

Management Report

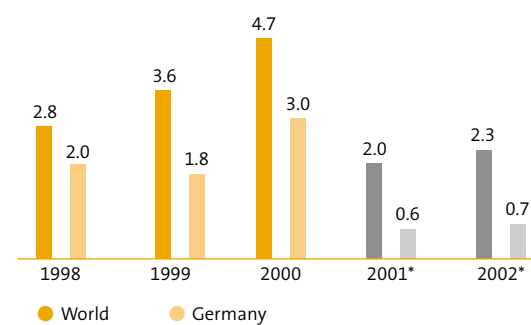
Outline conditions and trends in the industry

The general economic outline conditions increasingly deteriorated in the course of the business year 2000/2001. Despite this, the year was successful for NA.

Economic outline conditions

In the first half of the business year 2000/2001 the general economic situation worldwide, in Europe, our core market, as well as in Germany, initially developed positively as expected. However, from spring 2001 onwards, i.e. from about the middle of our year under review, announcements piled up about sales plummeting in certain industries. In particular, enterprises in telecommunications and in almost all sectors of the – only shortly beforehand still booming – New Economy were affected.

Change in actual GDP in %



* Forecast

Source: Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung

Many early indicators were meanwhile already suggesting an imminent economic revival when a landslide of bad news resulting from the events on 11 September 2001 first of all made the mood – and then the economic situation – again take a turn for the worse. Acting in seldom seen unity, the US Federal Reserve, the European Central Bank and as well the Bank of England reduced their key interest rates by half a percentage point almost at the same time. For US prime rates it was the tenth decrease since the beginning of 2001, which was followed by a further drop on 11 December to 1.75%. In Europe the ECB reduced its interest rates for the fourth time in the year. In Japan with its interest rate of 0.25% there was practically no more room for further reductions. Thus, an extremely low interest rate was reached worldwide, which marked the lowest level in the USA and Europe for the last 40 years.

Despite this – even when allowing for the usual delay between the announcement and the impact of an interest rate reduction – it has still not been possible to influence business climate and consumer behaviour for the better.

In the year 2001 the global economy grew by 2%, but it must be added that the stable economic trend in China with growth at about 7% overcompensated for the weak growth of the industrialised countries (+1.1%).

Since the spring the US economy has been in a weak economic state and bordering on recession. The terrorist outrages created a feeling of insecurity amongst consumers and investors throughout the world and delayed the upturn. The US gross domestic product, which had risen in the last few years on average by 4.1% p.a., recorded overall growth of only 1.1% in 2001, of which the last quarters were negative.

In the year 2000 the Japanese economy was still able to benefit from the extraordinarily good global economic situation. Due to internal economic problems, however, Japan was hard hit by the global economic slowdown and slid into a recession in 2001. Compared to the previous year, the gross domestic product was reduced by 0.7%.

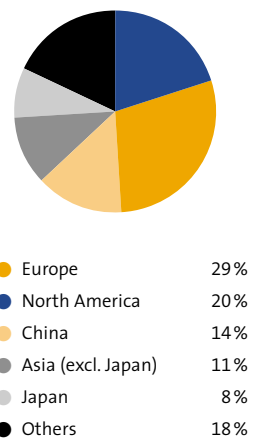
In Europe the economic expansion overall likewise slowed down severely in the spring of 2001. This was caused by weak demand on the domestic market for consumer and capital goods, the crude oil price increases in the year 2000 as well as the drastic drop in share prices on the international stock markets. The events of 11 September 2001 and their impacts on the global economy additionally curbed European economic growth, which only reached 1.7% after achieving 3.3% in the previous year.

Trends in the industry

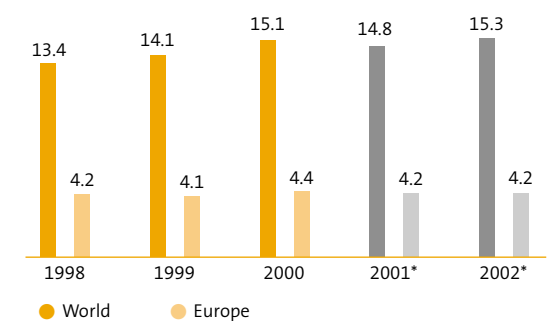
Copper market

In the first half of the business year the output of copper concentrates from the mines just as the demand for refined copper and copper products were almost at the same high level that they had reached in the previous year. It was not until the general economy declined in spring 2001 that copper demand from the telecommunications and other sectors of the New Economy as well as connected industries eased off. The global copper market reacted in a typical way: the supply side, primarily represented by the copper mines, did not adapt its output to the reduced demand quickly enough which resulted in a copper surplus. Visible signs of the reduced demand were the development of the stocks of cathode copper in the warehouses of the metal exchanges LME and Comex and – as a function of

Global copper demand by regions



Global copper demand in mill. t



* Forecast

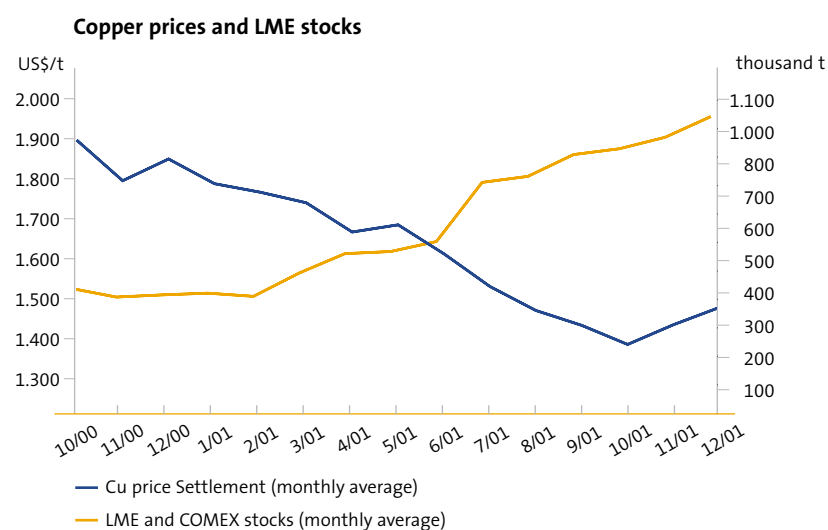
Source: Brook Hunt

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Outline conditions and trends in the industry

that – the trend in the copper price. The build-up of stocks at the LME and Comex began with the decline in demand in March 2001. It was accompanied by a price drop which then lasted throughout the rest of the business year. On 30 September 2001 the copper price was quoted at 1,424 US\$ per tonne.

The mines had oriented their production schedules to strong growth in demand. In 2001, with an average copper price of 2,200 US\$ per tonne, an output of 15.5 million tonnes of copper metal and reduced stocks of 0.2 million tonnes of refined copper, global demand should have reached 15.7 million tonnes (Brook Hunt, 14 December 2000).



In reality, in 2001 global copper demand declined to 14.8 million tonnes, stocks increased by 0.5 million tonnes, output rose to 15.4 million tonnes, and the price for LME cathodes (Settlement) on an annual average amounted to only 1,574 US\$ per tonne. Due to its cost and decision-making structure, the mining industry was unable to react to short-term changes in demand just as quickly by lowering output. Only shortly before and particularly since the beginning of our new business year 2001/2002 some of the major mining companies have used the room they had for manoeuvre: they reduced their output or announced reductions.

Sales markets

The global economic downturn also impacted on the German electrical engineering and electronic industries as regards domestic turnover and exports. This was triggered off by an economic slump in the extremely cyclical semiconductor industry. Although the German electrical engineering and electronics industries could still show positive – even if severely declining – turnover rates until way into the third quarter, they developed in the fourth quarter by a negative 5%. On average during our business year and also

during the entire calendar year 2001, a 2.2% growth rate could still be recorded. Mostly achieved by mid-year, it was counterbalanced in the second half to a great degree by the sharp drop in domestic and foreign demand for information and communications technology as well as the slump across the board in the construction element business. There was a similar trend in the automotive industry and in mechanical engineering, major end users of our continuous cast wire rod and shapes.

Our business year

In the business year 2000/2001 Norddeutsche Affinerie performed well despite the poor outline conditions. The increased mining output in 2001 encountered an enhanced supply of smelter capacity worldwide. Utilisation of the expanded NA capacity remained, however, unaffected by this. After the major repair work and expansion measures, we had sufficient concentrates to maintain the processing throughput at any time at the new higher level. Despite the temporary standstill during the modernisation of the East Smelter (Project RWO 2000), we were able to increase our concentrate throughput compared with the previous year by 16% to about 842,000 tonnes (previous year: 729,000 tonnes).

Both our tankhouses and the production plants for our main products, continuous cast wire rod and shapes, remained unaffected by the expansion standstill. They had sufficient raw materials throughout.

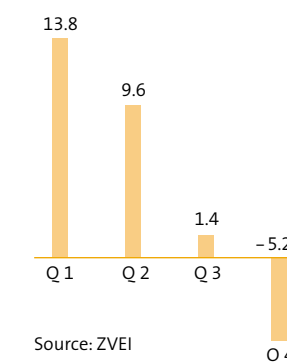
Including the HK output, a total of 540,000 tonnes (previous year: 503,000 tonnes) of copper cathodes were produced in the NA Group.

Since a large part of our wire rod is used for the production of energy cable and the corresponding demand slowed down much less than in the telecommunications industry, we could maintain our production at a high level of about 347,000 tonnes, but were unable to achieve the output of the exceptional previous year of 382,000 tonnes.

In contrast, the production of continuous cast shapes significantly increased compared with the previous year, by almost 4% to 204,000 tonnes (previous year: 197,000 tonnes).

