost of equity and debt capital, which for the Steel segment is 9.0%, a positive contribution to TKVA is generated. Both key indicators – TKVA and ROCE – reflect the earning power of the capital invested in the company. In addition, free cash flow serves as a performance indicator to ensure that the portfolio comprises a balanced mix of value drivers and cash providers. Free cash flow defines the freely available financial volume based on the difference between operating cash flows and cash flows from investing activities. These funds are available for strategic steps but also for other sustainability areas. In growth phases a negative free cash flow is accepted to exploit strategic opportunities.

#### VALUE INDICATORS

		2005/2006	2006/2007	2007/2008
EBIT	million €	1,482	1,761	1,700
ROCE	%	23.2	26.9	22.1
ThyssenKrupp Value Added (TKVA)	million €	876	1,138	1,007
Free cash flow	million €	1,146	281	-1,055

In recent fiscal years the value indicators in the Steel segment significantly exceeded the targets. The reduction in ROCE and TKVA in fiscal 2007/2008 reflected earnings and the rise in average capital employed caused by the implementation of the strategic projects in Brazil and the USA. Free cash flow was negative owing to the use of funds for the growth investment projects. To counter this, an optimization program was carried out for cash-relevant transactions.

In the framework of value-based management, we consciously take on manageable and controllable risks if they are in connection with the utilization of potential in our core businesses and if the associated opportunities are expected to deliver an appropriate reward. This is supported by a comprehensive risk management system.

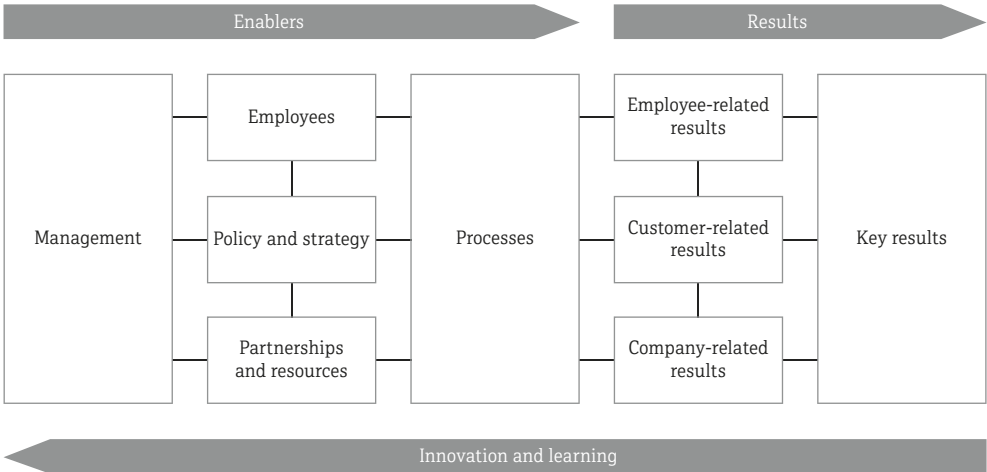
#### CONTINUOUS IMPROVEMENT PROCESS ENHANCES QUALITY OF EARNINGS

Efficiency enhancement measures carried out under the Groupwide ThyssenKrupp best program made a significant contribution to strengthening the quality of earnings in the past fiscal year. The continuous improvement process is now firmly established in the Steel segment. On the path to

business excellence we aim to improve our operating performance sustainably throughout the organization. Our success is due mainly to a broad-based spectrum of topics which addresses all the main levers for improving ThyssenKrupp Value Added (TKVA).

Since ThyssenKrupp best was first launched in fall 2001, some 1,400 projects have been initiated. These have led to sustainable income effects of on average €135 million per year. It is particularly pleasing that – unlike in the past – this has been achieved without any significant personnel cutbacks.

EFQM MODEL PROVIDES FRAMEWORK AND LONG-TERM COMPASS



The framework and long-term compass for all relevant action areas is the EFQM model of the European Foundation for Quality Management. All team members and project managers are extensively prepared for their work and take part in targeted programs and training measures. In fiscal 2007/2008, for example, the Six Sigma training program was further intensified. To date more than 240 employees have taken part in methodology and project management training according to the needs of the company.

Under a project to optimize interfaces, interdisciplinary task forces and steering committees including Executive Board members were set up and – in parallel with internal customer workshops – analyzed and extensively remodeled the operational and organizational structure of the “Controlling” and “HR” processes. The focus was on internal customer benefits and the definition of clear points of contact for our operating units.

In fiscal year 2007/2008 we focused on optimizing purchasing and implementing the Groupwide “Sales & Services Initiative”. All these improvement initiatives at ThyssenKrupp Steel are centered on customers and services to enable us to meet the highest standards in terms of product quality, performance and on-time delivery. In this connection we introduced new performance indicators and optimized our processes. This culminated in a new organization in which the activities are being continued.

In response to the downturn which started in fall 2008, we immediately initiated a short-term cost reduction program. The scheduled ThyssenKrupp best measures were supplemented by non-recurring effects which are to be realized in fiscal 2008/2009.

To maintain the company's competitiveness and sustainably safeguard jobs beyond the current crisis, we initiated our "Program 20/10 – Fit for Global Competition". It comprises ten initiatives to safeguard earnings on a sustainable basis. By implementing this program we aim to eliminate structural disadvantages over the next few years.

### CERTIFIED QUALITY AND ENVIRONMENTAL MANAGEMENT

The quality of products from ThyssenKrupp Steel has an outstanding reputation which we safeguard by applying uniform quality management standards throughout the company. Over 90% of the companies in the Steel segment operate an ISO 9001 or ISO/TS 16949.2002 certified quality management system. We are committed to continuously improving the satisfaction of our customers. Our customer relationships are characterized by partnerships and trusting cooperation. Annual customer surveys are conducted for specific sectors. In the survey of automotive customers and their suppliers we scored 86%. On this basis, we develop improvement projects aimed at further reducing the share of customers who are not fully satisfied. For the quality of our products, ThyssenKrupp Steel was named "Supplier of the Year" by General Motors in 2007 – this was the fifth time we had received this award. In 2008 we received Siemens' "Preferred Supplier" award for non-oriented electrical steel.

Our environmental management systems at virtually all locations are audited annually by independent certification societies. 85% of companies in the Steel segment have an ISO 14001 certified environmental management system. Production processes based on ecological standards support the company's economic performance. They also help us gain increased acceptance in society as a whole and raise the level of appreciation for our products among our customers.



**“As around 3 billion people are going through industrial revolution, the world has become more steel intensive in its growth. Based on continuous performance enhancements and innovation in products and processes, the value-oriented key figures of ThyssenKrupp Steel have reached a sound level. I expect significant further upside potential in the medium-term following the ramp-up of its major projects in Brazil and in the us as market fundamentals should remain tight over the next years.”**

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Vincent Lepine, Analyst, EXANE BNP PARIBAS



### VALUE-BASED MANAGEMENT TRAINING PROGRAM

Establishing a uniform standard of knowledge in respect of value-based management among executive employees is the aim of a training program which all non-pay-scale employees in the segment are required to attend. Following a similar program for top-tier executives in 2004, it was now the turn of the second management level to learn some basic economics and the meaning of terms such as ROCE, EBIT, WACC and TKVA.

The program begins with a preparatory unit, which participants can complete on the computer in the office or – if they have the necessary facilities – at home. Depending on the participant's previous knowledge and working speed, this unit – including interim tests – takes up to two hours to complete. Only when they have fully completed the web-based unit can participants register for a day-long classroom session. Here participants use what they have learned in

theory to carry out a case study, they have time to put questions to specialists and they find out what the performance indicators mean with reference to the annual report.

In 2008 around 90 mandatory classroom sessions were organized. The aim is to achieve clarity and establish a standard level of knowledge among the roughly 3,000 employees selected for the course worldwide. After completing the course, every participant should understand the underlying principles of value-based management and integrated controlling in the ThyssenKrupp Group, be able to calculate and interpret the central performance indicator ThyssenKrupp Value Added (TKVA), and know how business decisions influence the performance indicator. Basically: After taking part in the training program, participants are able to grasp business correlations in their own company more quickly and with this knowledge can form a better value-based assessment of planned measures and project ideas in their daily work.

# Make careful use of everything we have.

As well as ensuring that our need for highly skilled employees is always covered, our HR work focuses on continuously further developing the knowledge of our employees and fostering their careers in our company. Responsible use of natural resources has long been integral to everything we do. Recycling systems are used to minimize water and energy consumption.

## RESOURCES





Committed to quality – at every location worldwide: Brazilian engineers visit Duisburg to train for their future work at ThyssenKrupp CSA.

### GROWTH STRATEGY CREATES JOBS

ThyssenKrupp Steel is a global organization. Together with all our subsidiaries we employ almost 41,300 people worldwide – 30,100 of them in Germany alone, 7,350 in the rest of Europe and just under 3,850 in North and South America and Asia. Our employee structure is set to change significantly in the next few years as a result of our strategic projects: We are creating 3,500 new jobs in Brazil and – together with the Stainless segment – 2,700 in the USA. Following the massive slump in orders since fall 2008, ThyssenKrupp Steel had to substantially cut back production in several stages. Initially this was carried out by using up working time account balances, residual leave entitlements and contractually agreed holidays. In December a framework agreement was concluded with the General Works Council on the introduction of short-time working from January 2009 to safeguard jobs in the crisis. The fundamental reasons for our strategic investments in Brazil, Germany and the USA have not changed in light of the crisis. They are right for the long term and we are not cutting back on the scale of the projects at ThyssenKrupp Steel.

As consolidated companies, the Steel segment's national and international subsidiaries carry out the majority of their personnel work independently in accordance with local, often cultural circumstances (e.g. recruitment and employee surveys). In tandem with the personnel work of holding company ThyssenKrupp Steel AG, therefore, this provides sufficient room for maneuver at local level while at the same time ensuring the necessary centralized management structures are in place to harmonize individual activities. In many HR issues, Groupwide arrangements and programs of the Group holding company ThyssenKrupp AG are additionally taken on board (e.g. succession planning and pension plans).



Partnerships with key universities: ThyssenKrupp Steel supports students with mentors, fellowships and other practical measures.

### COOPERATIVE VENTURES FOR THE NEXT GENERATION

In addition to our school partnerships we have for many years also cultivated contacts with selected universities which specialize in particular in subjects of interest to our company such as metallurgy, materials sciences, mechanical engineering, electrical engineering, mechatronics and industrial engineering. In addition to our involvement in ThyssenKrupp AG's partnerships with the universities of Aachen, Berlin, Bochum, Dortmund, Dresden, Freiberg and Hamburg-Harburg, we also cooperate with the Institute for Applied Materials Technology at Duisburg-Essen University. The aim of these collaborations is to optimally combine resources to the benefit of both partners in the areas of support for talented students, further education and teaching, the exchange of scientific research findings and the support of university events.

The support given to students under these partnerships takes various forms, including fellowships, the "ThyssenKrupp Award", internship programs and support in writing coursework, dissertations and doctoral theses at companies of the ThyssenKrupp Group. Consideration is also being given to allocating teaching assignments to highly qualified ThyssenKrupp employees to support teaching at the universities.

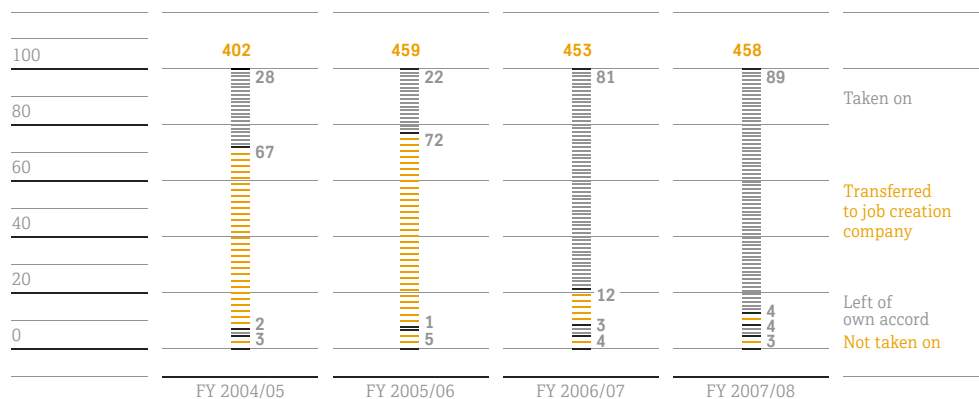
Various recurring measures such as get-togethers at the various universities and the "Uni Meets Business" event at ThyssenKrupp Steel have succeeded in attracting a large number of students to the company.

The company's close integration with schools and universities is a key success factor for us: By maintaining close contacts with students during their schooling and in internships, fellowships and periods of work with us during their studies we can attract young people to our company with exactly the skills we need to compete in the global market. As a result of our intensified personnel marketing efforts, applications for traineeships increased by 25% to 3,353 in fiscal 2006/2007 alone.

### IDENTIFYING AND FOSTERING TALENT

Talent management at ThyssenKrupp Steel covers all activities from apprenticeship training through to succession planning for executive positions.

PERCENTAGE OF QUALIFIED FORMER APPRENTICES TAKEN ONTO WORKFORCE in %



By training apprentices in excess of our own requirements, we not only secure our own manpower but also contribute to vocational training in the region. The “Future collective agreement” initiative resolved in 2006 further improved apprentices’ chances of being taken onto the permanent workforce. In fiscal year 2007/2008, jobs were given to 407 apprentices – far more than in previous years. In Germany, ThyssenKrupp Steel runs apprenticeship schemes in 19 industrial/technical and 12 commercial/IT occupations. Under the “Young Potentials” program introduced in fiscal year 2006/2007, young people who are studying part time in parallel with work/training receive financial support and can take part in seminars, workshops and development meetings. 38 employees were admitted to the program in its first year. A further 36 places were awarded in 2008.

