

## Consolidated Key Figures

		97/98	98/99	99/00	00/01
Copper price LME settlement (average)	US\$/t	1,747	1,526	1,787	1,684
<b>Results</b>					
Turnover	mill. €	1,197	1,135	1,897	2,010
EBT*	mill. €	78	49	65	54
EBT	mill. €	78	49	69	57
EBIT	mill. €	73	49	74	65
EBITDA	mill. €	98	72	107	111
Annual surplus	mill. €	30	24	41	42
DVFA/SG cash flow**	mill. €	62	49	78	86
<b>Balance sheet</b>					
Total assets	mill. €	483	462	691	709
Fixed assets	mill. €	114	146	237	259
Capital expenditure***	mill. €	42	57	79	69
Depreciation	mill. €	25	23	33	47
Net equity (incl. unappropriated profit)	mill. €	233	233	250	271
<b>NA shares</b>					
Market capitalisation at the end of the year	mill. €	360	320	378	396
Earnings per share*	€	0.95	0.75	1.20	1.26
DVFA/SG earnings per share**	€	0.96	0.82	1.26	0.88
Price/earnings ratio as at 30.9.		11.9	13.4	9.8	9.8
Dividend per share	€	0.77	0.72	0.75	0.75
<b>Human resources</b>					
Number of employees (average)		2,303	2,190	3,154	3,195
Personnel expenses	mill. €	115	110	150	168
<b>Production</b>					
Cathodes****	1,000 t	364	366	503	540
Continuous cast wire rod****	1,000 t	320	277	382	347
Continuous cast shapes	1,000 t	176	149	197	204
Gold	t	15	17	20	23
Silver	t	266	372	483	680

\* Without minority interests

\*\* As per the German Society of Investment Analysts and Asset Managers/Schmalenbach Gesellschaft

\*\*\* Without changes in the circle of consolidated companies

\*\*\*\* Including Hüttenwerke Kayser (HK) and HK's share of Deutsche Giessdraht since 1 January 2000 respectively

# Milestones in the business year 2000/2001

## OCTOBER

On **1 October 2000** NA launches a new performance-oriented, success-related remuneration system for its employees.

## NOVEMBER

On **10 November 2000** production in the East Smelter (RWO) is resumed after a seven-week standstill. The successful 35 % capacity expansion is celebrated in December by employees and suppliers together with the Mayor of the City of Hamburg and other guests.

## FEBRUARY

On **9 February 2001** NA signs an agreement together with the Hamburg Senator for the Environment regarding further voluntary measures to protect the environment.

## MARCH

On **19 March 2001** NA, which was previously listed in the SDAX, becomes a member of the MDAX and thus is one of the DAX 100 companies. In view of the continued very good trend in the share price, which results in higher market capitalisation, NA shares are becoming more and more popular with investors with increasingly active trading.

On **22 March 2001** about 3,000 visitors attend NA's Annual General Meeting at the Congress Centre, Hamburg.

## MAY

As part of the new remuneration system, an additional profit-sharing bonus for the last business year 1999/2000 is paid for the first time together with the **May 2001** wages and salaries. NA employees can use the bonus to acquire NA shares and, in so doing, increase the bonus by up to 25 %.

## JUNE

On **27 June 2001** the successful series "Dialogue with the Shareholders" is resumed for the third time at NA. During the ten events, shareholders are given the opportunity to look behind the scenes at their company and to talk to the management. Every event in the series was booked out very quickly.

## JULY

On **17 July 2001** NA formally opens its new OF plant. This facility for the production of oxygen-free copper and special alloys offers NA's customers tailor-made copper qualities for a variety of applications. OF copper is used in various high-tech applications, such as super conductors or high-performance computers.

## AUGUST

On **10 August 2001**, after acquiring Degussa Metals Catalysts Cerdec AG (dmc<sup>2</sup>), the OM Group also takes over the roughly 10 % shareholding in NA hitherto held by dmc<sup>2</sup>. OMG is a leading producer and distributor of metal-based specialty chemicals.

## SEPTEMBER

On **1 September 2001** NA recruits 40 young people bringing the number of apprentices up to 133, which corresponds to 6.4 % of the total workforce. As a result, NA has one of the most extensive apprenticeship programmes in Hamburg.

On **5 September 2001** NA is awarded the Capital Investor Relations Prize for the second time in a run – this time for the MDAX category.

## OCTOBER

On **1 October 2001**, together with St. Jacobi's church in Hamburg, NA opens the exhibition "St. Jacobi's copper for Hamburg artists". NA has donated the copper needed for the church roof and given part of the old copper roof to the artists for their creations.

## NOVEMBER

On **18 November 2001** NA announces the acquisition of Prymetall GmbH & Co. KG in Stolberg, effective 1 January 2002. For NA the acquisition of the producer of rolled products in copper and copper alloys represents a significant step towards the end user.

## DECEMBER

On **11 December 2001** the first old Pfennig coins are melted and recycled at NA as part of the conversion to the Euro.

## OCTOBER



*Introduction of a  
new remuneration system  
on 1 October 2000*



## MARCH

*Annual General Meeting  
in March*

## SEPTEMBER



*Dr Marnette accepts the  
Capital Investor Relations Prize*

## OCTOBER



*NA donates  
St. Jacobi's copper to  
Hamburg artists*

November | December | January | February |

April | May | June | July | August

September

October | November | December

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## Company profile

The NA Group stands for profitability, technological advantage, innovative strength and a leading position in environmental protection. Thanks to our competence and our know how, we are optimally represented along the value-added chain of copper: because we are well positioned in all the central market segments and produce copper of the highest purity and quality.

The NA Group is the largest copper producer in Europe and as well the largest copper recycler worldwide. It produces about 800,000 tonnes of copper and copper products annually and with about 3,800 employees is one of the leading copper producers worldwide. The core business is the production of copper cathodes from copper concentrates, copper scrap and recycling materials. These are then processed into continuous cast wire rod and shapes, rolled products and copper alloys. Precious metals are likewise an important product sector. Further specialty products produced and marketed by the NA Group are metal powders and copper chemicals as well as all the major natural by-elements from copper production. These are processed, for example, into sulphuric acid and iron silicate stone. Our customers include companies in the electrical engineering, telecommunications and chemical industries as well as coin producers and suppliers of the construction and automotive industries. The NA Group is oriented to growth and increasing corporate value: our strategy focuses on strengthening the existing business and the utilisation of growth options in copper processing. NA is a component of the MDAX and thus is listed in the DAX 100.

## Executive Board

### **Dr Werner Marnette**

Hollenstedt  
born 1945  
Chairman of the Board and  
Director of Labour Affairs



After studying non-ferrous metallurgy/electrometallurgy he began his professional career in 1978 as a production assistant at Norddeutsche Affinerie. In 1990 Dr Marnette was appointed Deputy Member of the Executive Board and in 1992 he became a Full Member. He has been the Chief Executive Officer since 1994 and in 1997 he took over the additional position of Director of Labour Affairs.

Since 1998 he has been the President of the Wirtschaftsvereinigung Metalle (Federation of the Metal Industry in Germany) and a member of the Board and Presiding Committee of BDI (Bundesverband der Deutschen Industrie e.V. – Federation of German Trade and Industry). In February 2001 Dr Marnette was elected Chairman of the BDI Energy Committee and in June 2001 he became Chairman of the Hamburg Federation of Industry.



After studying non-ferrous metallurgy, Dr Landau likewise initially joined Norddeutsche Affinerie as a production assistant in 1981. In 1983 he then took over the position of Production Superintendent and in 1994 was appointed Head of Copper Plants. He was the Joint General Manager of the Business Unit Copper Production and Recycling from 1996 until 1998 when he was appointed Deputy Member of the Executive Board. Since June 1999 he has been a Full Member of the Executive Board.

### **Dr Michael Landau**

Mölln  
born 1950  
Member of the Board

After studying business economics he began his professional career in 1993 as the Business Manager at Haase Tank GmbH in Neumünster.

In 1994 Dr Haag was employed by Thyssen Handelsunion AG in Düsseldorf and was appointed Assistant to the Executive Board there, a position he went on to hold at Thyssen AG the following year. In

1997 he became Director of Corporate Finance and Development at the ThyssenKrupp subsidiary, The Budd Company in Troy/USA, and was appointed Division President there in 2000. Dr Haag has been a Full Member of NA's Executive Board since January 2002.



### **Dr Toralf A. Haag**

Hamburg  
born 1966  
Member of the Board

# Interview with the Chairman of the Board

**Dr Marnette, what is your overall assessment of the results of the business year 2000/2001?**

We are very pleased with the last business year. Despite a weak economic environment we have performed well. With a pre-tax profit for the Group of 57 million € – 50 million € for NA AG alone – we have admittedly not been able to achieve the result of the previous year, but that after all was an exceptional year. The consolidated turnover at 2,010 million € for the first time exceeded the 2 billion € mark and was 6% higher than in the previous year. Thus, we managed to make up for the loss of treatment and refining charges during the six week standstill of our East Smelter (RWO) at the beginning of the business year.

With our strategy Vision NA 2000 Plus we are staying on course, targeting profitable growth – in the interests of our customers and shareholders.

**What does the integration of Prymetall GmbH & Co. KG and its 50 % stake in Schwermetall Halbzeugwerk GmbH & Co. KG mean for NA's strategy?**

The strategy is concentrated on the growth of the NA Group in the copper business. Through the acquisition of Prymetall we have succeeded in making a very decisive step towards increasing enterprise value. Prymetall's 50 % holding in Schwermetall, the largest hot rolling mill worldwide for copper materials, is also very important for us. The combination of Prymetall – as a producer of strips, sheets, profiles and shaped wires from copper and copper alloys – and Schwermetall enables us to extend the value-added chain of the NA Group significantly in the direction of the end user.

**Are you planning further external growth?**

First of all, we shall concentrate on Prymetall's integration process. Synergy effects and optimisation potential must be identified and realised.



*Dr Werner Marnette in the dialogue*

**The NA Group is recycling old Pfennig coins as part of the changeover to the Euro. What advantage does the company have from this additional recycling business?**

With the subsidiary Hüttenwerke Kayser AG in Lünen, the NA Group is the largest copper recycler worldwide. Thanks to this know how, the high level of environmental protection and the good security standards, NA fulfils the best prerequisites for recycling the metals. The copper in the coins is processed in our plant directly into products and therefore is quickly returned to the economic cycle. As an example, the copper recovered is processed at Prymetall directly into new Euro coin strip.

However, if further suitable possibilities for expansion come our way, we shall also examine these options. It is essential for us that growth should not come at any cost; our first consideration is to increase the value of the NA Group wisely.

**What impacts do the economic slow-down and the resultant declining demand for copper have on NA?**

Output and sales of continuous cast wire rod and shapes, our most important products, were still very good when compared with the deterioration in the situation at our customers' industries. The drop in demand for wire rod, in particular from the telecommunications branch and other sectors of the New Economy, was partly compensated by record figures for the production and sales of shapes.



# Interview with the Chairman of the Board

Since 19 March 2001 NA has been a member of the MDAX and is now one of the DAX 100 companies. What impact did the move from the SDAX have?

We are very pleased that, after having been listed in the SDAX for only 1 1/2 years, we have managed the transfer to the MDAX. This step was always one of our major targets in order to be one of the DAX 100 companies. The analysts especially value the MDAX as an index for companies with real substance which in recent times have considerably gained in importance again. High dividend yielding stocks, such as NA shares, are above all in low-interest phases particularly attractive, not only for private investors, but also for institutional investors, such as mutual funds following a value strategy or insurance companies.

*"In future we will also communicate openly and actively and continue our growth strategy."*



For the second consecutive time NA won the Capital Investor Relations Prize – in 2001 in the MDAX category. How will your future policy be as regards company information?

We are proud that we were awarded this renowned prize again in 2001. In future we will also communicate openly and actively and continue our growth strategy with the aim of achieving a sustained increase in enterprise value.

**In 2001 you supported St. Jacobi's Church by providing copper for the church roof and gave the old copper to Hamburg artists. How do art and NA's copper go together?**

Our help in the form of copper for the preservation of Hamburg's cityscape is meanwhile a tradition. NA has already supported the restoration of St. Petri's church and the Altona Stuhlmann fountain. As the largest copper recycler in the world we not only donated all the copper needed by St. Jacobi's in 2001, but also took over the recycling of the copper scrap. To keep at least a part of the old patinated copper for posterity, we brought a project to life with artists from Hamburg's „Kunst-treppe“. We were amazed by the variety and quality of the copper works of art they created from the copper sheets.

In October 2000 performance-oriented remuneration was introduced at NA. Has the system been a success?

All our employees have benefited from the new system since, apart from rewarding the individual and team performance, they participate in the company's success. For the first time in May 2001 an extra profit-sharing bonus was paid for the business year 1999/2000. By converting the bonus into NA shares, it could even be increased by up to 25 %. Almost 50 % of NA's employees decided in favour of taking shares.

**You commissioned a plant for oxygen-free copper and special alloys in the year 2000. Has this plant proved its worth?**

At the moment we are not satisfied with the utilisation of the new OF plant. The demand for OF copper, which is primarily used in the telecommunications industry, has declined in line with the economic slowdown. We are, however, sure that we shall profit from the plant's high-tech development possibilities in future.

In September 2001 the OM Group Inc. (OMG) took over the 10 % stake in NA which was hitherto held by dmc<sup>2</sup>. What impact does this change have on the shareholder structure?

OMG is a leading international producer and distributor of metal-based specialty chemicals and we are very pleased that the company has become NA's new shareholder by acquiring dmc<sup>2</sup>, Degussa's former precious metals business. Since the beginning of the '90s we have enjoyed good personal and business relations with OMG and it is only logical that this co-operation is continued.

An abstract background featuring several overlapping, semi-transparent rings in a warm, copper or gold color. The rings are arranged in a way that creates a sense of depth and movement, with some rings appearing in the foreground and others receding into the background. The lighting is soft, highlighting the metallic texture and the interplay of the rings.

## VERSATILITY

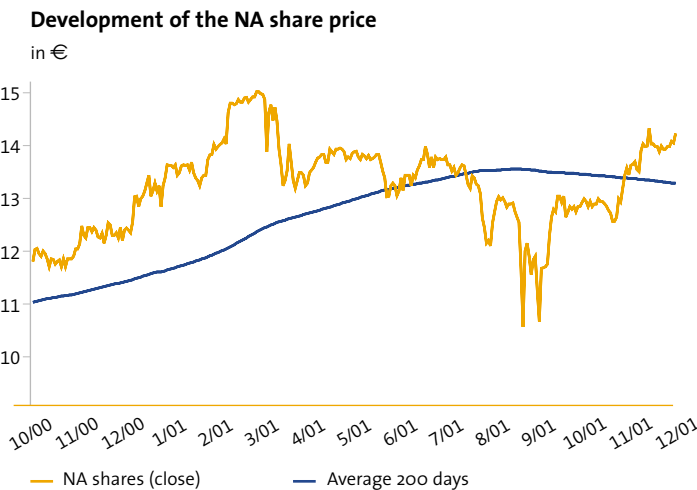
Success is a question of the right mixture: with our competence and our know how we are optimally positioned in the market. Determination, technological advantage and innovative strength make us a global leader. New products, processes and markets: we are the gateway to the copper world – for today and for tomorrow.

# NA Shares

The NA share price held up well despite the turbulent stock market environment. Our orientation towards long-term stability and increasing enterprise value as well as consistently focusing on profitability made a decisive contribution to this.

