Welcome to Düsseldorf

Hans Jürgen Kerkhoff
President German Steel Federation
Chairman Steel Institute VDEh

8 November 2011
Stahl-Zentrum, Düsseldorf, Germany

Steel Institute VDEh
- MPI for Iron and Steel Research
- VDEh-Institute for Applied Research BFI
- Research Association for Steel Application
- Publishing House Stahleisen

German Steel Federation
- Special Steel Association
- Steel Information Centre
- Information Centre Stainless Steel
- Steel Credit Security Office
- Advisory Organisation for Steel Construction
Competence for Steel under one Roof

Stahlinstitut VDEh (Steel Institute VDEh)  Wirtschaftsvereinigung Stahl (German Steel Federation)

Technology  Politics

Information  Market

Information and Communication on Steel and Steel Industry

Personal Members of VDEh  Steel Producers  Steel Application

Political Representation at Federal Organisations, Parliaments and Non-governmental Organisations
World crude steel production 2009 and 2010

- **China**: 172.9 Million t (2009), 626.6 Million t (2010)
- **EU 27**: 139.1 Million t (2009), 109.6 Million t (2010)
- **Japan**: 87.5 Million t (2009), 58.2 Million t (2010)
- **India**: 60.2 Million t (2009), 66.8 Million t (2010)
- **Russia**: 59.9 Million t (2009), 67 Million t (2010)
- **South Korea**: 48.6 Million t (2009), 58.4 Million t (2010)
- **Ukraine**: 29.8 Million t (2009), 33.6 Million t (2010)
- **Brazil**: 26.5 Million t (2009), 32.8 Million t (2010)

**Source**: World Steel Association

2010: World total 1414 Million t
2009: World total 1223 Million t
The Steel Production Sites in Germany

Crude steel production 2008

<table>
<thead>
<tr>
<th>Group/company</th>
<th>million t</th>
</tr>
</thead>
<tbody>
<tr>
<td>ArcelorMittal Hamburg (1)</td>
<td>0.9</td>
</tr>
<tr>
<td>ArcelorMittal Bremen (2)</td>
<td>2.7</td>
</tr>
<tr>
<td>Benteler (3)</td>
<td>0.6</td>
</tr>
<tr>
<td>Georgsmarienhütte Holding (4)</td>
<td>1.3</td>
</tr>
<tr>
<td>Salzgitter (5)</td>
<td>5.3</td>
</tr>
<tr>
<td>Brandenburg Elektrostahlwerke (6)</td>
<td>1.2</td>
</tr>
<tr>
<td>Hennigsdorfer Elektrostahlwerke (7)</td>
<td>0.9</td>
</tr>
<tr>
<td>ArcelorMittal Eisenhüttenstadt (8)</td>
<td>2.1</td>
</tr>
<tr>
<td>ThyssenKrupp Steel (9)</td>
<td>10.5</td>
</tr>
<tr>
<td>HKM (10)</td>
<td>5.2</td>
</tr>
</tbody>
</table>

Status: January 2009

<table>
<thead>
<tr>
<th>Group/company</th>
<th>million t</th>
</tr>
</thead>
<tbody>
<tr>
<td>ArcelorMittal Ruhrtort (11)</td>
<td>1.3</td>
</tr>
<tr>
<td>ThyssenKrupp Nirosta (12)</td>
<td>1.1</td>
</tr>
<tr>
<td>Deutsche Edelstahlwerke (13)</td>
<td>1.0</td>
</tr>
<tr>
<td>Edelstahlwerke Buderus (14)</td>
<td>0.5</td>
</tr>
<tr>
<td>Stahlwerk Thüringen (15)</td>
<td>1.0</td>
</tr>
<tr>
<td>ESF Elbe-Stahlwerk Feralpi (16)</td>
<td>1.0</td>
</tr>
<tr>
<td>BGH Edelstahl (17)</td>
<td>0.3</td>
</tr>
<tr>
<td>Trierer Stahlwerk (18)</td>
<td>0.4</td>
</tr>
<tr>
<td>Dillinger Hüttenwerke (19)</td>
<td>2.6</td>
</tr>
<tr>
<td>Saarstahl (20)</td>
<td>2.5</td>
</tr>
<tr>
<td>Badische Stahlwerke (21)</td>
<td>2.2</td>
</tr>
<tr>
<td>Lech-Stahlwerke (22)</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Electric steel works and rolling mills