Since management positions are increasingly filled from within our own ranks, ThyssenKrupp Steel has introduced a new system of personnel development. In fiscal year 2007/2008 an integrated process for assessing employees’ current performance and their potential for equal or higher-ranking duties and functions was introduced for all employees at ThyssenKrupp Steel AG. The accurate assessment and company-wide communication of the performance and potential of our employees is the most important prerequisite for the targeted filling of vacancies and succession planning. All non-pay-scale employees were assessed under this personnel development system. The response rate was 100%. In mandatory development interviews, supervisors and employees then agreed on individual development measures. Career planning is carried out on an individual basis and with optimum transparency for employees. The process is compatible with the “PerspActive” system used for the top management levels throughout the ThyssenKrupp Group and will be rolled out in the segment from fiscal 2008/2009.

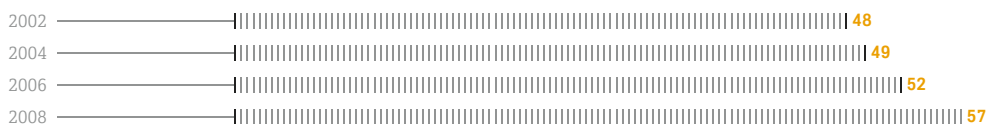
## LIFELONG LEARNING

Our employees are constantly upgrading their skills – by taking part in further training seminars, studying for additional qualifications or completing e-learning courses on their own. With on average 3.0 training days per employee in fiscal year 2007/2008, we further improved the high standard of the year before. Training clearly focused on technical subjects, followed by health and safety, management training and leadership skills. Almost a third of the segment’s employees now use the intranet-based multilingual e-learning platform LiNet 24-7®. Learning islands have been set up at some European operations to provide intranet access to the platform.

### MANAGEMENT CULTURE AS CENTRAL SUCCESS FACTOR

The continuous improvement of our management culture impacts all areas: It benefits the work climate, employee satisfaction, productivity and ultimately also the success of the company.

EMPLOYEE SURVEY RESPONSE RATES THYSSENKRUPP STEEL AG in %



To improve our management and corporate culture we have been conducting an employee survey at ThyssenKrupp Steel AG every two years since 2002. The growing number of employees taking part in the survey – from 48% in 2002 to 57% in 2008 – confirms that involving employees in the development of our management and corporate culture is the way forward.

In the 2006 survey, employees called for more performance-related compensation. With the conclusion of a company agreement on performance-related bonuses for non-executive, non-pay-scale employees we made significant progress with this in fiscal 2006/2007. The bonus will be determined on the basis of the economic situation and individual target achievement. Following extensive training of all those involved, the pilot phase is now under way in the current 2008/2009 fiscal year.

Our management culture is also reflected in the way we respond to new ideas. The intranet-based ideas management system at ThyssenKrupp Steel AG has made the assessment processes more transparent for the employees and considerably simpler for the judges. As a result we have succeeded in continuously increasing both the number of prize-winning suggestions – to 9,430 in fiscal 2007/2008 – and the economic return – to €15.5 million. Statistically, one in two employees submitted ideas.

### EXPATRIATES: GERMAN EXPERTS ABROAD

For ThyssenKrupp Steel as a globally expanding company, international HR work means more than just posting employees abroad for a few years. Our expatriates play a major role in the technical and economic success of newbuild projects and are therefore indispensable for our growth strategy. We stay permanently in touch with our expatriates both while they are preparing to go abroad and during their stay. No later than one year before they are due to return, expatriates attend workshops to talk about their experience and interviews to discuss their potential and plan the next steps in their career.

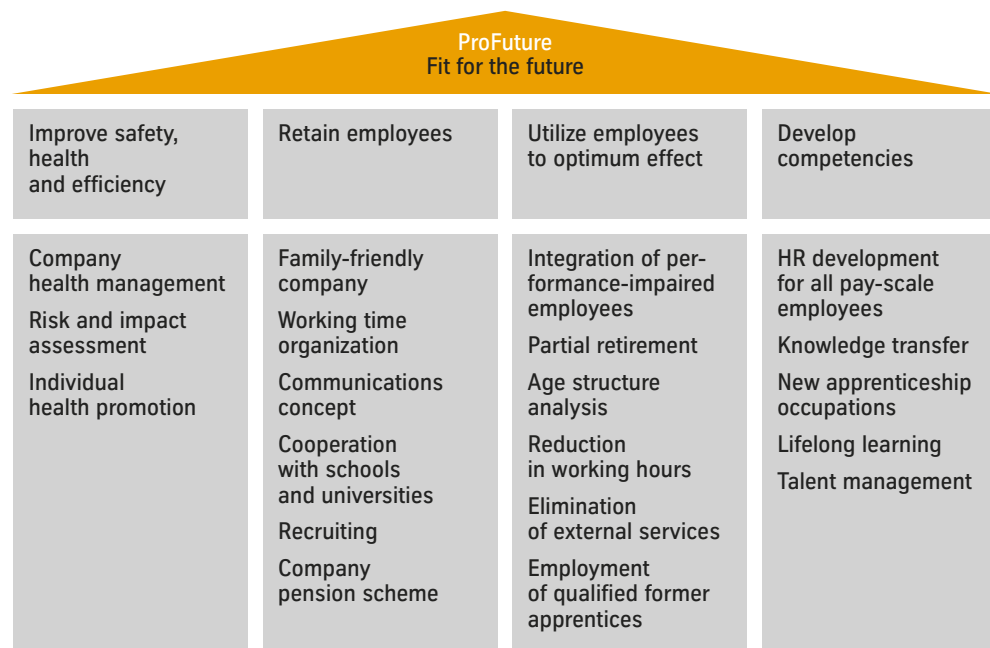
### SYSTEMATIC MANAGEMENT OF DEMOGRAPHIC CHANGE: “PROFUTURE”

The demographic change in Germany and the age structure of the workforce are central themes of HR strategy. Longer working lifetimes, the imminent skilled worker deficit, and the increasing importance of knowledge are the main challenges ThyssenKrupp Steel AG is countering with “ProFuture”. As an integrated, interdisciplinary and sustainable package of measures, the “ProFuture” program combines all initiatives dealing with the aging of the workforce.



The “ProFuture” program: Responding to the challenges of demographic change.

#### “PROFUTURE” ACTION AREAS



The development of individual modules and management of the program as a whole is the responsibility of a central steering committee working in close cooperation with the employee representatives.

All measures and activities are based on a differentiated analysis of age structures, age distribution forecasts, average age, personnel requirements and the skills required over a number of years related to various scenarios. With “ProFuture” we are responding to the concrete problems the demographic change presents.

The action area “Develop competencies” focuses on talent management and the retention of knowledge relevant to the company: In the future knowledge will be passed on in a standardized form, similar to a recipe, so that successors can be systematically familiarized with their tasks. The focus is on knowledge gained through experience. The methodology can be applied both to the knowledge tandems already in operation – where an experienced “knowledge provider” passes on his/her knowledge to a younger “knowledge consumer” – and, in a slightly modified form, to knowledge management between entire teams.



Responding to the demographic change: Under “ProFuture” knowledge transfer is standardized on the basis of knowledge tandems.

The prime aim of company health management is to safeguard health through preventive measures and by modifying unhealthy behaviors. This particular approach, based on local analyses carried out at the company’s locations, encourages employees to take responsibility for their own health (see [page 58](#)).

In fiscal 2007/2008 the employee turnover rate decreased further and is now 3.8%. To attract and retain skilled employees, it is becoming increasingly important to help employees combine career and family commitments. Company-supported daycare for children, our company agreement on parental leave, emergency plans for childcare, and the care support available are just some examples of measures being implemented in this connection. A project is currently under way to look into age-adapted working time models (see [page 71](#)).

The instruments and measures form a tool kit for executives and employees to meet the challenges of demographic change. The aim is to maintain the efficiency of our workforce, recruit talented young employees and safeguard knowledge gained through experience.



“The cost explosions on the raw materials markets showed how the shortage of natural resources can have dramatic repercussions. Germany as an industrial center risks growing short of another valuable asset: the human resource. With “ProFuture”, ThyssenKrupp Steel in association with the metalworkers union IG Metall has embarked on a path to stabilize the demographic development of workforces on a sustainable basis.”

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Hartmut Schink, Vice Chairman of the Works Council, Dortmund, ThyssenKrupp Steel AG

## ECONOMIC USE OF NATURAL RESOURCES

Making optimum use of raw materials, water and energy is of strategic importance to ThyssenKrupp Steel. Resource-efficient production not only benefits the environment but – against the background of increasing raw material and energy costs – also directly impacts earnings.

## HIGH CONSUMPTION OF IRON ORE AND COAL

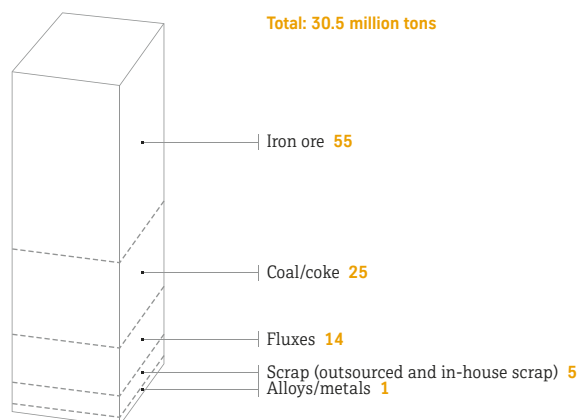
In fiscal year 2007/2008, ThyssenKrupp Steel's raw material consumption totaled 30.5 million tons. The largest share of this relates to the bulk raw materials iron ore (16.7 million tons) and coal, coke and sinter fuels (7.8 million tons). The most important supplier of iron ore is Brazil, accounting for 60%, followed by Canada, South Africa and Australia. Due to the limited availability of high-grade deposits in Europe, we import most of our coal from Australia and the USA. In addition, we purchase fluxes, scrap, alloys and metals.

Iron ore is melted into pig iron with the help of the reducing agents coke and coal before scrap and alloys are added in the meltshops to produce crude steel. By means of numerous technical optimizations, the use of reducing agents has been continuously lowered and – at 490 kg/t hot metal in optimum workload conditions – is now so close to the chemico-physical minimum that further significant improvements are almost impossible. Reducing agents account for around 78% of the 239 million GJ of total primary energy used.

## STEEL IS SUSTAINABLE AND VIRTUALLY 100% RECYCLABLE

Scrap – a key input material in crude steel production – is also very valuable to us because it is a scarce commodity. Although steel is virtually 100% recyclable, its extreme durability means that steel products are not returned to the recycling loop for a long time. Steel scrap can be recycled without problem and without loss of quality. Thanks to its heat resistance and its magnetic properties, steel is easy to separate for recycling purposes. In fiscal year 2007/2008 ThyssenKrupp Steel processed around 1.6 million tons of scrap, of which we purchased 0.9 million tons. The higher purchase volumes the year before reflected the intensive use of scrap in the meltshops in response to increased demand.

RAW MATERIAL CONSUMPTION 2007/2008  
AT THYSSENKRUPP STEEL in %



Raw material and energy price fluctuations mean that resource-efficient production is of central importance to ThyssenKrupp Steel's business success. Continuous improvement projects, for example in the areas of procurement and distribution, together with measures to reduce production defects result in direct material and energy savings. However, the greatest potential for resource-efficient production lies in continuous recycling systems and innovative processes.

### ENERGY EFFICIENCY AMONG THE BEST IN THE WORLD

In Duisburg – and shortly also in Brazil – we operate an integrated steel mill, in which iron and steel production are combined at a single site. This offers ideal conditions for minimizing energy and water consumption using a sophisticated recycling system. The most important role in this combined energy system is played by the process gases from the blast furnaces, steel melt shops and the coking plant, which are converted into electricity in the company's power plants and used in its production facilities. The two power plants in Duisburg alone have an output of over 800 MW. The energy management system is designed to meet almost all the company's power requirements. This not only minimizes the volume of electricity and natural gas that has to be bought in but even allows us to feed energy into the district heating network. We are therefore among the world's most energy-efficient companies in this field. For process-related reasons, there is practically no further scope for improvement beyond this.

This has been confirmed by the "Energy Climate and Innovation" project (eci) initiated by ThyssenKrupp AG. Under the project, almost 400 measures to save energy and reduce emissions were examined at ThyssenKrupp Steel up to mid-2008. Despite high energy prices, most of these measures offered an inadequate return. The theoretical savings potential was calculated at just under 400,000 t CO<sub>2</sub> per year – less than 2.5% of our overall emissions. However, investigations in this area continue. Measures range from the installation of lower-consumption drive systems in the production facilities to the inspection and replacement of lighting systems in the larger production shops to minor modifications in the offices.

Rasselstein received an environmental award from the state of Rhineland Palatinate for its "Energy savings potential" project. After conducting an extensive analysis of consumption using various new approaches, Rasselstein's employees identified impressive potential for sustainable savings: in terms of energy, the equivalent of 3 million liters of fuel oil, and in terms of CO<sub>2</sub> emissions an annual reduction of around 11,000 t.

### MOVING CLOSER TO ZERO-WASTE PRODUCTION

To save resources, we have succeeded in recycling iron particles collected in the filters of our various dust collector systems. For this purpose we developed the unique OxyCup® technology which allows hot metal to be recovered from previously unrecyclable iron-containing steel mill waste in a special shaft furnace at our Duisburg location (see example on [page 45](#)). In addition, a number of mostly mineral by-products are produced. This means that waste and by-products are recycled – under quality supervision – and virtually fully re-utilized, either in our own production processes or as materials for other industries such as granulated blast-furnace slag for the cement industry, blast-furnace slag for road construction and hydraulic engineering and fertilizers for the agricultural sector. This resource-saving recycling system has taken us a big step closer to zero-waste production. To further increase our recycling rate and improve the sales potential of our specific by-products, we are working to obtain official approval for our blast-furnace slag from the relevant authorities.