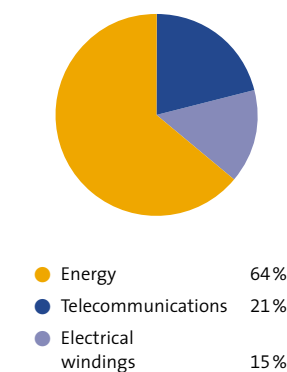
German electrical engineering and electronics industries

Turnover changes compared with the previous year in %
Business year 2000/2001



Source: ZVEI

Input of continuous cast wire rod for cable and wire in Europe

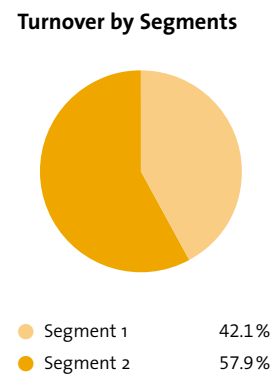
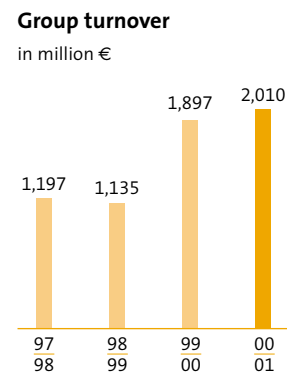


Source: CRU

Management Report

Highlights of the business year in the NA Group

In the business year 2000/2001 the NA Group achieved net earnings in the sum of 42 million € and therefore improved on the very good previous year's result of 41 million €. Turnover could be increased by 6% from 1,897 million € to 2,010 million € and thus for the first time exceeded the 2 billion € mark.



Highlights in the NA Group

The business year 2000/2001 in the NA Group was characterised by good demand for copper products. Although demand eased off from the summer onwards, particularly for continuous cast wire rod, the output in the Group (NA and DG) at 347,000 tonnes was again at a high level. In the continuous casting/OF (oxygen-free) copper sector it was again possible to exceed the last business year's record figures; 204,000 tonnes of copper shapes were produced. The new plant for oxygen-free copper, which was commissioned at the end of the last business year, was well utilised until early summer but then suffered from weaker demand.

Market-led raw material procurement and recycling

In the raw material procurement sector the market reflected the increasing weakness of non-ferrous metal prices. The copper price decline in the course of the business year negatively impacted on the availability of copper recycling materials. Although the treatment and refining charges obtainable deteriorated, both HK and NA continued to benefit from the previously concluded long-term agreements. Thanks to improved co-ordination in raw material procurement, raw material processing and anode management, supplies to the two tankhouses in Lünen and Hamburg could be maintained throughout the year despite an at times tight copper scrap market.

Targeting „excellence in recycling“, HK's position as the recycling specialist in the NA Group was further enhanced. The construction and commissioning work for the expansion project Kayser Recycling System (KRS) ran to schedule whilst at the same time the smelters were being fully utilised. The KRS will open up a wider raw material range for HK and enable the cost position to be optimised by uniting process steps and reducing emissions at the Lünen location.

Coin recycling extends raw material basis

The coins being recycled as a result of the conversion to the Euro in member states of the European monetary union offer an additional opportunity for extending the raw material basis. HK and NA made preparations in good time to enable them to recycle the copper-bearing coins: security and logistical concepts were developed and trial lots processed. As a result of the agreements, which have meanwhile been concluded, the foundations have been laid enabling us to participate in this interesting market segment in recycling during the next two years.

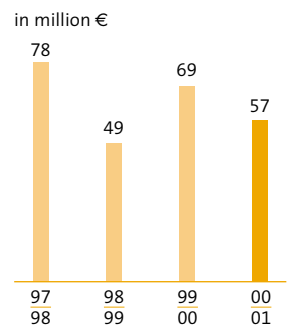
Capacity expansion RWO 2000 successfully completed

After the scheduled start-up of the East Smelter (RWO) on 10 November 2000, a new peak in concentrate throughput for the year as a whole was achieved despite the standstill. Thus, the reduced supply of copper scrap in Lünen and Hamburg could be compensated by increased copper production from concentrates.

The increased purchasing of precious metal-bearing materials inter alia with the additional quantities resulting from the acquisition of the precious metal business of dmc² led to an improved precious metal output.

The higher concentrate throughput also caused the production of iron silicate stone to rise. PEUTE BAUSTOFF GmbH sold the extra quantities as hydraulic construction stone, particularly in the Hamburg region. Large quantities were used for the construction of the extension areas for the A380 project, for additional safety measures for the tunnel under the River Elbe on the A7 motorway and for the extension of the Altenwerder container facility in the harbour.

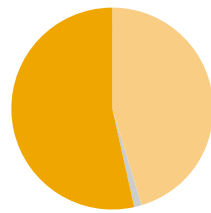
Consolidated earnings before taxes (EBT)



Management Report

Highlights of the business year in the NA Group

Earnings before taxes by Segments (EBT)



| | |
|-----------|-------|
| Segment 1 | 45.3% |
| Segment 2 | 53.5% |
| others | 1.2% |

Profitability

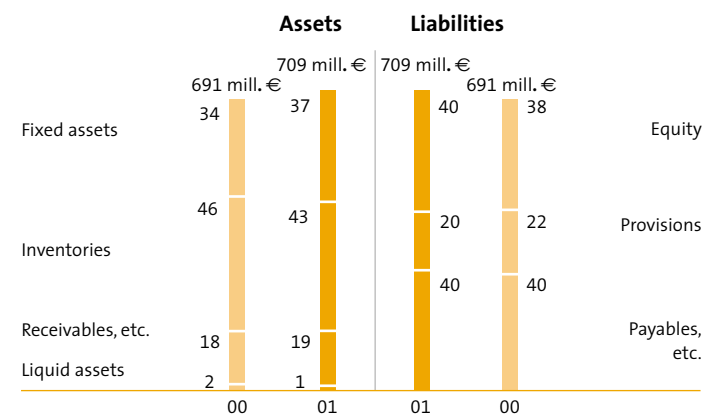
At 2,010 million € the turnover for the NA Group exceeded the 2 billion € mark, an increase of 6% compared with the previous year. It was subsequently possible to compensate for the loss of treatment and refining charges during the 6-week standstill in the East Smelter (RWO).

Financial key figures by Segments

| (million €) | Segment 1 | | Segment 2 | |
|-------------|-----------|-------|-----------|-------|
| | 99/00 | 00/01 | 99/00 | 00/01 |
| EBIT | 40.2 | 30.8 | 33.1 | 33.3 |
| EBITDA | 65.4 | 69.1 | 40.7 | 41.6 |

Consolidated balance sheet structure

as at 30.9. in % of the balance sheet total



Sound financial position

The NA Group continues to have an adequate asset and capital structure, which offers further potential for its growth policy. The equity ratio will temporarily reduce due to the acquisition of Prymetall GmbH & Co. KG effective 1 January 2002. Owing to the further increasing cash flow and the enhanced earnings resulting from the integration of new product activities, the NA Group's financial position will remain sound. The NA Group with its significantly enhanced copper processing activities can additionally benefit from the expected stimulation of the economy.

Service sector: Technical Services and Materials Procurement

In the year under review, as a result of continual process optimisation and value-retaining maintenance programmes, the central services at NA have continued to make a contribution to ensure that Norddeutsche Affinerie takes up an internationally leading position as regards plant availability.

The close collaboration between the Technical Services and Materials Procurement in the purchasing of goods and services required for the production sectors again resulted in significant cost savings, above all in the energy sector. Transport costs at NA have reduced substantially over the years.

Teams of technicians and commercial staff were formed from different departments enabling significant potential to be earmarked and developed. Moreover, the focus was steered to the Group as a whole; Materials Procurement was, for instance, divided into competence centres in Hamburg and Lünen.

The realisation of the Kayser Recycling System (KRS) project in Lünen is a distinct example of how working together across the board functions, where apart from pure commercial support the entire technical competence of the NA Group has been employed.

Outlook

Projects of the future further pushed

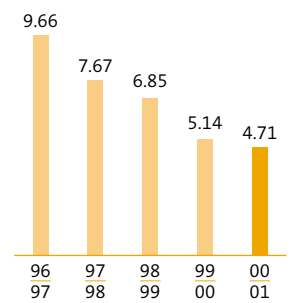
The project of the future, thin strip casting, took on a new dimension as a result of the acquisition of Prymetall GmbH & Co. KG and its stake in Schwermetall Halbzeugwerk GmbH & Co. KG. After having already proven its basic practicability in pre-testruns, the length of cast strip could be significantly increased in regular testruns this year.

We are pressing on with the research project CIS solar cells. A new laboratory was installed in Hamburg, in which experienced specialists are working on the production of flexible copper-based solar cells.

An important step in MicroMet's ultrafine powder project was the commissioning of a pilot plant for the production of its new ultrafine powder product Microtronic®.

In-plant transport costs

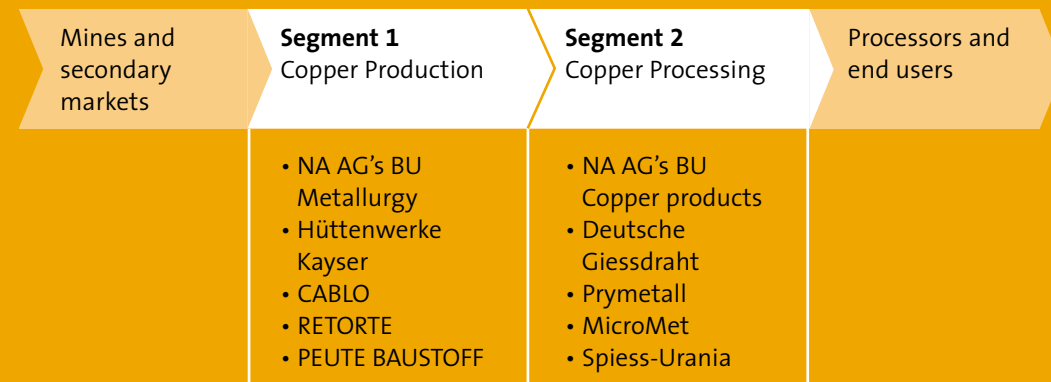
in € per tonne moved



Segments

NA in two Segments

The two Segments Copper Production and Copper Processing are the pillars of the NA Group. In Segment 1 we concentrate on the production of high-purity copper cathodes from copper concentrates and recycling materials. These copper cathodes are processed to high-grade copper products in Segment 2.



Management Report

Segment 1: Copper Production

The Segment Copper Production covers NA's business unit Metallurgy as well as all the subsidiaries which are active in this sector. The main product is copper in cathode form. 540,000 tonnes of copper cathodes were produced in the Segment with the result that the NA Group remains the largest copper producer in Europe.