### Performance of the NA share price

On the first trading day in the business year 2000/2001 NA shares were quoted at 11.75 €. By 1 November 2000 the 12 € mark had already been exceeded. The continual upwards trend in the NA share price continued until mid March 2001 and reached a high of 15 €. Since, due to their substance, traditional stocks were increasingly enjoying the favour of the investors again, we were probably also able to benefit from the declining demand for shares from the New Economy.



Moreover, before our Annual General Meeting private investors in particular were interested in shares with a high dividend yield, such as NA shares. At the AGM on 22 March 2001, which had an attendance of more than 3,000, our shareholders repeatedly expressed their satisfaction about the development of the share price. As in the previous years, we recorded a slight drop in the share price the day after the AGM as a result of the dividend payment of 0.75 € excluding, and 1.07 € including, the tax credit. This overall positive development was interrupted by increasing uncertainty in view of the continuing economic trend in Germany and in the world. Until mid August, however, NA shares were still above the 13 € mark. However, the events on 11 September finally had a serious impact on the global stock markets. NA shares were unable to escape the effect completely and that day closed at 10.50 €, the lowest closing price in the business year 2000/2001. Nevertheless, by 28 September 2001, the last trading day of the fiscal year under review, the NA share price had recovered again and closed at 12.25 €.

At 6,862 points on 2 October 2000 the DAX was just off its high in the business year. For a short time in October 2000 it was still able to pass the 7,000 mark, but then, however, lost ground until the end of September 2001 when it had reached a level of around 4,000 points.

In comparison with the DAX and MDAX, NA shares developed overproportionally well. In the period from October 2000 to September 2001 NA outperformed the DAX by almost 50 %. The MDAX remained likewise below the performance of the NA share price with the result that our company had significantly gained in value in comparison with the market.

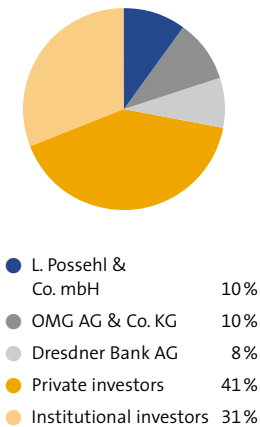
### Admission to the MDAX

We are very pleased that on 19 March 2001 we managed the transfer from the SDAX into the MDAX category. In so doing, we have accomplished our aim after only 1 ½ years and are now listed as one of the DAX 100 companies in Germany. We fulfilled all the criteria for admission as regards market capitalisation and the trading volume in NA shares. It is not least because of the high percentage of the free float of 72 % that we remain an interesting investment for market participants.

### OMG is NA's new shareholder

L. Possehl & Co mbH with its 10 % stake and Dresdner Bank AG with an 8 % interest are still amongst NA's shareholders. A change in NA's shareholder structure occurred as regards the 10 % stake held by dmc<sup>2</sup> (Degussa Metals Catalysts Cerdec AG). When dmc<sup>2</sup> changed hands, this participation was also transferred to OMG AG & Co. KG (OMG) in Hanau. Thus, the free float still amounts to 72 % of the shares.

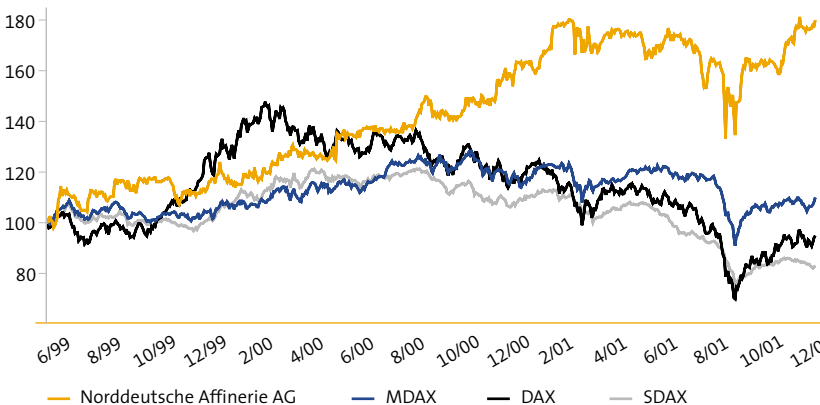
### Shareholders' structure



OMG consists of a number of subsidiaries. The US Group is a leading producer and distributor of metal-based specialty chemicals. Since the '90s NA and OMG have enjoyed a good business relationship. The acquisition of dmc<sup>2</sup>, Degussa's former precious metals business, ideally complements the business portfolios of both OMG and NA.

### Performance of NA shares compared with the MDAX, DAX and SDAX

in %





## Dividend policy

Since its IPO in 1998 NA has pursued stability and continuity in its dividend policy. With a targeted dividend payout ratio of about 70 % of the net earnings, we have always been able to pay our shareholders an attractive dividend in the past. In the business year 1999/2000 this ratio was even significantly more.

For the year under review it will again be in the range of the ratio mentioned during the IPO. We have therefore planned to allocate the amount of 15.3 million € to capital reserves, which in view of the current acquisition of Prymetall strengthens the financial basis of the NA Group.

Our shareholders should also this year participate in the successful development of their company. Hence, on 4 April 2002 an unchanged dividend of 0.75 € per share will be recommended. Related to the price of NA shares on 28 September 2001 (the last trading day of the business year), this results in a dividend yield of 6.1 % without the tax credit. Including the tax credit paid to our shareholders resident in Germany a return of 8.7 % is achieved.

Companies with sustainable substance and a clearly focused growth strategy are increasingly meriting the attention of the financial markets, especially over the last few months. NA belongs to this attractive circle and is considered to be a long-term investment with a good return. A convincing argument: a shareholder, who invested 1,000 DM or 511 € in our shares on 7 July 1998 at the time of the IPO, has received three dividends so far, including the payment on 23 March 2001. After exactly three years – until 6 July 2001 – this results in a dividend yield totalling 32 % (without the tax credit), i.e. if the dividends were reinvested with the investment, the capital would amount to 1,317 DM or 673 €. Likewise, NA shares have substantially outperformed the MDAX since the MDAX lost 0.3 % in value during this period.

## Staff profit-sharing

The performance-oriented stock option plan for NA's senior staff, which was launched at the time of the IPO in 1998, could for the first time be converted in March 2001. The prerequisites were fulfilled since the NA share price had developed better than the CDAX. In March and April 2001 the senior staff had the possibility of exchanging their convertible bonds, which they had acquired in the 1<sup>st</sup> tranche of the stock option plan, into 353,000 new NA shares.

The 4<sup>th</sup> tranche of convertible bonds from this stock option plan was issued in February 2001. With 97 % of senior staff participating, the quota was again extraordinarily high. A clear sign of the confidence they have in NA's profitability and strengths as well as in the development of our share price.

The performance-oriented remuneration system introduced in the business year 2000/2001 also includes a scheme by which our employees can share in the company's success. At the same time, we are expecting a contribution towards achieving a sustained increase in our company's earnings to result from these additional performance and motivation incentives. In May 2001, within the framework of the new remuneration system, we paid for the first time a profit-sharing bonus for the last business year. As part of a new employee share ownership scheme, our employees were able to use this bonus for the acquisition of NA shares at a discount. Almost 50 % of the workforce took advantage of this offer and now hold shares which cannot be resold for a period of 1 ½ years.

## NA again wins the Capital Investor Relations Award

After winning first prize in the SDAX segment last year, NA was one of the main contenders for the Capital Investor Relations Award this year. Since we had meanwhile become a member of the MDAX, it was a particular distinction for us to accept the prize in Frankfurt on 4 September 2001 as the winner of this category. With 456 out of a possible 500 points NA not only achieved first place in the MDAX category but also had the fourth best result of all the 237 companies competing in the five different categories. The business magazine „Capital“ awarded the investor relations prizes on the basis of an exclusive survey amongst the DVFA – German Society of Investment Analysts and Asset Managers. More than 230 market experts assessed the companies in accordance with the criteria: timeliness, reliability and quality – dependable standards with which we are pleased to stand comparison. We see our investor relations work as the intensive, transparent and credible communication with the different target groups.

*For the second time NA wins the Capital Investor Relations competition*



Active national and international investor relations work

Our ambitious investor relations activities cover a wide spectrum of effective measures. Thus, in the year under review, NA gave presentations to numerous institutional investors and explained the main company developments at these meetings and the new strategy Vision NA 2000 Plus. After our financial statements had been published, we went on an international road-show in February 2001 to visit, above all, shareholders and potential investors in the USA. We once again demonstrated our commitment in June 2001 in discussions with investors and participated in a metal conference in Canada.

We registered great interest in NA in the United Kingdom as well and were therefore primarily active in London. Regular discussions with market participants in Germany enabled the financial analysts to make a substantiated valuation of NA. The resultant research reports, such as those from RBC (Canada), HSBC (Düsseldorf), Bankhaus Lampe (Düsseldorf), Berenberg Bank (Hamburg) or Vereins- und Westbank (Hamburg) are representative of an, in some instances, critical, but overall positive assessment of our company.

Intensive dialogue with the shareholders

Of course, NA's extensive and continuous information policy includes communicating to private investors. For this reason, for the third year in succession, we conducted a further series of our successful open days for shareholders entitled „Dialogue with the Shareholders“. From May to October 2001 inclusive, at a total of 10 events, about 1200 private investors visited their company. It is very important for us that we have the chance of communicating the future prospects of their company to our shareholders personally. Thus, in addition to a detailed presentation and a tour of our modern operations, the programme included a discussion with the management. A good opportunity to learn at first hand about the economic effectiveness and the strategic positioning of their NA.

One thing is certain: we are continuing to pursue our target to achieve a sustainable increase in NA's value. Responsible and growth-oriented measures will further determine our future course of action – in the interests of our shareholders and potential investors.

	98/99	99/00	00/01
Closing price in Frankfurt at business year-end in €	10.00	11.80	12.25
Year high (close) in €	11.95	12.45	15.00
Year low (close) in €	8.68	9.50	10.50
Market capitalisation as at business year-end in mill. €	320	378	396
Dividend or recommended dividend respectively in €	0.72	0.75	0.75
Dividend with tax credit in €	1.02	1.07	1.07
Payout ratio in %	92	74	61
Earnings per share* in €	0.75	1.20	1.26
DVFA/SG earnings per share in €	0.82	1.26	0.88
Price/earnings ratio as at business year-end	13.4	9.8	9.8

\*Without minority interests

www.na-ag.com

Security Identification No.:	676650
International Securities Identification No. (ISIN):	DE 0006766504
Stock market codes	Reuters: NAFG, Bloomberg: NDA GR
Stock exchanges	Frankfurt, Hamburg
Stock market category	MDAX
Issue price	12.78 €
Average volume per day	55,000 shares
Number of shares	32,353,000 units

At our website, [www.na-ag.com](http://www.na-ag.com), you will find more detailed information on the Group and the latest on company developments and NA shares.



The background of the page is a close-up, artistic photograph of numerous thin, copper-colored wires. These wires are arranged in a complex, swirling pattern that creates a sense of continuous motion and flow. The lighting is warm, highlighting the metallic sheen of the copper and creating soft, golden highlights and shadows. The overall effect is one of dynamic energy and organic structure, reminiscent of a stylized flower or a tangled web of connections.

## THE COPPER CYCLE

As the world's largest copper recycler we keep this metal's cycle in motion and thus save natural resources. This commitment reflects our general conception of ourselves: entrepreneurial activity whilst treating the environment responsibly. The principle of sustainability determines NA's course – target and direction are clear.

# A gateway to the copper world – for today and for tomorrow

NA's continuous cast shapes with  
piece weights of up to 25 tonnes



Just as a river has its source, we also have our origins.

They can be traced back into the 18th century. Over the

course of time a wide stream has developed from this source,

determinedly seeking its outlets and thereby developing

numerous vital side branches. That makes the whole

NA Group so strong. Because we are far more than only

a copper producer: we are a gateway to the copper world

– firmly anchored in the market.

## The value-added chain in focus

NA is one of the internationally leading copper producers. We stand for high profitability, technological advantage, innovative strength and a leading position in environmental protection. With our competence and know-how we are optimally represented along the value-added chain of copper. Because we occupy all the central market segments and produce copper of the highest purity and quality. So much for the facts. But a whole lot more is hiding behind this rather sober profile. It is the embodiment of dynamics, commitment, initiative, speed and precision. We would like to take you, dear Readers, on a short trip into the fascinating world of copper. A world in which NA is at home.

At NA the flow is considerable, both in reality and figuratively. This applies not only to the production of copper, but also to the spectrum of the industries and applications into which our products flow. The route from the raw materials via the high-grade treatment facilities at NA and on to our customers' end products is an exciting process. It begins with the production of copper cathodes from copper concentrates and copper scrap. However, when it reaches the stage of the production of continuous cast wire rod and shapes it is still by far not at an end. From the natural by-elements arising during copper production we produce saleable products which we market successfully. These include precious metals, sulphuric acid, iron silicate stone and special chemicals: products which additionally increase our product range. As a leading copper producer this ability is one of our strengths. It could also be described as versatility. It is not only in this respect that we differ from our competitors.

## Optimally positioned

The combination of copper production and recycling as well as further processing into copper products and innovative special solutions makes the NA Group unique worldwide. Two Segments, perfectly co-ordinated with one another and ideally complemented by our subsidiaries and affiliates.

For most copper producers, the last value-added stage is the production of copper cathodes which are traded on the metal exchanges. NA in contrast uses its own cathode basis in Hamburg and at Hüttenwerke Kayser AG in Lünen to produce a variety of copper products. In so doing, we are extending the value-added chain of copper towards the end customers by a decisive step. NA's high purity copper cathodes are the guarantee for the first-class quality of our products, which our customers use to fabricate cable and wires, tubes, sheets, strip and foils.

Copper accompanies us all through our daily life – visibly and invisibly. As an irreplaceable key element in highly complex, but also in conventional applications. The range is considerable. From micro-electronics via superconductors to the fuse box or the copper roof. Everywhere where copper can demonstrate its excellent physical and chemical properties – optimal electrical and thermal conductivity, good ductility and resistance.

And our customer structure is as widely spread as the applications are varied: companies from the electrical engineering, telecommunications and chemical industries just as the construction industry, the automotive industry and mechanical engineering use our material.

A great advantage which makes us less susceptible to cyclical changes as well as to economic and market-related impacts. Because only very seldom do they affect all our customers' industries at the same time.

## Future-oriented

There is hardly another metal that is so flexible and opens up such an array of possibilities. This is not without reason: copper is a reliable but, above all, intelligent material. We utilise these properties specifically. Because we produce not only elementary starting products without which our customers could not fabricate their products at all. On top of these, we develop tailor-made specialty copper brands in our future-oriented workshops for our customers' individual high-tech applications. Innovative to the same extent as intelligent solutions, which we work out together with our customers and which meet their specific demands exactly. As a supplier of the industries of the future we produce the pacemakers for techniques and the economy, which ensure movement and decisively help to shape the development of new technologies. We understand all this under customer and market orientation.

One of our strengths is the discovery of new horizons. With our planning and vision we ensure that NA continues to develop further. We are always thinking one step



# A gateway to the copper world – for today and for tomorrow

ahead and today already have the concepts for the corporate success of tomorrow. Copper thin strip casting, oxygen-free or low alloyed copper qualities: new processes, products and materials, which underline the high innovative potential of this material and NA. With our new plant for the production of oxygen-free copper and special alloys we are opening up a further growth platform in the copper market for particularly high value-added products. Whilst successfully pursuing our core business, we are working towards launching into more far-reaching areas of application with attractive products – also in the copper-related markets. This includes not only ultrafine copper powder, a high-tech material for microelectronics, but also the copper-based solar cell. The so-called photovoltaics is a significant milestone in the utilisation of renewable energy. A commitment which is an example of our conception of NA: entrepreneurial activity whilst treating the environment responsibly. The principle of sustainability determines NA's course.