## WATER RECYCLING

Key to saving resources is the recycling of almost all the water we use in steel production. Large volumes of water of differing quality are needed in the various production stages in particular for cooling. In Germany ThyssenKrupp Steel consumes around 1.2 billion m<sup>3</sup> water each year. Freshwater is needed for only 5.5% of this requirement – a volume of almost 65.9 million m<sup>3</sup> in fiscal year 2007/2008. The rest is treated as required and reused up to 40 times in our closed system. Most of the freshwater is shore filtrate from wells close to inshore waters.

WATER MANAGEMENT 2007/2008 FISCAL YEAR AT THYSSENKRUPP STEEL



“Competition for the world’s resources is growing exponentially. Prices for steel-making raw materials such as iron ore and coking coal have risen to unprecedented highs over the past year, a function of industrialization/urbanization in the developing world. High prices can be viewed as a positive factor for sustainability as this forces consumers to be increasingly vigorous in improving production efficiencies and encourage greater recycling and waste elimination. Companies like ThyssenKrupp Steel who are well positioned to exploit the earth’s resources with consideration for sustainability are most likely to excel.”

Daniel Brebner, Director Commodities Research, UBS Bank (London)



#### SHAFT FURNACE WORKS RECYCLING MIRACLES: RECOVERING PIG IRON FROM IRON-BEARING DUSTS

The OxyCup® technology developed by ThyssenKrupp Steel is a world's first: In a so-called shaft furnace, previously unrecyclable iron-bearing sludges, dusts and slags from steel mill operation are melted down to recover high-quality hot metal. As a result, the waste products are virtually fully recycled. This conserves resources, reduces environmental impact and saves considerable costs in raw material purchasing and waste disposal.

ThyssenKrupp Steel invested €21 million in the remarkable shaft furnace. Installed in Duisburg in 2005, it processes above all dusts from the dust collection systems of the sinter units, blast furnaces and BOF plants. ThyssenKrupp Steel has invested heavily in these air pollution control systems at the Duisburg location. They collect around 20 to 25 kg of dust for each ton of steel produced. In addition to slag-forming components, these wastes contain high volumes of iron and in some cases carbon which can be reclaimed for use in the shaft furnace.

The furnace also processes sludges from the rolling mills and coating lines. This means that each year the furnace can process altogether 200,000 tons of waste. Up to 170,000 tons of iron is reclaimed from this waste – around 1.5% of the Duisburg site's annual hot metal production. The advantage: Around 250,000 tons of ore is saved and the dusts and sludges used do not have to be disposed of.

In addition, the gas occurring in the OxyCup® process is fed into the company's own power plant where it is converted into energy. The by-product shaft furnace slag – around 24,000 tons of which was produced in fiscal 2007/2008 – can be used in road construction. Further applications are in the construction of barriers and landfill sites and hydraulic engineering. Depending on the requirements of each application, special processes and additives are used to treat the slag.

This means that with the new OxyCup® furnace practically all waste products are fully reutilized – either in our own production processes or as materials for other industries.



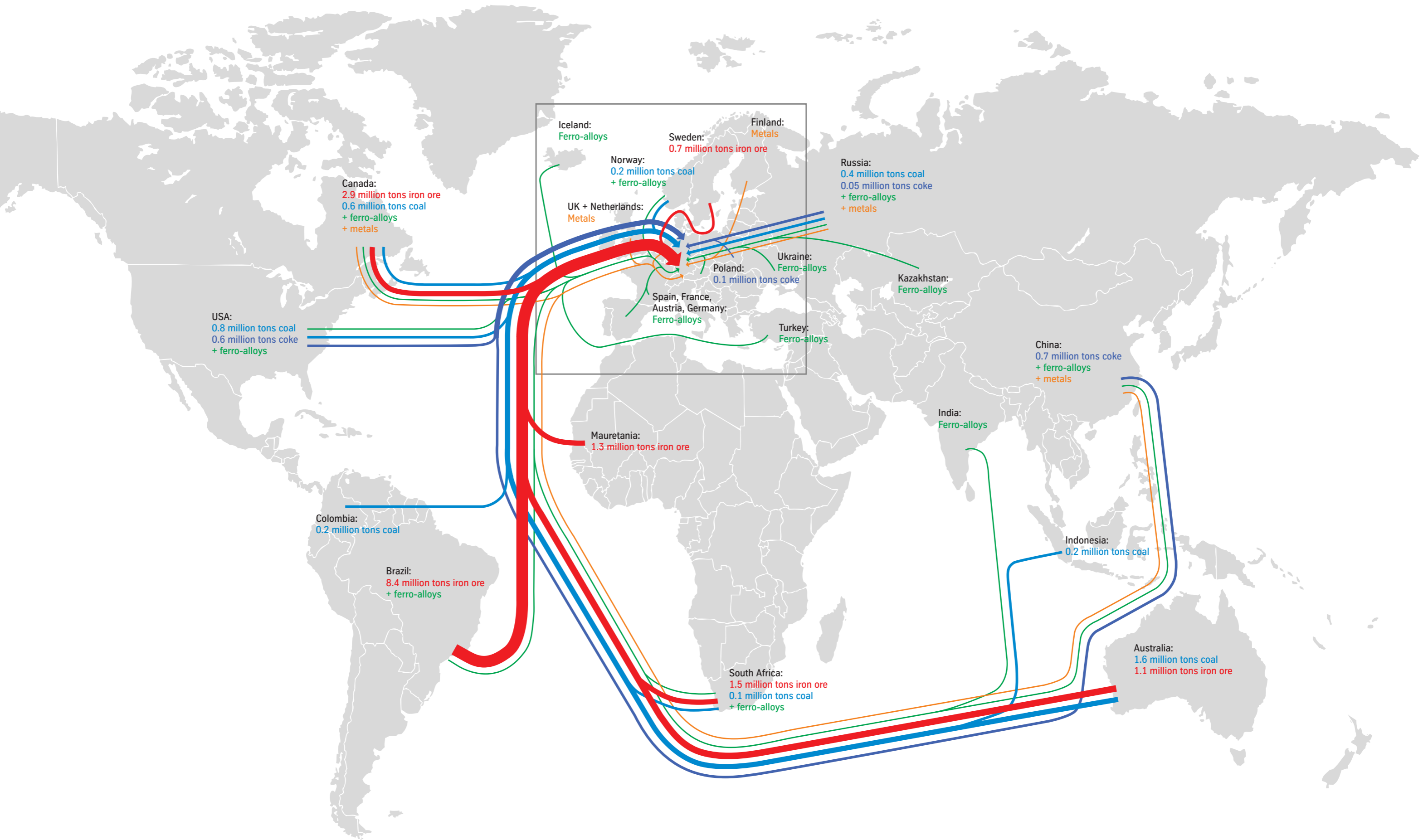
Our location on the Rhine offers outstanding outbound and inbound logistics.

### THYSSENKRUPP STEEL'S RAW MATERIAL SUPPLY ROUTES

No steel producer today can store raw materials in the required quantity and quality on their own production site. For this reason ThyssenKrupp Steel purchases the raw materials it needs for the production of crude steel in Duisburg and rolled steel products at all our locations in North Rhine-Westphalia from suppliers throughout the world. Iron ore, coal and coke account for by far the largest share of imports. Iron ore is imported mainly from Brazil, Canada, Africa and Australia, coal mainly from Australia, the USA and Canada. In addition we purchase alloys and metals needed for the production of specific steel grades on the global market.

World map







# IMPACT

Minimize  
impact in  
everything  
we do.

ThyssenKrupp Steel meets high environmental standards so as to minimize the impact of its production processes. This is true not only of its locations in Germany but also for the new plants under construction in Brazil and the USA. The health and safety of our employees is a key corporate objective ranking equally alongside product quality. We pursue this objective with innovative safety and health management strategies.

## CLIMATE PROTECTION IN STEEL PRODUCTION

Carbon dioxide (CO<sub>2</sub>) occurs in steel production through the reduction of iron ore using coke and coal. The oxygen in the ore combines with the carbon in the coke to form the process gases CO and CO<sub>2</sub>. The volume of CO<sub>2</sub> emissions in the steel industry is therefore directly related to pig iron and crude steel production. Over the past few decades we have continuously reduced the amount of reducing agents we use – coke and coal – to now less than 490 kg/ton of iron in optimum workload conditions, which means that for process-related reasons there is practically no further scope for improving CO<sub>2</sub> emissions. The energy-saving production of crude steel from scrap – i.e. without the reduction of ore – is not a viable option because the volume of steel scrap required is simply not available on the market: According to research carried out by the World Steel Association, over 90% of scrap is already recycled. What is more, due to the extreme durability of steel products it takes over 15 years before material is returned to the manufacturers – and even then only in the amount originally produced, which is around 40% of today's production volume.

Due to the full utilization of our iron and steel production capacities and the lower quality of reducing agents owing to the tight supply situation, our specific emissions were up slightly and our absolute CO<sub>2</sub> emissions increased to 18.0 million tons in fiscal 2007/2008. Since our CO<sub>2</sub> emissions are directly related to the production volume, we expect lower steel output and moderate capacity utilization to result in a corresponding reduction in greenhouse gas emissions.

## PARTICIPATION IN INITIATIVES TO PROTECT THE CLIMATE

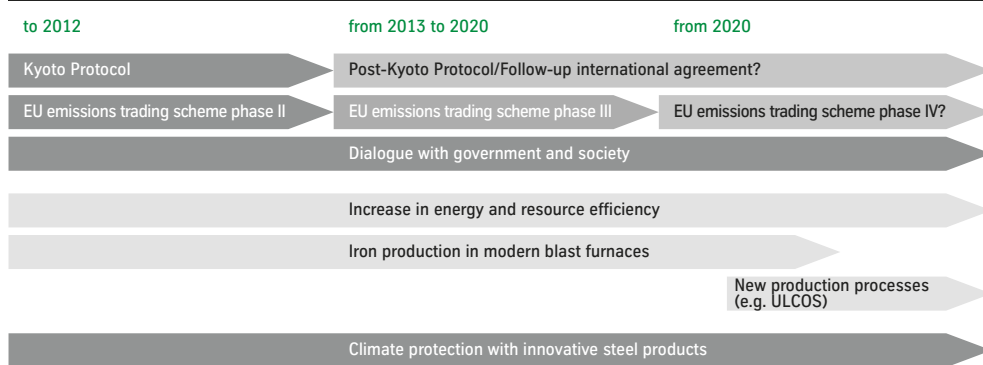
We are actively involved in research initiatives aimed at improving climate protection in our industry. These include in particular the “Ultra Low CO<sub>2</sub> Steelmaking” (ULCOS) project. 48 partners from 15 European companies are working on this initiative. The consortium brings together almost all Europe's major steel producers, their suppliers as well as numerous universities and research institutes. ThyssenKrupp Steel is one of the eight core members. ULCOS is funded by the consortium members and the European Union. The aim is to develop technologies with which specific CO<sub>2</sub> emissions in steel production can be reduced by over 50% on a sustainable basis.

The ULCOS consortium has identified four processes with potential for use on an industrial scale. These include the simple separation of CO<sub>2</sub> from the top gases in the blast furnace process – comparable with the ideas behind the oxyfuel concept in power generation – as well as pig iron production on the basis of advanced direct reduction, smelting and electrolysis. Other areas of research include the use of biomass as a reducing agent and options for the capture and storage of CO<sub>2</sub>. With the exception of electrolysis, which is the least developed process route currently being studied, all other processes depend on the capture and storage of CO<sub>2</sub> to meet the climate targets. To produce iron by electrolysis, large amounts of electrical energy are required which would have to be generated without environmental impact.

In the next phase of the ULCOS project it is planned to test the simpler process route of separating CO<sub>2</sub> from the top gases on a small commercial-scale blast furnace. This will require further investment of several hundred million euros. This would be used to build demonstration facilities to test whether the technologies can be further developed for industrial use. A period of 15 to 20 years will be required before the technologies are available for use on an industrial scale.

In addition to ULCOS, we are participating via our parent company in the global “Carbon Disclosure Project” (CDP) – a platform for a transparent dialogue between major companies, their shareholders and investors on the challenge of climate change.

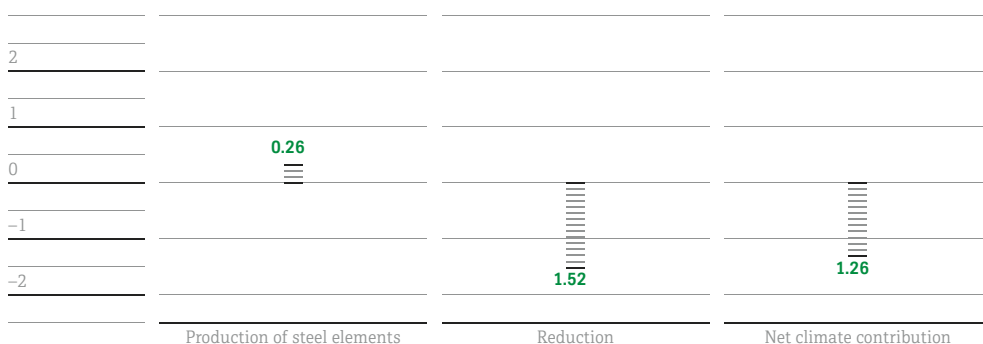
CLIMATE PROTECTION PARAMETERS AND KEY ISSUES AT THYSSENKRUPP STEEL



STEEL PRODUCTS HELP PROTECT THE CLIMATE

CO<sub>2</sub> emissions can be reduced considerably more effectively than in steel production by the intelligent use of the material's properties by steel processors. This strategy is particularly advantageous in the interest of global sustainability because it addresses both climate protection and the dynamic growth above all in China and India. For the sustainable development of these countries steel is not part of the problem, it is part of the solution.

