refractories WORLDFORUM
Hot Topics
Manufacturing & Performance of High-Temperature Materials
NEWSLETTER 4/2012

Fig. 1 Campaign of the German Steel Federation in Berlin at the Reichstag site: „Steel industry cannot win this race“ (Source: German Steel Federation)

see page 1

Challenges and Threats Set by Green Manufacturing in Europe

In the EU, raw material suppliers, refractories manufacturers and the various industries using refractories have to face high hurdles raised by the EU energy and climate policy. The energy turnaround in Germany is already presenting considerable challenges for the industrial base there. The fast growth of renewable energies in power generation in recent years has led to a rapid increase in Germany's Renewable Energies Act (EEG) levy. In 2013, the EEG levy will stand at 5,3 cents/kWh, which means that it has quadrupled since 2009. Another example is the current discussion on emission rights trading. The EU proposal is to set aside the auctioning of e.g. 900 Mt CO_2. Political decision-makers are strongly influencing the competitiveness of the European industry as all these policies drive costs upwards.

EEG levy puts competitiveness at risk

In the context of the EEG levy, let us take a look of the activities of the main refractories user sector. The *German Steel Federation* maintains that a ceiling on compliance costs for the energy-intensive industries in international competition is essential. As long as the energy turnaround does not sustain itself in economic terms and no comparable conditions exist on an international scale, these cost reductions are imperative to safeguard competitiveness on the international markets. In 2013 the new EEG levy will increase EEG-costs for the German steel industry to EUR 260 million (almost 50 % up on the previous year). To receive more attention, the German Steel Federation organized a campaign at the Reichstag in Berlin (Fig. 1)

Threats to European refractories manufacturing

The demand for refractories will grow to 43 Mt in 2014 (Fig. 2). But Western Europe in total will not exceed its pre-crisis demand as a result of the poor economic development in some Southern European countries as well as in GB and Ireland. Asia will ac-

see page 2

Seasons greetings

Looking back on a very busy year in 2012 with important fairs (*ALUMINIUM/DE; Ankiros Annofer Turkcast/TR; CERAMITEC/DE; glasstec/DE*) as well as high level international congresses (R*efractory Conference Moscow/RU; ACerS St. Louis Meeting/US; IREFCON/IN; ESG/NL; Colloquium on Refractories Aachen/DE; Symposium on Refractories Zengzhou/CN; ALAFAR/MX*) I should like on behalf of the team of refractories WORLDFORUM to thank our business partners for the trustful and constructive collaboration. We wish our worldwide readership, who are celebrating Christmas, a peaceful time, and for everybody calm to reflect as the year draws to its close and a good start in a doubtlessly eventful new year.

