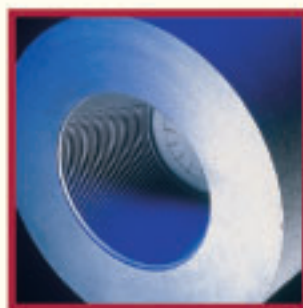


ECGA

European Carbon and Graphite Association

ANNUAL REPORT

2 0 0 1



FOREWORD

A DIFFICULT YEAR FOR THE CARBON AND GRAPHITE INDUSTRY



Although business during the first six months of 2001 was at the same level as in 2000, an unfavourable economic environment and the accompanying problems confronting our sales markets in the steel and aluminium industries as well as in the automotive, telecommunications and chemical sectors have led to an average drop of several per cent in the turnover of our member companies. Decreasing capacity utilisation and rising costs (for example, in the case of energy and raw material) might lead to much lower results for the whole year 2001.

This year's activities focused on the EU's Chemical Policy White Paper as well as on the national implementations of emission limits under the IPPC Directive. Since our raw materials are particularly affected by these developments, we have asked our most important raw materials suppliers to participate in the relevant committees and to become members of our Association. In this report, DEZA, the leading Czech pitch supplier, which has recently become an associate member, introduces itself with a special contribution on pitches.

For the first time we have developed summary data sheets for the European carbon and graphite industry on the reduction of specific energy consumption, emissions and the number of accidents in recent years. The results show a positive trend which must be further strengthened through continued effort.

One key aspect which we have to monitor closely is the sensitivity of the energy sector to environmental taxes and other legislative factors. These developments may have a significant impact not only on the profitability of the carbon and graphite industry but also on our client sectors, including the steel, aluminium and automotive industries.

The ECGA took part in an initial meeting in Washington between the Japanese Carbon Association (JCA) and NEMA, the US trade association. The meeting showed a strong common interest in exchanging developments and data in the area of environmental legislation. The American and Japanese representatives also expressed their interest in discussing the standardisation of globally marketed exchangeable graphite products (IEC Standards). The ECGA has organised a second joint meeting of the three associations, scheduled to take place at the beginning of March 2002 in Brussels.

I would like to take this opportunity to thank all participants for their contributions in the course of 2001. In the coming year we will continue to make every effort to further the interests of our industry.

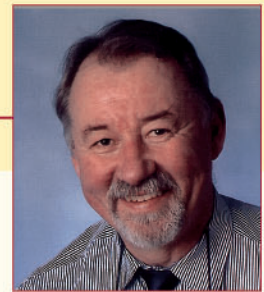


*European Carbon and Graphite Association
Dr Gerhard Rose, President
February 2002*

INDEX**PAGE**

Foreword by Dr Gerhard Rose	1
1. Environment, Health & Safety Audit Committee	3
2. The carbon and graphite industry in the light of the EU's energy policy	6
3. Major market committees	8
3.1 Steel	8
3.2 Aluminium	10
3.3 Silicon	12
4. Raw materials: pitch (contribution from DEZA)	14
5. List of members in 2001	16
Contact details of the Association	

1. ENVIRONMENT, HEALTH & SAFETY AUDIT COMMITTEE



Dr Harald Tillmanns,
SGL CARBON
Chairman

Participating members: Mr T. Aaen (Elkem ASA Group), Mr T. Akyel (ERFTCARBON GmbH & Co. KG), Mr K. Kahl (C. Conradt Nürnberg GmbH), Mr M. Rouy, Vice-Chairman of Committee (UCAR S.N.C.)

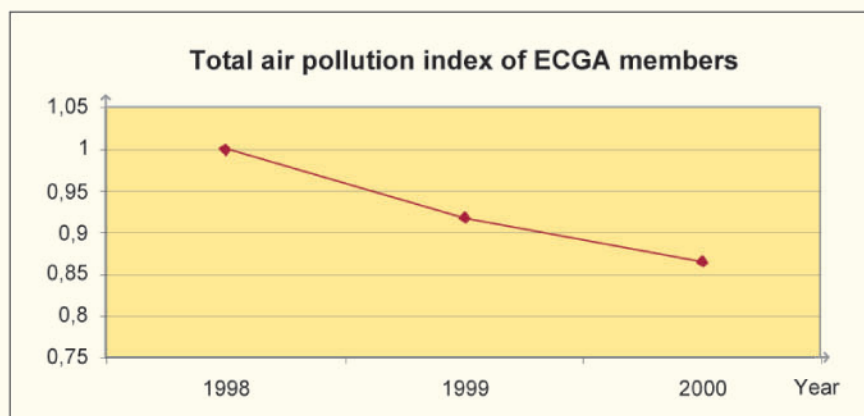
Our key objective is to apply an integrated EHSA-oriented production technique and advanced abatement technologies in order to reduce the impact of the carbon and graphite industry on the environment. This has been successfully achieved by the ECGA members.

The carbon and graphite industry has already followed this principle for many years and has in the past significantly reduced the impact on the environment. The carbon and graphite industry voluntarily set itself the objective of reducing the impact on the environment, as set out in the EU's Integrated Pollution Prevention Control regulations, years before it became obligatory. Even starting from a low level of impact, the latest efforts of the carbon and graphite industry have led to an impressive further reduction over the past years, as demonstrated below.