The Segment's value-added is primarily determined by treatment and refining charges (TC/RCS). These are payments made by the raw material suppliers for processing their raw materials into saleable metals. Since these TC/RCS are largely agreed in US dollars, the Segment has a basic profit sensitivity to the ratio of the US\$:€ exchange rate. However, in the last business year this was not effective, since the expected US dollar earnings were sufficiently hedged. In the Segment a pre-tax profit was achieved in the sum of 25.9 million €. The number of employees on average amounted to 2,245.

NA AG'S BUSINESS UNIT METALLURGY

The Business Unit Metallurgy produces NA's main product, the so-called copper cathodes. This is copper with a purity of more than 99.99 % which is produced in the copper tankhouse in the form of sheets, about 1 x 1 m in size with a thickness of 6 – 8 mm. The copper cathodes produced at NA are registered at the two most important metal exchanges in the world, LME and COMEX.

Copper cathodes are mainly produced from copper ores and recycling materials, such as copper scrap. The ores are already processed by the mining companies in the countries of origin into a concentrate with on average 30 % copper. Within the framework of our international connections we secure our supply of these copper concentrates from all five continents by concluding long-term contracts. The mines in South America provide our most important source.

Metal scrap is generally bought in Western Europe and the CIS states. The material is pressed into packets on arrival and melted in an environmentally safe process using

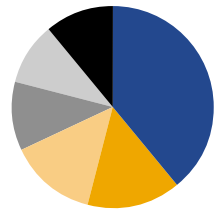
Segment 1 Copper Production

| in million € | 99/00 | 00/01 |
|-------------------------------|-------|-------|
| Turnover | 1,177 | 1,147 |
| EBT | 36.7 | 25.9 |
| EBIT | 40.2 | 30.8 |
| Capital expenditure | 63.9 | 62.6 |
| Depreciation | 25.1 | 38.2 |
| Number of employees (average) | 2,220 | 2,245 |

Management Report

Segment 1: Copper Production

Concentrate supplies



| | |
|------------------|-----|
| Chile | 39% |
| Argentina | 15% |
| Indonesia | 14% |
| Portugal | 11% |
| Papua New Guinea | 10% |
| Others | 11% |

surplus energy from the concentrate processing facilities. The copper produced is cast in the primary smelting sector into anodes which are refined in the tankhouse into high-grade copper.

In addition to copper, we also recover precious metals, such as gold, silver, platinum and palladium, from the various raw materials.

Likewise, as further by-products, premium grade sulphuric acid and environmentally friendly iron silicate stone are produced from the sulphur and iron contents in the concentrates respectively.

Successful business year

Despite the extensive construction work to expand our concentrate processing capacity, we were able to increase the throughput of copper concentrates – the most important raw material for copper production – by 16 % to a remarkable 842,000 tonnes (previous year: 729,000 tonnes). For technical reasons there was a slight reduction in the output of copper in cathode quality to 360,000 tonnes (previous year: 368,000 tonnes) in the Hamburg tankhouse.

Good supply of copper concentrates

After completion of the expansion work during the RWO standstill at the beginning of the business year, the supply of copper concentrates was stepped up again in close conformity with the smelter's gradually

increasing throughput. Our main suppliers showed considerable flexibility in co-ordinating deliveries, which enabled us to a great extent to avoid buying additional quantities on the volatile spot market.

The market for copper concentrates was negatively impacted by the declining copper prices in the business year. Despite production at Antamina, the large new copper mine in Peru, starting earlier than scheduled, the TC/RCs on the spot market dropped significantly, particularly in the autumn of 2001. In contrast, the TC/RCs from the long-term agreements remained relatively stable.

Copper scrap input reduced

In the business year 2000/2001 the input of copper scrap amounted to 69,000 tonnes. This further reduction in quantity was intentional. The previous year's input of 140,000 tonnes had been the result of a substantial build-up of stocks to tide us over during the smelter standstill when the repair and modernisation work was performed.

In the year under review the trend on the market for copper scrap was very negative. After possible deliveries from major markets in Russia and the Ukraine had been gravely impacted by export duties and restrictions, the supply of copper scrap in Western Europe declined due to the low copper prices. As a result, the refining charges obtainable for secondary copper materials dropped drastically.

Precious metal output increased further

In the course of the business year, NA's precious metal sector was integrated in the Business Unit Metallurgy. This step optimised the co-ordination of the commercial and technical processes which was necessary due to the considerable increase in raw material quantities and the closer interlinking of the precious metal sector with the copper production sector.

The production of precious metals could be further increased. The silver output rose to 680 tonnes compared with 483 tonnes in the previous year, the quantity of gold produced was increased to more than 23 tonnes. It was also possible to significantly increase the production of platinum and palladium in solutions with an output of approx. 1.1 tonnes of platinum and 3.5 tonnes of palladium.

Procurement optimised

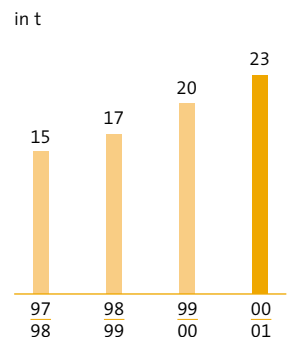
Since various copper-bearing and precious metal-bearing raw materials are treated in different locations and in several plants, their procurement was optimised within the NA Group. Whilst the Raw Materials Department at NA AG in Hamburg is responsible for the procurement of all primary raw materials, such as copper concentrates, blister copper and precious metal-bearing materials, the Procurement Department at HK focuses on recycling materials, such as copper scrap and alloy scrap.

These purchase departments are assisted by an international network of representatives and agencies. For instance, agencies in Australia, Chile, Mexico, Peru, Russia and many West European countries assist with the procurement of the different raw materials.

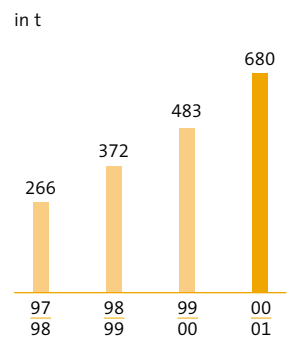
Whilst mostly only short-term sales contracts are usual in the markets for recycling materials, our target in the primary sector is to conclude mainly medium and long-term agreements with our suppliers. Thus, our supply of copper concentrates is generally secured to 80 – 90 % by long-term agreements. The contracts have lifetimes of 5 to 14 years. Only certain commercial terms and conditions, like TC/RCs, are renegotiated in intervals of 1 to 3 years.

On request, we also arrange funding for new mining projects. As an example, our new long-term supplier, Compania Minera Antamina S.A./Lima, was granted a significant loan from the Kreditanstalt für Wiederaufbau (KfW) in Frankfurt, which helped to put the project on the road to success.

Gold output



Silver output



Management Report

Segment 1: Copper Production

Project RWO 2000 successfully completed

At the beginning of the year under review the main plant in our primary copper production, the flash smelting furnace in the East Smelter (RWO) had to be overhauled after a record running time of 9 years. In parallel, various modernisation measures were carried out and the plants erected as part of Project RWO 2000 were connected and commissioned.

Even before the standstill for repair work started, the additional steam dryer for copper concentrates, the high-performance crane for transporting material within the plant and the automatic copper scrap charging system had already been commissioned to ensure that no time was lost. During the standstill other facilities were then installed and connected, in particular, the plant for preparing process gas at the flash smelter and the converter plant as well as the plants for treating process gas within the sulphuric acid plant.

With the integration of these new facilities we completed the largest project of Vision NA 2000. As a result of the investment volume of about 100 million €, the annual

concentrate processing capacity of the East Smelter (RWO) has meanwhile been increased by 35 % to 1 million tonnes of copper concentrates. We have consequently been able to increase the production of copper cathodes from primary raw materials substantially and at the same time to become more independent of the very much more volatile copper scrap market.

After the scheduled 49-day standstill the East Smelter (RWO) was recommissioned on 10 November 2000. There were only very few start-up problems which had to be solved thanks to the precise planning and execution of the repair work and the connected new plant for the capacity expansion. A first record throughput for the RWO was achieved already in December 2000.

Despite the applicable standstill time of 41 days and the start-up phase, 842,000 tonnes of dry copper concentrates were processed in the year under review, of which 837,000 tonnes in the RWO.

The great success resulted to a particular degree from the high availability of our plants. Our excellent leading position in this, when compared internationally, is made possible by continual process optimisation and extensive maintenance in co-operation with NA's Central Services.

Cost position and productivity significantly improved

The key figures for costs and productivity in our primary copper production as well as our international competitive position have greatly improved as a result of the increase in the concentrate processing capacity.

Since the planned performance was reached so soon, the copper tankhouse at NA quickly received its full supply of anodes from the RWO. Consequently, the Contimelt plant, which up to then had provided part of the anode supplies for the tankhouse, although at a higher cost than the RWO, could be taken out of operation earlier than planned, i.e. in January 2001. Small surplus quantities of anodes were passed on to the tankhouse at Hüttenwerke Kayser and to third parties.

Cathode output at a high level

Even though the stainless steel cathode sheets in our copper tankhouse were being exchanged due to the wear and tear they had suffered over the years, the cathode output was again at a high level.

High utilisation of secondary metallurgy/precious metals sector

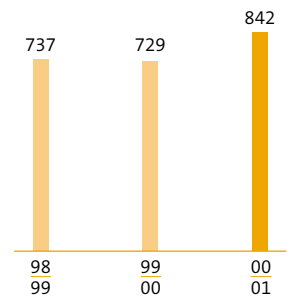
The NA secondary smelting sector for processing complex secondary copper and/or lead-based raw materials was fully supplied after the scheduled major overhaul of the electric furnace – in parallel with the standstill of the primary copper production for repair work.

After the acquisition of part of the precious metal business of the former dmc² by NA AG, the quantity of precious metal-bearing raw materials for the secondary smelter and precious metal sector could be significantly increased. By processing precious metal-bearing intermediary products from NA and HK as well as bought precious metal-bearing materials, we are expecting, also for the next few years, our precious metal output to be bordering on capacity. Consequently, we are currently considering whether we should expand our capacities in the precious metal sector.

The increased throughput in the primary and secondary smelters go hand in hand with extra sampling and logistical demands on the Central Services. We have reacted to this by ensuring the optimum in organisation and recruiting further staff in the sampling sector.