Yours

Karin Scharrer

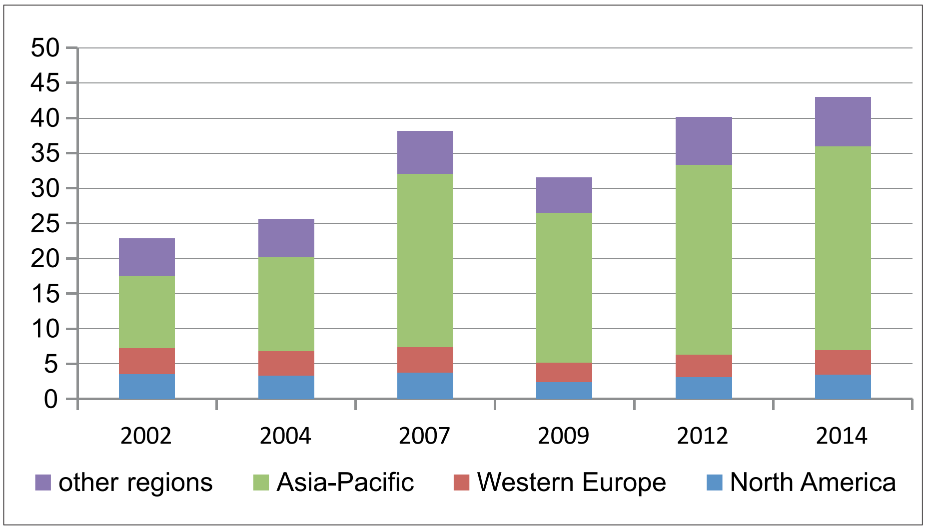

Fig. 2 World refractories demand [Mt/a] **(Source: Freedonia, IKB Forecast)**

count for about two thirds of the total demand, with China is dominating demand in this region.
This means, European manufacturers have to introduce further measures to compensate for the price increases set by governmental policies as they cannot rely on growth of market volumes in Europe and possibly certain compensation as a result of improved utilization of production capacities.
Beside energy costs, raw material prices have an important impact on competitive pricing strategies. For some raw materials, a certain dependence exists as China is the main mining source. Therefore, in recent years the acquisition of mining resources by refractories producers to secure access to the required raw materials silica and alumina has become more and more important. Focus on raw material recycling from used refractories has also become much stronger.
In the next issue of refractories WORLDFORUM **5** (2013) [1] (publication date: 09.01.2013), these aspects will be explored in various articles, for instance:

- Euro Crisis Clouds Economic Outlook for the Steel Industry
- Steel Consumption and Global Refractory Brick Demand – a Stagnated Market?
- Refractory Secondary Raw Materials from the Steel Industry
- Resource Efficiency:
  Global Context, European Policy
  Initiatives, and RHI's Responses.

For the refractories industry and its supplier sectors (all energy-intensive industries), a ceiling on the increase in energy prices is imperative. The energy turnaround calls for the concerted effort of society as a whole. A competitive European industry in the context of the realization of the energy turnaround will play an important role in every country. KS

news flash

Europe

European Aluminium Award 2012

Winner of the European Aluminium Award 2012 in the category Industrial Products – Production Techniques is the company *Pyrotek*/US. The Award designs the automatic heated launder system. The ultimate goal for any company is to transfer molten aluminium with a minimum change of temperature whilst providing reliable and repeatable casting performance. The automatic heated launder system is ideally suited to continuous sheet casting of aluminium alloys. The technology employs an efficient and reliable heating source. The technology is very well suited for the casting of Al-Li alloys as the indirect heating provided by the system allows the manufacturing company to lower furnace temperatures and as a net result reduce significantly dross generation from this very reactive alloy. From the Jury: „The Jury is impresses by the innovative way to optimize the casting process with this simple yet clever solution. This development addresses a well-known issue in casting in a way that guarantees both performance and reliability".

Brazil

Carbon 2013
– the Annual World Conference on Carbon

Carbon 2013, the Annual World Conference on Carbon, which will be held from 14–19 July 2013 in Rio de Janeiro, Brazil. This highly regarded international conference is the most important scientific event in the field of carbon materials and this will be the first time it will be held in the Southern Hemisphere. Academic and industrial experts will highlight the latest findings in the field, in the form of oral and poster presentations. The technical program will include the following topics: Nanocarbons (graphene, nanotubes, fullerenes, etc); Environment and Energy; Porous Materials and Adsorption; Fibres and Composites; Carbonization, Graphitization and Other Conversion Processes; Characterization (carbon forms and precursors); Biological and Medical Applications; Industrial Applications.
Registration and abstract submission are now open at www.carbon2013.org
Deadline for short abstract submission:
31. December 2012.