CLIMATE CONTRIBUTION OF NSB® NEW STEEL BODY



We are already creating solutions today, for example by using innovative materials and technologies for lightweight auto construction. ThyssenKrupp Steel has compiled a database showing for the first time the energy balance and the CO<sub>2</sub> emissions during the production phase and use phase of an automobile. This study shows that 80% of emissions occur during use of the car. With the NSB® NewSteelBody, ThyssenKrupp Steel has developed a concept for a steel body which compared with a benchmark volume-produced mid-size vehicle is around 25% (75 kg) lighter. Another 21 kg can be saved by indirect effects, for example because the powertrain and chassis can be made correspondingly lighter. The NSB® achieves these results because it makes systematic use of high-strength and advanced multi-phase steels, tailored blanks and tailored tubes. It offers considerable potential in terms of reducing fuel consumption and emissions: Based on a mileage of 200,000 km, the CO<sub>2</sub> saving amounts to around 1.5 tons per vehicle. That means more CO<sub>2</sub> is saved than is needed for the production of the steel elements and at the same time more cars can be produced with the same amount of steel.

Our advanced electrical steels, used in transformers in all kinds of electrical equipment, are another case in point. They convert energy at an efficiency level of 99% with virtually no energy losses. This saves considerable volumes of CO<sub>2</sub>. The electro-magnetic properties of new electrical steel grades permit advanced solutions for hybrid and all-electric automotive drive systems.

The additional savings potential of our innovative steel products is greater than the entire emissions of the steel industry, especially if the numerous steel applications in the use of renewable energies are taken into account – such as wind turbines, hydroelectric power plants and photovoltaic systems. In the end it is up to customers and end consumers to use these applications. One thing is certain – there can be no effective climate protection without the use of steel.

USE OF GRANULATED BLAST FURNACE SLAG IN CEMENT INDUSTRY REDUCES CO<sub>2</sub> EMISSIONS in kg CO<sub>2</sub>/t cement

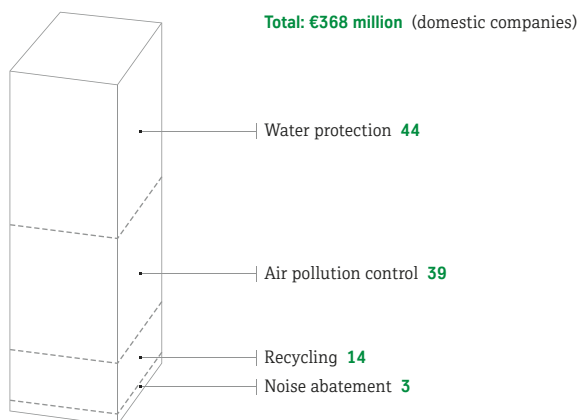


The by-products of steel production also contribute to climate protection. Slag and granulated slag from the melt shop, blast furnace and shaft furnace are processed into valuable materials for use in the cement industry and road construction. Using exclusively granulated blast furnace slag instead of burnt limestone (clinker), up to one ton of CO<sub>2</sub> can be saved for each ton of cement produced. With the new blast furnace 8 we deliberately selected a process which produces granulated slag as a by-product. We thus achieved our target of producing up to 97% granulated slag as a by-product in our blast furnaces – compared with around 80% in 2006/2007 before the new blast furnace was commissioned. This increased the availability of granulated blast furnace slag for the cement industry.

## HIGH SPENDING ON ENVIRONMENTAL PROTECTION

ThyssenKrupp Steel invests in equipment which reduces environmental impact and conserves resources. In some cases, up to 30% of the total budget for new investments goes on measures to protect the environment – in the case of the new blast furnace 8 in Duisburg it was €80 million. Water protection, clean air, noise abatement and comprehensive recycling are integral components of our operating processes. In fiscal year 2007/2008 we spent a total of €368 million on running costs for environmental protection systems in Germany. The majority of ongoing expenditure – over 80% – was for water protection and air pollution control measures. A further key area is the utilization of waste materials occurring in production.

OPERATING EXPENDITURE ON ENVIRONMENTAL PROTECTION  
IN THE STEEL SEGMENT 2007/2008 in %



### AIR POLLUTION CONTROL A TOP PRIORITY

Due not least to the close proximity of the production facilities to residential areas at most of ThyssenKrupp Steel's locations, air pollution control is a very important issue to us. It goes without saying that we meet all legal requirements. For this reason our facilities are fitted with complex dust collection systems featuring the most advanced technology in the world. The total particulate emissions of ThyssenKrupp Steel in Germany increased slightly in fiscal 2007/2008 to around 6,016 tons, mainly as a result of growth in sinter production. Our specific emissions remained virtually constant at the low level of 0.6 kg/ton crude steel.

### SIGNIFICANT CONTRIBUTION TO REDUCING PARTICULATE EMISSIONS

To implement the standards introduced in 2005 to improve air quality, in August 2008 the Düsseldorf district government developed clean air plans for the Ruhr area. ThyssenKrupp Steel introduced a number of measures to reduce air pollution. On the basis of a voluntary agreement with the Düsseldorf district government, the company carried out 41 measures to improve air quality. The success of the measures was verified with the North Rhine-Westphalia environmental authority. Air quality in the north of Duisburg has been measurably improved. Since 2002 particulate pollution has been reduced by up to 20%. ThyssenKrupp Steel now accounts for only 20% of the particulate pollution in the north of Duisburg. Over 60% is carried in from surrounding and more distant areas, while the rest comes from traffic and domestic fuel consumption. Put into operation in December 2007, blast furnace 8 represents a further improvement (see example on [page 59](#)). Measurements taken by the TÜV technical inspectorate together with the North Rhine-Westphalia environmental agency confirm that blast furnace 8 produces virtually no diffuse – i.e. uncontrolled – dust emissions.

## FURTHER INVESTMENT IN SINTER PLANT

Further new measures to reduce dust emissions have been resolved. By 2011 the sinter plant at the Schwelgern site is to be equipped with additional filters to capture dust and dust-containing off-gases under an investment project worth €30 million. The measure will help ensure that the European Union emissions standards are met in the north of Duisburg. The plant already has filters with a total surface area of 150,000 m<sup>2</sup> which clean approximately 100 billion cubic meters of gas per year, with the captured iron-bearing dusts being cycled back to the sinter plant.

To improve control of particulate emissions still further, among other things ThyssenKrupp Steel will be installing an additional fabric filter downstream of the existing electrostatic gas cleaners. In addition, new high-voltage electrostatic precipitators are to be used to separate particulates inside the sinter belt areas. At the same time, further particulate sources will be connected to the improved dust collection systems. This action by ThyssenKrupp Steel goes beyond the measures recommended by the recently published Clean Air Plan for the western Ruhr. The filter concept for the sinter plant will further reduce particulate pollution in the north of Duisburg by up to three micrograms per cubic meter.

In the direct vicinity of our modern production facilities, air pollutants such as NO<sub>x</sub> or SO<sub>2</sub> are less of a problem, though, like dust emissions, the NO<sub>x</sub> emissions increased as a result of growth in sinter production. The legal requirements are met.

## CLEAN EFFLUENT DISPOSAL AND IMPROVED NOISE ABATEMENT

ThyssenKrupp Steel's water recycling system also significantly reduces the volume of wastewater. The 29.9 million cubic meters of effluent produced at our German sites is treated prior to disposal in open waters or the sewage system. In addition to this clean effluent disposal system, water protection calls for the safe handling of hazardous substances at our plants, which we achieve by using collection chambers and double-walled plant units and by intensively training employees who work with substances hazardous to water.

Noise abatement is one of our main priorities. In all newbuild and upgrade projects such as our blast furnaces in Duisburg and Brazil, noise protection is optimized to ensure noise emissions are a minor issue only. Furthermore, products made of steel offer particularly good protection against noise. In industrial facilities, new generations of steel construction elements such as isorock®akustik effectively reduce noise levels and at the same time contribute to thermal insulation.

## HEALTH AND SAFETY AT WORK ARE CORPORATE OBJECTIVES

The health and safety of our employees are a corporate objective ranking equally alongside the quality of our products. To safeguard these, the company monitors and continuously improves its work in health and safety – a broad spectrum of healthcare initiatives supports our efforts to achieve this key corporate objective.

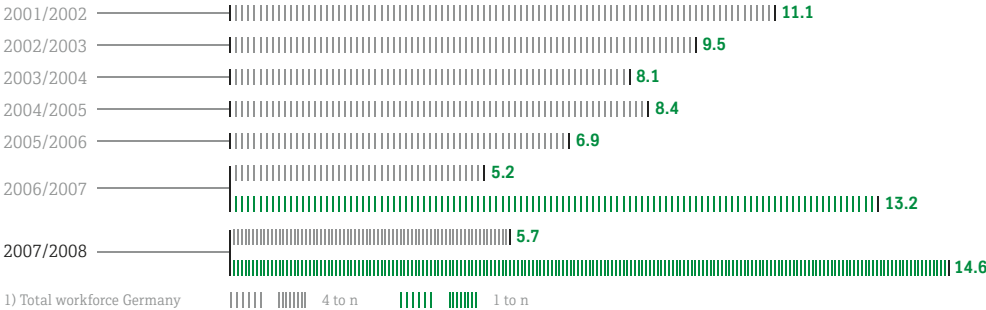
Although the frequency of reportable accidents (4 to n lost days) has decreased continuously in recent years – from 11.1 accidents per million hours worked in fiscal 2001/2002 to 5.7 in fiscal 2007/2008 – the ThyssenKrupp Group has launched the “Zero Accidents” initiative. ThyssenKrupp Steel AG has expanded this to include fire protection: “Zero accidents/zero fires”. The slight increase in the accident rate in fiscal 2007/2008 in particular makes it necessary for us to intensify our efforts to deal with this problem.

**FOCUS ON CHANGING ATTITUDES AND BEHAVIORS**

Our health and safety management philosophy is simple: “By eliminating the minor risks, you will prevent major disasters.” Managers, who lead by example and have a particular responsibility for their employees, receive targeted training in seminars and workshops. We have already carried out the “Changing attitudes and behaviors in health and safety” project in nine pilot areas at ThyssenKrupp Steel AG. In it, employees and managers examine health and safety from a new perspective. The knowledge they gain will establish a new safety culture in the company on a sustainable basis. The focus is on identifying “unsafe actions” and “unsafe circumstances” with a view to preventing accidents. In fiscal 2008/2009 this project will be rolled out throughout ThyssenKrupp Steel AG.

A further module encompasses the health and safety assessments carried out in association with DuPont Safety Resources. The health and safety management system of ThyssenKrupp Steel AG was also audited in this connection. The feasibility of the improvement potential identified is currently being examined by an interdisciplinary team of “New health and safety strategy” experts with the involvement of the employee representatives and the measures will then be added to the “Health and safety master plan”. Another module of the safety offensive is a series of information events for the managements of the contractor companies working at our sites. Up to the end of 2008 around 220 external companies had taken part in these supplier meetings. They are informed about potential sources of risks, details of our safety policies and the consequences of violating our safety procedures; these consequences range from expulsion from the company’s premises to exclusion from further tender processes.

ACCIDENT FREQUENCY PER 1 MILLION HOURS WORKED<sup>1)</sup>



To enhance safety and transparency, ThyssenKrupp Steel has not only initiated a series of new campaigns but also changed its accident reporting system. Whereas in the past only accidents involving at least four lost days – which have to be reported to the employers' liability insurance association – were included in the statistics, from now on the indicator “1 to n lost days” must be entered in the statistics from the first day of incapacity for work. This means that every accident causing incapacity for work is recorded from the first day at ThyssenKrupp Steel. Despite a wide range of activities, we are still falling a long way short of our “Zero accidents/zero fires” target. Further joint efforts are needed to reduce the number of accidents at ThyssenKrupp Steel on a sustainable basis.

Health and safety as well as fire protection also top the agenda in our newbuild projects: In all international projects, we work in accordance with our “Corporate Minimum Standards” (CMS) which were specially developed for ThyssenKrupp Steel. Relating for example to safety and fire alarm systems, these standards are applied throughout the world and in many cases go far beyond the national standards applying on site and thus guarantee our high safety level worldwide.

### PREVENTIVE HEALTH MANAGEMENT

Alongside our safety programs we have for many years operated a preventive health management and individual health promotion system. This focuses on “what keeps us healthy” rather than “what makes us sick”. The philosophy calls on employees to take responsibility for their own health. The “Staying healthy at work” project at Rasselstein GmbH has already won several awards and is playing a pioneering role in the Steel segment. As a result of our health management system, sickness absenteeism has remained at a constantly low level of around 5% in recent years.

To achieve further improvements in this area, ThyssenKrupp Steel AG concluded an Agreement on Company Health Management at the end of 2007. Under the agreement, a record is being made of factors influencing health – from working conditions to personal conduct through to mental stress – and discussed at local level by employees and managers and if necessary countermeasures will be introduced. To supplement this, the company health management system includes individual measures such as stress management strategies, tips for shift workers on how to get to sleep, and additional voluntary and free medical checkups to measure risk parameters such as blood pressure, blood sugar, cholesterol and weight.