TOTAL AIR POLLUTION

The total air pollution index is used to denote the change in the overall impact of emissions on the air. The index shows a significant further reduction in pollution by approx. 14% within three years. This could only be achieved by modifying production processes to take account of environmentally friendly technologies, and by implementing advanced abatement techniques. Examples of the different approaches used to reach the objectives are as follows:

- Changing the graphitisation procedure from Acheson to Castner technology, thereby reducing raw materials resources and, in particular, electrical power;
- Improving existing abatement techniques to increase efficiency and development of advanced technologies in co-operation with abatement equipment suppliers. The application of the fourth generation of regenerative incineration is an impressive development resulting in significantly lower total air emissions and a drastic reduction in energy demand for the combustion process. But it must be pointed out that this abatement technology is still considered to be an emerging technology, due to the fact that some aspects have to be improved further to meet all the targets that have been set as well as future demands.

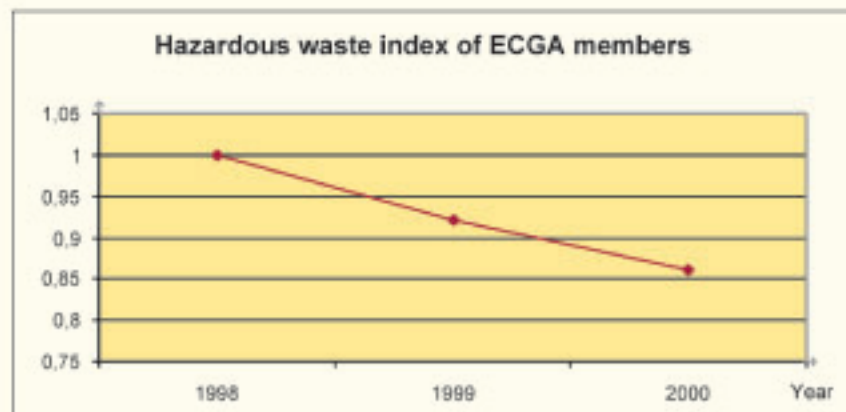


HAZARDOUS WASTE

The hazardous waste index demonstrates that the reduction by approx. 14% is the result of major efforts by the carbon and graphite industry to contribute to a minimisation of hazardous waste formation. Several aspects are involved:

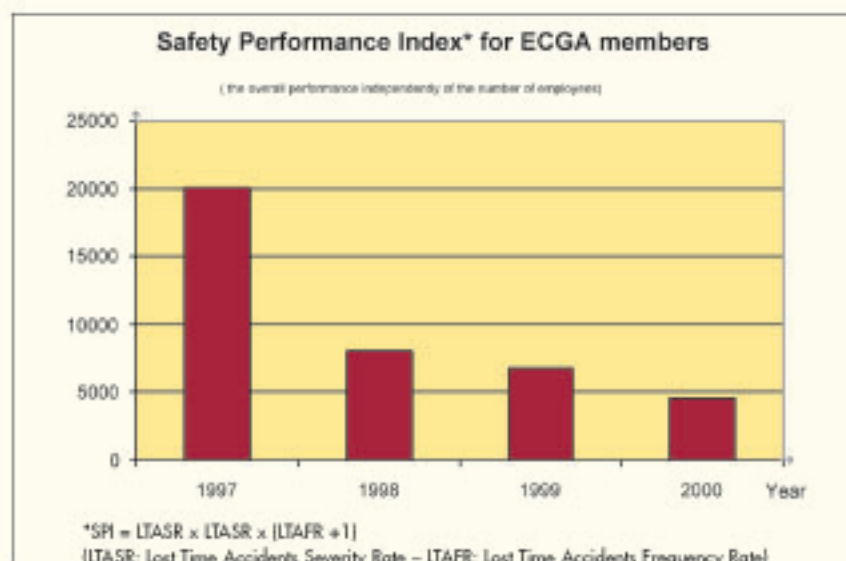
- The application of advanced production and abatement techniques, leading to lower quantities of waste;
- A saving in raw materials, leading to lower quantities of residuals;
- The separation of residuals into three major fractions:
 - ✓ Material fraction – can be used to replace raw materials and contributes significantly in the bid to save raw materials, without the need for pre-treatment,
 - ✓ Non-hazardous waste fraction – for disposal and re-use or recycling after treatment,
 - ✓ Hazardous waste fraction – minimisation of the hazardous waste fraction by a reliable, strictly controlled separation process.

The impact on the environment can therefore be reduced by saving resources and minimising the quantities of waste, in particular of hazardous waste, needing disposal or special treatment.



SAFETY PERFORMANCE

The sustainable development in terms of safety performance in recent years, including the number and severity of accidents, is impressively documented in the diagram. This result could only be achieved by including all levels of employees and management, in particular, in a safety awareness and improvement programme.



The key objectives for ECGA activities are unchanged: to improve environmental and safety performance by setting clear targets and communicating information and consequently to help the member companies to achieve further improvements or at least maintain the current excellent performance level. This can only be guaranteed through close, practice-oriented co-operation with European and national authorities, the introduction of industrial expertise to the process of revising and creating regulations and open communication with our customers and the public.