One of NA's specialty products:  
oxygen-free copper wire rod  
TOP ROD



Consistent and exemplary environmental protection is therefore amongst our most important corporate targets. The result: NA's copper production and processing operations take up a leading position internationally in all aspects of environmental protection. And we are enhancing these even further by targeted investment. Whether intelligent energy-saving projects or efficient technologies, the aim is clear.

As the largest copper recycler worldwide we are keeping this metal's cycle in motion and consequently save natural resources. Because copper can be recycled as often as required without loss of quality or value. As a technological leader we have already been utilising this property for a long time. Almost half of the NA Group's copper output originates from copper scrap and other recycling materials.

## Staying on course and looking to the future – Vision NA 2000 Plus

In recent years, with the acquisition of Hüttenwerke Kayer AG, the expansion of the East Smelter (RWO) and the very successful energy-saving programme eNergiA, we have realised some significant projects to increase enterprise value. Today, Norddeutsche Affinerie is an extremely efficiently working, performance-oriented company with high productivity.



NA's employees in  
protective clothing

Vision NA 2000 Plus shows the way for the forthcoming years. It includes an ambitious strategy for profitable growth in the future. The strategy is concentrated on three horizons, the strengthening of the existing business, the utilisation of growth options in the copper market and the opening up of new growth options.

A focal point of this is the expansion of our leading position in copper production and continued forward integration into the product sectors, continuous cast wire rod and shapes. Two demanding targets in a not quite so simple environment. Since growth in the existing European market structures can only be realised by the clever combination of internal and external, as well as qualitative and quantitative, measures. With the acquisition of Prymetall including its 50% participation in Schwermetall, we have implemented a significant step of our growth strategy towards a sustained increase in NA's value. Schwermetall – one of NA's long-standing customers – operates the largest hot rolling mill worldwide for copper materials and is one of the leading producers of pre-rolled strip. Prymetall produces strips, sheets, profiles and shaped wires in copper and copper alloys. Both companies ideally complement our activities. Not least because sales of our copper shapes will be strengthened in the long term and additional earning potential created.

Our entry into the business of processing continuous cast shapes into sheets and strip is thus initiated. In this way we are achieving direct market access for attractive copper flat products and expanding our copper product portfolio in the sector of especially high-value copper products. Furthermore, at the same time we are extending the value-added chain of the NA Group quite significantly in the direction of the industrial end user. Our customers from the mechanical engineering, electronics and automotive industries will profit from this to a great degree. By uniting formerly fragmented value-added stages NA is creating numerous opportunities for optimisation and growth. Likewise the development of new technologies, applications and products – such as the demanding thin strip casting project – will be substantially facilitated by further customer integration.

Thanks to our unique product range and excellent standing we are firmly anchored in the market. A strong position – we are ready for the future.



As versatile as our products are, the wider the spectrum of industries and applications into which they flow. There is hardly another metal that opens up such an array of possibilities. This is not without reason: copper is a reliable but, above all, an intelligent material. Two characteristics which are also our targets.



DIVERSITY

# Management Report

## Outline conditions and trends in the industry

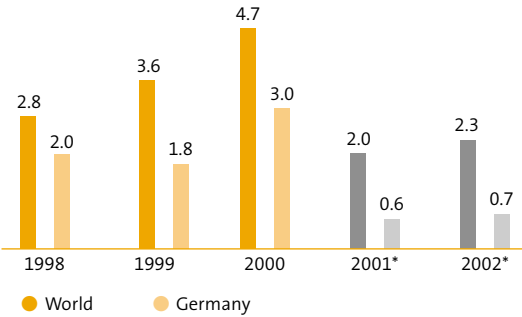
The general economic outline conditions increasingly deteriorated in the course of the business year 2000/2001.

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 %.

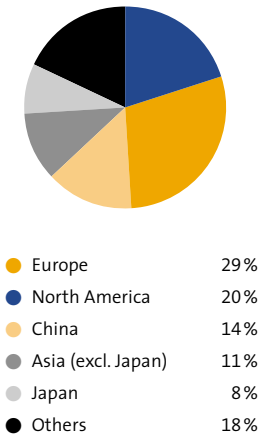
In **Europe** the economic expansion overall likewise slowed down severely in the spring of 2001. This was caused by weak demand on the domestic market for consumer and capital goods, the crude oil price increases in the year 2000 as well as the drastic drop in share prices on the international stock 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

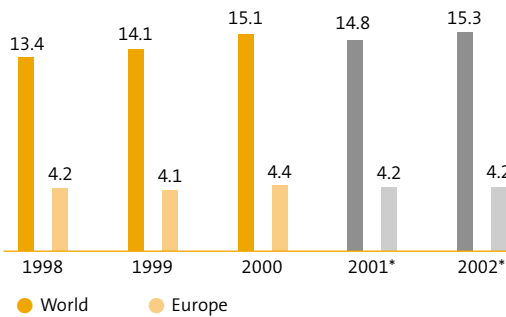
#### Copper market

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



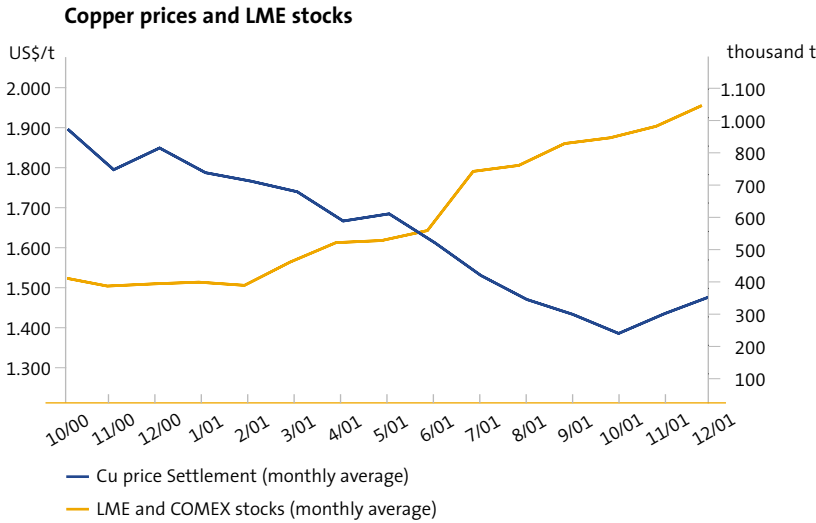
\* Forecast  
Source: Brook Hunt

# Management Report

## 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 Nord-deutsche 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.

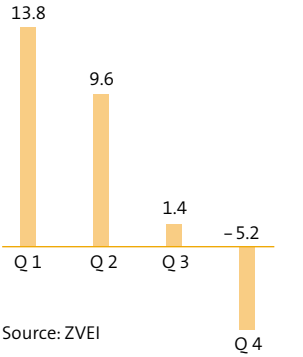
Including the HK output, a total of 540,000 tonnes (previous year: 503,000 tonnes) of copper cathodes were produced in the NA Group.

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.

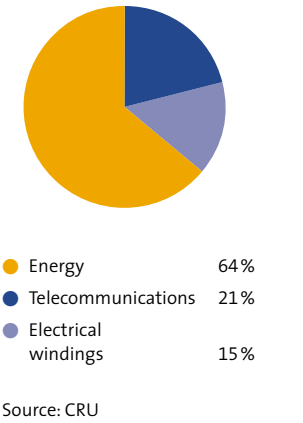
In contrast, the production of continuous cast shapes significantly increased compared with the previous year, by almost 4% to 204,000 tonnes (previous year: 197,000 tonnes).

### German electrical engineering and electronics industries

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



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

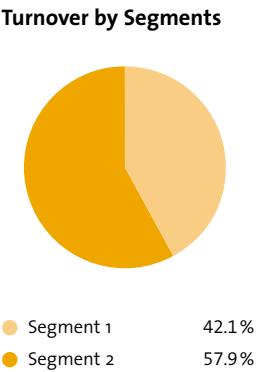
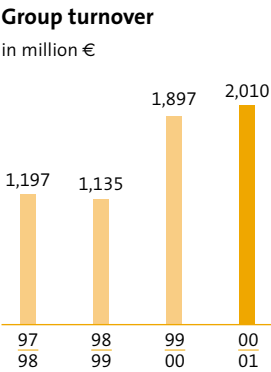


# Management Report

## 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**

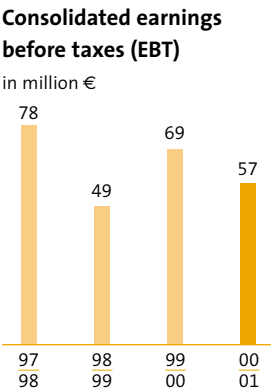
The coins being recycled as a result of the conversion to the Euro in member states of the European monetary union offer an additional opportunity for extending the raw material basis. HK and NA made preparations in good time to enable them to recycle the copper-bearing coins: security and logistical 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 dmc<sup>2</sup> 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.

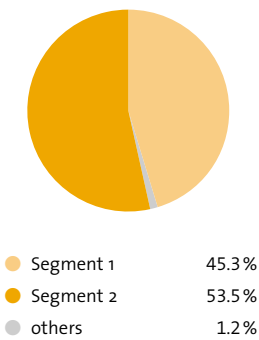




# Management Report

## Highlights of the business year in the NA Group

### Earnings before taxes by Segments (EBT)



### Profitability

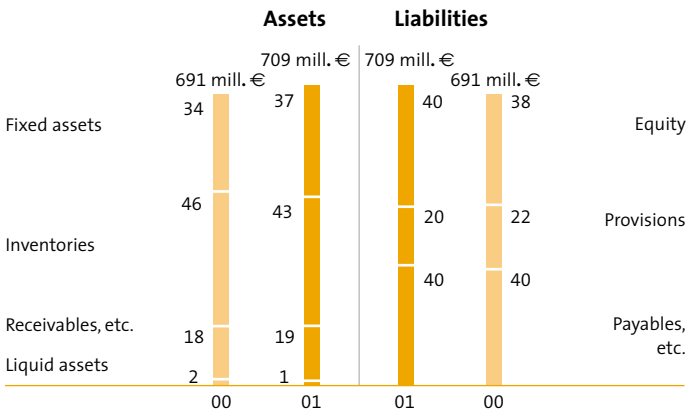
At 2,010 million € the turnover for the NA Group exceeded the 2 billion € mark, an increase of 6 % compared with the previous year. It was subsequently possible to compensate for the loss of treatment and refining charges during the 6-week standstill in the East Smelter (RWO).

### Financial key figures by Segments

	Segment 1		Segment 2	
(million €)	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 pusued

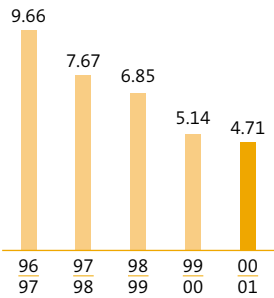
The project of the future, thin strip casting, took on a new dimension as a result of the acquisition of Prymetall GmbH & Co. KG and its stake in Schwermetall Halbzeugwerk GmbH & Co. KG. After having already proven its basic practicability in pre-testruns, the length of cast strip could be significantly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

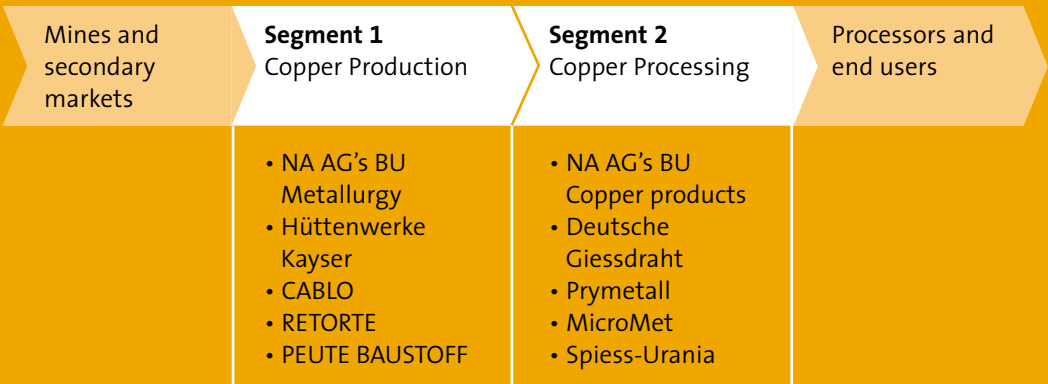




# Segments

## 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

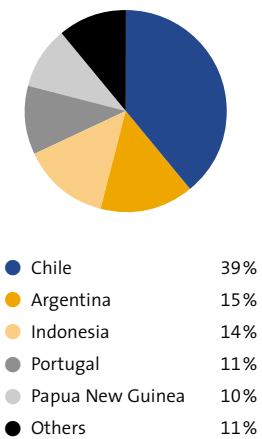
### Segment 1 Copper Production

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



Production figures  
BU Metallurgy

in thousand €	99/00	00/01
Input of concentrates	729	842
Input of copper scrap	140	69
Copper cathode	368	360
Sulphuric acid	699	808
Iron silicate products	460	540

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

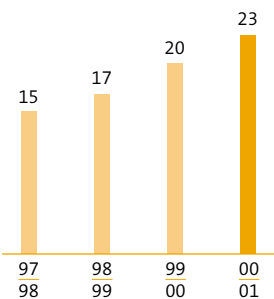
Since various copper-bearing and precious metal-bearing raw materials are treated in different locations and in several plants, their procurement was optimised within the NA Group. Whilst the Raw Materials Department at NA AG in Hamburg is responsible for the procurement of all primary raw materials, 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.

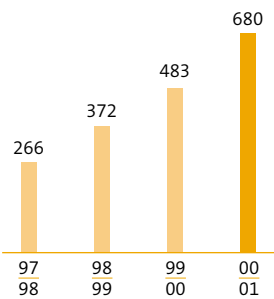
Whilst mostly only short-term sales contracts are usual in the markets for recycling materials, our target in the primary sector is to conclude mainly medium and long-term agreements with our suppliers. Thus, our supply of copper concentrates is generally secured to 80 – 90 % by long-term agreements. 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  
in t



Silver output  
in t



# 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

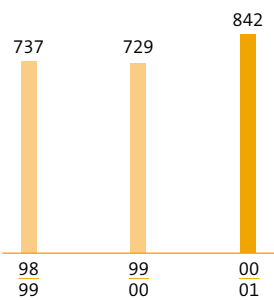
The NA secondary smelting sector for processing complex secondary copper and/or lead-based raw materials was fully supplied after the scheduled major overhaul of the electric furnace – in parallel with the standstill of the primary copper production for repair work.

After the acquisition of part of the precious metal business of the former dmc<sup>2</sup> 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.

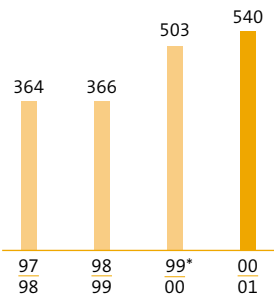
### Concentrate throughput

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.