**“Industrial activities impact mankind and the environment.  
The task of government is to minimize this impact.  
As a government agency, we enforce compliance  
with legal requirements. With its new blast furnace 8  
and other environmental measures, ThyssenKrupp Steel  
has contributed to improving living conditions in the Ruhr – and at the  
same time safeguarded the location and jobs over the long term.”**

—  
Jürgen Büsow, Düsseldorf District President



### BLAST FURNACE 8: CHANGE IN THE AIR

At exactly 9.15 p.m. on December 8, 2007, blast furnace 8 – featuring cutting-edge, environmentally friendly technology and capable of producing 5,600 tons of iron per day – was blown in. More than a quarter of the €250 million investment volume was spent on measures to protect the environment and in this respect alone the new blast furnace sets new world standards.

Packed into an area of just one hectare are blast furnace, stockhouse, gas-cleaning facilities, cooling towers, hot blast stoves, dust collection equipment, service roads and railway lines – everything you need to produce iron. For the supply of the site alone, 35 km of piping was installed – to the layman an impenetrable labyrinth, necessary for the safe and environmentally friendly transportation of compressed air, nitrogen, natural gas, blast furnace gas, carbon monoxide, cold blast air, steam and cooling water, in some cases in enormous quantities. For example, blast furnace 8 requires 8 million liters of cooling water per hour – which means that in one day it consumes as much water as a medium-size town. The cooling water is contained in a closed circuit and is constantly reutilized. Only very small losses need to be replaced.

Construction measures were carried out to minimize noise, gas and dust emissions. Fans ensure that the dust-bearing off-gases which occur during iron production in the tapping stand, stockhouse and elevated train are extracted – at a rate of up to 1.35 million cubic meters/hour – and fed within a closed system to the central dust collection facility, which collects around 98% of the dust. The top gas produced in the blast furnace process is cleaned and fed into a closed pipe network which supplies gas to the hot blast stoves and a flow of hot air to the furnace.

The plant's outstanding pollution control equipment also includes the elevated train dust collection system: For the first time the freight cars which carry the raw materials to the blast furnace and tip them into the bins are completely covered during tipping by mobile hoods under which the dust can be efficiently extracted and fed to the filter systems. The bin openings are also covered as far as possible. €20 million was spent on this system alone – and it is the only one of its kind in the world.

Blast furnace 8 is the world's first ever color-schemed blast furnace. Its black, red and orange colors represent the goings-on inside the 92-m tall structure, making it a highly visible landmark for Duisburg.

A young girl with grey hair is looking intently at an open book. The book is open to a page with text, and the girl's face is partially visible as she reads. The background is blurred, suggesting a classroom or library setting.

# SOLIDARITY

Solidarity

## Look at the bigger picture in everything we do.

We conduct a constructive, open and fair dialogue with the people in our environment, meet our responsibilities to society and make a contribution to education by getting children and youngsters enthusiastic about technology. In this way we have built up a trusting and cooperative relationship with our neighbors at our sites in Germany – something we're also pursuing systematically at our new sites in Brazil and the USA.



Teamwork: Motivation, openness and professionalism create strong personal ties.

### INTERDISCIPLINARY TASKFORCE ORGANIZES SOCIAL COMMITMENT

Social commitment serves our interests as a business enterprise and also benefits our employees. ThyssenKrupp Steel AG has a tradition of close ties with its locations. We are aware of our social responsibilities as a good neighbor and meet them as a Group company in the form of donations, sponsorships and other activities. To put our procedures on a systematic footing, in 2006 we set up an interdisciplinary work group tasked with positioning our company as an attractive employer and as an ecological, high-tech enterprise, concentrating initially on the north of Duisburg. It quickly became clear that this focus was too narrow, so the activities of the work group gradually spread to other ThyssenKrupp Steel locations in Germany. In September 2007 a permanent task force was set up, chaired by a member of the Executive Board, which has been meeting regularly since September 2008 as a social commitment steering group.

Once the review of the current situation is completed, the second step will be to target our commitment by defining priorities and goals along with appropriate long- and short-term measures in line with our corporate image. The focus is on promoting local institutions and projects in the neighborhood. We are currently developing a donations and sponsorships policy based on a ThyssenKrupp Group policy which was revised in 2008.

### 280,000 VISITORS AT THE 2008 IDEAS PARK

A highlight of our events and programs aimed at getting young people in particular interested in technology and science is the ThyssenKrupp Ideas Park. This major technology show was staged for the 3<sup>rd</sup> time (following events in 2004 and 2006) with the involvement of all areas of the ThyssenKrupp Group plus numerous cooperation partners from all areas of society.

In May 2008, around 280,000 people made their way to the Neue Messe exhibition grounds in Stuttgart to see the latest technological developments, pick up career tips or develop new ideas of their own. Central to the Ideas Park, which covered an area of 40,000 m<sup>2</sup>, was dialogue with the people behind the technology. Some 500 engineers, researchers, inventors and students demonstrated how innovations are created with reference to more than 200 exhibits.



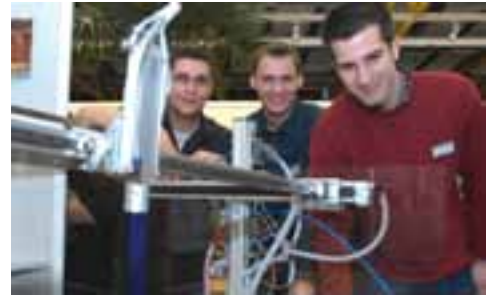
A success story from the word go: The Ideas Park is a hands-on technology exhibition for families, children and adults.

### GETTING CHILDREN ENTHUSIASTIC ABOUT TECHNOLOGY

The declared aim of the collaborations with our ten cooperation schools is to raise enthusiasm for science and technology among children and youngsters. (For more information, go to “Cooperative ventures for the next generation” on [page 36–37](#) in the Resources section). Years of cooperating with secondary schools have taught us that this kind of support should be provided as early as possible. So in 2007 we extended our activities to elementary schools. Alongside programs for university and secondary school students, in recent years we have launched a raft of new projects. One of them is environment lessons at elementary schools in Duisburg: Under a pilot project carried out in 2007, in collaboration with the association “Deutsche Umwelt-Aktion Kinder” we gave biology lessons at three elementary schools in the north of Duisburg to introduce the children to the subject of bionics. The aim was to spend a morning demonstrating to 4<sup>th</sup> graders how our knowledge of nature can be used as a role model for new, resource-conserving developments. The message was communicated in a way that was easy for the children to understand, with lots of fun elements and practical exercises.

Together with the RWTH Aachen university, in October 2007 we also launched a cooperative project “Elementary school researchers – investigating science” at the Einhard-Gymnasium high school and the Am Römerhof elementary school in Aachen. The aim is to encourage older elementary school students to hone their talents as researchers and discoverers as part of a science project. Over a period of eight weeks, small groups of twelve to 16 elementary school pupils take part in experiments conducted in the science labs of the high school. Each year around 80 elementary school children can be involved in these research projects. In the very first year more than 100 pupils applied to take part. Due to the high level of interest, in 2008 the project was extended to other nearby elementary schools.

To make sure this interest in science and technology is maintained when the children get older, ThyssenKrupp Steel has long been involved in the German youth science competition “Jugend forscht”, which invites both school students and the company’s apprentices to take their first steps as researchers.



We sponsored the 29<sup>th</sup> regional heat of the "Jugend forscht/Schüler experimentieren" youth science competition: Seven of the 37 projects were entered by ThyssenKrupp Steel apprentices.

Teachers are also involved in the company's educational activities. For several years we have been providing workshops on various subjects attended by entire teaching staffs. One current project is addressing the introduction of an EFQM system (European Foundation for Quality Management) at schools. The aim is to transfer this quality management system, which is already in widespread use in industry, to the organizational form of the school. Using questionnaires, areas of activity are surveyed and prioritized; in moderated work groups, teachers develop and implement solutions. The project is in the pilot phase and will subsequently be implemented in other schools.

#### THYSSENKRUPP STEEL INITIATES ASSOCIATION TO SUPPORT CULTURAL AND SOCIAL ACTIVITIES

In addition to raising enthusiasm for technology among children and young people, we also support several local projects and initiatives. They are centered on our main location in Duisburg, where for example we have provided the Duisburg Philharmonic Orchestra with significant financial support. This is an important contribution to maintaining the high quality of cultural events in the region. The establishment of "KlimaTisch", an organization which helps citizens save energy, was largely financed by donations from ThyssenKrupp Steel. In 2006 we instigated the Förderverein für Kultur und Soziales e.V., an association with activities in the areas of education, youth, care for the elderly, art and culture at our German locations. In addition to these large-scale projects, we also support many smaller activities in our neighborhoods, from a school newspaper in Bochum to the Marxloh theater festival.

#### IMPROVING THE CITYSCAPE: GREEN BELT CONCEPT FOR DUISBURG

The city of Duisburg wants to improve the urban structures in zones close to industrial areas. To provide a satisfactory solution to problems which have arisen in the north of Duisburg through the historically evolved close proximity of industry and housing, they intend to create a green belt: By demolishing mainly uninhabited housing, a "green zone" is to be formed between the steel mill and nearby houses. Duisburg's city council approved the green belt concept at the end of 2007. In addition to the EU and the state government of North Rhine-Westphalia, ThyssenKrupp Steel is providing a donation of €36 million as part of a public-private partnership to improve the city environment. The green belt project is scheduled for completion in ten years.



Basis for good neighborly relations: ThyssenKrupp Steel is actively involved in district initiatives.

### CONSTRUCTIVE AND OPEN COMMUNICATIONS STRENGTHEN TRUST IN THE COMPANY

We actively seek contact with political and social organizations and important opinion-builders and maintain a constructive exchange of information. In so doing, we attempt to improve acceptance of our actions and avoid conflicts before they arise. We get involved in plans for legislation and other changes to political conditions which could impact our company. We provide factual information at EU, federal, state and municipal levels. In line with our corporate values, we make no contributions to political parties, related or similar organizations, or individual holders of or candidates for political offices.

We initiate information and clarification campaigns at our national and international locations ahead of official approval processes. In the north of Duisburg, for example, we have been actively involved in local initiatives in the districts bordering on our plant premises – Bruckhausen, Beeck and Marxloh – for the last five years. Round table meetings are held at regular intervals: At the initiative of and moderated by the “Entwicklungsgesellschaft Duisburg” development society, active citizens meet to exchange views on challenges, problems, projects and successes in their districts and, where necessary, develop improvements. A typical agenda may include environment and sport projects, the work of street workers, vacation programs for children and young people, offers for single mothers and efforts to integrate citizens from different ethnic backgrounds. ThyssenKrupp Steel is actively involved in these round table discussions. Company employees are available as contacts.

We were able to make good use of our contacts with our neighbors when Brazilian engineers came to Duisburg. We were able to inform people at an early stage that a total of 160 Brazilian colleagues would be living and working in the district of Bruckhausen, which has a mainly Turkish population, for a lengthy period. In this way we were able to address and dispel any possible intercultural conflicts and issues in advance.

## DIALOGUE FROM THE OUTSET IN BRAZIL AND THE USA

We are using our positive experiences for our new construction projects in Brazil and the USA. Here too, we decided early on to involve our neighbors and local institutions.

In the Brazilian city of Santa Cruz, where ThyssenKrupp Steel is building an integrated iron and steel mill, representatives from the country's government and administrative bodies – including Brazil's President Lula – visited the site to gather information and see for themselves the high health and safety and environmental standards employed. As part of the approval process, public hearings were organized at which intensive discussions were held with local residents. Based on an extensive analysis of the socioeconomic effects of the project in close dialogue with the surrounding communities, ThyssenKrupp CSA will invest more than R\$10 million (€4 million) in measures to improve living conditions in the region. This will include investments in schools and hospitals and the construction of streets and plazas. In addition, literacy programs and professional training measures will be provided in the surrounding communities. The local fishing associations are being supported through the construction of a new cold store. With a program for 200,000 trees we are even contributing to maintaining local biological diversity. 25,000 shoots from Atlantic rainforest tree species threatened by extinction will be planted directly on our works premises. A further 175,000 trees will grow in the nature park on the Guandu river. This initiative is part of a project launched by the state of Rio de Janeiro.

Before the start of construction on the new processing plant in Alabama, four open house events were staged in surrounding towns and communities which were attended by around 1,800 people, who were able to put their questions about the construction project (see case study on [page 67](#)).



**“ThyssenKrupp is a change agent for Alabama, the city of Mobile and the region. Not only will the high-paying jobs generated by the company’s state-of-the-art facility sustain countless employees’ households, but the company will transform our area’s physical and economical environment. ThyssenKrupp is the type of corporate partner we are so grateful to have attracted to Alabama, Mobile and the region. We are eagerly awaiting the opening of the facility.”**

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Sam Jones, Mayor of Mobile



#### **THYSSENKRUPP SEEKS AND MAINTAINS DIALOGUE WITH THE PEOPLE OF ALABAMA**

To visitors, Mobile, Alabama, a city of 200,000 inhabitants, comes across as a typical southern US metropolis. The rocking chair on the front veranda is still a symbol of house owners' willingness to communicate with their neighbors.

Friday, November 2, 2007 in Calvert, 40 miles north of Mobile, groundbreaking for the new plant: Dr. Ekkehard Schulz, Executive Board Chairman of ThyssenKrupp AG, promised the more than 500 community, city and state representatives to be a good neighbor over the coming decades. From this day on, the US\$4 billion investment will influence the lives of people in Mobile County – both economically and ecologically.

Heavy construction machines had already arrived at the site weeks earlier and started work. And the inhabitants of Mobile, Calvert and the other communities near to this 12 km<sup>2</sup> building site started to show their curiosity – in the positive meaning of the word – as early as the approval phase, before the start of construction work. They wanted to know what to expect, what effect on their lives this plant would have, which is to process more than 5 million metric tons of flat carbon and stainless steel each year.