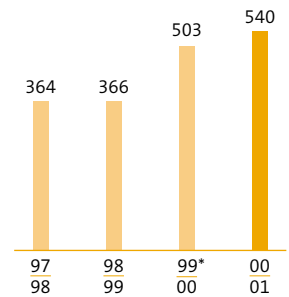
Concentrate throughput

in thousand t



Cathode output

in thousand t



*including HK since 1.1.2000

Management Report

Segment 1: Copper Production

Significant output of sulphuric acid

Our output of sulphuric acid has substantially grown due to the increased throughput of copper concentrates. Approx. 808,000 tonnes were produced compared with just under 700,000 tonnes in the previous year. In the course of the business year the market for sulphuric acid deteriorated substantially on account of the further slowdown in global demand. In addition, the business was impacted by high freight costs, in particular, for export sales. Our measures to improve quality, however, are enabling us to advance into the attractive market segment of chemical applications. As a result, we have concluded an agreement with a leading chemical group covering the replacement of its own former production of sulphur by direct deliveries of our acid.

Environmental protection further improved

The capital expenditure directed into environmental protection as part of Project RWO 2000 ensures that we keep our internationally leading position. In February 2001 we concluded an agreement with the City of Hamburg covering a further reduction in fugitive emissions. These voluntary measures have already been partly realised or are being planned and will be carried out as agreed.

Visible success from eNergiA

The programme to reduce specific energy consumption (eNergiA) has been successfully implemented in collaboration with our energy management. Thus, inter alia the natural gas consumption in the year under review could be actually reduced by 44% despite increased production. This optimisation programme is of enormous significance in view of environmental protection and rising energy prices.

High standard of quality assurance

The control audit in the sectors, Copper Tankhouse and Sampling/Raw Material Procurement in accordance with ISO 9002 was successfully carried out. The smooth performance of this measure additionally underlines the great importance we attach to quality assurance.

Addendum

Throughput still at a high level

In the first few months of the new business year we increased once again the average concentrate throughput. We are expecting just under 1 million tonnes of copper concentrates to be processed during this year. In the medium term we shall achieve a concentrate processing capacity of a little over 1 million tonnes p.a. by continually optimising our processes and debottlenecking the production plant. On account of

the concentrate supply from medium-term and long-term contracts it is assumed that our concentrate processing and copper tankhouse capacities will be well utilised.

Quick repair

On 28 October 2001 damage was caused to the furnace roof in the electric furnace plant of the secondary metallurgical sector. The unimpeded heat rays resulting from the missing roof set upper parts of the plant and building on fire. Thanks to the very good cooperation between our maintenance and material procurement sectors, it was possible to finish the repair work, which was started immediately, within only 26 days. With the exception of the usual non-insured risk, the damage is fully covered by insurance policies. Impacts on the processing sectors could be avoided by adjusting the production programme. On 23 November 2001 the electric furnace plant resumed production in full.

HÜTTENWERKE KAYSER AG (HK), LÜNEN

The recycling of copper-bearing secondary raw materials is HK's core competence. The company is the global leader in this market segment. Thus, with its 655 employees HK makes a decisive contribution to the environmentally-friendly production cycle of copper, the material of the future.

Integration successfully completed

The integration of the company in the NA Group was successfully completed in the year under review. The formation of focal points of competence during the integration process turned out well. Sales of copper products were allocated to NA AG, whilst significant functions of secondary raw material procurement for the whole Group were transferred to HK AG. The result: market administration and the respective market positions could be considerably strengthened. On top of this, the optimised material flow in the Group resulted in great improvements in efficiency. In the administrative sector the Group's service sectors were split up according to which company is the chief user.

Management Report

Segment 1: Copper Production

Improved competitiveness

In the last business year HK concentrated its operations on enhancing its core business and the preparation of future-oriented projects. The purchasing policy and organisation were adapted to the changed outline conditions. The activities to gain and keep suppliers have been reinforced in order to achieve wider and deeper market penetration. This includes the expansion of the network of foreign purchasing agents, the continued development of the industrial scrap business in Lünen and the establishment of the eCommerce marketplace, Copper Online, which is operated together with NA AG.

The future-oriented projects include increasing the value-added in the by-metal sector. This should be achieved by metallurgical development work and by new marketing concepts.

Good production figures

Its strong presence in the international procurement markets as well as the strategic widening of the procurement basis have enabled HK to safeguard its raw material procurement despite an increasingly difficult market environment. The company's production plants were well utilised in the year under review.

Although in the smelter plant the construction work on the Kayser Recycling System (KRS), which is running to schedule, has in some instances caused work cycles to be changed, all the facilities have been well utilised. The tankhouse again ran to capacity with an output of 180,000 tonnes of copper cathodes.

Strengthened for the future

When the KRS smelter is commissioned, which should take place as scheduled in February 2002, HK will set new standards. This measure will lead technically, ecologically and economically to a sustained improvement in HK's position. The operative business will again be greatly affected by developments on the copper market in the business year 2001/2002. A slowdown would impact the raw material procurement sector.

CABLO METALL-RECYCLING & HANDEL GMBH (CABLO), HAMBURG

CABLO's main activities include the dismantling of cable scrap, the preparation of non-metallic components as well as the trade in non-ferrous secondary and primary metals.

Cable is mechanically dismantled in an environmentally-friendly process at the locations in Fehrbellin/Brandenburg and Strass/Nersingen in Bavaria. The result is a metal granulate which is sold to NA AG, MicroMet or to third parties on the market.

In the business year 2000/2001 the quantity of cable dismantled totalling about 19,000 tonnes was slightly down on the previous year (approx. 21,000 tonnes). Nevertheless, a good result could be achieved. Additional earnings were generated from trading in metal scrap and new metal, which is becoming increasingly important as a complement to the core business of cable dismantling.

Despite the good result, work continues to restructure and optimise the company.

On 30 September 2001 CABLO had 56 employees.

RETORTE ULRICH SCHARRER GMBH (RETORTE), RÖTHENBACH

Selenium arises as a by-element in the production of copper and precious metals and is recovered from the anode slimes in the tankhouse at NA AG in the form of crude selenium. The subsidiary Retorte produces high-grade selenium products from this and distributes these for numerous applications.

Due to the good strategic orientation and a favourable trend in the market the company performed well in the business year.

36 persons were employed by the company as at 30 September 2001.

PEUTE BAUSTOFF GMBH (PBG), HAMBURG

Iron silicate is produced during copper production in the form of stone and granules. These are sold by NA AG and HK to PEUTE BAUSTOFF GmbH and distributed from there. Due to its physical properties, iron silicate stone is excellent as an environmentally friendly construction material for securing river embankments, levees, etc. Iron silicate granules are used as an abrasive for mechanical surface treatment.

The production of iron silicate products at NA AG increased in the business year to about 540,000 tonnes (previous year: 460,000 tonnes). As a result of this increased output and the good market environment PBG was able to record a positive business trend for the year 2000/2001.

On 30 September 2001 there were 12 employees.

Management Report

Segment 2: Copper Processing

Segment 2 covers the production of high-grade copper products. We are the market leader in Europe for continuous cast shapes and ranked no. 3 for wire rod. As a result of the acquisition of Prymetall we have succeeded in taking a significant step towards selective forward integration in copper processing.

Segment 2 Copper processing

| in million € | 99/00 | 00/01 |
|-------------------------------|-------|-------|
| Turnover | 1,565 | 1,581 |
| EBT | 31.7 | 30.6 |
| EBIT | 33.0 | 33.3 |
| Capital expenditure | 14.9 | 6.3 |
| Depreciation | 7.6 | 8.3 |
| Number of employees (average) | 934 | 950 |

The production of copper cathodes which can be traded on the metal exchanges represents the final value-added stage for most copper producers. In contrast, NA uses its own cathode output in Hamburg and at Hüttenwerke Kayser AG in Lünen for the production of a variety of copper products. Thus, in Segment 2, Copper Processing, we extend the value-added chain of copper in the direction of the end user. With our copper products we are firmly anchored in Europe, our core market, which with a demand of 4.3 million tonnes p.a. is the largest in the world.

The particular strength of this segment is the processing of NA's own cathode output. Apart from a consistently high quality in the copper products, this above all ensures absolute reliability and flexibility in deliveries. Long-term agreements safeguard our cathode output and make NA an attractive and dependable supplier for its customers.

The value-added in the Segment, Copper Processing, is largely determined by the so-called shape surcharge. Apart from the copper price, which is fixed by the metal exchanges, this is the fee which the customer pays for having the cathodes processed further, for instance, into wire rod. In this Segment the copper price is also primarily a transitory item since the copper purchases are set off by corresponding product sales or hedging transactions. Thus, the turnover achieved is not an indication of the Segment's trend in business since the turnover is essentially determined by the copper price.

In the business year 2000/2001 a pre-tax profit of 30.6 million € was achieved for the Segment Copper Processing.

The number of employees in the Segment amounted to 950.

BUSINESS UNIT COPPER PRODUCTS

NA AG's business unit Copper Products is the main customer for NA's cathodes. In the year under review, about 450,000 tonnes of copper cathodes were processed in Hamburg alone to produce 244,000 tonnes of continuous cast copper wire rod and 204,000 tonnes of copper shapes. Including NA's share of the wire rod produced at Deutsche Giessdraht GmbH, Emmerich (DG), Norddeutsche Affinerie is the third largest wire rod producer in Europe with a total output of 347,000 tonnes.

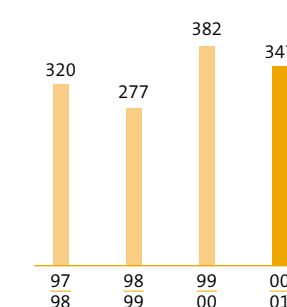
Copper wire rod is the starting material for the production of cables and wire. In Europe about 2.5 million tonnes of wire rod are produced annually, almost 60% of the total European copper demand. NA's wire rod is remarkable due to its high quality and optimal electrical conductivity. As a consequence, it can be further processed into power cables, enamelled wire and ultrafine wire with diameters down to 0.02 mm.

The high-performance Hamburg production plant and the plant at DG, which both use the Southwire process, are amongst the most cost-effective worldwide.

With its output of 204,000 tonnes NA is the market leader for continuous cast shapes in Europe. Shapes are either billets, from which our customers fabricate tubes and profiles, or cakes which are processed into strip and sheets. The entire material spectrum is produced in different dimensions and lengths with piece weights of up to 25 tonnes. The result is efficient further processing with the minimum of waste and optimal utilisation of our customers' plants.