Integrated iron and steel works
(Blast furnace, steel works and rolling mill)
Outlook 2012: German steel market still growing - from an already high starting point

<table>
<thead>
<tr>
<th>Year</th>
<th>Apparent Steel Use (in Million Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>37.7</td>
</tr>
<tr>
<td>2001</td>
<td>36.7</td>
</tr>
<tr>
<td>2002</td>
<td>35.1</td>
</tr>
<tr>
<td>2003</td>
<td>34.4</td>
</tr>
<tr>
<td>2004</td>
<td>36.7</td>
</tr>
<tr>
<td>2005</td>
<td>36.9</td>
</tr>
<tr>
<td>2006</td>
<td>40.3</td>
</tr>
<tr>
<td>2007</td>
<td>43.4</td>
</tr>
<tr>
<td>2008</td>
<td>43.2</td>
</tr>
<tr>
<td>2009</td>
<td>29.0</td>
</tr>
<tr>
<td>2010</td>
<td>37.1</td>
</tr>
<tr>
<td>2011</td>
<td>+27%</td>
</tr>
<tr>
<td>2012</td>
<td>40.3</td>
</tr>
<tr>
<td>2013</td>
<td>+9%</td>
</tr>
<tr>
<td>2014</td>
<td>40.9</td>
</tr>
<tr>
<td>2015</td>
<td>+1.5%</td>
</tr>
</tbody>
</table>

Note: f = forecast
Decision by the EU Commission on benchmarks in emission rights trading from 2013

Emissions of the Blast Furnaces in the EU

Benchmark based on 10 percent best performers in the EU

EU-decision (December, 15 2010)

Decrease of the Benchmarks due to a climate target of 30 %
Threatening costs from energy and climate policy for the steel industry in Germany

<table>
<thead>
<tr>
<th>Threatening costs</th>
<th>Germany</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>415</td>
<td>180</td>
</tr>
<tr>
<td>2013</td>
<td>120</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>250</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>365</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>45</td>
</tr>
</tbody>
</table>

- Energy turnaround Increasing el. power costs caused by stopping el. Power plants
- Energy tax (less of tax adjustment)
- Renewable Energy Fee (increased apportionment)
- Increased change climate target (additional reduction of free allocations for increased EU target on 30%)
- ETS (electricity costs)
- ETS (costs for CO₂ certificates) according to Benchmark decision

CO₂-Price
2010: 15 €/t CO₂
2013: 30 €/t CO₂
Renewable Energy Law (EEG) - Payments for renewables and costs for steel industry: Massive increase already before the amendment.

 Amendment of the Renewable Energy Law: The annual burden would be doubled up to 400 million €

Payments for Renewables in Billion € / a

2010: Renewable Fee 2,047 Cent / kWh
2011: Renewable Fee 3,5 Cent / kWh
2015: Renewable Fee 4 Cent / kWh

Source: BDEW, own calculations
Energy efficiency and CO$_2$-emissions of the steel industry in Germany

Reduced CO$_2$ emission: comparison 1990/2009

- 10 Mill. T CO$_2$

Equal to 4 million medium-sized automobiles
(15 000 km/year; 170 g CO2/km)
Consumption of reducing agents of the blast furnaces in Germany

From 1991 on including new countries

(Source: VDEh Blast Furnace Committee)
Have a successful and interesting conference!

www.stahl-online.de