They were given full answers. Four open house events were organized in July 2007 at which representatives of ThyssenKrupp Steel and Stainless USA took questions. Almost 1,800 people, far more than expected, showed interest in the project and the sustainability of the jobs, although further away from the site there was more interest in the economic significance of the project. For example, over 95% of the visitors to the open house in the city of Mobile were potential contractual and business partners.

The other three events in communities close to the plant were mainly attended by interested citizens and residents from the area. Their questions were dominated by the environment, emissions, noise and water pollution, the construction schedule and the recruitment process for employees. The media – television, radio and press – were also in attendance and reported in detail, ensuring that information was available to all the roughly 400,000 people living in Mobile County. In his speech at the groundbreaking ceremony, Alabama's Governor Bob Riley praised this information policy. ThyssenKrupp promised to uphold this culture of open communication in the future.

# JUSTICE



Justice

## Remain decent and fair in everything we do.

ThyssenKrupp Steel's corporate culture is based on fairness, dependability and responsible management principles. Our compliance program ensures our business processes are in line with legal requirements. Corruption is not tolerated. We guarantee our employees equal opportunities regardless of their gender, origin, religion or culture and a fair share of the value created by the company.

## CORPORATE GOVERNANCE: RESPONSIBLE CORPORATE MANAGEMENT

Good and responsible corporate management is an important part of our corporate culture. The ThyssenKrupp Group complies with all recommendations of the German Corporate Governance Code as amended on June 6, 2008. Compensation to the Executive Board of ThyssenKrupp Steel AG is based on the medium- and long-term success of the company. To this end it comprises a fixed component and a variable component, while members of the Supervisory Board received a fixed compensation which is set each year by the responsible body.

The Supervisory Board of ThyssenKrupp Steel AG is based on the 1951 Iron and Steel Codetermination Act (Montanmitbestimmungsgesetz) and comprises equal numbers of stockholder and employee representatives plus one "neutral member". The Executive Board includes a Labor Director who cannot be appointed or dismissed against the wishes of the majority of the employee representatives on the Supervisory Board.

## ACTIVE IMPLEMENTATION OF COMPLIANCE PROGRAM

The ThyssenKrupp Group regards measures to ensure compliance with the law, statutes and company-internal policies as a key management task: Antitrust violations or infringements against regulations on combating corruption are not tolerated. The ThyssenKrupp compliance program contains various Group policies and guidance notes, in which the underlying legal provisions are explained in more detail and concretized for the Group and its employees.

In the Steel segment, the compliance program to ensure conformity with the law and resistance to corruption in our business operations is actively implemented. The company's compliance officer coordinates a large number of measures aimed at avoiding infringements of antitrust or corruption rules under all circumstances and ensuring compliance with the relevant Group policies. Extensive training programs are organized to help employees recognize the limits of legally permissible behavior and sensitize them to compliance with the law. Our clear message is that corruption and infringements of antitrust laws will not be tolerated under any circumstances and will have labor law and criminal law consequences. In the Steel segment, all executives and individually salaried employees are obligated to take part in corresponding training programs.

The training courses comprise web-based training (compliance e-learning programs) and classroom training on combating corruption and antitrust law. In the compliance e-learning programs, two separate modules for combating corruption and antitrust law present the key legal requirements and the content of the relevant Group policies and guidance notes on an online, interactive basis. In the Steel segment, a total of 3,758 employees took part in the first e-learning round on antitrust law and 4,896 on the subject of combating corruption. After the first round of training, the completion rate was 99% for antitrust law and 97% for combating corruption. The web-based training was followed up by half-day classroom sessions on combating corruption, mainly held in 2007, presenting the significant risks of corruption and above all the criminal law aspects. In addition, the principles of the ThyssenKrupp Group relating to combating corruption were explained. In discussions with participants, case studies were considered and instructions provided for conduct in dealings with business partners which is lawful and in compliance with the Group's policies.

To date, some 2,600 employees from all Steel segment companies have attended classroom courses on combating corruption, around 1,500 of them from ThyssenKrupp Steel AG – corresponding to approximately 98% of the target group. A second series of classroom courses on the subject of antitrust law started in 2008. In the first series between 2004 and 2006, around 360 employees from companies of the Steel segment received training. The second series of courses will cover a far greater circle of people. So far roughly 400 of the 500 designated employees from the Steel segment have taken part in the training courses. Further courses, in particular at subsidiaries in Germany and abroad, are planned for 2009. The antitrust law course is also a half-day event and focuses on legal conduct in dealings with competitors, contractual relationships with customers and suppliers as well as the market positions of companies.

### **CULTURAL DIVERSITY**

We regard human diversity with its social and economic potential as an enrichment for our company. The most important component is a corporate climate in which all employees are given equal opportunities. To utilize this diversity, an agreement was adopted back in 1996 on the “Promotion of equal opportunities for all foreign and German workforce members”. This agreement is implemented continuously to ensure that no-one is excluded on grounds of origin, age, religion, skin color, sexual orientation or gender.

### **SUPPORT FOR WOMEN IN A MALE DOMAIN**

In a heavily male-dominated environment such as the steel industry, the share of women working at ThyssenKrupp Steel has always tended to be low: In Germany the figure was 8.3% in fiscal 2007/2008. In recent years we have managed to reverse the trend – the number of female employees is rising steadily. Thanks to a large number of new appointments, the rate for female graduates has risen continuously from 9.5% in fiscal 2004/2005 to 12.0% in fiscal 2007/2008. In the future we expect this to raise the share of women in particular in management positions.

### **WORK-LIFE BALANCE: COMBINING FAMILY AND JOB**

ThyssenKrupp Steel has developed a raft of measures aimed at making it easier to combine family and job and tying our employees to the company long-term. They are based on the “Employees on parental leave” agreement concluded in early 2007. The aim of the agreement is to allow employees on parental leave to maintain contact with the company and receive additional professional training to ensure a smooth resumption of work later and reduce the time needed to get back up to speed. The agreed measures include interviews before the transition to parental leave, participation in professional information events, further training and acting as temporary replacements to cover vacation and sickness absences. If the employee returns to work earlier than planned at the request of the company, the employer covers the costs of childcare.



Advantage for employees: As part of its "ProFuture" program, ThyssenKrupp Steel provides support for a return to work after parental leave.

To help find suitable people to look after employees' children, the company has concluded a contract with an organization which is specialized in arranging individual childcare. In addition, emergency places are available at day nurseries at all locations of ThyssenKrupp Steel AG, which parents can use if the need for childcare comes up at short notice.

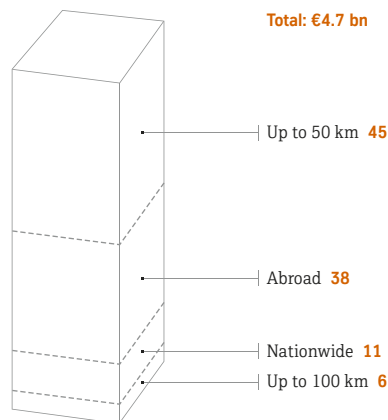
In cooperation with our company health insurance scheme we have set up an advisory service for employees who have to provide nursing care for family members. The service provides assistance in finding suitable nursing services or places in nursing homes to make it easier to combine home and working life.

We seem to be on the right track: In 2007 the IG Metall union named our Dortmund location as its "most female-friendly business". Criteria included training opportunities, the percentage of women in management positions, childcare arrangements and pay for women.

### HIGH PURCHASING VOLUME IN CLOSE VICINITY TO OUR SITES

Wherever possible and economically justifiable, ThyssenKrupp Steel makes efforts to source its purchasing requirements locally. In fiscal 2007/2008 our total purchasing volume amounted to some €4.7 billion. Of this, 51% was purchased from suppliers within a radius of 100 km.

PURCHASING VOLUME THYSSENKRUPP STEEL AG 2007/2008  
BY DISTANCE in %





Challenge for specialists: Supplying an integrated iron and steel plant with raw materials and other operating assets is traditionally of great strategic importance.

If raw materials are available from domestic sources in the quantities and qualities required and on competitive conditions, these sources are given preference. But for some raw materials, such as iron ore, and the associated sea freights, or some alloying agents, ThyssenKrupp Steel AG has to use the world markets (see map [page 48/49](#)). In these cases, it is not possible to obtain the materials, or not in sufficient quantity, from regional sources close to the company. Excluding these transactions, around 70% of purchases are made from suppliers within a radius of 100 km. In part, the use of domestic raw material resources is secured via long-term contracts. At international level, the company also secures long-term competitive conditions for scarce resources.

In particular for the purchase of equipment and other goods and services required for operations, our core sites in Germany aim to cover requirements at the right time in the necessary quality with the best possible price-performance ratio. As companies in the regional vicinity of our sites in the Rhine-Ruhr region are highly competitive, a considerable amount of business is transacted with them. That secures jobs in the region. At our foreign sites we also make every effort to purchase the required goods in the surrounding area.

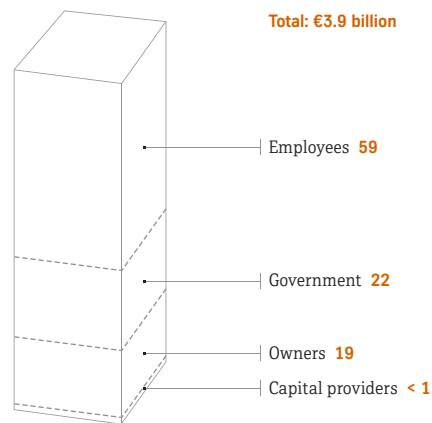
In collaboration with our biggest suppliers, we try to guarantee that recognized environmental, social and quality standards are maintained as far as possible in our supply chain – and this also involves local inspections. But it is difficult to ascertain whether all companies in the supply chain – including our suppliers' suppliers – meet their responsibilities in full.

### FAIR DISTRIBUTION OF VALUE

Business success is the basis for a sustainable corporate policy. It determines the size of the “cake” that can be shared among the most important stakeholders – employees, owners, capital providers and the public sector. A characteristic measure of this is the value created in the company.

In recent fiscal years, this figure has risen substantially. In 2007/2008 it amounted to almost €3.9 billion, 8% more than the year before. This is mainly due to our good business performance, from which all stakeholder groups have profited. Around 59% or €2.3 billion of the value created was spent in the reporting year on employee-related benefits such as wages, salaries, social security and pension contributions. Based on our bonus system, all ThyssenKrupp Steel employees governed by collective agreements received a voluntary one-off payment of at least €1,633 in fiscal 2007/2008. 19% was paid out to our owners ThyssenKrupp AG and other shareholders as an appropriate return on their capital investments. Due to the reduction in our net debt, only a small amount was paid to banks and other capital providers, while the tax share rose significantly due to our strong earnings.

DISTRIBUTION OF VALUE 2007/2008 in %



**“We are a medium-size family business in Oberhausen which is now in its third generation and is firmly rooted in the Ruhr region. Each of our 140 employees is responsible for the sustainability of our company. Our greatest success is the trust we have gained from our customers. This is reflected in 40 years of partnership with ThyssenKrupp Steel in refractory, furnace and interior construction projects. In this way we can secure jobs in the region, both now and in the future.”**

Dipl.-Ing. Charlotte Schmitz-Morkramer,  
Managing Director of LOEWE-IndustrieOfenBau GmbH, Oberhausen



### OPENING DOORS: CULTURAL MEDIATORS AT THYSSENKRUPP STEEL

Professional cooperation between German and foreign employees at our German sites has always worked perfectly at ThyssenKrupp Steel. A group of now 80 cultural mediators have the task of breaking this success down to the personal level and ensuring greater common interests in interpersonal dealings.

The cultural mediators are employees of ThyssenKrupp Steel – largely members of the Works Council and union representatives – who at the initiative of companies and the IG Metall union have completed a multi-week training course financed by the German government. The course, for which employees are freed from their normal duties, includes two weeks of seminars on conflict management, communications, law and

psychology. These subjects are explored further in feedback rounds – regular meetings of the cultural mediators provide for a lively network that develops new projects.

On completion of their training, the cultural mediators are particularly sensitized for subjects relating to intercultural cooperation in the teams, departments and areas of the company. They reinforce common interests, but also detect matters that could come between German and foreign colleagues and try to build new bridges of trust and cooperation.

With the help of team training sessions for apprentices, they give the next generation a cultural grounding to dispel possible reservations and create mutual understanding. For the same reasons, cultural mediators ensured everyone involved in the training of Brazilian engineers got acquainted.

## OUTLOOK AND OBJECTIVES

In this section we have summarized the status and perspectives of selected action areas for sustainability at ThyssenKrupp Steel. The overview is broken down by our six success factors (see [page 10–13](#)), on the basis of which this report is structured. For further details on the objectives and activities listed here, please turn to the corresponding pages in the report.

### SUSTAINABILITY MANAGEMENT SYSTEM

Our sustainability system is under development (see [page 13](#)) and will be fully implemented in fiscal year 2008/2009. Under this management system, the previously separate objectives of the company will be linked together and matched and measures to achieve them set out in a sustainability program.

One important goal is to constantly optimize our sustainability reporting. To this end we are following the current guidelines of the Global Reporting Initiative, have streamlined our reporting format and obtained external feedback on our first report (see [page 2](#)).