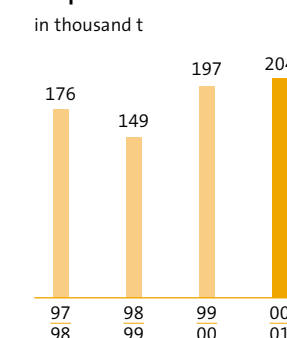
In the last few years we have steadily expanded our product range. In particular, the substantially increased demand for oxygen-free copper caused us to install new production plants. As a result, it was possible to use the technologies developed at NA for the production of these special qualities. For example, oxygen-free and low-alloyed wire rod („TOP ROD“) is produced in a thickness varying from 8 mm to 25 mm in a special plant with eight strands. Our customers use these copper brands, above all, for electronic and electrical applications, e.g. for the production of special profiles.

Wire rod output*



*including shares of DG's output (HK's since 1.1.2000)

Continuous cast shape output



Management Report

Segment 2: Copper Processing

Furthermore, the plant which we commissioned in 2001 produces billets and cakes in oxygen-free and low-alloyed copper. With cakes weighing up to 25 tonnes and a maximum length of about 9 m, we operate the only continuous casting plant in the world which can produce shapes of this size.

One significant factor accounting for increasing sales of our copper products is the close relationship we pursue with our customers. In recent years we have intensified this even further in, for instance, workshops and joint projects with our customers' clients. In order to simplify and accelerate NA's business administration, we installed the eCommerce portal Copper Online. This enables the customer to cover all aspects of contract administration online in a simple form, including specified quantities and sizes, delivery times and price fixations for the metals.



www.copper-online.com

Trend in business

Wire rod

Sales of continuous cast wire rod began to decline slightly right at the beginning of the business year. Nevertheless, despite a roughly 7% reduction in output at our Hamburg plant compared with the record previous year, the result was still good in view of the economic developments. The economy had, however, a more negative impact on the wire rod output at DG.

In its second year since being commissioned, the TOP ROD plant for the production of special qualities has already been utilised to 70% achieving an output of 5,000 tonnes.

Shapes

In contrast to wire rod, sales of continuous cast shapes boomed until the spring. In May 2001 production peaked at 21,500 tonnes, the highest monthly output to date. In the summer, however, sales dropped significantly, especially of copper materials for the electronics and telecommunications industries. Nevertheless, with an output of 204,000 tonnes we achieved a new production record for the business year 2000/2001. The new OF plant for the production of oxygen-free copper, which was commissioned during

the period under review, was well utilised at the beginning of the calendar year. But in the summer the demand for OF copper, which is primarily used in the telecommunications industry, also dropped off.

By targeted customer-orientation and an expanded product range suited to the needs of our customers we have achieved annual growth rates averaging 10% in the continuous cast shape sector over the last four years. Thanks to the new OF plant we shall be able to launch into new development projects as well over the next few years.

Addendum

In the first few months of the business year 2001/2002 demand for our copper products only changed slightly.

Sales of wire rod are roughly at the level of the last business year-end. A change in the balance of sales can, however, be observed. Whilst demand from the enamelled wire industry and the telecommunications sector has dropped considerably, demand for the production of power cable has remained stable.

The sales level of the previous year can be maintained for continuous cast shapes, since we have extended our sales outside our traditional markets. The business trend for electronic materials has remained sluggish.

Over the turn of the year 2001/2002 there was a scheduled standstill in our continuous casting and rod plants to enable the usual maintenance work to be carried out. At the same time this was used for measures to increase productivity further.

Acquisition of Prymetall

With effect from 1 January 2002 NA has acquired Prymetall GmbH & Co. KG, Stolberg, as a wholly-owned subsidiary from Prym Holding. In so doing, we are consistently continuing our strategy of moving towards markets further down the value-added chain. Whilst NA previously limited its cathode processing to the production of shapes, the acquisition of Prymetall has enabled the following two value-added stages to be reached in one go. In addition to shaped wires, Prymetall's main line is the production of rolled products, such as copper sheets and strip. With an output of 80,000 tonnes per annum, Prymetall is the fourth largest producer of copper flat products in Europe. Its 50% stake in Schwermetal GmbH & Co KG, Stolberg, is also part of the acquisition.

Management Report

Segment 2: Copper Processing

The other half of Schwermetall is owned by NA's customer, Wieland Werke AG, Ulm. Consequently, NA now holds a 50 % stake in the largest and most cost-efficient hot rolling mill for copper materials worldwide. NA is currently already supplying a large part of its copper shapes to various customers via Schwermetall. In addition, through its product, pre-rolled strip, Schwermetall opens up excellent market opportunities for the products from NA's thin strip casting development project. As the largest copper producer in Europe, NA now also has a significant part of the largest manufacturer worldwide of pre-rolled strip in copper and copper alloys with an output of 300,000 p.a. Prymetall's strip and sheet production additionally enables us to gain direct access to the end user.

Overall, this step is opening up attractive development potential for us in the European copper market.

DEUTSCHE GIESSDRAHT (DG), EMMERICH

Deutsche Giessdraht produces continuous cast wire rod using the same cost-effective process as NA. The NA Group has in total a 60 % holding in DG. The shareholders, NA and Codelco, are responsible for marketing the products. The output totalling 196,000 tonnes was about 17% down on the previous business year. DG was more severely hit by the economic slowdown than NA since the company has specialised particularly in wire rod for enamelled wire and wire for the electronics industry. It was just these sectors that suffered considerable losses due to the economic downswing.

On 30 September DG had 119 employees.

MICROMET GMBH PULVERTECHNOLOGIE (MicroMet), HAMBURG

For MicroMet GmbH Pulvertechnologie the business year 2000/2001 was the second business year as an independent company. As at 30 September 2001 the company had 73 employees. The metal powder produced by MicroMet is used primarily for applications in the automotive industry, for instance, in carbon brushes, brake linings, sintered parts and bearings.

The trend in its customers' industries was characterised to some degree by a sharp economic downswing and decline in prices for their products. The result was a reduction in unit sales of about 12%.

We are consequently not satisfied with MicroMet's performance.

An extensive restructuring and optimisation programme is meanwhile being implemented in order to improve operating results.

SPIESS-URANIA CHEMICALS GMBH (SPU), HAMBURG

In Germany Spiess-Urania Chemicals distributes agrochemicals as well as sulphur-based chemicals, the latter via a subsidiary. The company produces copper salts and markets them worldwide for applications in antifouling paints, e.g. to prevent marine growth on ships' hulls, in agrochemicals and for wood preservation products. Together with its subsidiary, J.M. Lauff GmbH, the company's services include the control of vegetation on railway tracks – primarily in Germany.

In the year under review the agrochemical market was impacted by amalgamations in the agricultural sectors of the research firms Dow, Rohm & Haas, Bayer and Aventis. SPU has therefore increased its efforts to keep its own registered products and licenses in order to reduce its dependence on the large companies in the market.

The production plants for copper salts are located within the precincts of NA's operations in Hamburg. The company has a subsidiary in Ochsenfurt for the formulation, i.e. mixing and filling the agrochemicals into containers. The supply of raw materials was sufficient for the production of copper-based products. Utilisation was good and corresponded to the previous year.

The company is constantly adapting its structures to market conditions and continues to optimise its strategic orientation.

As planned, the number of employees has been cut from 233 in the previous year to 212 as at 30 September 2001. The reduction in personnel has been effected by natural wastage.

Management Report

Research and Development

The focal points of our Research & Development (R&D) are derived directly from the growth strategy NA 2000 Plus. The sector concentrates on the optimisation of our processes and technology. Furthermore, its aims include the development of new copper products and the opening up of growth options in the copper market.

Improve results – assure productivity

The basis is the strengthening of the existing business. Consequently, the R&D Department supports the production plants in optimisation work and solving problems. This means that productivity and quality are always ensured at the highest level. In addition, the sustained improvement of NA's operating results and earnings is also targeted in the activities. We achieve both by constantly refining processes and technologies.

Increase value-added

The utilisation of growth opportunities in the copper market is the next step of Vision 2000 Plus. The target: the development of new copper products with high value-added.

Create future prospects

The third level looks further into the future and is oriented to the opening up of further growth options. The R&D assignments range from the recognition of new technological trends to the development of innovative products of the future.

Organisation is purpose-oriented

Due to the different needs of the NA Group companies R&D is decentralised. The largest R&D division in the Group is located at NA AG in Hamburg, which also deals with Group projects.

In addition to its own R&D resources NA uses the competence and potential of universities and other research facilities. To this end, project-related co-operations are entered into or orders placed.

Expenditure grows with the project

Expenditure for NA AG's R&D rose from about 4 million € in the previous year to about 5.5 million € in the year under review. This significant increase is attributable to the development activities in the thin strip casting, ultrafine copper powder and CIS solar technology projects.

Employees with differing skills form a team

The Research & Development Department has a staff of 24 in the laboratory and process engineering centre. About 25 % are scientists and engineers. This roughly corresponds to the average in the chemical industry in Germany. The other employees are technicians (about 15 %) and specialists with different professional qualifications (about 60 %). Chemists, metallurgists and process engineers complement each other ideally in a team and manage a multitude of different assignments.

The department has developed into the classic starting point for young people embarking on their professional careers in the non-ferrous metals industry, from which the production plants recruit their senior staff of the future.

R&D results

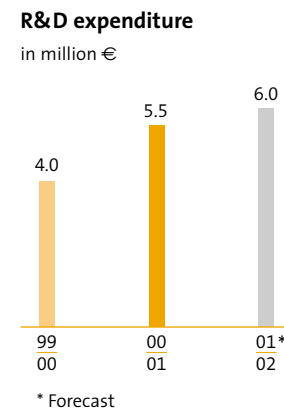
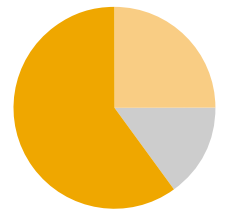
The main R&D work was targeted at optimising various processes, of this the greatest part was devoted to the copper production sector.

For example, we endeavoured to improve the production conditions of the electric furnace in the East Smelter (RWO). Despite the production increase resulting from Project RWO 2000 we could lower the residual copper content in our iron silicate further by steadily optimising parameters.