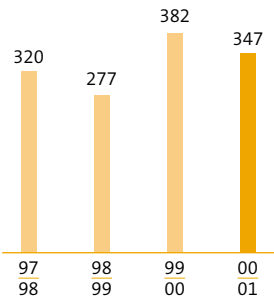
The high-performance Hamburg production plant and the plant at DG, which both use the Southwire process, are amongst the most cost-effective worldwide.

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\*

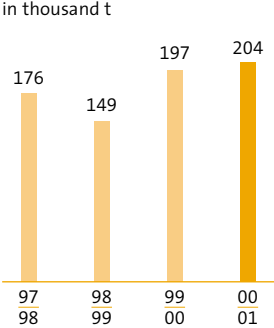
in thousand t



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

### Continuous cast shape output

in thousand t



# 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](http://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 Schwermetall 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.

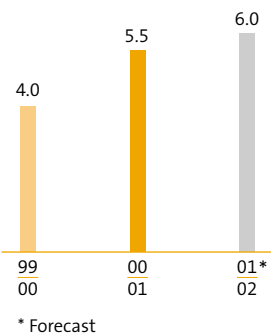
### Improve results – assure productivity

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.

R&D expenditure  
in million €



### 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

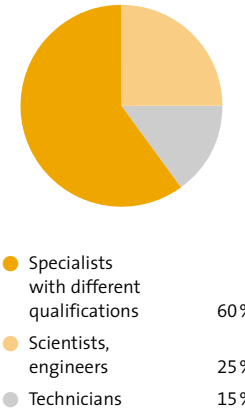
The main R&D work was targeted at optimising various processes, of this the greatest part was devoted to the copper production sector.

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

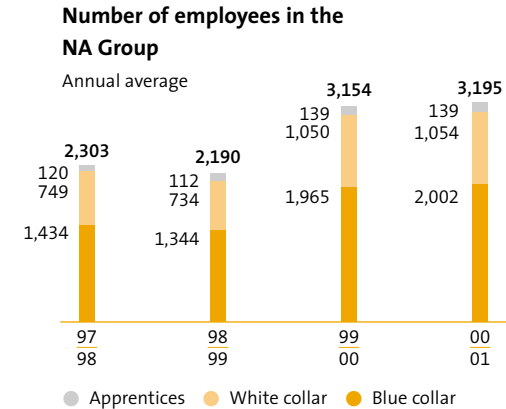
We are proud that we can always rely on our competent and motivated employees in the realisation of our ambitious growth strategy. They are our most important asset and make a decisive contribution to the continual increase in the value of their company.

### 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.



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.

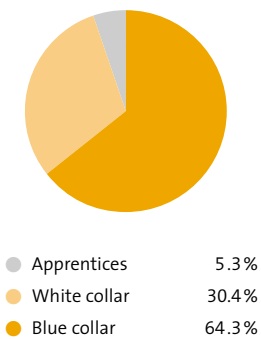
Since NA shares have performed better than the CDAX, the subscribers were able to exercise the share option and acquire a total of 353,000 shares at a discount: confirmation of our senior staff's great commitment to the company.

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.

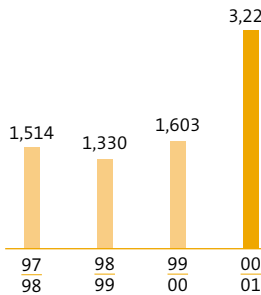
### Personnel structure of NA AG

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.

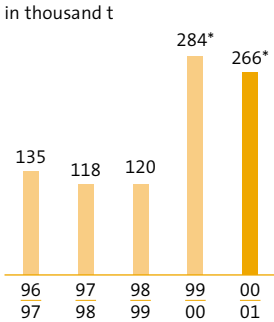
Due to the acquisition of Prymetall GmbH & Co. KG including its 50 % stake in Schwermetall Halbzeugwerk GmbH & Co. KG the number of employees in the Group has increased by about 600 to a total of 3,800.

# Management Report

## Environment and Energy

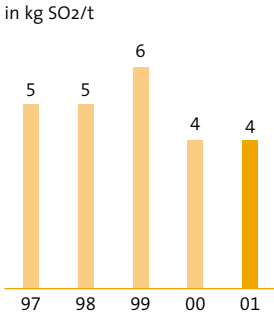
In NA's company policy great importance is attached to sustained economy, the saving of natural resources and environmental protection.

### Copper produced from recycling materials in the NA Group



\* Incl. HK's output since 1.1.2000

### SO<sub>2</sub> emissions at NA AG



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 SO<sub>2</sub> emissions which can be used as a yardstick to compare the environmental standards of smelters all over the world. And with 4 kg of SO<sub>2</sub> 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.

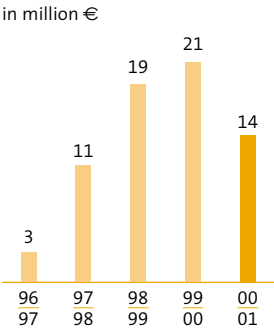
We are also actively looking for ways to economise in energy. The extensive potential for economy from the eNergiA project is being optimally developed. Concepts for the best possible waste-heat utilisation from different sources are being analysed under the cost-benefit aspect. Improved waste-heat utilisation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

### Careful treatment of groundwater resources

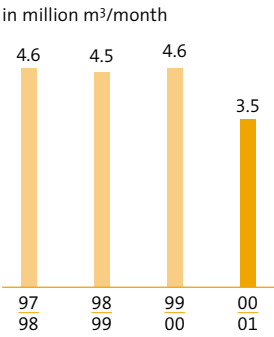
NA uses drinking water from the groundwater for the production of steam and acid. In order to save these valuable resources, NA has decided to realise a concept for the treatment of river water. With project costs of about 2 million € we are expecting an annual reduction in drinking water consumption of more than 60 %, i.e. 350,000 m<sup>3</sup>.

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.

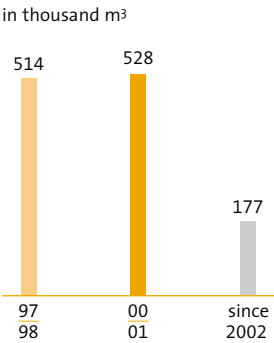
### Capital expenditure for environmental protection at NA AG



### Natural gas consumption at NA AG



### Drinking water consumption at NA AG



# 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 steeled 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.

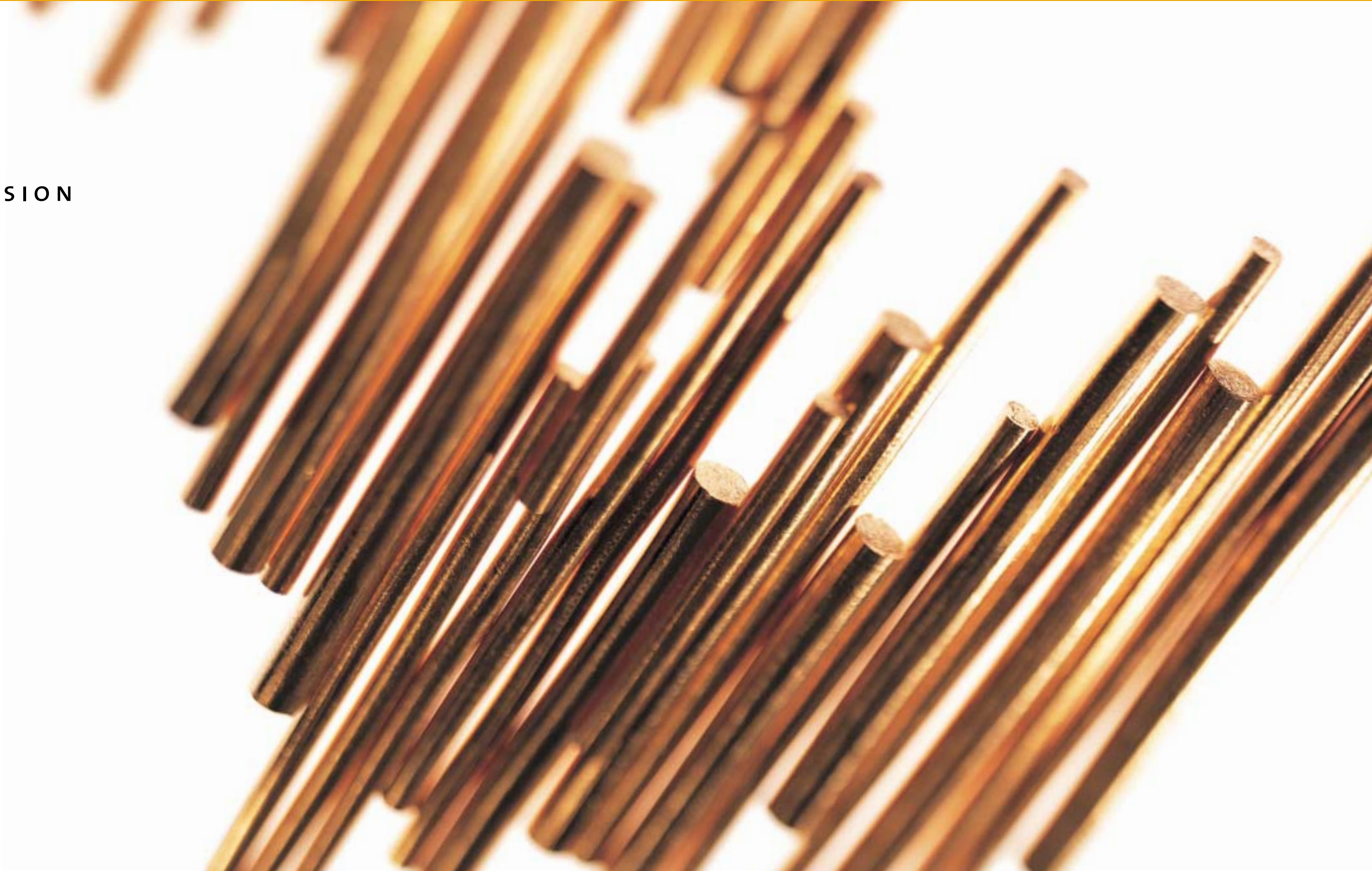
Capital expenditure in fixed assets at NA in Hamburg focuses on strengthening our copper and precious metal production activities as well as expanding our high value-added copper product segment. The installation and commissioning of the KRS smelter plant at Hüttenwerke Kayser AG in Lünen will absorb 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.



One of our strengths is the discovery of new horizons.  
Always one step ahead, we already have the concepts for  
the ideas of tomorrow. In our workshops we are constantly  
developing tailor-made and intelligent special solutions for  
innovative high-tech applications of the future.

## VISION



# Consolidated balance sheet

as at 30 September 2001

Assets in thousand €	Note no.	2000/2001	1999/2000
<b>Fixed assets</b>	<b>1</b>		
Intangible assets		13,188	10,918
Property, plant and equipment		237,697	217,887
Financial assets			
Shares in affiliated companies		360	360
Investments in associated companies		6,113	5,722
Other investments		538	916
Long-term securities		622	609
Other loans		755	786
		8,388	8,393
		<b>259,273</b>	<b>237,198</b>
<b>Current assets</b>			
Inventories	<b>2</b>	305,817	317,389
Receivables and other assets	<b>3</b>		
Trade accounts receivable		110,896	112,050
Receivables from affiliates		2,785	4,895
Receivables from other Group companies		652	1,020
Other assets		20,985	7,243
		135,318	125,208
Short-term securities	<b>4</b>	1,496	1,536
Liquid assets	<b>5</b>	6,409	9,764
		<b>449,040</b>	<b>453,897</b>
<b>Deferred items</b>		<b>568</b>	<b>261</b>
<b>Total assets</b>		<b>708,881</b>	<b>691,356</b>

Equity and liabilities in thousand €	Note no.	2000/2001	1999/2000
<b>Equity</b>	<b>6</b>		
Subscribed capital		82,824	81,920
<i>Contingent capital 39,012 thousand €</i>			
Capital reserves		25,815	23,955
Revenue reserves		138,641	117,145
Retained earnings		23,526	27,278
		<b>270,806</b>	<b>250,298</b>
<b>Minority interests</b>		<b>9,308</b>	<b>9,912</b>
<b>Special reserves with an equity portion</b>	<b>7</b>	<b>3,804</b>	<b>5,706</b>
<b>Provisions</b>	<b>8</b>		
Provisions for pensions		53,706	52,494
Other pensions		88,783	100,186
		<b>142,489</b>	<b>152,680</b>
<b>Liabilities</b>	<b>9</b>		
Convertible bonds		2,740	2,781
Bank loans and overdraft		78,514	79,931
Trade accounts payable		167,048	127,676
Payables to affiliates		1,206	298
Other liabilities		32,958	62,069
		<b>282,466</b>	<b>272,755</b>
<b>Deferred items</b>		<b>8</b>	<b>5</b>
<b>Total equity and liabilities</b>		<b>708,881</b>	<b>691,356</b>



# Changes in Group fixed assets

for the period 1 October 2000 to 30 September 2001

in thousand €	Acquisition or construction cost					Net book value			Depreciation in current fiscal year
	1.10.2000	Additions in the current fiscal year	Disposals	Transfers	Write-ups	Write-downs 30.9.2001	30.9.2001	30.9.2000	
<b>Intangible assets</b>									
Franchises, trademarks, patents, licenses and similar rights and licenses to such rights	12,412	2,933	557	1,528	–	10,169	6,147	3,394	1,698
Goodwill	5,936	28	–	–	–	1,489	4,475	5,121	674
Payments on account	2,403	1,704	17	– 1,524	–	–	2,566	2,403	–
	<b>20,751</b>	<b>4,665</b>	<b>574</b>	<b>4</b>	<b>–</b>	<b>11,658</b>	<b>13,188</b>	<b>10,918</b>	<b>2,372</b>
<b>Tangible assets</b>									
Land and buildings	271,814	2,559	140	1,257	166	235,238	40,418	39,999	3,563
Technical equipment and machinery	613,078	32,098	8,180	67,792	184	547,263	157,709	93,736	35,970
Other equipment, factory and office equipment	65,918	4,790	3,641	250	–	57,947	9,370	9,275	4,679
Payments on account and assets under construction	74,877	24,653	27	– 69,303	–	–	30,200	74,877	–
	<b>1,025,687</b>	<b>64,100</b>	<b>11,988</b>	<b>– 4</b>	<b>350</b>	<b>840,448</b>	<b>237,697</b>	<b>217,887</b>	<b>44,212</b>
<b>Financial assets</b>									
Shares in affiliated companies	360	–	–	–	–	–	360	360	–
Investments in associated companies	7,022	913	620	–	–	1,202	6,113	5,722	175
Other investments	1,111	–	24	–	–	549	538	916	354
Loans to companies in which participations are held	625	–	–	–	–	625	–	–	–
Long-term securities	622	–	–	–	13	13	622	609	–
Other loans	792	94	127	–	2	6	755	786	–
	<b>10,532</b>	<b>1,007</b>	<b>771</b>	<b>–</b>	<b>15</b>	<b>2,395</b>	<b>8,388</b>	<b>8,393</b>	<b>529</b>
<b>Total fixed assets</b>	<b>1,056,970</b>	<b>69,772</b>	<b>13,333</b>	<b>–</b>	<b>365</b>	<b>854,501</b>	<b>259,273</b>	<b>237,198</b>	<b>47,113</b>



