



IMO A Annual Review

2009/2010



Contents

03

IMOA Annual Review

Overview from the Secretary-General

04

Health, Safety and Environment

Key activities and achievements
in 2009/2010

08

Market Development

Key activities and achievements
in 2009/2010

14

IMOA Annual Review

Financial report 2009

IMO A Annual Review

Overview from the Secretary-General



The Strategic Plan 2009-2014 sets out very clearly the broad focus and direction of IMO A's future activities. This, our first Annual Review, details aspects of the progress we have made during the period July 2009 to June 2010.

The Association's focus is on the four agreed priorities: Membership, Communications, Health Safety & Environment and Market Development.

Communications underpins and supports each of the other three areas of activity and a planned and targeted communications programme was put in place in January 2010.

The brand positioning and profile enhancement of IMO A is very much a part of our delivery mechanism for fulfilling the specific expectations and requirements of the Association.

As part of its communication programme, the Association has invested time to clearly position itself and its work as a true reflection of its value to members and potential members, its responsible role in informing regulatory debate and its significant knowledge bank in relation to molybdenum applications and performance.

Much of the input into this process has been derived from the Membership survey conducted in Q1 2010. This has enabled IMO A to develop an authentic profile of the organisation and its activities which will form the foundation of its future communication activities and support the execution of its HSE and market development work.

We now have a clearly articulated mission, vision and values and a set of concise messages for consistent, tactical use to raise the profile of IMO A.

A Prospectus presentation has been produced, designed to present the Association's credentials and achievements. This has already been used with a number of potential new members and will be used with others whom we seek to influence. A printed summarised version in English and Mandarin has also been produced.

Our logo has been refined and updated and we have developed a tag line, 'the voice of the molybdenum industry' as a descriptor for use as appropriate.

We have compiled a media contacts database and are developing a dedicated media centre on the IMO A website. A programme of engagement with selected media contacts via press releases has

begun and this, our first Annual Review, has been produced.

Foundation work is under way to establish the best approach to developing a Sustainability programme due for implementation in 2011.

Having a strong voice on behalf of the industry in the global regulatory arena is essential. We will continue to build on our growing reputation as a proactive and responsible industry, providing scientifically robust data freely for the purpose of setting appropriate regulatory standards.

Our market development activities will continue to build on successes demonstrated in the steel and stainless steel sectors with an eye on supporting other downstream uses. The significant growth of the steel industry in China requires ongoing attention and a determined focus on new membership recruitment.

We are a small team with a big job ahead. This requires us to maintain a clear focus on delivering value and demonstrable results for our membership. We are fortunate in this endeavour, in having some of the best industry, metallurgy and scientific experts in their field available to us. Together we will move forward, in the best interests of the molybdenum industry, towards a sustainable future.