In the RWO flash smelting furnace important developments were achieved in innovative process control and regulation and partly integrated in the production plant. Up to 150 tonnes of copper concentrates are processed per hour in this plant at a temperature of about 1250°C, i.e. melted to liquid copper matte and iron silicate slag. This process which is in continuous operation represents the heart of NA's copper production. Together with specialists for spectrometry we are developing a continuously working online probe to monitor the metallurgical reaction in the furnace. After a lengthy positive test run it has meanwhile been possible to install an online temperature gauge in the hot off-gas of the flash smelting furnace. Consequently, we now receive direct information about the furnace off-gas which was not possible with conventional temperature probes but is advantageous for the smelting process and energy recovery.

Another focal point in R&D as regards process improvements was the hydro-metallurgical processing of intermediary products, in particular those with a high precious metal content. A leaching process for intermediary products from the silver refinery was designed which targeted reducing the processing time and the

Personnel structure R&D



Management Report

Research and Development

process complexity. After extensive laboratory tests the technical process steps were adapted to the new process and parameters established for the conception of a production plant.

In the development of new copper products the thin strip casting project was the most important in the year under review. The aim of this project is the direct casting of 3-6 mm thick copper strips from cathodes in one heat. This saves costs for the customer and increases the value-added at NA. After the pilot plant had been successfully commissioned in summer 2000, we transferred it into a regular test plant.

The aim of the first expansion of the pilot plant was, apart from the feeding of the melt, to test the main functions and durability of the newly developed casting machine and to find reliable materials. We achieved this significant milestone in our development work. In addition, we pressed on with the process development to produce a qualitatively high-grade copper strip. Besides the usual parameters of the casting technology, focal points are the instrumentation and control techniques as well as the automation of the strip casting process. The individual results achieved in practice tests can also be used in other sectors of NA's copper production. The outcome: strips, several metres long, were successfully cast.

Tests with strips in the cold rolling process showed the basic practicability of the product by means of the new process.

The next task for the pilot plant involves expanding it for the casting and handling of longer strips. We have already designed the necessary plant technology. We plan to install some already ordered additional equipment at the beginning of 2002 in order to produce strips for the technical cold rolling process.

Further measures in connection with new copper materials involved developments in the sector of low alloyed and oxygen-free copper products. We have therefore created the basis for copper/magnesium alloys and meanwhile implemented them in trial lots of TOP ROD. This alloying wire is inter alia especially strong and is, for example, required as conductor line wire for high-speed trains.

We took the step towards future markets and high-tech products by putting our ultrafine copper powder development on a semi-industrial production scale and successfully continuing the development of copper-based solar cells. We have worked intensively on this project. The target by autumn 2003 is initially to develop a cost-effective flexible solar cell (Cu, In, Se = CIS) on a laboratory scale. To this end, a complete laboratory has been erected in NA's works, in which the solar cell specialists and experienced technicians are working. We are additionally working together with renowned scientists from international research institutes. The flexibility of our solar cells is one of the main features of our concept apart from the electro-chemical production of CIS. The progress made so far is very promising. The targeted pliability for CIS solar cells does not cause any significant performance loss. We are expecting interim results in the current business year to show the way forward.

A further high-tech product is ultrafine copper powder which is being developed for future applications in the electronics industry. The small particles of this copper powder are ideal for very thin electrical layers in capacitors, which are fitted in all electronic devices.

In the last business year we developed the necessary technology and invested in a pilot plant to enable us to begin with the application of the new material. We hope this plant will help us to qualify our product on the market.

The future is firmly linked with Vision NA 2000 Plus

The described R & D targets are firmly anchored in the strategy Vision NA 2000 Plus and are being steadily implemented. We shall strengthen our activities round innovative copper products. Products of the future, high-tech materials and new markets represent interesting prospects for the NA Group. Thus, we shall increase our budget for the next few years for R&D, including the current projects. For the business year 2001/2002 it will amount to approx. 6 million €.

Management Report

Human resources

We are proud that we can always rely on our competent and motivated employees in the realisation of our ambitious growth strategy. They are our most important asset and make a decisive contribution to the continual increase in the value of their company.

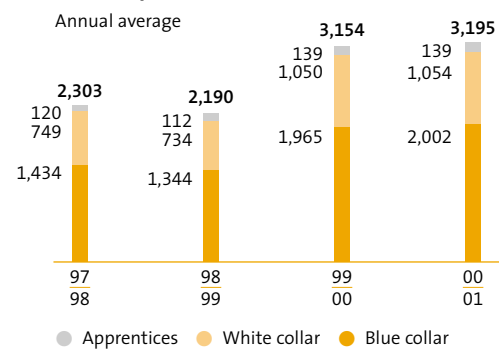
Trend in personnel in the NA Group

| (Annual average) | 99/00 | 00/01 |
|------------------------|-------|-------|
| NA | 1,973 | 2,036 |
| HK | 674 | 679 |
| Spieß-Urania Chemicals | 242 | 214 |
| Deutsche Giessdraht | 119 | 119 |
| CABLO | 67 | 60 |
| MicroMet | 67 | 74 |
| PEUTE BAUSTOFF | 12 | 13 |
| Total | 3,154 | 3,195 |

Our employees understand changes and challenges as an opportunity to enhance NA's leading position further as Europe's largest copper producer.

Slight increase in number of employees
The number of employees in the Group – including apprentices – rose on an annual average by 41 to 3,195. This increase was primarily effected at NA AG. As at 30 September 2001 the number of employees in the Group reduced slightly from 3,223 to 3,207 – including apprentices.

Number of employees in the NA Group



At NA AG the workforce increased by 63 from 1,973 to 2,036 employees. This growth is due to the capacity expansion. At the end of the business year the number of employees totalled 2,060 (previous year: 2,037).

Personnel structure

Just under two thirds of the employees are blue-collar workers. At NA AG 27% of the white-collar employees have a high school education; a further 13% are employed as foremen in production and maintenance.

Basis of our growth: vocational training and further education
Highly qualified and skilled employees are playing an increasingly significant role in international competition. Therefore, great importance is attached to the training and advancement of our employees. Consequently, within the framework of the systematic development of our human resources, we have once again substantially increased our activities in vocational training and further education.

In the year under review, 3,224 employees from NA AG attended training courses, twice as many as in the previous year, to some degree due to the training programmes for our new remuneration

system. Likewise, there was a great increase in courses conducted externally. Members of senior staff were also included in the various measures. Our intensive targeted training programmes enable us to fill executive positions primarily from our own resources.

With a percentage of 6.4% of the workforce (30 September 2001), NA AG has the most extensive apprenticeship programme in Hamburg's chemical industry. As at 1 September 2001 a total of 40 young people started their apprenticeships and professional training at NA. To meet our company's changed demands, we introduced a new profession „Mechatroniker“ – a combination of mechanical engineer and electrician. NA AG offers training in 15 different trades and professions, thus ensuring its supply of young talent.

Staff profit-sharing – programme widely accepted

In February 2001 the 4th tranche of the stock option plan for senior staff was issued which is oriented to the development of the NA share price. As in the previous years 97% of those entitled subscribed. This once again documents the confidence the senior staff have in the profitability of their company. In spring 2001 the 1st tranche matured which was issued in 1998.

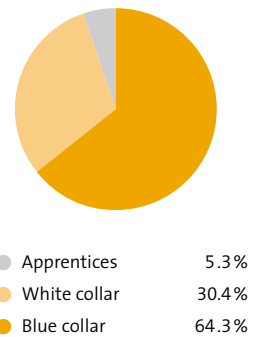
Since NA shares have performed better than the CDAX, the subscribers were able to exercise the share option and acquire a total of 353,000 shares at a discount: confirmation of our senior staff's great commitment to the company.

In May 2001, due to the good net earnings in the business year 1999/2000, all employees were paid for the first time a profit-sharing bonus under our new remuneration system. This success-related payment could also be taken in the form of NA shares acquired at a discount. A large number of the employees took advantage of this alternative and acquired NA shares instead of a cash payment.

As a result of these programmes, our employees participated in NA's success. A significant motivation factor which additionally strengthens their commitment to the company.

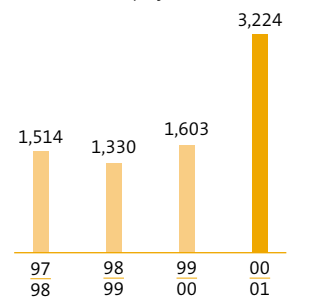
Personnel structure of NA AG

Average of the business year



Participants in training courses of NA AG

Number of employees



Management Report

Human resources

In the year under review we successfully held assessment interviews with those employees paid in accordance with the tariff wage-scale. Employees receiving above-scale remuneration were interviewed to establish their sector and corporate targets. In particular, as a result of the collective performance remuneration we have succeeded in initiating an intensive discussion about the possible performance achievable in the respective sectors and departments. Consequently, our employees are permanently working on optimising processes and increasing efficiency. The employees are rewarded for their efforts in a variable monthly payment.

Increased participation in company suggestion scheme

The creativity of our employees is an important aspect, which is also reflected in our company suggestion scheme. Last year the workforce presented a total of 703 ideas for improvement – 19% more than in the previous year – with the result that our operations are more conscious of energy consumption, better oriented to the environment and safer. The 126 suggestions from the eNergiA project which contributed to a significant reduction in energy consumption were given special attention.

Occupational safety : low accident frequency

Occupational safety is an important part of NA's corporate philosophy. Thanks to our intensive measures our employees' awareness of occupational safety has again been greatly enhanced and the accident frequency at NA AG has stayed at a low level throughout the business year. With 13.6 notifiable accidents per 1 million hours worked, NA compares well with the industry as a whole. Nevertheless, we are still constantly striving to reduce the figure further.

Early retirement scheme – permitted percentage exhausted

On average 103 employees of NA AG, aged 55 and over, were taking advantage of the early retirement scheme permitted by the chemical industry. The block model was generally preferred. This splits the length of the retirement scheme (up to a maximum of 6 years) into an active and passive phase. The employee receives at least 85% of the former gross remuneration for the duration of the scheme but only works for the first half. With this scheme we are helping a significant number of young people to enter their professional careers. In the NA Group 161 employees were participating in the scheme, i.e. 5% of the workforce.