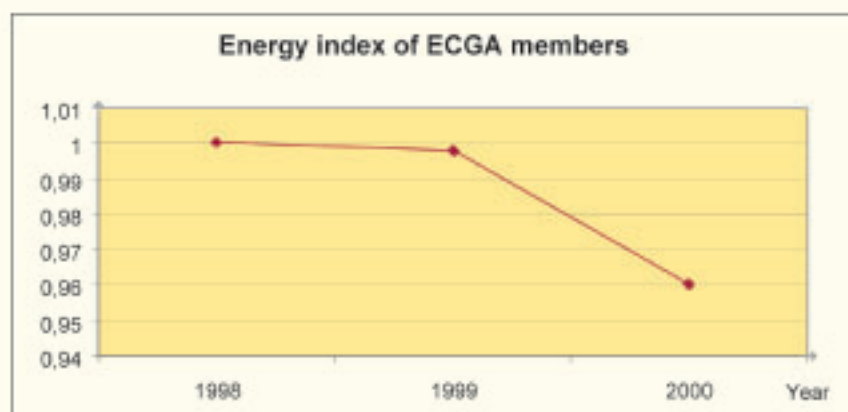
The ECGA and its members are clearly committed to playing an active role in improving processes under economically and technically viable conditions in order to reduce the impact on the environment and to create safe working and living conditions for all their employees, customers and neighbours.

ENERGY INDEX

Manufacturing carbon and graphite materials is an energy-intensive process because two high-energy processes are involved:

- The baking or re-baking of so-called "green" carbon shapes is subject to thermal treatment, of up to approximately 800 - 1200°C to convert the binder matrix into solid carbon.
- To produce graphite the carbon base material has to undergo a second thermal treatment, the graphitisation process. This process is needed to convert the amorphous structure of baked carbon shapes into a crystalline structure. The graphitic properties are necessary for all applications of graphite products requiring high thermal conductivity or low electrical resistance.

Modifying baking facilities to use low energy techniques, replacing the last remaining Acheson graphitising furnaces with Castener graphitising furnaces and using regenerative abatement techniques led to a significant reduction of approximately 4% in energy demand. It should be borne in mind that even a 4% reduction is only made possible through major capital investments and changes to applied technology.



2. THE CARBON AND GRAPHITE INDUSTRY IN THE LIGHT OF THE EU'S ENERGY POLICY

Parts of the carbon and graphite industry are very energy-intensive since they use a large amount of energy to achieve the graphitisation of their products, such as the production of graphitised electrodes for the steel industry, for example.

Consequently, the EU's measures on climate change and energy production and consumption in general may have a substantial impact on the competitiveness of the sector.

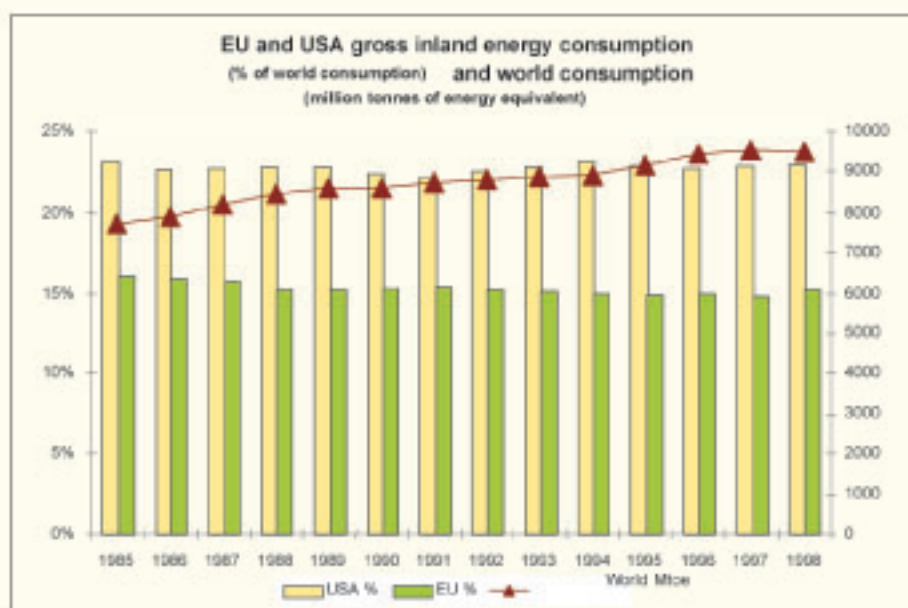
POST-KYOTO STRATEGY: THE EU'S STATUS AND TARGETS FOR MEETING THE AGREED CLIMATE CHANGE TARGETS

The Commission's Communication on EU Post-Kyoto Strategy (COM(98)353) covers the following main issues:

- developing indicative reduction targets for energy consumption/CO₂ emissions for all economic sectors;
- developing measures to reduce emissions in key sectors: energy, transport, agriculture and industry.
For the latter, the main instrument should be a long-term agreement on energy efficiency improvements;
- using flexible instruments such as emissions trading to comply with emissions reductions. There should, however, be a ceiling on the use of these instruments and their operation should be carefully controlled.

On June 16, 1998, the Council adopted conclusions on the Community Strategy on climate change and decided that the 8% reduction targets should be shared between the Member States of the EU. A list of common and co-ordinated policies and measures designed to achieve the EU and national targets was put forward. This included the taxation of energy products and further voluntary energy savings in the industry.