## Consolidated profit and loss account

for the period 1 October 2000 to 30 September 2001

in thousand €	Note no.	2000/2001	1999/2000
<b>Turnover</b>	<b>12</b>	<b>2,009,857</b>	<b>1,896,661</b>
Variations in inventories of finished goods and work in process		- 7,323	42,876
Own work capitalised		3,722	5,797
Other operating income	13	41,465	22,681
Cost of raw materials and supplies	14	- 1,685,524	- 1,625,841
<b>Gross profit</b>		<b>362,197</b>	<b>342,174</b>
Personnel expenses	15	- 168,429	- 149,678
Depreciation on fixed assets	16	- 46,584	- 32,847
Other operating expenses	17	- 83,211	- 85,809
Income from investments	18	922	471
Net interest	19	- 7,683	- 4,867
<b>Result of ordinary activities</b>		<b>57,212</b>	<b>69,444</b>
<b>Taxes on income</b>	<b>20</b>	<b>- 14,915</b>	<b>- 28,677</b>
<b>Profit for the financial year</b>		<b>42,297</b>	<b>40,767</b>
Profits/losses attributable to minority interests		- 1,687	- 2,229
Allocations to revenue reserves		- 17,084	- 11,260
<b>Unappropriated profit</b>		<b>23,526</b>	<b>27,278</b>

## Consolidated cash flow statement

in thousand €	2000/2001	1999/2000
Profit for the financial year	42,297	40,767
Depreciation on fixed assets	46,395	32,979
Changes in long-term provisions	1,479	7,268
Other expenses and income not affecting cash flow	- 3,724	- 2,967
<b>DVFA/SG cash flow</b>	<b>86,447</b>	<b>78,047</b>
Changes in short-term provisions	- 11,670	3,318
Cash flow movements due to investments in associated undertakings	- 520	- 518
Profits and losses from the disposal of fixed assets	- 253	194
Changes in inventories	13,747	- 13,913
Changes in trade accounts receivable and sundry assets	- 10,378	- 25,568
Changes in trade accounts payable and sundry liabilities	10,956	30,294
<b>Cash inflow from current operating activities</b>	<b>88,329</b>	<b>71,854</b>
Disposals of fixed assets	856	3,308
Additions to fixed assets (including changes in the Group companies consolidated)	- 68,958	- 109,471
<b>Cash outflow from investing activities</b>	<b>- 68,102</b>	<b>- 106,163</b>
Proceeds from capital increases	4,067	-
Proceeds from the convertible bond issue and the raising of bank loans	17,160	58,685
Payments for the redemption of bonds and bank loans	- 18,620	- 14,512
Dividend payments of NA AG	- 24,000	- 22,906
Dividend payments to third parties	- 2,189	- 1,759
<b>Cash outflow (previous year: inflow) for financing activities</b>	<b>- 23,582</b>	<b>19,508</b>
Changes in financial resources affecting cash flow	- 3,355	- 14,801
Financial resources at beginning of period	9,764	24,565
<b>Financial resources at end of period</b>	<b>6,409</b>	<b>9,764</b>

# Balance sheet of NA AG

as at 30 September 2001

Assets in thousand €	Note no.	2000/2001	1999/2000
<b>Fixed assets</b>	<b>1</b>		
Intangible assets		6,663	3,312
Property, plant and equipment		171,340	167,035
Financial assets			
Shares in affiliated companies		44,639	47,177
Investments		2	2
Other loans		1	1
		44,642	47,180
		<b>222,645</b>	<b>217,527</b>
<b>Current assets</b>			
Inventories	<b>2</b>	206,193	210,091
Receivables and other assets	<b>3</b>		
Trade accounts receivable		89,166	94,821
Receivables from affiliates		35,878	11,552
Receivables from other Group companies		652	983
Other assets		11,180	4,150
		136,876	111,506
Short-term security investments	<b>4</b>	1,496	1,536
Liquid assets	<b>5</b>	3,565	4,202
		<b>348,130</b>	<b>327,335</b>
<b>Prepaid expenses</b>		<b>6</b>	<b>6</b>
<b>Total assets</b>		<b>570,781</b>	<b>544,868</b>

Equity and liabilities in thousand €	Note no.	2000/2001	1999/2000
<b>Equity</b>	<b>6</b>		
Subscribed capital		82,824	81,920
<i>Contingent capital 39,012 thousand €</i>			
Capital reserves		24,984	21,821
Revenue reserves		120,796	105,497
Retained earnings		24,265	24,000
		<b>252,869</b>	<b>233,238</b>
<b>Special reserves with an equity portion</b>	<b>7</b>	<b>1,193</b>	<b>1,790</b>
<b>Provisions</b>	<b>8</b>		
Provisions for pensions		24,792	24,054
Other provisions		61,143	73,485
		<b>85,935</b>	<b>97,539</b>
<b>Liabilities</b>	<b>9</b>		
Convertible bonds		2,740	2,781
Bank loans and overdrafts		48,506	53,039
Trade accounts payable		144,022	97,499
Payables to affiliates		10,013	13,601
Other liabilities		25,331	45,376
		<b>230,612</b>	<b>212,296</b>
<b>Deferred items</b>		<b>172</b>	<b>5</b>
<b>Total equity and liabilities</b>		<b>570,781</b>	<b>544,868</b>

# Changes in fixed assets of NA AG

for the period 1 October 2000 to 30 September 2001

in thousand €	Acquisition or construction cost					Net book value		Depreciation and write-downs in current fiscal year
	1.10.2000	Additions	Disposals	Transfers	Write-ups	Write-downs 30.9.2001	30.9.2001	30.9.2000
<b>Intangible assets</b>								
Franchises, trademarks, patents, licenses and similar rights and licenses to such rights	8,666	2,841	539	1,524	–	7,713	4,779	1,591
Payments on account	1,721	1,704	17	–1,524	–	–	1,884	1,721
	<b>10,387</b>	<b>4,545</b>	<b>556</b>	<b>–</b>	<b>–</b>	<b>7,713</b>	<b>6,663</b>	<b>3,312</b>
<b>Tangible assets</b>								
Land and buildings	227,798	1,998	72	1,188	166	205,117	25,961	25,251
Technical equipment and machinery	449,683	30,403	4,777	67,113	184	407,608	134,998	66,563
Other equipment, factory and office equipment	41,526	2,607	1,517	208	–	37,154	5,670	5,681
Payments on account and assets under construction	69,540	3,699	19	– 68,509	–	–	4,711	69,540
	<b>788,547</b>	<b>38,707</b>	<b>6,385</b>	<b>–</b>	<b>350</b>	<b>649,879</b>	<b>171,340</b>	<b>167,035</b>
<b>Financial assets</b>								
Shares in affiliated companies	49,202	80	–	–	–	4,643	44,639	47,177
Investments	2	–	–	–	–	–	2	2
Other loans	1	–	–	–	–	–	1	1
	<b>49,205</b>	<b>80</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>4,643</b>	<b>44,642</b>	<b>47,180</b>
<b>Total fixed assets</b>	<b>848,139</b>	<b>43,332</b>	<b>6,941</b>	<b>–</b>	<b>350</b>	<b>662,235</b>	<b>222,645</b>	<b>217,527</b>

# Profit and loss account of NA AG

for the period 1 October 2000 to 30 September 2001

in thousand €	Note no.	2000/2001	1999/2000
<b>Turnover</b>	<b>12</b>	<b>1,897,166</b>	<b>1,612,719</b>
Variations in inventories of finished goods and work in process		- 11,887	45,954
Own work capitalised		3,408	5,588
Other operating income	<b>13</b>	44,804	22,918
Cost of raw material and supplies	<b>14</b>	- 1,687,815	- 1,465,563
<b>Gross profit</b>		<b>245,676</b>	<b>221,616</b>
Personnel expenses	<b>15</b>	- 106,796	- 97,675
Depreciation on fixed assets	<b>16</b>	- 35,663	- 23,062
Other operating expenses	<b>17</b>	- 56,663	- 50,914
Income from investments	<b>18</b>	8,046	5,786
Net interest	<b>19</b>	- 4,551	- 1,754
<b>Result of ordinary activities</b>		<b>50,049</b>	<b>53,997</b>
Taxes on income	<b>20</b>	- 10,484	- 21,697
<b>Profit for the financial year</b>		<b>39,565</b>	<b>32,300</b>
Allocations to revenue reserves		- 15,300	- 8,300
<b>Dividend</b>		<b>24,265</b>	<b>24,000</b>

# Notes to the Financial Statements: Group and NA AG

## GENERAL REMARKS

The financial statements of the Group and those of Norddeutsche Affinerie AG were compiled in accordance with the statutory accounting requirements of the German Commercial Code (HGB). Unless specifically indicated, the statements made apply to both. In order to improve the clarity of presentation, some items have been combined in the balance sheets and the profit and loss accounts and detailed separately in the notes to the financial statements.

## CONSOLIDATED COMPANIES

The number of consolidated companies has not changed compared with the previous year. In addition to the eight main fully consolidated subsidiaries, four associated companies were included in the consolidated financial statements by the equity method. The inclusion of other subsidiaries and associated companies was waived on account of their insignificance with regard to the Group's overall financial position.

## CONSOLIDATION PRINCIPLES

The capital consolidation is performed in accordance with the book value method, whereby the book values of the investments are set off against the shares of the equity of the subsidiaries as of the date of initial consolidation. The date of initial consolidation is defined as the acquisition date. Differences arising on initial consolidation to the extent that they possess the character of goodwill have been capitalised and amortised over their probable useful life of up to ten years. There were no negative differences on initial consolidation.

All the companies included in the financial statements are German companies. Thus, differences did not arise due to the conversion of foreign currencies.

Receivables and payables as well as income and expenses arising between the companies included by the full consolidation method have been completely eliminated; likewise any material inter-company profits.

ACCOUNTING AND VALUATION PRINCIPLES

The financial statements of those companies included in the consolidated financial statements by the full consolidation method have been prepared in accordance with uniform accounting and valuation principles. The principles used in the financial statements of Norddeutsche Affinerie AG and in the consolidated financial statements of the Group are identical. No adjustment was made to the interest rate used for calculating the pension provisions at certain subsidiaries since this was not considered significant.

Fixed assets

Intangible assets are stated at cost and depreciated on schedule.

Tangible fixed assets are valued at acquisition cost or construction cost. The construction cost of self-constructed assets includes directly allocable costs and related overhead costs. Movable fixed assets are depreciated using the declining-balance method with scheduled transition to the straight-line method in accordance with the fiscally permissible possibilities. Exceptions to this are additions to expand the capacity for processing concentrates which are depreciated using the straight-line method. Low-value items are fully depreciated in the year of acquisition. Unscheduled depreciation is made if the estimated value of an asset is calculated as being lower than the net book value.

The financial assets are stated at the lower of cost or market value.

Current assets

Inventories are stated at the lower of cost or market value at the balance sheet date. The metal inventories are accounted for using the „Lifo“ method. As far as necessary, reductions are made for a decline in value on an individual basis. The principle of loss-free valuation is maintained.

Receivables and other assets are accounted for at cost. Doubtful receivables are accounted for using an allowance account. Receivables in foreign currencies are valued at the lower of the historical exchange rate or at the buying rate in effect at the balance sheet date, rate-hedged receivables at the rate of the hedge transaction.

Securities are stated at cost less write-downs to the current market value, if necessary.

Bank balances in foreign currencies are valued at the buying rate at the balance sheet date.

Provisions

Provisions for direct pension obligations are provided on the basis of actuarial principles and discounted at interest rates of 3.5 % and 6 %.

Pension and provident funds are funded in accordance with tax regulations. Provisions have been made to cover the unfunded portion of the Company's pension obligations, as determined in accordance with the regulations of Section 6a of the German Income Tax Code. To calculate the deficient cover, the securities held in the funds' assets were valued at book value and leased property valued at its intrinsic value.

Other provisions cover all foreseeable risks and uncertain obligations, including open contracts. They are accounted for at the amounts expected to be required for settlement. For provisions, which are expected to be used in later years, the probably incurred expenditures are accumulated pro rata.

Liabilities

All liabilities are stated at their repayment value. Liabilities in foreign currencies are translated at the rate in effect when they were booked or the selling rate on the balance sheet date, rate-hedged liabilities at the rate of the hedge transaction.

The valuation of transactions, which are still subject to metal price risks as of the balance sheet date, was undertaken on a „per metal“ basis. As part of portfolio examinations, unrealised gains were set off against unrealised losses regardless of the period of their future realisation. A loss carry-over after set-off is recorded as a liability under provisions, a gain carry-over is not taken into account.



1 | Fixed assets

NOTES TO THE BALANCE SHEETS AND PROFIT AND LOSS ACCOUNTS

The split and changes in the fixed assets of NA AG and of the Group are given on pages 76/77 and 70/71.

Intangible assets include usage rights acquired for a fee which are depreciated on schedule as well as goodwill resulting from the consolidation within the framework of the consolidated financial statements.

Capital expenditures totalled 68.7 million € in the Group for tangible and intangible assets. Of this 43.3 mill. € were directed into facilities at NA AG. The main expenditures were for the plants installed in the last business year for the capacity expansion of the concentrate processing facilities and for the production of oxygen-free and low-alloyed copper products as well as for information technology and energy-saving projects. Further significant expenditures in the Group totalling 24.2 million € were also made at Hüttenwerke Kayser AG, where the installation of the Kayser Recycling System (KRS), a modern smelter for the recycling of secondary raw materials, is running to schedule.

A breakdown of the shareholdings accounted for under financial assets is given on page 98. Additions to financial assets of NA AG represent the acquisition of further shares in Hüttenwerke Kayser AG.

2 | Inventories

in thousand €	NA Group		NA AG	
	30.9.2001	30.9.2000	30.9.2001	30.9.2000
Raw materials and supplies	108,744	110,062	73,553	65,473
Unfinished goods	125,386	151,504	92,117	122,570
Finished goods, merchandise	71,572	55,583	40,523	21,961
Payments on account	115	240	–	87
	<b>305,817</b>	<b>317,389</b>	<b>206,193</b>	<b>210,091</b>

Total inventories in the Group were reduced by approx. 12 million €. Of this total there is a notable shift in the balance of unfinished and finished goods. The change in unfinished goods was due to the targeted reduction in intermediary products at NA AG, which had been accumulated to ensure continuity in cathode production during the smelter stand-still in autumn 2000. The increase in finished goods was due to a build-up of inventories of copper products and precious metal at the balance sheet date.

The difference between the market value of inventories at the balance sheet date and our valuation amounts to 43 million € for NA AG and 50 million € for the Group.

3 | Receivables and other assets

in thousand €	Maturing in		Total	Total
	less than 1 year	more than 1 year	30.9.2001	30.9.2000
<b>NA Group</b>				
Trade receivables from third parties	110,896	–	110,896	112,050
Receivables from affiliated companies	2,785	–	2,785	4,895
Receivables from enterprises in which participations are held	652	–	652	1,020
Other assets	18,033	2,952	20,985	7,243
	<b>132,366</b>	<b>2,952</b>	<b>135,318</b>	<b>125,208</b>

in thousand €	Maturing in		Total	Total
	less than 1 year	more than 1 year	30.9.2001	30.9.2000
<b>NA AG</b>				
Trade receivables from third parties	89,166	–	89,166	94,821
Receivables from affiliated companies	35,878	–	35,878	11,552
Receivables from enterprises in which participations are held	652	–	652	983
Other assets	9,100	2,080	11,180	4,150
	<b>134,796</b>	<b>2,080</b>	<b>136,876</b>	<b>111,506</b>

The increase in receivables and other assets in the Group was above all the result of claims for turnover and corporate income taxes. At NA AG receivables from affiliated companies have risen as part of the finance clearing with Hüttenwerke Kayser AG.

For a shareholder's loan granted by NA AG to an affiliated company a subordination waiver for a portion of the loan was allowed in the sum of 4 million €.