Germany/Netherlands

Well-known Manufacturer of Refractory Products Places Major Order with LINGL

The company *LINGL*/DE was awarded the contract for the construction of a high-temperature tunnel kiln for refractory products including the related kiln car circulation system by the company *Gouda Refractories* in the Netherlands.
Having already placed an order for a fully-automatic setting machine for refractory products Gouda Refractories once again favoured LINGL with this new order. The kiln which is to be built by LINGL will start production in late summer 2013 with a maximum temperature of 1700 °C for firing high-grade refractory products. The high-temperature tunnel kiln will be equipped with the completely new LINGL roof technology. Compared to the technologies applied today, this new technology allows for a considerably quicker change from one firing curve to another required for frequent product change. Thermal losses are reduced substantially by no longer using metal anchors or ceramic suspension systems with high thermal conductivity as used for suspended roofs. Another important fact is the reduction of investment costs as cooling air fans and piping are no longer required, and the design of the roof beam system is of less weight. The innovative implementation of the high customer-specific demands on the firing and air guiding process meets the quality criteria for high-grade refractory products of Gouda Refractories. Gouda Refractories, a globally active company, is one of the leading suppliers of refractory products for the petrochemical industry, the non-ferrous metals industry (aluminium), the environmental and energy technology as well as for the cement industry. The company is a member of the *Andus Group*, a group of companies manufacturing products and realising projects for various industrial sectors.

Europe

ECerS XIII Conference 2013: Ceramics under Severe Environments and Refractories

The ECerS XIII Conference is organised by the *French Ceramic Group* between 23–27 June 2013 and is hosted by the *Ceramic European Center*, a research and teaching institution under the tutelage of the *French National Research Council* (*CNRS*), the *University of Limoges* and the *National Engineering College for Industrial Ceramics* (*ENSCI*). The presentations will cover a broad range of topics from basic to applied science in relationship with major issues such as energy, environment, information and communication technologies, biotechnologie etc. In particular, a symposium is devoted to the refractory materials: Ceramics under Severe Environments and Refractories. Refractories are nanobonded composite materials used in large volumes to line furnaces for the production of other materials at high temperatures.

Recent developments in refractories included in this theme are: synthesis of refractory materials from industrial wastes, "new" refractories e.g. hercynite/galaxite/CA_6/MgAlON, carbon- and chrome-free refractories, nanostructured refractories, low-carbon and ultra low carbon-containing systems, oxide-nonoxide composite refractories, in-situ refractories, in-situ and ex-situ reinforced refractories, eco-friendly binder bonded refractories, lightweight castables, quick-drying castables, self-healing refractories, simulation/modelling of refractories, new refractories evaluation techniques including in-situ and at temperature. Refractories are being developed to function in ever more severe conditions which begin to approach those of ultra-high temperature ceramics (UHTCs) which are designed to operate at over 2000 °C and even 3000 °C. UHTCs need to retain mechanical and chemical stability at these temperatures for a variety of high-temperature structural applications, including engines, hypersonic vehicles, plasma arc electrodes, advanced nuclear fuels, fusion first walls and divertors, cutting tools, furnace elements, and high temperature shielding. This theme will examine all aspects of UHTC behaviour including processing, environmental response and characterisation. Other topics include testing and property measurement at very high temperatures and modelling over length scales including phase equilibria.

Turkey

ALUEXPO 2013

ALUEXPO 2013 – 3th Aluminium Technologies, Machinery and Products Trade Fair will be organized between 3–6 October 2013 in Istanbul in the Expo Center, Halls 9–11 with the full support of *TALSAD – Turkish Aluminium Industrialists Association* and *UCTEA Chamber of Metallurgical Engineers*, in conjunction with the 6th Aluminium Symposium that will be organized by TALSAD, UCTEA and *TUBITAK Marmara Research Center*. ALUEXPO 2013 is an exclusive forum that will bring together the leading names in the aluminium industry from around the world. This exhibition is designed to highlight the present and future scenario of aluminium industry, showcasing products and latest technologies. ALUEXPO 2013 once more offers the chance to enter the growing markets of Turkey and Eurasian Region, which are solidly on their way to becoming prominent centers of the global aluminium sector, to meet new companies and buyers, to present the power of the Turkish aluminium industry effectively, to renew old business connections and to gain detailed information about new products and technologies through the symposium, to both its exhibitors and visitors.