Developments over the past few years have been rather positive for industry in general, insofar as emissions are already below the 1990 levels. This state of affairs is mainly attributable to the shutdown of highly polluting factories following the reunification of Germany, which brought down emission levels by 3-4%, the UK's replacement of subsidised coal by gas, and the improved performance of nuclear power in generating electricity. As a result, it is expected that the Kyoto targets will be met without excessive costs. Whereas a 1997 Commission report indicated that compliance costs would be in the region of 25 billion euro/year, this amount has recently been brought down to 5 billion euro/year.



source : EU web

The European carbon and graphite industry itself has also made major efforts to improve its energy balance either by investments in different and improved technology or by optimising existing process technology.
(See graph page 5)

However, whilst the sector is supporting the overall effort to reduce energy consumption, it is primarily concerned about the development of the three main pillars as stated in the EU Energy Policy:

- **Security of Supply: the sector is highly dependent on a secure energy supply:**

The latest Commission Green Paper on energy supply security is essential reading for energy-intensive industries such as the carbon and graphite sector.

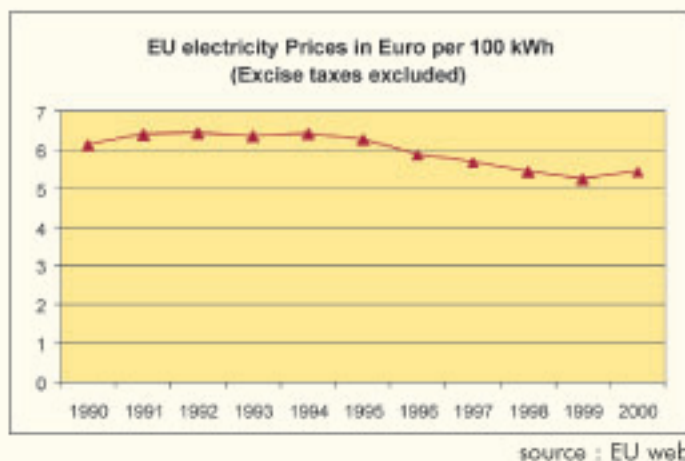
Of course it makes good sense to focus on energy savings and energy efficiency for industry for economic reasons as well. However, the concept of Energy taxation will cause substantial difficulties for a sector that is highly dependent on competitively priced energy.

- **Respect for the Environment:**

The sector fully supports the EU's general policy of respecting environmental constraints, but only to the extent that security of supply and competitive prices are guaranteed.

- **Energy Price:**

Whilst the Commission's aim is to ensure a competitive supply of energy to all customers (the public, private and corporate sectors as well as individuals), the year 2000 has seen an increase in electricity prices, as shown by the EU's own statistics.



If these objectives are not fulfilled by the EU's energy policy in an appropriate way, there is still the risk of de-localisation of industry outside the EU for competitiveness reasons.

LIBERALISATION OF THE ENERGY MARKETS:

One of the industry's concerns is the fact that the intended liberalisation of the energy markets is not happening fast enough and that Member States create technical barriers between each other. The potential negative impact of this energy liberalisation and the impact of the emerging structures and prices on the sector and its competitiveness is being monitored closely.

3. MAJOR MARKET COMMITTEES

3.1 STEEL

Dr Hubert Jäger,
SGL CARBON Group
Chairman



The steel market is important to the carbon and graphite industry because electrodes used for the production of steel in electric arc furnaces are made from graphite. Carbon and graphite blocks are used as linings in blast furnaces.

Participating members: Mr G. Baust (ERFTCARBON GmbH), Mr P. Heinrich (SGL CARBON Group), Mr R. Thomsen (ERFTCARBON GmbH), Mr G. Uehla (Conradty Elektroden), Dr H. Weinzierl (Conradty Cova Service)

The world economy has been on a downward trend since mid-2001; this has had a direct influence on the steel demand situation for 2001 and 2002. Initial legal measures taken by the United States to protect their home steel production might result directly in steel shipments from third world countries into the European market. Short-term import regulations imposed by the European Union could positively contribute to EU steel production in 2002. Another important issue for the European steel industry's world competitiveness is the acceptance of already initiated or introduced measures for CO₂ emissions reduction in the anticipated emissions trading. Both factors are also of vital importance for the European carbon and graphite industry.

TOTAL STEEL PRODUCTION											
		WORLD					EUROPE				
		1994	1997	1999	2000	2001	1994	1997	1999	2000	2001
TOTAL CRUDE	mt t.)	594	799	789	847	835	157	177	172	180	176
TOTAL ELECTRIC	mt t.)	178	270	264	283	272*	47	70	70	76	75*
SHARE ELECTRIC	%	30,0	33,8	33,5	33,4	32,2*	29,9	39,5	40,7	42,2	42,6*
*estimates ECGA		source : IISI									

The use of alternative materials such as aluminium and polymers for the automotive industries as a replacement for steel has been a discussion point for many years. The low-weight and non-corrosion advantages of aluminium in particular have now been equalled by the latest developments in high tenacity steel grades, enabling car frame constructions with improved stiffness and optimum energy absorption capability. Therefore the originally predicted replacement of steel by aluminium is unlikely to happen; instead the construction material demand will be shared amongst all the major candidate materials, namely steel, aluminium, polymers, etc.