At the time the balance sheet was compiled, the outstanding trade receivables had practically all been settled.

# Notes

## 4 | Short-term security investments

Our short-term securities are pledged to secure claims from one of our pension funds.

A write-up of about 62 thousand € was required to reinstate the original value of securities.

## 5 | Liquid assets

Liquid assets include current and fixed bank deposits as well as cheques, cash in hand and deposits at the Bundesbank.

## 6 | Equity

In the last business year, 353,000 new NA bearer shares calculated at 903,680 € were issued in exchange for convertible bonds as part of the stock option plan for the Executive Board and senior staff, which is continuing for several years. As a result, the subscribed capital amounts to 82,823,680 € and is divided into 32,353,000 bearer shares. The agio from the capital increase amounting to 8.96 € per share, 3,162,880 € in total, was allocated to capital reserves.

The contingent capital now totals 39,011,520 € and consists of „contingent capital I“ in the amount of 4,011,520 € and „contingent capital II“ in the amount of 35,000,000 €, which enable rights to be granted to the holders of warrants and/or convertible bonds which can be issued up to 11 June 2003 or 31 March 2005 respectively.

in thousand €	Subscribed capital	Capital reserves	Revenue reserves	Consolidated profit	Consolidated equity	Minority interests
<b>1. 10. 2000</b>	<b>81,920</b>	<b>23,955</b>	<b>117,145</b>	<b>27,278</b>	<b>250,298</b>	<b>9,912</b>
Dividend payments	–	–	–	– 24,000	– 24,000	– 2,189
Capital increase	904	3,163	–	–	4,067	–
Net earnings	–	–	17,084	23,526	40,610	1,687
Consolidation measures and other changes		–1,303	4,412	– 3,278	– 169	– 102
<b>30.9.2001</b>	<b>82,824</b>	<b>25,815</b>	<b>138,641</b>	<b>23,526</b>	<b>270,806</b>	<b>9,308</b>

There is still an approved capital of 40,000,000 €. Accordingly, subject to the approval of the Supervisory Board the Executive Board is authorised to increase the subscribed capital in the period up to 31 March 2005 by issuing new shares against a cash or non-cash capital contribution in one lump sum or in several instalments.

A further 15,300 thousand € for NA AG and 1,784 thousand € for the Group were allocated from the net earnings to the revenue reserves.

## 7 | Special reserves with an equity portion

In the Group one quarter (1,902 thousand €) of the special reserves with an equity portion formed in accordance with Section 52 § 16 of the German Income Tax Code to reinstate the original values was released.

## 8 | Provisions

The pension obligations for the fully consolidated subsidiaries have been evaluated in accordance with the new biometric tables and with the discount rates of 3.5 % and 6 %.

The provisions formed for the AG in the previous business year to cover additional tax payments in the sum of 1,250 thousand € were used as planned.

The other provisions are mainly amounts to cover the threat of losses from open contracts and services which have not yet been invoiced.

The decline in provisions in the Group is largely due to the use of provisions for major repairs and outstanding maintenance at NA AG.

Overall, the provisions for the Group at the balance sheet date in the amount of 79,305 thousand € (previous year: 77,826 thousand €) were of a long-term character. NA AG's share of this total amounted to 43,317 thousand € (previous year: 42,410 thousand €).

in thousand €	NA Group		NA AG	
	30.9.2001	30.9.2000	30.9.2001	30.9.2000
Provisions for pensions	53,706	52,494	24,792	24,054
Provisions for taxes	0	1,250	0	1,250
Other provisions				
Personnel sector	40,411	35,380	29,425	25,922
Maintenance and repairs	13,084	31,326	11,631	30,039
Environment protection	8,536	7,872	220	229
Other	26,752	24,358	19,867	16,045
	88,783	98,936	61,143	72,235
	<b>142,489</b>	<b>152,680</b>	<b>85,935</b>	<b>97,539</b>

# Notes

## 9 | Liabilities

in thousand €	Maturing in			Total	Total
	less than a year	1 to 5 years	more than 5 years	30.9.2001	30.9.2000
<b>NA Group</b>					
Convertible bonds	895	1,845	–	2,740	2,781
Liabilities to banks	15,635	53,729	9,150	78,514	79,931
Advance payments received on orders	818	–	–	818	1,671
Trade accounts payable	167,048	–	–	167,048	127,676
Liabilities due to affiliated companies	1,181	–	25	1,206	298
Liabilities due to enterprises in which participations are held	164	–	–	164	1,483
Other liabilities	31,812	–	164	31,976	58,915
<i>of which taxes paid</i>				<i>(15,815)</i>	<i>(42,264)</i>
<i>of which as part of social contributions</i>				<i>(5,940)</i>	<i>(5,924)</i>
	<b>217,553</b>	<b>55,574</b>	<b>9,339</b>	<b>282,466</b>	<b>272,755</b>

in thousand €	Maturing in			Total	Total
	less than a year	1 to 5 years	more than 5 years	30.9.2001	30.9.2000
<b>NA AG</b>					
Convertible bonds	895	1,845	–	2,740	2,781
Liabilities to banks	2,854	38,803	6,849	48,506	53,039
Advance payments received on orders	662	–	–	662	1,437
Trade accounts payable	144,022	–	–	144,022	97,499
Liabilities due to affiliated companies	10,013	–	–	10,013	13,601
Other liabilities	24,669	–	–	24,669	43,939
<i>of which taxes paid</i>				<i>(12,664)</i>	<i>(30,363)</i>
<i>of which as part of social contributions</i>				<i>(4,500)</i>	<i>(4,505)</i>
	<b>183,115</b>	<b>40,648</b>	<b>6,849</b>	<b>230,612</b>	<b>212,296</b>

The convertible bonds with a nominal value of 2,740 thousand € are divided into 5,356 bonds, each made out to the holder with a nominal amount of 511,29 € and interest payable of 4 % p.a., 5.5 % p.a. and 5.2 % p.a. They have been acquired by senior staff in the NA Group as part of a stock option plan.

There have been no significant changes in the Group's liabilities to banks, both as regards the amount and time of maturity.

The advance payments received include fees from tolling business still in process. The increase in trade accounts payable is the result of an increase in deliveries which have not yet been finally invoiced. Lower tax burdens have accounted for a reduction in other liabilities.

At one subsidiary the liabilities to banks in the sum of 24,500 thousand € are secured by mortgages and inventories assigned by way of security. No further security was granted either by NA AG or in the Group.

## 10 | Contingent liabilities and other financial liabilities

in thousand €	NA Group 30.9.2001	NA AG 30.9.2001
Contingent liabilities from notes discounted	7,202	7,158
Financial liabilities from capital projects	24,754	15,352
Financial liabilities from tolling agreements	39,090	37,199
Other financial liabilities (p.a.)	4,861	3,112

Liabilities under tolling agreements refer to the value of the metal extracted during the tolling process which has to be returned. These liabilities are accounted for by corresponding recourse claims.

11 | Derivative financial instruments

To hedge the risks in the operational business which arise from fluctuations in non-ferrous metal prices, foreign exchange rates and interest rates, we employ derivative financial instruments in the Group in the form of futures transactions, options and interest hedging. These agreements, which are monitored as part of a risk management system, are made with reputable brokers and banks.

The non-ferrous metals futures and hedging transactions primarily concern copper and the U.S. dollar.

in million €	Nominal volumes	
	30.9.2001	30.9.2000
<b>Non-ferrous metals future transactions</b>		
Maturing in up to 1 year	363,8	550,7
Maturing in 1 to 5 years	52,9	91,3
Maturing in more than 5 years	0	0
	<b>416,7</b>	<b>642,0</b>
<b>Foreign exchange forward trading</b>		
Maturing in up to 1 year	422,0	339,4
Maturing in 1 to 5 years	37,1	85,6
	<b>459,1</b>	<b>425,0</b>
<b>Option dealing</b>		
Non-ferrous metals	0,0	0,8
Foreign exchange	49,9	37,7
	<b>49,9</b>	<b>38,5</b>
<b>Interest derivatives</b>	<b>37,9</b>	<b>29,2</b>

The nominal volume of the derivative financial instruments is the sum of all the purchase and sales contracts. The market value on the other hand is calculated using the value of the contracts at the price valid on the day of valuation and indicates how – separated from underlying transactions – the derivative contracts would impact profit. As at 30 September 2001 the market value, which thus results from setting off the respective profit and loss of the individual items, amounted to - 10.8 million € for metal hedging, - 4.1 million € for foreign exchange hedging and - 3.2 million € for interest derivatives. The difference between the acquisition and market value of option dealings, for which a premium was paid, amounted to - 1.1 million €.

12 | Turnover

in thousand €	NA Group		NA AG	
	00/01	99/00	00/01	99/00
<b>By product groups</b>				
Copper cathodes	343,757	367,235	343,370	267,523
Continuous cast wire rod	732,368	695,963	729,485	646,590
Continuous cast shapes	376,682	347,712	376,682	347,712
Precious metals	388,046	317,797	375,701	301,838
Chemicals	96,250	97,121	9,805	12,452
Metal powders	18,766	18,829	0	0
Other	53,988	52,004	62,123	36,604
	<b>2,009,857</b>	<b>1,896,661</b>	<b>1,897,166</b>	<b>1,612,719</b>

In the year under review, 63 % of the Group turnover was achieved in the domestic market, 29 % in the European Union, 4 % in the non-EU European markets and the remaining 4 % in non-European countries, primarily in North America.

The turnover of continuous cast wire rod and shapes also includes revenues for so-called „Wandelkathoden“ (copper on account), which are delivered in the requested sizes in accordance with the customer’s specification.

The Group turnover growth of about 6 % is largely attributable to an increased business volume for copper, gold and silver.

13 | Other operating income

in thousand €	NA Group		NA AG	
	00/01	99/00	00/01	99/00
Release of special items with an equity portion	1,902	2,773	597	597
Other operating income	39,563	19,908	44,207	22,321
	<b>41,465</b>	<b>22,681</b>	<b>44,804</b>	<b>22,918</b>

This total includes income from the disposal of fixed and financial assets, from the release of provisions as well as income not relating to the period under review and costs which have been charged to another party. In addition, balancing amounts for utilised provisions are included here, for which the primary cost is charged to the respective item of expense.



# Notes

## 14 | Cost of raw materials and supplies

The increase in other operating income totalling 19.1 million € is due, above all, to the utilisation of provisions for the overhaul of the East Smelter (RWO) and previously omitted maintenance. The respective expenditures are shown under the primary items: cost of purchased services, supplies and personnel expenses.

in thousand €	NA Group		NA AG	
	00/01	99/00	00/01	99/00
Raw materials, supplies and purchased goods	1,606,592	1,564,006	1,604,367	1,403,067
Cost of purchased services	78,932	61,835	83,448	62,496
	<b>1,685,524</b>	<b>1,625,841</b>	<b>1,687,815</b>	<b>1,465,563</b>

At 84% the proportion of the cost of raw materials and supplies in the Group has not changed compared with the previous year

## 15 | Personnel expenses and human resources

in thousand €	NA Group		NA AG	
	00/01	99/00	00/01	99/00
Wages and salaries	137,001	120,832	87,172	79,533
Social security and special benefit expenses	31,428	28,846	19,624	18,142
<i>of which expenditure for old age pensions</i>	<i>(4,449)</i>	<i>(4,352)</i>	<i>(2,654)</i>	<i>(2,302)</i>
	<b>168,429</b>	<b>149,678</b>	<b>106,796</b>	<b>97,675</b>

Apart from the general wage-scale increase, the rise in personnel expenses for NA AG is the result of additional hirings and the new performance-oriented remuneration system.

In contrast, the rise in personnel expenses for the Group was due to the full consolidation of Hüttenwerke Kayser AG, which had only been included for nine months in the previous business year.

## 16 | Depreciation

The average number of employees during the year was:

	NA Group		NA AG	
	00/01	99/00	00/01	99/00
Blue collar	2,002	1,965	1,309	1,259
White collar	1,054	1,050	620	607
Apprentices/trainees	139	139	107	107
	<b>3,195</b>	<b>3,154</b>	<b>2,036</b>	<b>1,973</b>

In the year under review, depreciation in the Group rose by 13.7 million € to 46.6 million €. This was above all the impact of the depreciation on new facilities commissioned at NA AG, i.e. the plants for the capacity expansion in the East Smelter and the plant for the production of oxygen-free copper.

## 17 | Other operating expenses

This item includes administration and marketing costs, fees, insurance, rents and leases as well as allocations to provisions. In addition, other taxes in the Group in the sum of 758 thousand € (previous year: 704 thousand €) are shown.

In total the other operating expenses for the Group have dropped by 2.6 million € whilst they are 5.7 million € higher for NA AG. This is the result of allocations to provisions for non-cost covering open business, higher expenses for freight and storage due to the increased business volume as well as expenditures for the research and development activities of CIS Solartechnik GmbH.

## 18 | Income from investments

in thousand €	NA Group		NA AG	
	00/01	99/00	00/01	99/00
Income from agreements to transfer profits	3	2	2	2
Income from shareholdings	1	2	10,663	5,784
<i>of which from affiliated companies</i>	<i>(0)</i>	<i>(0)</i>	<i>(10,663)</i>	<i>(5,784)</i>
Profit from associated companies	1,272	467	0	0
Depreciation on affiliated companies and shareholdings	354	0	2,619	0
	<b>922</b>	<b>471</b>	<b>8,046</b>	<b>5,786</b>

19 | Net interest

Depreciation on affiliated companies and shareholdings is shown under income from investments. For NA AG, the book value of a subsidiary was fully written-down due to its results. In addition, in the Group a further participation was partly depreciated by Hüttenwerke Kayser AG.

	NA Group		NA AG	
in thousand €	00/01	99/00	00/01	99/00
Income from loans under financial assets	67	81	0	0
Interest and similar income of which from affiliated companies	6,133 (146)	4,759 (178)	6,319 (700)	4,904 (837)
	<b>6,200</b>	<b>4,840</b>	<b>6,319</b>	<b>4,904</b>
Interest and similar expenses of which to affiliated companies	13,883 (13)	9,073 (3)	10,870 (757)	6,658 (250)
Depreciation on financial assets and securities in current assets	0	634	0	0
	<b>- 7,683</b>	<b>- 4,867</b>	<b>- 4,551</b>	<b>- 1,754</b>

The net interest includes the interest component of pension costs in the sum of 944 thousand € (previous year: 813 thousand €) for NA AG and 2,458 thousand € (previous year: 1,751 thousand €) for the Group.

An increased use of credit facilities on average to fund investment projects and the temporarily needed higher working capital during the business year led to a rise in the interest paid.

20 | Taxes on income

The taxes on income in the sum of 14.9 million € for the Group represent an effective tax rate of 26 % compared with a rate of 41 % in the previous year. The reduction is largely due to the use of taxed provisions for major repairs and outstanding maintenance.

21 | Impact of tax measures

The utilisation of additional depreciation permitted for tax purposes in the previous years, taking into account the release of special reserves with an equity portion, has increased income before taxes for the Group by approx. 3.5 million €. Based on the new tax rates resulting from the tax reduction, it is expected that these timing differences will reverse at a future tax rate of about 40 %.