New collective agreement for converting remuneration – contributory company pension fund is subsidised

In September 2001 the parties to the collective agreement concluded an agreement on one-off payments and retirement pensions, which is effective from 1 January 2002 onwards. It regulates the state legislation which applies from January 2002 onwards on the conversion of part of an employee's remuneration into a voluntary contributory pension fund of the chemical industry. Apart from the conversion of capital accumulation benefits, holiday bonuses and Christmas bonus, the ruling includes a special subsidy governed by the union wage scale. As a result the state subsidy for private pension funds should be exceeded. The parties to the collective agreement in the chemical industry have set up a pension fund managed by the HypoVereinsbank solely for this purpose.

Thanks for our NA staff for the outstanding performance

Our success would not be possible without the great personal commitment and the dedication of our staff. At this point we would express our gratitude for their efforts in the last business year. The knowledge, experience and particular motivation of our staff will remain the key to NA's innovative power and leading position. We are thus optimally equipped for the future.

Addendum

A new personnel concept has been developed in the second half of the year 2001 as part of the project „Personnel 2000 Plus“. It includes the decentralisation of the personnel administration and the introduction of section administrators who will be responsible for the employees and senior staff in the respective business units at NA and the subsidiaries. As a result the needs of the employees and senior staff will be looked after on a more personal basis. The functions of the personnel department which extend beyond the boundaries of business units and subsidiaries, such as personnel planning and development as well as the accounts section, are still centrally organised. The concept will be implemented in the course of the business year 2001/2002.

Due to the acquisition of Prymetall GmbH & Co. KG including its 50% stake in Schwermetall Halbzeugwerk GmbH & Co. KG the number of employees in the Group has increased by about 600 to a total of 3,800.

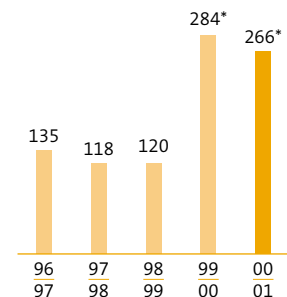
Management Report

Environment and Energy

In NA's company policy great importance is attached to sustained economy, the saving of natural resources and environmental protection.

Copper produced from recycling materials in the NA Group

in thousand t



* Incl. HK's output since 1.1.2000

Copper is a material which is used and not consumed. Thanks to its excellent properties it can be recycled as often as required from products which are no longer needed without loss of quality. NA has developed the corresponding know-how over many decades. Today we are a global leader in copper recycling. This position is being further enhanced by the installation of the Kayser Recycling System (KRS) at Hüttenwerke Kayser AG.

Constant and consistent environmental protection is an integral part of our company philosophy. This is why NA is a global leader in copper production and processing. Our aim is clearly defined. We generally use process-oriented, and not subsequently connected, measures to protect the environment. Because the latter involves additional energy consumption and frequently causes a higher emission output.

An example of integrated technology is the installation of the KRS. With a comparable capacity this facility replaces three blast furnaces and two converters. In the new

plant the energy consumption in producing a tonne of crude copper is reduced by 40% with 75% less emissions.

The expansion of the East Smelter (RWO) also comprises a series of measures protecting the environment. As a result, we have ensured that the emissions have remained at an unchanged low level although the concentrate throughput has increased by 35%.

This applies particularly to SO₂ emissions which can be used as a yardstick to compare the environmental standards of smelters all over the world. And with 4 kg of SO₂ emissions per tonne of copper output, NA is able to confirm its leading international position. No relevant deficiencies in environmental protection were detected in the internal audit held at NA as part of its eco-audit.

We invested about 14 million € in the business year in order to enhance this high standard still further. The project to expand the smelter capacity incurred capital expenditure for environmental protection in the sum of about 50 million € spread over several years. Additional voluntary measures are planned as a result of an agreement with the Hamburg environmental authorities.

Energy

We have successfully continued the eNergiA project to achieve a lasting reduction in energy consumption and costs. The target definition from the business year 1997/1998 was a saving of 20% of the specific energy consumption.

Potential for energy-savings was systematically pinpointed during the project work in the form of promising ideas for improvement, which even exceeded this target. We have meanwhile implemented more than 50%. In the business year 2000/2001 alone NA achieved a reduction in gas consumption of 24% throughout the works. The project target has thus been achieved. Due to the overwhelming success of the eNergiA project we plan to implement this programme throughout the Group.

As part of sustainable development we feel socially committed, not only within the Group. In Papua New Guinea, due to the particular situation of the inhabitants of the Ok Tedi river basin, we are subsidising the construction of a Health Centre. A copper mine is located at Ok Tedi from which we procure copper concentrates.

Forecast

We are consistently pursuing our policy of continuously improving environmental protection. In the coming years we shall concentrate our activities on the recycling sector.

We are also actively looking for ways to economise in energy. The extensive potential for economy from the eNergiA project is being optimally developed. Concepts for the best possible waste-heat utilisation from different sources are being analysed under the cost-benefit aspect. Improved waste-heat utilisation should further reduce natural gas consumption.

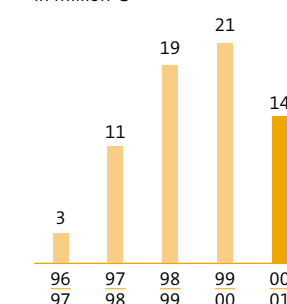
Careful treatment of groundwater resources

NA uses drinking water from the groundwater for the production of steam and acid. In order to save these valuable resources, NA has decided to realise a concept for the treatment of river water. With project costs of about 2 million € we are expecting an annual reduction in drinking water consumption of more than 60%, i.e. 350,000 m³.

The permanent optimisation of environmental protection is one of our most important corporate targets. We shall therefore continue to direct substantial capital expenditure into the use of modern and efficient technologies. This, of course, requires that the necessary outline conditions are provided by government policy. Exaggerated demands from the authorities as well as ecology and product taxes or similar levies do not result in any detectable improvement in the environmental situation. More to the point, they are much more likely to reduce the industry's potential for funding measures for environmental protection.

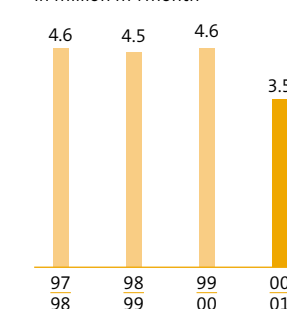
Capital expenditure for environmental protection at NA AG

in million €



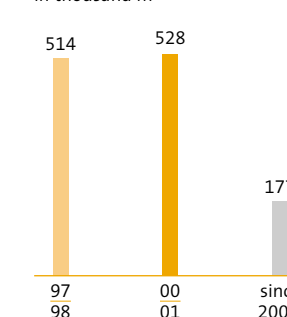
Natural gas consumption at NA AG

in million m³/month



Drinking water consumption at NA AG

in thousand m³



Management Report

Risk management

Different risks have varied risk potential in their impact on the NA Group. The most important individual risks are permanently observed and their impact on NA AG and the Group subsidiaries systematically analysed with the aim of limiting risks as far as possible.

Risk management concerns all corporate sectors. It is part of the Group-wide planning process which, apart from sales and production planning, also includes the personnel, investment and finance budgets. These plans and budgets extend over several years and are updated each year, the budgets are monitored monthly. The strategic plan is examined each year with a view to its implementation and, if necessary, adapted to the changing corporate targets.

We differentiate between risks in the core processes – such as procurement, production and sales – and risks in the support processes. These include inter alia transactions on the exchanges, finance, environmental protection including occupational safety, health care, human resources and the IT sector. The risks are categorised by the respective sectors as regards their cause, frequency and possible loss potential as well as evaluated qualitatively and – as far as possible – quantitatively.

Norddeutsche Affinerie and its active subsidiaries have documented the risks in a risk management handbook which is available for inspection.

Risk management in the NA organisation is regarded as a company management function under the direct authority of the Chief Executive Officer.

Overall economic risks

Risks can arise from the overall economic development of political or economic factors. On the raw material procurement side, Norddeutsche Affinerie is well organised due to the wide geographic spread in order to minimise political risks in the countries of origin of our copper raw materials. On the sales side of our copper products, the economic development and legislation in our core markets, Germany and Western Europe, could have an impact on our business. By using all the potential for efficiency in the Group, the expanded concentrate processing capacity in Hamburg and by strengthening the core business of copper, NA is prepared to face the general economic trend. Currently incalculable factors could, of course, result from a change in the existing law on the German ecology tax, in the event that the provision exempting industrial energy-intensive companies should be repealed. This would also have consequences for NA. We regard it improbable that the law will be amended,

but are carefully observing the continuing political discussion. In addition, we are taking every opportunity to make the responsible politicians appreciate how an unlimited ecology tax would jeopardise the existence of energy-intensive enterprises.

Industry-specific risks

Copper is a base material with numerous possible applications in almost all sectors of our modern life. For the foreseeable future we see no substitution product, which could significantly affect our business. As in the past, however, there will be developments in special segments which could replace copper in certain applications. On the other hand there will in all likelihood be new applications for copper. We expect copper demand in Europe to increase by about 1 million tonnes in the current decade. Hence, we are reckoning in the long term with a stable growth trend, which will promote the utilisation of our production plants and sales of our copper products.

Risks from business activities

Raw material procurement

Our supply of copper concentrates, the most important raw material for our copper production sector, is secured by long-term supply agreements with major mines. These basic agreements have a lifetime of between five and fourteen years. The treatment and refining charges, which are relevant for our results, are renegotiated in intervals of one to three years and are a stabilising component due to their long-term character. We procure copper scrap and other recycling materials on the volatile secondary markets, where the availability and refining charges obtainable are to some degree dependent on the copper price quoted on the metal exchanges. That means that – depending on whether the copper price is low or high – the supply declines or increases and thus the refining charges fall or rise respectively. Our subsidiary Hüttenwerke Kayser AG in Lünen is more affected than the Hamburg plants. The new KRS smelter for recycling materials, which is being installed in Lünen, will in future expand the processing possibilities and enable a wider range of secondary materials to be treated. Risks will be minimised as a result of this and as well the material flow optimisation measures implemented in the NA Group, i.e. the optimised processing of raw materials from the cost-efficiency viewpoint.

Management Report

Risk Report

The production plants for continuous cast wire rod and shapes are kept supplied with the copper cathodes produced in the NA Group. In the relatively unlikely event of a deficiency in our cathode output, we have the alternative of purchasing cathodes on the market and on the metal exchanges. Our products are well accepted by our customers. They exceed all the quality demands for continuous cast wire rod and shapes and are certified in accordance with ISO-Norm 9001.