Brazil

Magnesita Share Jumps on New Graphite Plant License

Magnesita Refratarios SA, a Brazilian refractories manufacturer and mine operator, jumped after obtaining a license to build a new graphite plant. Shares gained 2,8 % to BRL 7,74 at the close of trading in Sao Paulo. The benchmark Bovespa index added 0,2 %. Magnesita said that the plant, which is located in the Brazilian state of Minas Gerais, will produce as much as 40 000 t/a of graphite. *Marcos Assumpcao* and *Andre Pinheiro*, analysts at investment bank *Itau BBA*, wrote that "The graphite market is expected to remain tight over the next few years, given the strong demand potential and limited capacity additions." The analysts estimate the project can generate as much as BRL 300 million for Magnesita, which is about 15 % of the company's market value. Magnesita gained 34 % in 2012, while the Bovespa rose 9,4 % during the same period.

USA

ANH Refractories Revamps Cement Division

ANH Refractories is launching a revamped range of products for the cement manufacturing sector following a period of intensive testing and research. Its subsidiary, *ANH Refractories Europe* now manufactures and distributes these products from its Bromborough/GB plant to customers worldwide. ANH Europe MD *Peter Rooney* explained the aim is to simplify customers' product selection process and drive customer satisfaction. The new portfolio has been streamlined and refined to offer the best and latest in refractory technology and create a more powerful core offering of monolithic, brick and precast refractories. Products are now categorised for easier selection. Critically however, the portfolio still retains ANH's signature products. Brands such as Vesta and Versaflow, well-known to ANH customers in the US, are now readily available from its new distribution hubs outside America. ANH Refractories Europe provides solutions for the full range of cement kiln refractory applications from upper to lower transition zones to preheaters, coolers, tertiary air ducts and burner pipes. Key products in the new revised range include both Magnel and Vesta bricks. It further includes Versaflow and Versagun castable and gunmixes such as Versaflow 70C Adtech for discharge and cooler bull nose rings. Another key product is Versaflow 45 Plus for inlet sections, cooler discharge chutes, side walls and tertiary air ducts. Recent deals have seen ANH supplying a range of these products to the *Holcim Ste. Genevieve plant, USA HeidelbergCement, Ketton UK* and *Lafarge, Retznei Austria*. ANH Europe has expanded its sales and engineering teams, including the appointment of *Stephan Frank*, a senior refractory engineer, hired to drive exports in emerging cement markets including Turkey, Ukraine and India.

Iran

Iran Exports of Steel and Aluminum in First Half of the Year

The *Organization of Mines Development and Renovation and Mine Industry* said that USD 571 million of steel and aluminum products as well as iron ore have been exported in the first half of the Iranian year. Steel products in the first six months of the year shows 14 % growth in value and 15 % in weight, compared with the same period in the last year. Unlike export increase of steel products, export of crude steel has decreased 79 % with the aim of prevention of selling crude materials. Upon the report, aluminum sector, by exporting 78 000 t of products, has achieved USD 88 million. In the sector of iron ore, around 633 000 t worth

IMPRINT

Publishing House
Göller Verlag GmbH
Aschmattstraße 8
D-76532 Baden-Baden

Editorial Department
Karin Scharrer (Editor-in-Chief)
Phone: +49(0)7221-502-241
E-mail: k.scharrer@goeller-verlag.de

Advertising Department
Corinna Zepter (Advertising Manager)
Phone: +49(0)7221-502-237
E-mail: c.zepter@goeller-verlag.de

www.refractories-worldforum.com

news flash

USD 77,3 million was exported in the first six months of the year. Steel products also had a good selling increase of 43 % in the first six months with IRR 871 thousand billion in domestic market. Aluminum companies also sold IRR 3660 billion, which indicated 18 % growth. Iron ore sector sold 12,4 Mt worth IRR 7230 billion. Also in this period of time, 413 000 t of coal sold for IRR 730 billion.