WORLD DRI PRODUCTION [MIO TONS]					
1970	1980	1990	2000	2010	
0,8	7,4	17,7	43,2	75,0	
source : MIDREX					

An important raw material for the production of special steels, where high purity is required, is direct reduced iron (DRI). From the first industrial use at the beginning of the 1970s, its current market share for Electric Arc Furnace (EAF) steel production is around 15%, with a huge growth perspective. This is an indirect indication of the increasing importance of special steel markets.

The worldwide competition among electric steel producing countries and companies, in combination with regional legal regulations, is the major driving force behind innovations. Today, only EAF plants with optimum efficiency are able to supply the world's steel markets with high-quality, low-cost steel grades. The major effects of these innovations are demonstrated by the operations improvements made over the last 10 years.

OPERATION COMPARISON 1990 / 1999			
(Average)			
		1990	1999
furnace tap weight	[to]	86	110
transformer apparent power	[MVA]	60	80
transformer voltage	[V]	680	900
oxygen consumption	[Nm ³ /to]	24	30
tap temperature	[°C]	1660	1635
tap to tap time	[min]	105	70
graphite consumption	[kg/to]	3,6	2,2

source : TECHINT

Average productivity increased from 61 to 94 – more than 50% - by going in two different directions: "fast furnaces" with less than 100 tonnes/heat and "large furnaces" with over 150 tonnes/heat. In the same period average energy consumption decreased from 450 to 392 kWh/tonne with an increased chemical energy input, in particular for the fast furnaces.

In line with these operations developments, the performance needs for the graphite electrodes resulted in a continuous material improvement enabling the adaptation of higher current densities for both Alternating Current (AC) and Direct Current (DC) technology. A further increase in productivity, especially for large furnaces mostly using DC technology, has recently been achieved by using graphite electrodes with a diameter of 800 mm. Annual production volumes of 2 million tonnes are now achievable. This development step can be regarded as a breakthrough towards a future replacement of mid-size blast furnaces by the more flexible electric arc steel process, thus contributing to a further reduction in industrial emissions.



Dr David John,
Vesuvius-Premier Refractories Ltd,
Chairman

3.2 ALUMINIUM

Cathodes and anodes made from carbon and graphite are used for the production of primary aluminium in the aluminium smelter. The main components of anodes are petroleum coke, a product from the distillation of oil, and coal tar pitch, a distillation product extracted from the tar that is obtained in coking plants. The market situation for aluminium is therefore of interest to carbon and graphite producers.

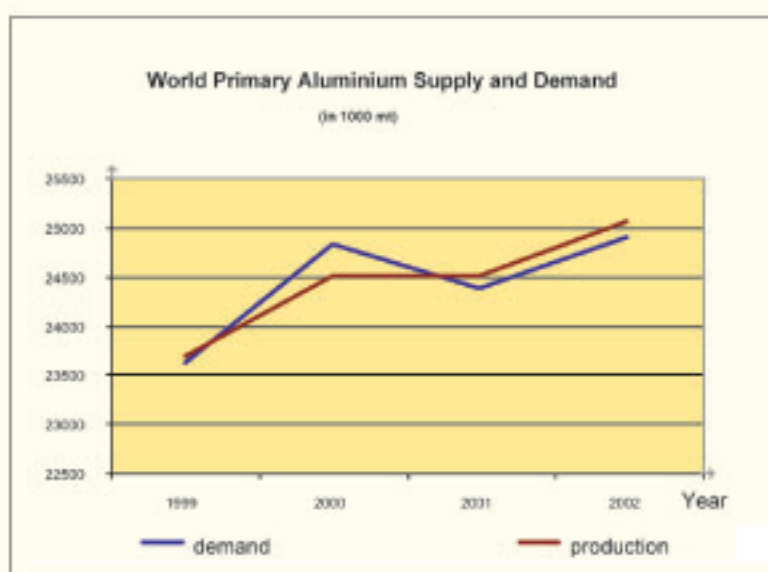
Participating members: Dr R. Becker (Aluminium Rheinfelden GmbH), Mr J. Cibulec (DEZA a.s.), Dr E. Guajioty (SGL CARBON Group) Mr J. A. Johansen (Elkem ASA Carbon), Mr H. Nawrocki (ERFTCARBON GmbH & Co. KG)

As a major consumer of carbon products in the form of cathodes, sidewall blocks and the ramming pastes required for its reduction cell linings, the aluminium industry remains a key market for the carbon and graphite industry.

Analysis of the aluminium market shows that the fundamentals are good and growth can be expected in the long term. However, there is a temporary slowdown in the short term. Statistics have been assembled for primary smelting capacity by country, with aggregated figures for metal consumption and import / export data for Europe and the rest of the world.

The power situation affecting a number of smelters has had a severe effect during the year, with plants in north-west USA and Brazil being especially badly hit. The final effect of the power shortages has yet to be seen but permanent smelter closures have already taken place in the USA and more may yet take place.

Mr. Böhm, Chairman of the EAA statistics committee, made a presentation to the September meeting on the current state of the primary aluminium industry, taking into account the events of 11 September 2001. Whilst Western world supply and demand are seen as being reasonably balanced, annual demand declined by 3.7% in 2001. This is worse than forecast in 2000 and the predicted 1.5% recovery in 2002 may well be an overestimate.