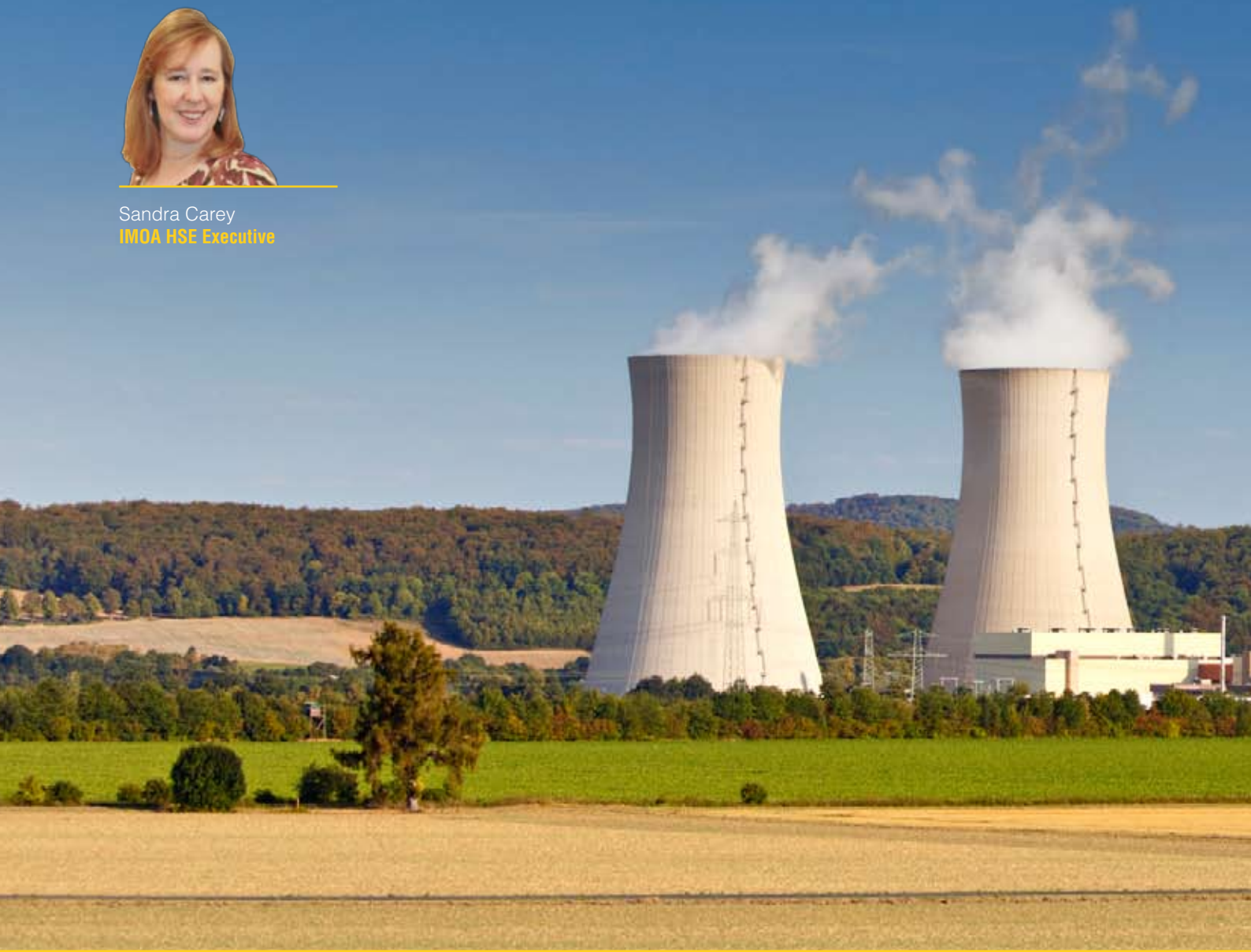
Tim Outteridge
Secretary-General

Health, Safety and Environment

Overview



Sandra Carey
IMOA HSE Executive



IMO A has long adopted the approach of applying scientific rigour to all HSE matters. The Association's demonstrable fast reaction to new challenges, whilst placing heavy demands on the organisation and its support networks, has contributed greatly towards building a reputation for responsibility and tenacity in relation to regulatory dialogue.

The global influence of IMO A has been demonstrated in the past year by engagement through dialogue and technical submissions to regulatory authorities including US Environment Protection Agency, EU Commission, World Health Organisation, Belgian, Dutch, French and German national regulatory bodies and Canadian and Californian authorities.

The decision in 2007 to join ETAP (Environmental Toxicology Advisory Panel) has done much to raise IMO A's profile as an active player in scientific ecotoxicological understanding and debate. The original driver to join was a desire to expand the Association's knowledge base in preparation for REACH and it has undoubtedly fulfilled that aim, whilst also enabling access to better and appropriate ecotox testing and methodology.

There is a truly collaborative approach between the executive staff of the Association, its HSE committee members and a number of world renowned experts in metals environmental and human health toxicology. This has supported a highly effective work programme in the face of the growing regulatory focus on minor metals now that many of the major metals are already widely regulated.

A key objective always is to seek to ensure that regulatory debate and decisions about molybdenum are based on sound science and are not over-precautionary in their nature in order not to jeopardise industry by:

- fostering unfounded market stigmatization of a substance
- imposing lower regulatory limit values than are scientifically necessary, which translate into higher operating costs
- establishing unnecessarily precautionary limit values that can proliferate when replicated by other countries

IMO A's intensive HSE work programme comprises three interlinked areas of activity. Firstly, anticipating and preparing for upcoming regulatory issues, often by initiating research programmes in order to strengthen the industry's position in regulatory debate. Secondly, working to ensure members are able to comply with regulatory imperatives such as REACH and thirdly conducting HSE-related projects and providing HSE-related services which give added value to members, helping to position the industry as responsible and sustainable.