Success factor	Objective	Activities/Status
Effectiveness	Profitable growth in the relevant markets	<ul style="list-style-type: none"> <li>We focus on the premium flat carbon steel segment in Europe and the NAFTA region. (see <a href="#">page 16, 20–24</a>)</li> </ul>
	Technology leadership in flat-rolled carbon steel	<ul style="list-style-type: none"> <li>We expand our cooperation with customers into system partnerships.</li> <li>In fiscal 2007/2008 we spent €204 million on research and development. (see <a href="#">page 9, 17–19</a>)</li> </ul>
	Shorten innovation cycles	<ul style="list-style-type: none"> <li>We work in a research and development network with universities and external research institutes. (see <a href="#">page 17–18</a>)</li> </ul>
	Expand crude steel production capacities	<ul style="list-style-type: none"> <li>We are investing in Brazil in a new integrated iron and steel mill close to iron ore sources with a capacity of 5 million t of slabs per year. Ramp-up will commence in late 2009. (see <a href="#">page 15, 20–21, 25</a>)</li> </ul>
	Achieve market share in the flat carbon steel segment of the NAFTA region of over 5%	<ul style="list-style-type: none"> <li>In the USA we are building a processing plant with a hot strip mill, cold rolling mill and coating lines. Start of production is scheduled for 2010. (see <a href="#">page 22, 66–67</a>)</li> </ul>
	Strengthen German sites	<ul style="list-style-type: none"> <li>We are expanding our processing capacities at our German sites, in particular in Duisburg and Bochum, and have installed a new blast furnace in Duisburg.</li> <li>We have expanded Andernach into the world's biggest tinplate site, are increasing our capacities for medium-wide strip and are investing in upgrading our electrical steel range. (see <a href="#">page 23, 59</a>)</li> </ul>
Efficiency	Provide appropriate return on capital employed and increase ThyssenKrupp Value Added	<ul style="list-style-type: none"> <li>Under the "ThyssenKrupp best" corporate program we are continuously improving our performance.</li> <li>We support our value-based management with a series of training courses for all individually salaried employees. (see <a href="#">page 29–33</a>)</li> </ul>
	Improve customer satisfaction	<ul style="list-style-type: none"> <li>We monitor customer satisfaction in regular surveys.</li> <li>Through our certified quality management system and the EFQM model we are constantly improving the quality of our products.</li> <li>We are continuously improving our processes for delivery performance and adherence to deadlines. (see <a href="#">page 31–32</a>)</li> </ul>
Resources	Cover personnel requirements sustainably with qualified employees	<ul style="list-style-type: none"> <li>We have been cooperating for years with schools and universities to cover our requirements for qualified young employees, in particular engineers.</li> <li>We are making greater use of our talent management system and a new personnel development system to cover our requirements for management staff. (see <a href="#">page 36–38</a>)</li> </ul>

	React early to demographic change.	<ul style="list-style-type: none"> <li>• “ProFuture” combines all the measures we are using to respond to demographic change. This tool has four main areas: “Retain employees”, “Utilize employees to optimum effect”, “Improve safety, health and efficiency” and “Develop competencies”. (see <a href="#">page 11, 39–41</a>)</li> </ul>
	Make sparing use of natural resources	<ul style="list-style-type: none"> <li>• We have lowered the use of reducing agents to a level which is close to the chemical-physical minimum.</li> <li>• We recycle water up to 40 times. (see <a href="#">page 41–44</a>)</li> </ul>
	Zero-waste production	<ul style="list-style-type: none"> <li>• We operate a highly developed recycling system.</li> <li>• We recycle iron-bearing wastes in our shaft furnace.</li> <li>• We produce numerous mainly mineral byproducts which contribute to climate protection. (see <a href="#">page 43–45, 53–54</a>)</li> </ul>
<b>Impact</b>	Develop climate-friendly production processes	<ul style="list-style-type: none"> <li>• We are involved in research initiatives for sector-specific climate protection and in the joint project “Ultra Low CO<sub>2</sub> Steelmaking”. (see <a href="#">page 52–54</a>)</li> </ul>
	Contribute to climate protection with steel products	<ul style="list-style-type: none"> <li>• We contribute to climate protection with solutions for automotive lightweighting.</li> <li>• Our steel products for transformers offer substantial emissions reduction potential.</li> <li>• Our steel products are used in the production of renewable energies. (see <a href="#">page 53–54</a>)</li> </ul>
	Improve air quality at our sites	<ul style="list-style-type: none"> <li>• Under a voluntary action program we have committed to 41 measures to reduce particulate emissions in the north of Duisburg.</li> <li>• We are investing €30 million in additional filters for the sinter plant at our Duisburg site. (see <a href="#">page 55–56</a>)</li> </ul>
	Zero accidents/no fires	<ul style="list-style-type: none"> <li>• We have launched a communications campaign for health and safety at work.</li> <li>• The project “Changing attitudes and behaviors in health and safety” (EVprocessA<sup>®</sup>) was carried out in nine pilot areas. We have started extending it to ThyssenKrupp Steel AG.</li> <li>• We have reviewed our health and safety management system and introduced a health and safety master plan.</li> <li>• We have carried out a series of health and safety information events for outside contractors working on our premises. (see <a href="#">page 56–58</a>)</li> </ul>
<b>Solidarity</b>	Systematize and expand our social commitment	<ul style="list-style-type: none"> <li>• We have established a social commitment steering group to systematize our activities.</li> <li>• We are developing a donations and sponsorships policy aimed at strengthening our involvement at our sites. (see <a href="#">page 62</a>)</li> </ul>
	Intensify dialogue with neighbors at all sites	<ul style="list-style-type: none"> <li>• We participate regularly in round table meetings in the north of Duisburg.</li> <li>• We are in intensive dialogue with residents close to our new plants in Brazil and the USA. (see <a href="#">page 62, 66–67</a>)</li> </ul>
	Getting children and young people enthusiastic about science and technology	<ul style="list-style-type: none"> <li>• We cooperate with numerous schools and universities.</li> <li>• We are involved in ThyssenKrupp AG’s Ideas Park.</li> <li>• We are actively involved in the nationwide “Jugend forscht” youth science competition. (see <a href="#">page 62–64</a>)</li> </ul>
<b>Justice</b>	Actively implement our compliance program	<ul style="list-style-type: none"> <li>• We have installed a compliance program including Group policies and guidance notes.</li> <li>• A compliance officer coordinates the relevant activities.</li> <li>• We run extensive training courses on combating corruption and antitrust law. (see <a href="#">page 69–71</a>)</li> </ul>
	Improve the work-life balance	<ul style="list-style-type: none"> <li>• In early 2007 we concluded an agreement for “employees on parental leave”.</li> <li>• We stay in contact with our employees during their parental leave.</li> <li>• We offer emergency places at day nurseries at all our sites. (see <a href="#">page 41, 71–72</a>)</li> </ul>
	Transact high volume of purchasing in the immediate vicinity of our sites	<ul style="list-style-type: none"> <li>• 70% of our purchasing volume (excl. raw materials) is transacted with suppliers in a radius of 100 km. (see <a href="#">page 72–73</a>)</li> </ul>
	Share value fairly	<ul style="list-style-type: none"> <li>• Thanks to our strong earnings in fiscal 2007/2008, all our pay-scale employees received a voluntary bonus payment. (see <a href="#">page 73–74</a>)</li> </ul>

## Glossary of technical terms

### Alloying

An alloy is produced when a main chemical element (e.g. iron) is mixed with other chemical elements. In the case of carbon steel these may include manganese, ferro-vanadium or silicon.

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### Blast furnace

In the blast furnace, iron oxide-bearing ores are reduced and melted to produce iron. Charge materials are coke, coal as reducing agent and burden. The burden contains the iron ore components and additives.

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### Burden

The blast furnace charge, consisting of iron-oxide bearing materials and fluxes.

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### Casting-rolling line

Advanced production line based on thin-slab technology for the production of hot strip from molten steel in one production step. This saves energy by shortening the production process and guarantees consistent end product quality.

---

### Coal/coking coal

As coal is a natural product, different types of coal are classified according to their content of volatile components. Coking coal is washed fine coal suitable for coking purposes. Ground into powder, various types of coal are also injected into the blast furnace as substitute reducing agents.

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### Coating

Metallic (zinc, aluminum, tin, chromium) or organic (paint, plastic) coating of flat carbon steel products to provide corrosion protection.

---

### Coke/coking plant

In coking plants, high-grade coking coal is heated in coke oven batteries in the absence of air. This drives off the volatile components to produce coke. This carbon material (purity approx. 97%) is used as a reducing and carburizing agent in the blast-furnace production of iron. In addition to its properties as a fuel, coke retains its shape at high temperatures and facilitates the flow of gas in the blast furnace.

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### Cold rolling

Forming process carried out following hot rolling or strip casting. The material is reduced to a pre-defined thickness in the roll gap of the cold rolling mill by the application of high pressure between two rolls. Tandem cold rolling mills for carbon steel consist of several closely spaced mill stands. In cold rolling, the forming temperature is always below the recrystallization temperature, which makes subsequent annealing necessary.

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### Cold strip

Cold-reduced flat product in widths of up to 2,000 mm and thicknesses of 0.3 to approx. 4 mm. The advantages of cold-rolled strip over hot strip lie in better surface quality, closer tolerances and thinner sections.

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### Continuous casting

Process for producing slabs from molten steel. The steel is cast via a tundish into a cooled mold which determines the dimensions (width, thickness) of the slab. The cast strand emerges from the mold with a solidified skin and is guided by rolls through a cooling section before being cut by torches into required slab lengths.

---

### Crude steel

Crude steel can be in liquid or solid form. In both cases it is a raw product. In the liquid condition it is used for ingot teeming, continuous casting and cast steel production. In solid form it is classified as slabs or ingots according to its cross section.

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**First-stage processing**

Initial processing of steel products in line with customer requirements, e.g. slitting, cutting to length, blanking and other forms of processing.

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**Flat steel**

Flat steel is produced in a multi-stage process. The starting products are rectangular slabs produced in the meltshop by continuous casting. These are rolled at temperatures of 1,200°C to final thicknesses of up to 1.5 mm. The wide strip produced in this way is either delivered to customers or, if thinner gauges or superior surface quality are required, fed to special units for cold rolling. The functions of the strip can be improved by galvanizing or organic coating with colors or films.

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**Fluxes**

The main fluxes used in iron and steel production are limestone and dolomite. They absorb stones and other impurities in the slag.

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**Grain-oriented electrical steel (GO electrical steel)**

The microstructure of electrical steel comprises body-centered cubic crystallites. In a series of rolling and annealing treatments, the crystals are lined up in parallel with the direction of rolling to produce steel for applications requiring good magnetic properties in one direction, e.g. transformers.

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**Granulated blast furnace slag**

Blast furnace slag is a product of ironmaking. In slag granulation units the slag undergoes accelerated cooling under controlled water flow, thus forming vitreous solidified slag sand. Granulated slag sand is mainly sold to the cement industry for cement production.

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**Heavy plate**

Flat steel in gauges of 3 to 140 mm. It is either hot-rolled on four-high stands or cut to length from hot-rolled strip.

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**High-strength and ultra-high-strength steels**

Steel grades which display good forming properties despite having extreme strength. Their properties are achieved by a combination of hard and soft microstructure phases. A distinction is made between dual-phase, multi-phase and complex-phase steels.

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**Hot blast stove**

The hot blast stove is an ancillary unit of the blast furnace. Its job is to preheat and store the blast air for the furnace. The hot blast stove consists of a storage chamber and an external combustion chamber containing ceramic burners.

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**Hot-dip coating**

In this process, steel sheet is coated with zinc, zinc/iron or aluminum by immersing it in a bath of molten metal.

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**Hot metal (pig iron)**

Hot metal or pig iron is the main product of the blast furnace process and is made by reducing or smelting oxidic iron ores. Reduction and smelting are performed by reducing gas, formed from carbon-bearing materials such as coke, coal or oil, and the heat released when the hot blast burns these materials. Hot metal consists of roughly 94% iron, 4.7% carbon, 0.4% silicon, 0.2% manganese, 0.04% sulfur and other trace elements. The hot metal is tapped at temperatures of roughly 1,480 to 1,500°C. In refractory-lined torpedo ladles that minimize energy losses the liquid metal is transported to the steelmaking shops where it is processed into steel.

---

**Iron**

Chemical symbol: Fe, density 7.9 g/cm<sup>3</sup>. It is the fourth most common element and the second most common metal in the earth's crust (4.7%). It is found only in the form of oxides as a chemical compound with oxygen. The best-known iron oxides are magnetite and hematite.

---

**Iron ore**

Iron ores mostly contain large shares of valueless rock known as gangue. To separate the ore from the gangue, the mined material is fed through specially designed crushing units to produce fine ore. Larger pieces can be used directly as lump ore.

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**Magnesium**

Magnesium is a strong, silvery lightweight metal around a third lighter than aluminum. The metal does not occur naturally in elementary form but in the form of compounds such as carbonates, silicates, chlorides and sulfates.

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**Medium strip**

Like wide hot strip, medium strip is produced from slabs in a continuous rolling process. However, it is produced in widths of up to 700 mm compared with over 2,000 mm for wide hot strip.

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**Metallurgy**

The science that deals with the extraction of metallic materials from ores. Iron and steel metallurgy can be divided into the two areas liquid and solid. The former concerns preparation, melting and alloying (secondary metallurgy), the latter forming (casting and solidification).

---

**Non-oriented electrical steel (no electrical steel)**

With this type of electrical steel, the crystals are randomly oriented. Unlike grain-oriented electrical steel, it is used in electrical machinery with rotating components requiring similar magnetic properties in all directions, e.g. motors and generators.

---

**Pellets**

Very fine ores are mixed with a little water and binders in drums or disk pelletizers to form balls between 11 and 12 mm in diameter. These green pellets are then fired to form pellets.

---

**Recycling**

Returning a material or component to the production cycle to make a new end product. Through recycling, scrap becomes a raw material for steel production. Steel is a particularly environmentally friendly material due to its one-hundred percent recyclability with no loss of quality. Recyclability is an important material property.