A new database has been produced with the aim of providing a regularly updated summary of the global smelter situation. The information includes capacity by country, with details of the number of smelters, idled / closed capacity and green-field and brown-field projects.

CARBON PRODUCTS

Aggregated data shows that demand for fired carbon materials for relining and maintenance declined in 2001, but is expected to increase in 2002.

The trend towards graphite products continues, albeit slowly. The use of non-graphite products has fallen slightly but not as severely as some years ago when a number of smelters changed to graphitised cathode blocks.

TECHNOLOGY

A particular challenge facing the industry is the possible improvement in lifetime of graphitised cathode blocks. This may possibly involve or even require the use of coatings.

The Secretariat made a presentation at the September meeting regarding spent potlining materials. The issue continues to be a cause for concern, with 800 to 1000 kt SPL (spent potliner) being produced worldwide each year. The presentation covered the legislative situation, the various technologies presently available for SPL treatment and alternative methods of disposal.

A Crédit Suisse Bank report published in 2000 and entitled 'The Aluminium Revolution' suggested that the aluminium industry would change radically in only two to three years' time due to the impact of new anode technology. Our comment on the inert anode is that following more than 30 years' research and development it is not expected that this technology will be used in full-scale industrial production in the near future.

This year the committee met in Brussels in March and in Rheinfelden in September. It is anticipated that, in future, meetings will be held twice a year at the Brussels office. The potential for new members will be continuously reviewed as we aim to enlarge the association in the future.



Mr John Fors,
Elkem ASA Carbon,
Chairman

3.3 SILICON

Carbon electrodes are also used for the production of silicon metal. The situation in the silicon metal market is therefore of interest to the carbon and graphite industry. Söderberg paste is mainly used for the production of electrodes for ferro alloy production.

Participating members: Dr R. Becker (Aluminium Rheinfelden GmbH), Mr D. Damiotti (SGL CARBON Group), Mr S. Sawatzki (ERFTCARBON GmbH)

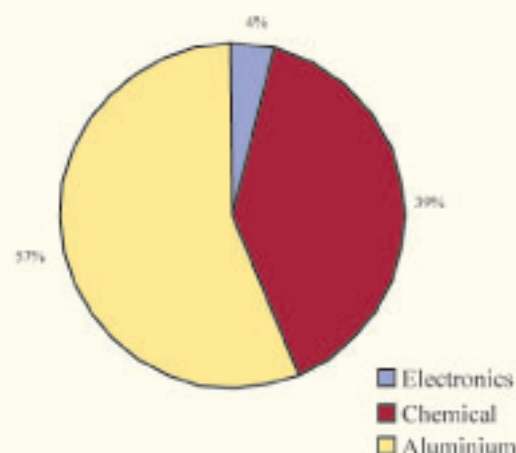
THE MARKET FOR SILICON METAL (SiMet)

Global production of SiMet is targeted at three areas: alloy metal for the aluminium industry, the production of silicones in the chemical industry and the production of microchips (monocrystalline wafers) in the electronics industry. The distribution is approximately as shown in the diagram.

For the two main areas, aluminium and chemical, the demands have been reduced by some 15%. This is a reduction that amounts to approx. 150,000 MT of SiMet p.a.

When producing SiMet the ratio between electrode consumption and the amount of produced SiMet is approx. 1 to 10. This means that, on a global basis, the market for electrodes has been reduced by 15,000 MT. In this picture China has, over the last 10-15 years, evolved as a major and important supplier of SiMet to the "West". Today China represents 30-35% of global SiMet production. However, the main production in China is performed in a large number of small furnaces using domestic graphite and carbon electrodes.

Given the pressure on prices for SiMet and the low cost of production in China, the bulk of the reduction in production is taken up by producing countries other than China.



PRODUCTION STRATEGIES

The increasing pressure on prices for SiMet has also increased the pressure on the producers to lower production costs. Depending on the geographical location of a producer, the cost for using traditional carbon electrodes is 14-18% of the total production cost. Historically, the main focus for the producers has been to reduce personnel costs by introducing automated controls and to reduce the unit consumption of electrodes per produced unit of SiMet. Over the last 10-15 years this consumption has been reduced at least by half. The situation now is that the rate of reduction has stagnated and the electrode consumption is close to what is theoretically possible.

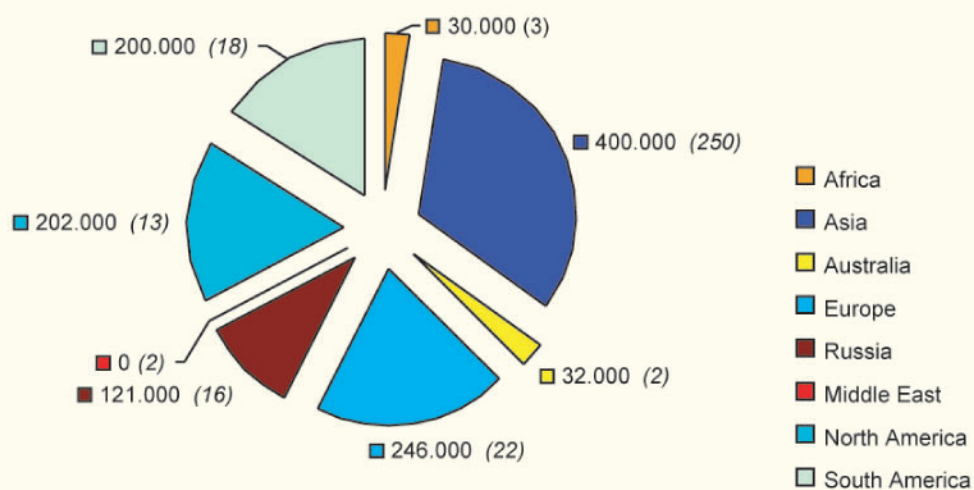
A lot of the producers' focus has now turned to new electrode technologies. Even though the incentive for a producer to reduce electrode costs is very strong, the introduction of new technologies has been slow.