GROUP SEGMENT REPORTING

	Segment 1 Copper Production		Segment 2 Copper Processing		Others		Group total	
in thousand €	00/01	99/00	00/01	99/00	00/01	99/00	00/01	99/00
Turnover								
Total	1,147,130	1,177,123	1,580,663	1,564,659	997	3,509	2,728,790	2,745,291
of which with other Segments	660,112	798,379	58,551	50,251	270	0	718,933	848,630
Group with third parties	487,018	378,744	1,522,112	1,514,408	727	3,509	2,009,857	1,896,661
Earnings before taxes on income	25,940	36,684	30,579	31,672	693	1,088	57,212	69,444
EBIT	30,837	40,244	33,267	33,047	791	1,020	64,895	74,311
EBITDA	69,081	65,375	41,607	40,646	791	1,137	111,479	107,158
Other expenses and income not affecting cash flow	2,970	1,667	754	1,300	0	0	3,724	2,967
Earnings of associated companies	454	399	818	68	0	0	1,272	467
Earnings of other participations	- 353	0	1	2	2	2	- 350	4
Fixed assets	222,754	198,696	36,492	37,385	27	1,117	259,273	237,198
Capital expenditure	62,614	63,871	6,264	14,867	0	28	68,878	78,766
Depreciation	38,244	25,131	8,340	7,599	0	117	46,584	32,847
Total assets	514,946	476,992	184,721	202,982	2,805	1,618	702,472	681,592
Liabilities	236,582	203,651	42,565	59,908	3,319	9,196	282,466	272,755
Personnel expenses	118,487	103,817	49,942	45,861			168,429	149,678
Average number of employees	2,245	2,220	950	934			3,195	3,154

The Segments are split in accordance with internal processes and the production structure of the NA Group. Under „Other“ contributions and earnings are shown which cannot be allocated to a particular Segment.

It was decided not to divide the Segments up further into geographical units, since this would not result in any further significant information. The Segment figures statement was prepared using the same accounting and valuation principles as otherwise used in the financial statements.

In addition to this Group Segment Reporting, further information is given on the Segments in the Management Report on pages 24 to 65 of this Annual Report.

Commentary on the Segments

Segment 1 – Copper Production – comprises all the sectors dealing with the procurement of copper-bearing and precious metal-bearing raw materials and ends with the production of saleable metals. The main raw materials are copper concentrates, copper-bearing recycling materials and precious metal-bearing raw materials.

The Segment’s end products are copper cathodes, which can be sold on the metal exchanges, saleable gold, silver and platinum metal products as well as the natural by-products in the raw materials, e.g. sulphuric acid and iron silicate stone. These precious metals, sulphuric acid and iron silicate products are sold externally to third parties. On the other hand the copper cathodes produced are primarily passed on to Segment 2 Copper Processing. There they are processed to copper products and sold which results in a significant percentage of the Group’s turnover within Segment 1. Segment 1 also includes the environmentally-friendly dismantling of cable, the sale of the resultant metal granulate as well as the production of high-grade selenium products.

Segment 2

Copper Processing

Segment 2

- NA AG’s BU  
Copper Products
- Deutsche Giessdraht
- Prymetall
- MicroMet
- Spiess-Urania

Segment 2 - Copper Processing – covers in particular the processing of the copper cathodes from Segment 1 into continuous cast wire rod and shapes as well as the copper trade. The main customers of the products are the cable, wire and semis industries. The products are primarily distributed in Europe.

In addition, this Segment includes the production and distribution of metal powders and copper-based agrochemicals.

Commentary on the Segment data

The turnover of the individual Segments was divided into turnover within the Group with other Segments and turnover within the Group with third parties. The latter results in the Group turnover. The turnover between the individual Segments and Group companies was settled at prices customary on the market and corresponds to turnover achieved with third parties.

The earnings before taxes on income reflects the Segment’s respective contribution to the Group profit. Minority interests have not been specifically indicated here.

The earnings before interest and taxes (EBIT) of the individual Segments have been adjusted by the respective net interest. The earnings before interest, taxes, depreciation and amortisation (EBITDA) are the EBIT less depreciation. The totals of the individual Segments can be seen in relation to the financial statements as follows:

EBITDA
<u>./. depreciation</u>
EBIT
<u>+ net interest</u>
Result of ordinary activities
<u>./. taxes on income</u>
Net earnings

The results of the associated companies represents the profit contributions of the companies in the individual Segments which have been included by the equity consolidation method. Together with the results of the other participations the income from investments can be shown as follows:

Income from associated companies  
+ income from other participations  
Income from investments

Other expenses and income not affecting cash flow as shown in the consolidated cash flow statement are likewise allocated to the Segments.

The total assets include all assets with the exception of the respective Segment's liquid assets.

Trade accounts payable, liabilities due to affiliated companies and other liabilities just as liabilities to banks and convertible bonds were combined and shown as the liabilities of the individual segments.

The cash flow statement is shown on page 73 of the Annual Report.

Executive Board and Supervisory Board

The members of the Supervisory Board and the Executive Board are listed on pages 103/104 of this report.

Based on the recommended dividend, the remuneration for the members of the Executive Board for the business year 2000/2001 amounted to 1,251,107 € and for the members of the Supervisory Board 202,500 €. Former members of the Executive Board and their survivors received a total of 1,114,620 € . Provisions in the sum of 12,453,455 € have been allocated to cover their pension claims.

Members of the Supervisory Board hold 12,761 and members of the Executive Board 7,691 shares in Norddeutsche Affinerie AG. In addition, the members of the Executive Board have acquired convertible bonds with a nominal value of 299 thousand €, which in accordance with the bond conditions can be converted on maturity into shares in Norddeutsche Affinerie AG.

Recommended profit appropriation

Net profit of Norddeutsche Affinerie AG	39,564,750 €
Allocations to other revenue reserves	15,300,000 €
Net surplus	24,264,750 €

We shall recommend at the Annual General Meeting that net surplus of Norddeutsche Affinerie AG in the sum of 24,264,750 € be used to pay a dividend of 0,75 € per share.

Hamburg, 19 December 2001

The Executive Board

Dr Marnette

Dr Landau

# Shareholdings

as at 30 September 2001

Company name and seat	% of capital held	Currency	Subscribed capital in thousand	Held directly by	Stake in %
1. Norddeutsche Affinerie AG, Hamburg					
2. Hüttenwerke Kayser AG, Lünen	98	€	23.400	1	98
3. Gesellschaft für Metallanlagen GmbH, Hamburg	100	€	3.900	1 2	67 33
4. Spiess Urania Chemicals GmbH, Hamburg	60	€	8.667	1	60
5. MicroMet GmbH Pulvertechnologie, Hamburg	100	€	2.600	1	100
6. CABLO Metall-Recycling & Handel GmbH, Hamburg	100	€	767	1	100
7. PEUTE BAUSTOFF GmbH, Hamburg	100	€	52	1	100
8. RETORTE Ulrich Scharrer GmbH, Röthenbach	100	€	2.045	1	100
9. Berliner Kupfer-Raffinerie GmbH, Hamburg	100	€	2.557	1 2	67 33
10. Hüttenbau-Gesellschaft Peute mbH, Hamburg	100	€	26	1	100
11. NA Venture GmbH, Hamburg	100	€	25	1	100
12. CIS Solartechnik GmbH, Hamburg	45	€	45	11	45
13. Deutsche Giessdraht GmbH, Emmerich	60	€	6.200	3	60
14. Hüttenwerke Kayser GmbH, Lünen	100	€	26	2	100
15. C.M.R. International N.V., Antwerp	50	€	1.000	2	50
16. Hungurania GmbH, Budapest	60	HUF	3.000	4	100
17. J.M. Lauff GmbH, Cologne	60	€	256	4	100
18. Dr. Spiess Chemische Fabrik GmbH, Kleinkarlbach	60	€	512	4	100
19. Spiess-Urania Pflanzenschutz GmbH, Ochsenfurt	60	€	200	4	100
20. EGC Eisenbahn- u. Gleisbau-Consult GmbH, Berlin	30	€	31	4	50
21. E.R.N. Elektro-Recycling NORD GmbH, Hamburg	70	€	512	6	70
22. MicroMet Italia S.r.l., Milan	100	€	75	5	100
23. JoSeCo GmbH, Kirchheim/Schwaben	33	€	225	8	33

Companies 2, 3, 4, 5, 6, 7, 9 and 13 were fully consolidated as part of the financial statements. Companies 8, 17, 18 and 19 were consolidated using the equity method. A complete list of shareholdings is on file at the commerical register of the Hamburg courts under the number B 1775.

# Auditors' Report

We have audited the annual financial statements, together with the bookkeeping system, of the Company Norddeutsche Affinerie AG as well as the consolidated financial statements and the report on the position of the Company and the Group prepared by the Company for the business year from 1 October 2000 to 30 September 2001. The preparation of those documents in accordance with German commercial law is the responsibility of the Company's management. Our responsibility is to express an opinion on the annual financial statements, together with the bookkeeping systems, as well as on the consolidated financial statements and the report on the position of the Company and the Group based on our audit.

We conducted our audit of the annual and the consolidated financial statements in accordance with § 317 HGB and the generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the annual and consolidated financial statements in accordance with German principles of proper accounting and in the report on the position of the Company and the Group are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Company and evaluations of possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the internal control system and the evidence supporting the disclosures in the books and records, the annual and the consolidated financial statements and the report on the position of the Company and the Group are examined primarily on a test basis within the framework of the audit. The audit includes assessing the accounting and consolidation principles used and significant estimates made by the management, as well as evaluating the overall presentation of the annual and the consolidated financial statements and the report on the position of the Company and the Group. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

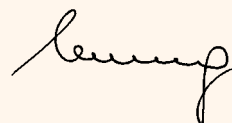


## Auditors' Report

In our opinion, the annual and the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of Norddeutsche Affinerie AG and the Norddeutsche Affinerie Group, respectively, in accordance with German principles of proper accounting. On the whole, the report on the position of the Company and the Group provides a suitable understanding of the Company's and Group's position and suitably presents the risks of future development.

Hamburg, 20 December 2001

KPMG Deutsche Treuhand-Gesellschaft  
Aktiengesellschaft  
Wirtschaftsprüfungsgesellschaft



Prof. Dr. Stolberg  
Wirtschaftsprüfer



Pallasch  
Wirtschaftsprüfer

## Supervisory Board's Report

Dear Shareholders,

NA is continuing to develop successfully and is determinedly enhancing its leading position in international competition. A clear growth strategy and the future-oriented route contribute to increasing the value of your company.

In the last business year the Supervisory Board regularly watched over the Executive Board's business management and acted in an advisory capacity. The Executive Board kept the Supervisory Board informed in written and verbal reports about the company's financial situation as well as about company policy, risk management and significant business transactions. At four scheduled meetings the business performance of the Company and of its individual Segments including the Group companies was discussed in detail. Quite apart from these meetings, the Supervisory Board was also kept informed by the Executive Board about developments at regular intervals. In addition to carrying out the functions stipulated by German Law and the Articles of Association, the Supervisory Board assisted with certain important matters in an advisory capacity.

In the last business year the Supervisory Board was concerned inter alia with

- the launching and implementation of the new growth strategy Vision NA 2000 Plus;
- the successful integration of Hüttenwerke Kayser AG in the NA Group;

- the scheduled implementation of the investment project RWO 2000;
- the energy-saving project eNergiA.

At the Supervisory Board Meeting on 31 January 2001 the Supervisory Board gave its approval to the issuing of the 4th tranche of convertible bonds to the Executive Board and senior staff.

The strategy targeting forward integration in the value added chain of copper played a particular role in the Supervisory Board's consultations. Thus, after extensive consultations and discussions, in particular at an extraordinary Supervisory Board Meeting convened on 26 October 2001, the Supervisory Board agreed to the acquisition of Prymetall GmbH & Co. KG by Norddeutsche Affinerie. With this acquisition NA is targeting the expansion of its high-value copper product sector and the continuation of its growth strategy.

The financial statements for the business year from 1 October 2000 to 30 September 2001, which were issued by the Executive Board in accordance with the German Commercial Code, as well as the management report, for the Company and the Group have been audited by KPMG Deutsche Treuhand-Gesellschaft AG, Wirtschaftsprüfungsgesellschaft, Berlin und Frankfurt a.M., in accordance with the resolution passed at NA's Annual General



**Dr Ernst J. Wortberg**  
Chairman of the  
Supervisory Board

Meeting held on 22 March 2001 and the subsequent order placed by the Supervisory Board. The auditors have issued an un-qualified report. All the members of the Supervisory Board received copies of the financial statements and the reports issued by the auditors. They were discussed in detail at the Balance Sheet Meeting on 30 January 2002. During this meeting the auditors reported on the main results of the audit and were available to give the Supervisory Board further information. The Supervisory Board agreed with the results of the audit carried out by the auditors on the basis of its own examination of the financial statements, the consolidated financial statements, the management report and the recommendation for the appropriation of the net earnings. It approved and thereby adopted the financial statements. The Supervisory Board concurred with the Executive Board's recommendation for the appropriation of the net earnings.

In addition to the statutory Committee in accordance with Section 27 §3 Law on Co-determination, a Preparatory Committee and a Personnel Committee were formed with equal representation. The Personnel Committee was convened three times.

The former Chairman of the Supervisory Board, Dr Carl Voigt, vacated his seat as a member of the Supervisory Board on 30 September 2001 when he resigned as a result of the change in the shareholder structure. At the Supervisory Board Meeting

on 7 September 2001 Dr Ernst J. Wortberg was elected Chairman of the Supervisory Board with effect from 1 October 2001. Mr Hans-Jürgen Grundmann was confirmed in his office as Deputy Chairman of the Supervisory Board. With effect from 5 December 2001 Mr James P. Mooney was appointed a member of the Supervisory Board.

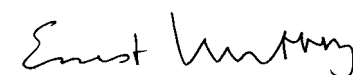
The Supervisory Board is most grateful to Dr Carl Voigt for his commitment in the interests of the company and its staff.

Dr Toralf A. Haag was appointed as a new member of the Executive Board with effect from 1 January 2002.

The Supervisory Board would like to thank the Executive Board, all members of NA staff as well as the employees' representatives for their responsible and dedicated efforts and achievements: a vital basis for the future and the successful development of the whole of NA.

Hamburg, 30 January 2002

THE SUPERVISORY BOARD



Dr Ernst J. Wortberg  
Chairman

## Supervisory Board

**Paul Hofmeister**, Hamburg  
Honorary Chairman

**Dr.-Ing. Ernst J. Wortberg**, Pogeez  
Chairman (since 1 October 2001)  
Chairman of the Executive Board of  
L. Possehl & Co. mbH, Lübeck

- Deutscher Eisenhandel AG, Berlin  
Chairman of the Supervisory Board

**Dr Carl Voigt**, Rodenbach  
Chairman (until 30 September 2001)  
Member of the Executive Board of  
Degussa AG, Düsseldorf

- KG Deutsche Gasrusswerke GmbH & Co., Dortmund  
Chairman of the Shareholders' Committee and Advisory Council
- Infracor GmbH, Marl  
Member of the Supervisory Board

**Hans-Jürgen Grundmann**, Seevetal\*  
Deputy Chairman  
Shop mechanic  
Chairman of the Works' Council of  
Norddeutsche Affinerie AG

**Joachim Bruhn**, Hamburg\*  
Coppersmith  
Member of the Works' Council of  
Norddeutsche Affinerie AG

**Meinhard Carstensen**, Hamburg  
Member of the Supervisory Board of  
Dresdner Bank AG, Frankfurt a.M.

**Gottlieb Förster**, Itzstedt\*

Union Secretary of the  
Industrial Union: Mining, Chemistry,  
Energy, Hanover

- Deutsche Shell GmbH Hamburg  
Member of the Supervisory Board
- Deutsche Shell Holding GmbH, Hamburg  
Member of the Supervisory Board
- Gerresheimer Glas AG, Düsseldorf  
Member of the Supervisory Board

**Dr Peter von Foerster**, Hamburg

- Alsen AG, Hamburg  
Chairman of the Supervisory Board
- Unilever Deutschland GmbH, Hamburg  
Member of the Supervisory Board
- Hemmoor Zement AG i.L., Hamburg  
Chairman of the Supervisory Board
- Desitin Arzneimittel GmbH, Hamburg  
Member of the Administrative Council
- Max Giese Bau, Kiel  
Chairman of the Advisory Council
- Bernhard Schulte KG, Hamburg  
Member of the Advisory Council

**Prof. Dr. Ing. Jürgen Haußelt**, Germersheim  
Head of the Institute for Material Research  
III of the Research Centre Karlsruhe GmbH,  
Karlsruhe

- Chair for Material Processing  
Technology, 15th Faculty,  
Albert-Ludwigs University, Freiburg i. Br.