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**Reduction/Reduction process**

Chemical process to remove oxygen. Oxygen is eliminated from a compound by introducing an ion with higher oxygen affinity as a new partner. The most important reducing agent in steel production is carbon.

---

**Refractory**

Refractory is the term given to ceramic materials and products which can withstand temperatures of over 600°C. In the steel industry the chemical reactions in the production of iron and steel take place at temperatures of up to 2,500°C. The special refractory materials used to line metallurgical vessels and plant units are additionally subject to extreme mechanical stresses.

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**Sinter plant**

In the sinter plant the fine-grained ores and concentrates occurring in ore preparation are sintered (agglomerated) in a continuous process into lumps of suitable size for the blast furnace.

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**Slab**

Compact block of crude steel, generally the product of the casting process in the steel meltshop which serves as feedstock for the hot rolling mills for the production of rolled hot strip or plate.

---

**Slag**

In every melting process oxidic materials are created which due to their lower specific gravity float on the surface of the molten iron or steel. Undesirable elements separated from the iron oxide are passed into the slag. When solidified, slag is glass- or stone-like. These slags are specially processed in different ways depending on their subsequent use. The main uses for these slags are as road and waterway building materials and as fertilizers.

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**Tailored blanks**

Blanks made of individual sheets of the same or different grade, thickness or coating, joined together e.g. by laser welding. Tailored blanks are formable and are produced according to specific customer requirements.

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**Tinplate**

Tinplate is thin steel sheet whose surface is coated with tin or chromium by hot-dip or electrolytic coating processes.

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**Wide hot strip**

Hot-rolled product with rectangular cross section and width of at least 600 mm which is wound into coils directly after rolling. Produced in hot rolling mills (wide hot strip mills), mainly in a continuous process, in thicknesses of 1.5 to 25.00 mm and widths up to 2,000 mm. Wide hot strip is mainly used as a starting material for cold-rolled sheet and cut-to-length plate.

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3.8 Joint ventures, subsidiaries, outsourcing	<a href="#">2</a>
3.9 Data collection	<a href="#">(13)</a> , <a href="#">(58)</a> The key figures in the report were taken from the databases of the existing internal company information systems for financial, production, personnel and environmental figures.
3.10 Changes to earlier presentations	<a href="#">2</a> , <a href="#">3</a>
3.11 Changes to scope, report boundaries or measuring methods	<a href="#">2</a>
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– = no data (not reported)

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The index refers to the third generation of the guidelines of the [Global Reporting Initiative \(GRI\)](#) from 2006. In addition, the draft final version of the Sector Supplement Mining & Metals of January 2009 was taken into account. We would award ourselves a B in accordance with the GRI application level criteria.



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4.6	Processes in place to avoid conflicts of interest	<a href="#">70–71</a>
4.7	Board expertise in the area of sustainability	The Executive Board of ThyssenKrupp Steel AG is assessed by the Supervisory Board and the stockholders on the basis of legal requirements and professional competencies. Sustainability as a cross-cutting task is organized in various directorates and downstream departments and anchored in the sustainability management system; overall responsibility lies with the Executive Board chairman.
4.8	Missions, corporate values and codes of conduct	<a href="#">10–13</a> , <a href="#">38–39</a> , <a href="#">71</a>
4.9	Executive/supervisory board processes for monitoring sustainability	( <a href="#">70</a> ) cf. also 4.7
4.10	Evaluation of sustainability performance of the executive/supervisory board	( <a href="#">70</a> ) Evaluation of the sustainability performance of the management bodies – like all executive board and supervisory board performance – is subject to internal monitoring and statutory requirements.
<b>Commitments to external initiatives</b>		
4.11	Implementation of the precautionary approach	<a href="#">8–9</a> , <a href="#">10–13</a> , <a href="#">19–23</a> , <a href="#">32</a> , <a href="#">36–40</a> , <a href="#">43</a> , <a href="#">52</a> , <a href="#">55–56</a> , <a href="#">57–58</a> , <a href="#">70–71</a>
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EC3	Coverage of the organization's social benefits	<a href="#">3–4</a> , <a href="#">41</a> , <a href="#">71–72</a> , <a href="#">74</a>
EC4	Significant financial assistance from the public sector	( <a href="#">22</a> ), ( <a href="#">52</a> ) (examples without amounts)
	Aspect: Market presence	
EC5	Entry level wages and local minimum wage	At our European sites there is no statutory minimum wage in our sector. In Brazil and the USA we pay competitive wages and salaries to attract skilled/qualified employees.

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EC6	Local suppliers	<a href="#">72–73</a>
EC7	Hiring from the local community to management positions	<a href="#">25</a> (re Brazil) All our international locations have local employees, local managers and managers delegated from Germany working in cooperative teams.
	Aspect: Indirect economic impacts	
EC8	Investments in the public interest	<a href="#">25</a> , <a href="#">64</a> , <a href="#">66</a>
EC9	Indirect economic impacts	cf. EC8
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EN1	Materials used	<a href="#">3–4</a> , <a href="#">41–42</a> , <a href="#">47–49</a> , <a href="#">52</a>
EN2	Percentage of recycled materials	<a href="#">3–4</a> , <a href="#">42–45</a>
	Aspect: Energy	
EN3	Direct energy consumption	<a href="#">3</a>
EN4	Indirect energy consumption	Our indirect energy consumption (through the outsourcing of electricity) was not recorded for all sites. In our biggest plant by some margin, the integrated iron and steel mill in Duisburg, we generate our own electricity and feed surplus amounts to the public grid. As a result, our overall indirect energy consumption is very low.
EN5	Energy saved	<a href="#">43</a> , <a href="#">45</a> , <a href="#">54</a>
EN6	Energy-efficient products	<a href="#">18–19</a> , <a href="#">43</a>
EN7	Reduction of indirect energy consumption	(cf. EN4)
	Aspect: Water	
EN8	Total water withdrawal	<a href="#">3</a> , <a href="#">44</a>
EN9	Water sources	<a href="#">44</a>
EN10	Percentage/volume of recycled/reused water	<a href="#">3</a> , <a href="#">44</a>
	Aspect: Biodiversity	
EN11	Land in or adjacent to protected areas	<a href="#">25</a> , <a href="#">66</a> (construction of new steel mill in Brazil)
EN12	Impacts on protected areas	<a href="#">25</a> , <a href="#">66</a>
EN13	Protected or restored natural habitats	<a href="#">25</a> , <a href="#">66</a>
EN14	Management of impacts on biodiversity	<a href="#">25</a> , <a href="#">66</a>
EN15	IUCN Red List species	Red List species are not recorded separately. We protect the habitats themselves, cf. EN11–14.
	Aspect: Emissions, effluents and waste	
EN16	Direct and indirect greenhouse gas emissions	<a href="#">4</a> , <a href="#">43</a> , <a href="#">52</a> Indirect emissions are virtually zero, cf. EN4.
EN17	Other relevant greenhouse gas emissions	We do not record greenhouse gas emissions from business travel. Compared with direct emissions we regard them as irrelevant.
EN18	Initiatives to reduce greenhouse gases	<a href="#">43</a> , <a href="#">52–54</a> , <a href="#">77</a>
EN19	Emissions of ozone-depleting substances	n. r.
EN20	NO <sub>x</sub> , SO <sub>x</sub> and other significant air emissions	<a href="#">4</a> , <a href="#">55–56</a>
EN21	Total water discharge	<a href="#">3</a> , <a href="#">44</a> , <a href="#">56</a>

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## GRI INDEX (continued)

	Page/link
EN22 Total weight of waste	<a href="#">4, 43, 45</a>
EN23 Total number and volume of significant spills	(4) Apart from the emissions described (EN16, EN20) there were no other significant spills of hazardous substances.
EN24 Special waste under the terms of the Basel Convention	None
EN25 Water bodies affected by discharges of water	None
Aspect: Products and services	
EN26 Mitigation of environmental impacts of products and services	<a href="#">18–19, 53–54</a>
EN27 Packaging materials reclaimed	n. r.
Aspect: Compliance	
EN28 Fines and non-monetary sanctions in relation to environmental aspects	n. m. e.
Aspect: Transport	
EN29 Environmental impacts of logistics activities and business travel	–
Aspect: Overall	
EN30 Environmental protection expenditures and investments	<a href="#">54–55</a>
<b>Labor practices</b>	
Working environment and conditions	
Management approach	<a href="#">8, 10–13, 36, 39–40, 71–72</a>
Aspect: Employment	
LA1 Total workforce	<a href="#">3, 36, 71</a>
LA2 Employee turnover	(41) To date, the turnover rate has only been recorded in Germany and with no further differentiation.
LA3 Benefits provided to full-time employees	–
Aspect: Codetermination	
LA4 Employees covered by collective bargaining agreements	<a href="#">4</a>
LA5 Notice periods for significant operational changes	(36) The statutory requirements at the locations are observed.
Aspect: Health and safety	
LA6 Workforce representation on health and safety committees	100%
LA7 Illnesses, absenteeism and fatalities	<a href="#">4, 57–58</a>
LA8 Prevention and risk control programs regarding serious illnesses	<a href="#">40–41, 56–58</a>
LA9 Health and safety topics covered by codetermination	At ThyssenKrupp Steel health and safety activities are subject to codetermination.
Aspect: Training and education	
LA10 Hours of training per year	(3), <a href="#">37–38</a> The figures in the report apply to all employees with no differentiation by employee category.
LA11 Skills management and lifelong learning	<a href="#">(31), 33, 38, 39–41</a>
LA12 Regular performance and career development reviews	100%
Aspect: Diversity and equal opportunity	
LA13 Composition of top management and employee structure	(71) (Share of women) Other indicators for cultural diversity will acquire greater relevance with the increasing internationalization of the company.
LA14 Pay by gender	(4), (71), (74) (Pay) We pay the same basic salaries to men and women.

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## GRI INDEX (continued)

	Page/link
<b>Human rights</b>	
Management approach	<a href="#">12</a>
Aspect: Business practice	
HR1 Investment agreements including human rights clauses	None. This has never been necessary for investments made under our responsibility.
HR2 Suppliers screened on human rights issues	<a href="#">(73)</a>
HR3 Hours of employee training on human rights	None, as not relevant to date.
Aspect: Non-discrimination	
HR4 Incidents of discrimination and actions taken	n. m. e.
Aspect: Freedom of association and collective bargaining	
HR5 Significant risks of infringing freedom of association	None
Aspect: Child labor	
HR6 Risks of incidents of child labor and measures taken	n. r.
Aspect: Forced and compulsory labor	
HR7 Risks of forced labor and measures taken	n. r.
Aspect: Security practices	
HR8 Security personnel trained in human rights	n. r.
Aspect: Indigenous rights	
HR9 Indigenous rights	n. r.
<b>Society</b>	
Management approach	<a href="#">12, 62, 65–67</a>
Aspect: Community	
S01 Management of negative impacts of business operations on neighboring communities	<a href="#">25, 64–67</a>
Aspect: Corruption	
S02 Percentage/number of business units analyzed	Five
S03 Employees trained in preventive measures	<a href="#">70–71</a>
S04 Actions taken in response to incidents of corruption	<a href="#">(70)</a>
Aspect: Public policy	
S05 Public policy positions and lobbying	<a href="#">8, 65</a>
S06 Contributions to political parties and politicians	None
Aspect: Anti-competitive behavior	
S07 Legal actions for anti-competitive behavior	None
Aspect: Compliance	
S08 Significant fines (monetary value) and non-monetary sanctions	n. m. e.
<b>Product responsibility</b>	
Management approach	<a href="#">(9)</a> The indicators for product responsibility are generally not relevant for our business because we do not supply directly to private end customers and our products do not present any direct risks.
Aspect: Customer health and safety	
PR1 Health and safety impacts of products	n. r.
PR2 Health and safety regulations for products	n. r.

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## GRI INDEX (continued)

	Page/link	
Aspect: Products and services		
PR3	Product labeling	n. r.
PR4	Non-compliance with product labeling regulations	n. r.
PR5	Customer satisfaction surveys	<a href="#">32</a>
Aspect: Marketing		
PR6	Adherence to laws and voluntary codes in marketing	n. r.
PR7	Non-compliance with advertising and sponsorship guidelines	n. r.
Aspect: Customer privacy		
PR8	Customer complaints regarding breaches of customer privacy	None
Aspect: Compliance		
PR9	Significant fines for non-compliance with laws concerning the use of products and services	None
<b>Mining &amp; Metals Sector Supplement (draft final version)</b>		
Aspect: Biodiversity		
MM1	Land disturbed or rehabilitated	<a href="#">25, 66</a>
MM2	Sites with biodiversity management	None. Our measures to protect biodiversity in Brazil are carried out on a voluntary basis in consultation with local stakeholders.
Aspect: Environmental protection		
MM3	Overburden, sludges, residues	n. r. Mineral wastes or iron-bearing dusts from steel production are almost fully recycled at ThyssenKrupp Steel.
Aspect: Labor relations		
MM4	Strikes or lock-outs	None
Aspect: Protection of indigenous people		
MM5	Proximity to indigenous habitats	One location (Brazil).
MM6A	Disputes over land use with indigenous people	None
MM6B	Complaints procedures in disputes with local communities and indigenous populations	n. r.
MM7	Nearby mining activities for artistic or artisanal purposes	n. r.
Aspect: Relocations		
MM8	Relocations	n. r.
Aspect: Local communities		
MM9	Closure of sites	None
MM10	Incidents via formal complaints procedures	None
Aspect: Emergency management		
MM11	Emergencies in respect of protection of employees, residents or environment	None
Aspect: Forward-looking product responsibility		
MM12	Responsible production and eco-efficient products	(cf. EN26) <a href="#">18–19, 53–54</a>

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