There are two main reasons for this. First of all, there are few new technologies available on the market. Inherently this situation will prevail in the future, as it is the producers themselves that develop new technologies and do not readily share this with the competitors.

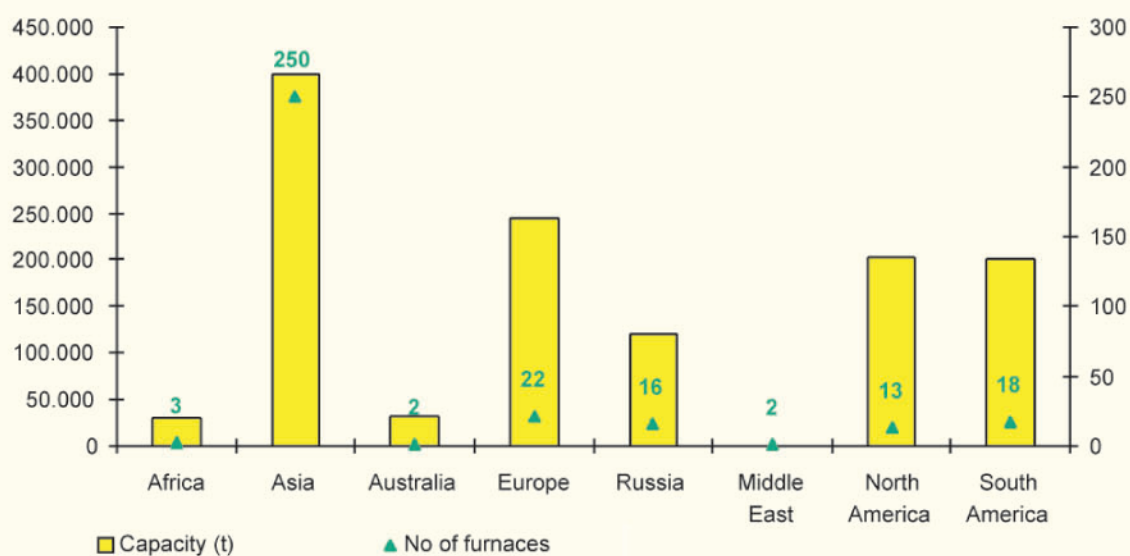
The second reason is that a conversion is relatively costly in relation to the savings that can be made, both from an investment point of view and from the point of view of production losses due to long learning curves in operating these new technologies.

SILICON PRODUCERS IN THE WEST

Capacity* of silicon furnaces in tonnes
(the number of furnaces)



Total capacity* of silicon furnaces per region and total number of furnaces per region



* The figures shown in the graphs do not represent the production as per today but include idle capacity.



Dr. Jan Vymětal,
DEZA

In 2001 DEZA joined the ECGA. DEZA is a producer of coal tar pitch, a raw material for the carbon and graphite industry. In the following, experts from DEZA present the coal pitch and tar market.

Coal tar pitch is currently the main source for carbon materials based on coal. Generally, it is possible to summarise the list of potential materials derived from pitch, coal or coal liquids as follows:

pitch-based carbon fibres, mesophase-based carbon fibres, plastic-reinforced carbon fibres, carbon nib electrodes, graphite and graphite-based materials, electrodes, composite materials, carbon molecular sieves, mesocarbon microlayers, active adsorbing carbon, active carbon fibres, coke for metallurgy, fullerenes and analogue compounds, and diamond layers.

As well as the coal pitch being one of the dominant sources of raw materials for new carbon materials, it will probably maintain its role as the key link between iron and aluminium metallurgy in the future. In spite of the current, global depression in iron and aluminium production, we can expect that, together with the development of new and environmentally less harmful processes, coal pitch will assume an important position in this field. The other important prospective direction for the use of coal pitch is the manufacture of carbon molecular sieves. This carbon is used for gas separation (CO, O₂, humidity), and together with the active adsorption carbon is used as an adsorbent and catalyst in water and air purification. It is also used in medicine and in environmental care and eco-technology. An active coke, manufactured from preoxidised black coal and pitch coal is used as the test material for SO₂ first stage absorption for combustion equipment flue gases. In the second stage it is used as a catalyst for converting NO_x to elementary nitrogen and as an adsorbent for other harmful substances in garbage incinerating equipment. The third, important, prospective use of coal pitch is in the manufacture of liquid-crystalline, high melting carbo-mesophases, carbon fibres, carbon powders able to be sintered and used for the manufacture of shape-stable carbon materials, with excellent heat and electrical current conductivity. The coal pitch-based carbon fibres are still in the development stage; in spite of that, two Japanese companies have announced the commercial manufacture of these fibres in quantities of 500 and 300 tonnes a year.