Austria

RHI Adapts Brazil Project

The increase of import duties and introduction of anti-dumping duties by the Brazilian government has created a new framework for investments in Brazil. This new situation requires an adaption of *RHI's* plans for a production site for refractory products in the State of Rio de Janeiro. The Management Board of RHI AG will quickly implement the adaption of the Brazil project to pursue the further dynamic growth. "We are fully committed to Brazil and all of South America as an important part of our growth strategy and will continue to expand our market share with our team in Brazil", said RHI CEO *Franz Struzl*.

Indonesia/China

New Bauxite Refinery in Batam

According *Indonesia Today* on 25 Nov. 2012, *PT Indopura Resources* and China-based miner *Hainan Joint Enterprise Business Service Co. Ltd.* plan to jointly invest in bauxite and chemical grade alumina (CGA) refinery in Batam. *Arief Winata*, Managing Director Indopura Resources, said the investment, funded by *China Construction Bank International* (*CCBI*), will cost USD 70 million. The construction of refinery is scheduled to start in 2014. Arief informed that the refinery aims to serve market demand from China and Japan. The refinery will produce 1 Mt of CGA powder from 2,7 Mt of its raw materials.

Czech Republic

HITHERM PRAGUE 2013

Call for papers

The *Czech Silicate Society* is preparing the international conference HITHERM PRAGUE 2013 on high-temperature processes,which will focus from 25–26 June 2013 on the following topics:

- energy efficiency and heat recovery in high temperature technologies
- materials for high temperature technologies
- high temperature processes, heating and burner technology.

The conference will take place in the traditional Congress Hall close to Charles Bridge – a site which has hosted all the famous Prague International Conferences on Refractories. Official conference languages are English, Czech/Slovak; simultaneous translation will be provided.

Submission of abstracts: deadline 31 January 2013.
Proceedings: manuscripts of papers (only in English) must be submitted till 1 May 2013.
For further information:
E-mail: hitherm2013@silikaty.cz

Russia

XXII Annual International Conference of Leading Metallurgy and Refractory Companies

The XXII Annual International Conference of Leading Metallurgy and Refractory Companies entitled Refractories for Industry – 2013 will be carried out in Moscow, Russia, between 5–6 February 2013. Chiefs and leading experts of different ministers, federal services, leading Russian and foreign engineering companies, developers, institutes, refractory and metallurgy companies will take part at the conference. Following topics will be discussed: raw materials; unshaped refractories; pig iron and steel production; steel casting; foundry; production of cement and glass; investment, technical and sales management; as well as market analytics. The conference language will be English and Russian (simultaneous interpretation). The price of taking part in conference is USD 540 or EUR 420 per person.
Further information (deadline 14 Dec. 2012):
E-mail to Andrey G. Borisov (borisov@gol.ru).

Worldwide

Refractories – a Global Strategic Business Report

The report published by *Global Industry Analysts, Inc.* analyzes the worldwide markets for refractories in tons and USD – by form (bricks and shapes, and monolithics and others), by materials (clay refractories, and non-clay refractories) and also by end-use markets (iron and steel, cement, ceramics and glass, and others). The report provides separate comprehensive analytics for the US, Canada, Japan, Europe, Asia-Pacific, Middle East, and Latin America. Annual estimates and forecasts are provided for the period 2010 through 2018.
Also, a six-year historic analysis is provided for these markets. The report profiles 147 companies including many key and niche players such as *Acera Technology, ANH Refractories Company, Chosun Refractories Co. Ltd., Cookson Group PLC, Vesuvius Group S.A./N.V., Imerys SA, Krosaki Harima Group, Magnesita Refratários S.A., Magnezit Group, MINTEQ International, Inc., Morgan Crucible Company PLC, Refratechnik Group, RHI AG, Saint Gobain Ceramics & Plastics, Inc., SEEIF Ceramic AS,* and *Shinagawa Refractories Co., Ltd.*
Market data and analytics are derived from primary and secondary research. Company profiles are primarily based upon search engine sources in the public domain (Source: Global Industry Analysts, Inc.)