Production

Some of our core facilities operate continuously around the clock, others in a 5 day week. Maintaining the plants' high availability is an important corporate target. They are continuously monitored by our own specialists and in collaboration with external specialised firms. In the event of disturbances, which can have a major impact, measures are taken in accordance with our alarm and emergency guidelines. Exercises are conducted to ensure the correct reaction in the event of an emergency and test alarms. In addition, there is adequate fire insurance and cover for resulting business interruption and loss of profits for all the production plants in the NA Group.

Sales

Sales of our copper products, which depending on quantities and turnover form the focal point of our sales activities, are assisted by our close ties to our customers.

By concluding long-term agreements with various major customers we have assured a basic sales level for our main products, continuous cast wire rod and shapes.

Research and development

The close contact to our customers forms the basis for further development of our production technologies. Examples of these are the newly developed products TOP ROD and oxygen-free OF Copper. In the thin strip casting project we have broken new ground for copper applications. To avoid risks related to development work, project steps are approved with a manageable budget and monitored to ensure adherence.

Risks arising from financial transactions

The NA Group is the largest copper producer in Europe. Precious metals are an additional important product sector. In our international business we are confronted with risks related to metal trading and foreign exchange transactions. Thus, hedging is undertaken by the use of derivative financial instruments to limit risks resulting from metal price fluctuations, foreign currencies and changes in interest rates. We have agreements with banks regarding the utilisation of approved loan facilities. The funding of growth investment projects and acquisitions is assured. The management circles including the Executive Board meet regularly, observe developments on the metal markets as well as NA's liquidity position by means of differentiated information instruments and set limits.

In the notes to the financial statements under Section 11 we have detailed the nominal volume and the market value of our different derivative financial contracts. It is not possible at present to detect any significant risks in the metal trading sector as well as in our currency and liquidity management.

Legal risks

There are no pending or threatened legal proceedings, arbitration proceedings, proceedings before the Patent Court or claims for damages, which have a significant impact on the economic situation of the NA Group. In the business year 1999/2000 Norddeutsche Affinerie and Hüttenwerke Kayser had already participated in the foundation established by German industry „Remembrance, Responsibility and the Future“.

Other risks and IT risks

Environmental protection, occupational safety and health care are important corporate targets. The adherence to laws, directives and requirements is imperative to ensure the continued existence of the Group. We achieve these targets by constantly improving environmental protection and occupational safety as well as having health screening conducted by the company's own physician. These measures are monitored by internal and external measures and as well by company audits. In the IT and communication technology sector we are contractually

covered for possible breakdowns in our operative computer systems by the precautions which have been taken by our service data processing centre. The current software is continually being adapted to fulfil the economic and legal demands placed on it.

Overall risk

The overall evaluation of the NA Group's risk situation revealed that, as a result of the last business year and the implementation of the scheduled projects, there are neither risks directly jeopardising the existence of the company nor risks which due to their significant impact on the Group's assets, its financial situation and operating results might endanger the continued existence of the enterprise. The current annual report shows that the NA Group has a sound economic structure and the existing equity level permits growth investment in fixed and financial assets.

In compliance with the statutory directives, our risk management system was assessed by the auditors. The auditors determined that the Executive Board had taken the steps required under Section 91 § 2 Commercial Code in a suitable manner and that the management system fulfilled the prerequisites for this.

Management Report

Outlook

Our activities in recent years, in particular in the last few months, impressively illustrate NA's successful growth route. The acquisition of Prymetall has resulted in a completely new NA: a company, whose basis stretches all the way from the raw material through to the product markets. NA has therefore once again increased its earning potential.

In the current business year 2001/2002, in collaboration with its management, Prymetall will be integrated as regards organisation and personnel as well as from the production and marketing aspects in order to realise the set targets.

Integration of Prymetall as a new growth platform

With the acquisition of Prymetall GmbH & Co. KG and its 50 % stake in Schwermetall Halbzeugwerk GmbH und Co. KG, NA is taking a significant step towards selective forward integration in the downstream processing of copper products and is assuring the sales of its continuous cast products in the long term. In parallel, it is extending the value-added chain of copper from the ore concentrate to the products: strip, sheets, wires and profiles. In short, we are opening up a new growth platform for copper products.

Growth forecasts under difficult circumstances

We are moving in an economic environment which is analysed differently by the various professional observers – like IWF, OECD, ECB, Bundesbank, research institutes and other boards of experts. This concerns not only the appraisal of the trend in the gross domestic product for the next two years but also the possible economic measures, the environmentally-related political steps and the expected exchange rate developments. The general risk in making forecasts is especially high due to the uncertainty about the medium-term economic consequences of the terrorist attacks in the USA. Apart from the usual information on the global economic environment and Europe's monetary situation in terms of economic policy, assumptions for conceivable political reactions must moreover be made as well. The number of additional variables extends the range of possible scenarios immensely, making a reliable forecast very difficult.

Prepared for any eventuality ...

Despite these outline conditions we as a Group have practicable strategies at hand in order to be able to reach an objective decision at any time.

In view of the great range of possible developments we are not only steered against a recession in Germany or the EU, both of which cannot be ruled out, but also against weaker copper markets.

The flexible use of its versatility is one of NA's outstanding characteristics. This attribute has spread once again through the acquisition of Hüttenwerke Kayser two years' ago and this year's acquisition of Prymetall. The value-added of the NA Group has consequently grown. We are strengthened and well prepared to face future challenges.

... but the influence exercised by the international copper market is unavoidable

The procurement situation of the raw materials, which are necessary for the utilisation of our processing capacities, is largely dependent on the general expectations of the trend in the global copper market. This is influenced by the scale of the actually realised production cutbacks at both the mines and some smelters and refineries. In this connection we differentiate between the impacts on the concentrate supply and on the metal scrap supply.

Concentrate market

In the calendar year 2002 the currently announced production cutbacks will reduce the supply of copper in all its forms in the global market by about 700,000 tonnes (Brook Hunt: 14 January 2002). This will in all

likelihood more than cover the – contrary to earlier forecasts – expected lower demand for copper in 2002 and possibly a deficit in the copper supply will be generated. This deficit is at present set off by stocks in the warehouses of the metal exchanges totalling about 1 million tonnes. In addition to the current price rise to about US \$ 1,550 per tonne (14 January 2002), the extent to which the copper price will react to production cutbacks and possibly sinking stocks on the metal exchanges remains to be seen. The scale to which the announced production cutbacks at the mines will be cancelled as a result of increasing copper quotations is likewise unforeseeable.

In any event the production cutbacks at the mines have an impact on the general market for copper concentrates in the form of poorer availability of physical material and lower treatment and refining charges. On the other hand, the announced and in particular already realised drop in throughput at some smelters could have a positive effect on the copper concentrate market since it increases the physically available potential supply of concentrates. Thanks to its procurement policy, which is oriented to assuring supplies in the long term, NA's concentrate requirement is already covered to a great extent for the current business year. Of course, we are also feeling the present strong pressure

Management Report

Outlook

on the treatment and refining charges obtainable, particularly on the, in our case, less important spot market for concentrates. Qualified forecasts on the trend for the next few years are at present hardly possible.

Metal scrap market

As regards the supply of metal scrap, similar price and quantitative mechanisms are fundamentally impacting on availability and refining charges. These have become more critical due to the special market conditions in Europe. The effective export stop for metal scrap from the CIS region, from which the West European smelters have received a significant part of their supplies over the last ten years, has drastically reduced the present supply. On top of this, the supply of metal scrap of West European origin has noticeably deteriorated due to the relatively low copper price and reinforced the pressure on the refining charges obtainable. Additionally, the scarce supply is confronted with the Asian scrap smelters' demand which is supported by distortions in competition. Since they are protected by customs duties, these smelters are less affected than their European counterparts by the low refining charges. Duty on imported copper increases the price obtainable in these countries on the domestic market and thus increases the available margins for refining costs for the local smelters.

The market for metal scrap, whilst dominated by the spot business, is, of course, only assessable at short notice because it must react very quickly to price changes and promptly adapt to both the quantities on offer and the refining charges obtainable.

At the moment we cannot foresee whether and, in the affirmative, to what extent and how long the utilisation of our processing capacities will be affected. We therefore introduced suitable precautionary counter-measures some time ago. These include inter alia the expansion of the agency network and more intensive focusing on certain market angles, i.e. more direct dealings with the industrial scrap business.

Sales markets

If the present economic downturn continues, our two sales sectors, continuous cast wire rod and shapes, will be affected accordingly. Despite our wide spread along the value-added chain of copper we cannot totally distance ourselves from the economic trend in our customers' industries. This chiefly concerns electrical and mechanical engineering and the automotive industry, but also the construction industry. We, however, are in a position

to react promptly to the next upturn by increasing production as appropriate: by flexibility in our production planning as well as improved focusing on the market and intensive market penetration.

As soon as the economic environment in Germany and Europe improves again, we are expecting order receipts from our customers in the cable, wire and semis industries to increase. As a result, there will still be a strong demand for our main products, continuous cast wire rod and shapes, with a positive impact on our production and sales figures.

Overall, we are looking forward to the future trend in our industry with slightly reduced expectations, but also with the readiness and ability to act decisively.

Capital investment

We are pursuing the target of constantly increasing company value as part of the active implementation of the growth strategy Vision NA 2000 Plus. This development, by utilising all growth opportunities, includes fixed assets and financial assets.

Capital expenditure in fixed assets at NA in Hamburg focuses on strengthening our copper and precious metal production activities as well as expanding our high value-added copper product segment. The installation and commissioning of the KRS smelter plant at Hüttenwerke Kayser AG in Lünen will absorb the largest part of its total capital expenditure. In the current business year about half the volume of capital expenditure for fixed assets will be directed into replacement and rationalisation measures. We ensure smooth production by continually optimising our processes. In this respect, we should particularly mention the capital expenditure invested in our energy-saving programme "eNergiA" which is running until the end of 2001. An amount of about 4 million € will be included for this in the investment volume for the business year 2001/2002.

All our investments are carefully budgeted and implemented. As an innovative company in our industry we frequently break new ground. Only in this way can growth options be targeted in the long run. Attractive opportunities naturally also involve a degree of risk. This is to a great extent minimised by our multi-stage planning process and timely investment controlling.