**Gerd Körner**, Hamburg\*

Commercial employee in the Accounts  
Dept. of Norddeutsche Affinerie AG  
Member of the Works' Council of  
Norddeutsche Affinerie AG

\* Elected by the employees

as at 1 January 2002

**Günter Kroll**, Hamburg\*  
Graduate engineer  
Head of the Vocational Training Department  
of Norddeutsche Affinerie AG

**James P. Mooney**, Rocky River, Ohio, USA  
(since 5 December 2001)  
Chairman of the Board and Chief Executive  
Officer of the OM Group, Inc, Cleveland, USA

- Cobalt Development Institute, Guildford,  
England  
Chairman
- Cleveland Clinic Foundation, Cleveland,  
USA  
Trustee

**Egon Schäfer**, Sarstedt\*  
Union Secretary of the Industrial Union:  
Mining, Chemistry, Energy, Hanover

- DI Deutsche BauBeCon AG, Hanover  
Deputy Chairman of the Supervisory  
Board
- BHW Holding AG, Hameln  
Member of the Supervisory Board

**Prof. Dr. Fritz Vahrenholt**, Hamburg

- REpower Systems AG, Hamburg  
Chairman of the Executive Board
- SAM Smart Energy AG, Zürich,  
Switzerland  
President of the Administrative Council
- Denker & Wulf AG, Sehestedt  
Member of the Supervisory Board
- ThyssenKrupp Technologie AG, Essen  
Member of the Supervisory Board
- Hamburger Sport-Verein AG, Hamburg  
Deputy Chairman of the Supervisory  
Board

\* Elected by the employees

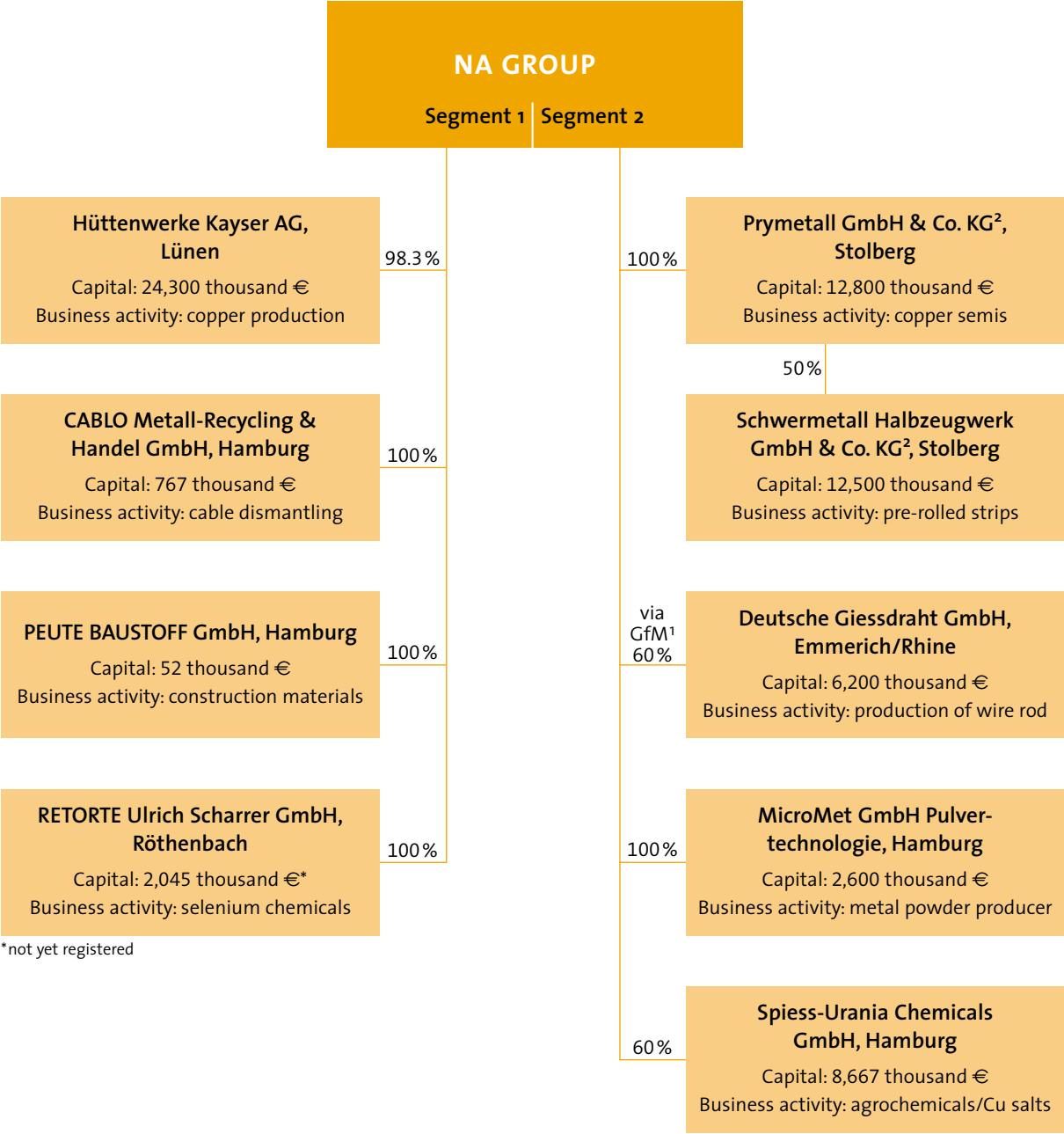
**Executive Board**

**Dr Werner Marnette**, Hollenstedt  
Chairman of the Executive Board and  
Director of Labour Affairs

- Hamburgische Landesbank, Hamburg  
Member of the Supervisory Board
- Hüttenwerke Kayser AG, Lünen  
Chairman of the Supervisory Board

**Dr Michael Landau**, Mölln  
Member of the Board

**Dr Toralf A. Haag**, Hamburg  
(since 1 January 2002)  
Member of the Board



<sup>1</sup> Gesellschaft für Metallanlagen mbH  
<sup>2</sup> in the Group since 1.1.2002

# Glossary

<b>Anodes</b>	Positive electrodes of an electrolytic cell, end-product of the RWO; copper content about 99,5 %.
<b>Anode slimes</b>	Important by-product of the copper tankhouse, which settles on the bottom of an electrolytic cell as the copper anodes dissolve. The precious and non-soluble components of the anodes are recovered with the anode slimes (e.g. silver, gold, selenium and lead).
<b>Blister copper</b>	Unrefined, porous copper. Molten copper absorbs gases more easily than copper in solid form. During solidification, dissolved gases in such copper form blisters in the copper.
<b>Cathodes</b>	Product of the copper tankhouse (copper content > 99.99 %) and the first saleable product in copper production; basis of copper price fixation on the metal exchanges.
<b>COMEX</b>	Together with the LME one of the two most important metal exchanges. It is located in New York and is of particular importance to the American market.
<b>Contimelt process</b>	A continuous process developed by NA and Union Minière, today Umicore (Belgium), for the processing of inter alia copper scrap and spent anodes into copper anodes. The Contimelt plant was closed down in January 2001.
<b>Continuous cast wire rod</b>	Semi-finished product produced in a continuous process for the production of copper wire. The wire rod diameter ranges from 8 to 20 mm.
<b>Continuous casting</b>	Continuous casting produces a continuous strand. During the casting process, sizes of various lengths are separated from the casting billet by a flying saw. A variety of profiles (billets and cakes) and lengths can be created. These so-called continuous cast shapes are processed further by rolling and pressing into sheets, foils, profiles and tubes.
<b>Converter</b>	A furnace in which metal production or refining processes are typically carried out through oxidation. Copper matte from the flash smelter is treated in the converter to blister copper.
<b>Copper concentrates</b>	A product resulting from the processing (enriching) of copper ore, NA's main raw material. Since copper is found principally only in ores in compound form and in low concentrations (0,5 to 4 % copper content), the ores, after extraction from the mine, are enriched in processing facilities into concentrates (copper content of 25 to 40 %).

<b>Copper tankhouse</b>	The copper tankhouse – an electrochemical process – is the last refining stage in copper recovery. Anodes and cathodes are hung in a sulphuric acid solution (electrolyte) and connected to an electric current. Copper and soluble impurities (arsenic, nickel, etc.) are dissolved in the electrolyte. Copper from the solution is deposited on the cathode with a purity of more than 99.99 %.
<b>Flash smelter</b>	First phase in the processing of copper concentrate. The concentrate, which is suspended in a reaction shaft, reacts with oxygen and is melted through the heat released. Sulphur und iron are separated into intermediary products. The copper is then enriched in the copper matte (copper content about 65%).
<b>Iron silicate stone</b>	A by-product of the (primary) copper concentrate smelting process. During such process the iron contained in the copper concentrate is combined with silicate flux to yield iron silicate. Although its structure is similar to natural rock, this artificially produced stone has a substantially higher density and hardness.
<b>KRS</b>	Kayser Recycling System; a newly installed cell furnace for the treatment of a large range of copper-bearing secondary raw materials, as a result of which Hüttenwerke Kayser should enhance its leading position. The plant will be commissioned in the first quarter 2002.
<b>LME</b>	London Metal Exchange: the most important metal exchange in the world with the highest turnover.
<b>Non-ferrous metals</b>	An example of a non-ferrous metal is copper
<b>OF copper</b>	Oxygen-free copper. Special copper brand with high conductivity for electric and electronic applications.
<b>Primary copper</b>	Copper recovered from copper ores.
<b>RWO</b>	East Smelter, part of NA's works.
<b>Secondary copper</b>	Copper produced from recycling material.
<b>Sintering</b>	Production process for solid construction parts involving the pressing, heating and melting of metal powders.
<b>Smelter</b>	A part of a works or company in which crude metal or bullion are recovered, is called a smelter. Typical products are lead bullion or blister copper.

# Glossary

Southwire process	Process developed by the American firm, Southwire, for the production of continuous cast wire rod, during which copper is initially cast into an endless strand which is continuously rolled and reformed while cooling in a rolling facility into continuous-cast copper wire rod.
Spot market	Daily business: market for prompt deliveries.
Stainless steel cathode sheets	Negatively polarised electrodes used in the copper tankhouse, on to which the copper ions which are dissolved from the anodes are deposited cathodically as metallic copper.
Sustainable development	Lasting future-oriented development targeted since the 1992 UN Conference as being the most sensible ideal of the way forward.
TOP ROD	Oxygen-free copper wire rod which depending on the customer's requirements contains alloying elements of up to 5 %
Top blown rotary converter (TBRC)	A single-stage pyrometallurgical facility for the recovery of precious metals from the anode slimes in the copper tankhouse
Treatment and refining charges (TC/RCs)	Compensation which NA receives for the processing of copper concentrates and other raw materials to copper.



# NA's Value-added Chain



## Copper scrap

On average, the feed material copper scrap contains about 95% copper and is fully recycled at NA and HK.



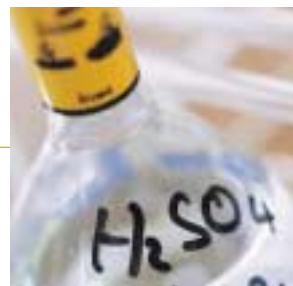
## Copper concentrates

Copper ores with a copper content of 0.5 to 4% are enriched in the mine to copper concentrates with about 30% copper.



## Anodes

Anodes produced from copper concentrates or copper scrap consist of about 99.5% copper.



## Sulphuric acid

Premium quality sulphuric acid is produced from the sulphur contained in the copper concentrates.



## Iron silicate

Useful by-products from copper production: iron silicate stone and granules are produced from the iron silicate melt arising in the flash smelter – a versatile product for the construction industry.



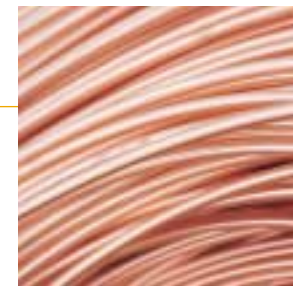
## Cathodes

Anode copper is dissolved in the copper tankhouse and then deposited as cathodes. These copper cathodes with a purity of 99.99% are traded on the Metal Exchanges.



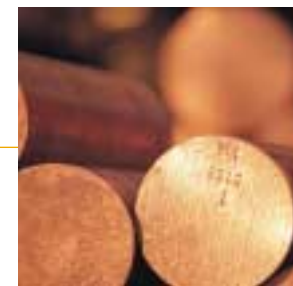
## Precious metals

From gold to silver to platinum and palladium: the anode slimes from the copper tankhouse are full of precious metals which we recover as saleable products.



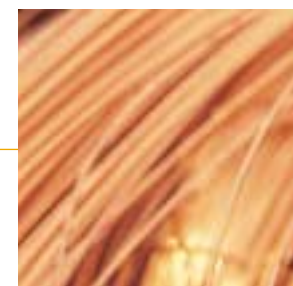
## TOP ROD

A special product to meet the highest demands, TOP ROD is an oxygen-free copper wire rod. The percentage of alloying elements included can vary up to 5% depending on customer requirements.



## Continuous cast shapes

NA produces copper cakes in a great variety of shapes, weights and alloys. The maximum piece weight amounts to 25 tonnes.



## Continuous cast wire rod

Molten copper is poured on to a casting wheel and solidifies there. The initially square-shaped copper strand is rolled by 13 roll stands to diameters of 8 to 20 mm. Continuous cast wire rod is the raw material for cable, wire and profiles.



## Strip, sheets and shaped wires

The NA subsidiary, Prymetall, processes continuous cast shapes made of copper and copper alloys into strip, sheets and shaped wires in a great variety of dimensions.

NA is well positioned in all the central market segments within the value-added chain of copper. Due to the acquisition of Prymetall NA has now succeeded in extending these by a further link, the processing of continuous cast copper shapes, and thus is gaining direct access to the market for attractive copper flat products. In addition, we have expanded our range of high-value copper products. As a result of the integration of the value-added stages NA will have a variety of optimisation and growth options.

## NA FINANCIAL CALENDAR 2002

31 January Balance Sheet Press Conference  
31 January DVFA Analysts Conference  
31 January Results 1st quarter  
4 April Annual General Meeting  
14 May Results 2nd quarter  
13 August Results 3rd quarter  
19 October 7th Open Day at  
the Hamburg Stock Exchange  
16 December Results 4th quarter  
(unaudited financial statements)

## LEGAL NOTICE

### Forward-looking Statements

This report contains forward-looking statements based on current assumptions and forecasts. Various known and unknown risks, uncertainties and other factors could have the impact that the actual future results, financial situation or developments differ from the estimates given here. We assume no liability to update forward-looking statements.

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