Based on an analysis of the world market, coal pitch manufacturing technology and processing, as well as scientific, design and industrial research, the following future trends may be concluded:

- development of technically founded quality requirements for coal pitch and pitch coke for different fields of use,
- study and development of appreciation methods for structure and rheology properties for starting and commercial electrode raw materials,
- development of production plant technology equipment for electrode raw materials on the basis of existing and future customers' requirements,
- development of complex and flexible manufacturing technologies for coal tar, electrode pitch and pitch coke treatment,
- research and technology proposal for anisotropy tar raw material for the manufacture of the electrode product range,
- profound industrial tar purification, mastering enhancement, impregnation and binding of pitch produced from thermally worked tar under optimum pressure manufacturing conditions,
- intensified scientific research and the development of competitive technologies for carbon fibres with enhanced strength and elasticity,
- development of the use of pitch as a source for specific chemical materials-polycyclic aromatic compounds.

Technology: Coal pitch and coal tar arise from the coking of pit-coal (bituminous coal). The coal pitch is drawn away from the chamber oven together with the coke gas, from which the coal pitch is segregated by the cooling process, together with the coal tar. The coal pitch is obtained as a specific substance after the distillation of coal tar as a distillation residue. From a chemical composition point of view, the coal pitch is a complicated hetero-phase system consisting of eutectic mixtures of individual aromatic and heterocyclic compounds of polymers with an amorphous structure, mesomorphic phase and ash compounds. The physical-chemical qualities of the pitch allow it to be used primarily for its binding properties (electrode manufacture, graphite and graphitised products for electrometallurgy production manufacture) and its ability to carbonise (pitch coke manufacture). The basic technological processing of black coal pitch involves its cooling (granulated pitch, globular pitch), treatment of its physical-chemical properties (thermal condensation and polymerisation, condensation with the aid of oxygen, catalytic condensation, solvent extract fractionation), special pitch manufacture and high-temperature carbonisation up to a temperature of 1100°C, delayed pitch carbonisation and carbon fibre manufacture.



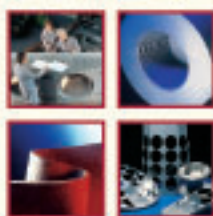
5. LIST OF MEMBERS IN 2001

ALUMINIUM RHEINFELDEN GmbH	Postfach 1140 D – 79601 RHEINFELDEN GERMANY Tel: +49 76 23 93 314 Fax: +49 76 23 93 540 <i>Represented by: Dr. A.J. FRANKE</i>
C. CONRADTY NÜRNBERG GmbH	P.O. Box 1752 D – 90006 NÜRNBERG GERMANY Tel.: +49 911 57 08 243 Fax: +49 911 57 08 550 <i>Represented by: Dr. D.H. ZÖLLNER</i>
ELKEM ASA CARBON	P.O. Box 8040 Vaagsbygd N – 4675 KRISTIANSAND S NORWAY Tel.: +47 38 01 71 41 Fax: +47 38 01 76 41 <i>Represented by: Mr. H. AAEN</i>
ERFTCARBON GmbH & Co KG	Aluminiumstrasse 4 D – 41515 GREVENBROICH GERMANY Tel.: +49 2181 66 22 33 Fax: +49 2181 66 23 12 <i>Represented by: Dr. J. HANK</i>
SGL CARBON GROUP	Rheingastrasse 182 D - 65203 WIESBADEN GERMANY Tel.: +49 611 602 92 06 Fax: +49 611 602 92 07 Web: www.sglcarbon.com <i>Represented by: Dr. K. WARNING</i>
UCAR S.A.	17, Route de Pallatex CH – 1163 ETOY SWITZERLAND Tel.: +41 21 821 31 22 Fax: +41 21 821 31 09 Web: www.ucar.com <i>Represented by: Mr. H.L. PRETORIUS</i>
VESUVIUS - PREMIER REFRACTORIES LIMITED	Bawtry Works Austerfield Bawtry UK – DONCASTER DN10 6QT UNITED KINGDOM Tel: +44 1302 718 120 Fax: +44 1302 718 111 <i>Represented by: Mr. R. BARRICK</i>
Associate member:	
DEZA a.s.	Masarykova 753 CZ-757 28 VALASSKÉ MEZIRČÍ CZECH REPUBLIC Tel: +420 651 69 2301 Fax: +420 651 69 2334 Web: www.deza.cz <i>Represented by: Mr. J. CIBULEC</i>

CONTACT DETAILS OF ASSOCIATION

President – Dr G. ROSE
Vice-President – Mr H.L. PRETORIUS
Secretary General – Dr C. HEBESTREIT
Assistant – Mrs M. BELLEN

ECGA
European Carbon and Graphite Association
Avenue de Broqueville 12
B - 1150 BRUSSELS
Tel.: +32 2 775 63 20
Fax: +32 2 770 63 03
E-mail: ecga@skynet.be
Webpage: www.ecga.ws



E C G A

Avenue de Broqueville 12
B-1150 Bruxelles