Health, Safety and Environment

2009/2010 Work Programme Highlights

EU Water Framework Directive

Molybdenum was included by the EU Commission on the Candidate List as a potential priority substance for regulation by this water quality standard Directive. By virtue of a year-long sustained dialogue and provision of robust technical data by IMOIA about the low toxicity of molybdenum in water, the decision was taken by the Commission in July 2009 to delete molybdenum from the Candidate List.

California Proposition 65 candidate list

In March 2009 pure molybdenum trioxide was listed as one of 38 substances for potential prioritization for evaluation by the Carcinogen Identification Committee of the Californian Office of Environment and Health Hazard Assessment. Based on IMOIA technical submission and testimony, the Californian authorities decided to re-rank molybdenum from a 'high' to a 'low' priority for evaluation. No other listed substance received a similar downwards re-ranking.

Molybdenum in groundwater

An initial proposal by RIVM, the national Dutch regulatory authority, for a maximum permissible limit for molybdenum in groundwater of just 29 ug Mo/l attracted extensive dialogue between the authority and IMOIA. Use of robust data ultimately resulted in a revised figure being set at 340 ug Mo/l. IMOIA is engaged in ongoing dialogue, supported by sound science, to seek a further upward revision of this limit.

Molybdenum in water research programme

2009 saw the successful conclusion of a suite of eco-toxicological tests designed to determine to what extent molybdenum may be toxic to organisms in freshwaters. Such a research programme was necessary because existing data in literature were too scarce, insufficient and of inadequate scientific quality to robustly determine a safe level of molybdenum in water.

Testing was conducted at internationally known and accepted laboratories around the globe. The resulting data were then analysed using state-of-the-art statistical methodology known as species sensitivity distribution (SSD). The method is approved by European and American regulators.

The scientific test results show that molybdenum is minimally toxic to freshwater species. It is comparatively far less toxic than most other metals that have been similarly evaluated. A safe level for molybdenum of 12.7 milligrams/litre in water was established from the data. This level is well above the amount of molybdenum occurring in most natural freshwaters (usually around 1 microgram/litre). It is also well above the levels sometimes found to occur in waters affected by industrial activity.

These new IMOIA freshwater data are directly usable by national authorities around the globe to set water quality standards. For example, the new EU REACH legislation will report the 12.7 mg/l value as the PNEC freshwater (Predicted No Effect Concentration) for molybdenum.

REACH: Registration, Evaluation, Authorisation (and restriction) of Chemicals

Preparing the molybdenum industry for REACH-compliance by November 2010 continues to be the principal IMOIA HSE activity. This is being done within the framework of the Molybdenum Consortium (MoCon), which is an IMOIA initiative formed in 2007. Detailed information about the purpose, structure, goals and work of MoCon can be found on its website at www.molybdenumconsortium.org.

The core aim of the EU REACH legislation is to improve the protection of human health and the environment from the hazards of chemicals, including metals and their compounds. This means that the core scientific task of MoCon is to conduct a physico-chemical, environmental and human health hazard identification and risk assessment into molybdenum and its compounds.

This 4-year multi-million dollar project is being staunchly supported by the MoCon members who number more than 50 companies, the majority of whom are also IMOIA members. MoCon has emerged as one of the largest and foremost REACH Consortia within the metals industry, earning praise both for the scientific rigour of its research and for its member support services.

Whilst the immediate goal is REACH-compliance, the long-term benefit of this project for the molybdenum industry is that it has generated a scientifically robust database and risk assessment of molybdenum products. These are essential tools which it can use in dialogue with global regulators to better ensure that future health



Our aim is to ensure future regulations are scientifically appropriate...



and environmental regulations are scientifically appropriate and protective, without being overly-precautionary and unnecessarily burdensome to industry.

Life Cycle Inventory

In 2009 IMO A launched a new Life Cycle Assessment website section providing outline data plus an enquiry facility for parties interested in receiving more in-depth information.

Since the 1990s, the non-ferrous and ferrous metals industries, including IMO A, have adopted Life Cycle Assessment (LCA) as the environmental tool of choice to supply environmental information to customers, help identify areas for process improvement, and measure environmental performance within the industry. IMO A has undertaken several Life Cycle Inventory (LCI) analyses of metallurgical molybdenum intermediate products and molybdenum chemicals, resulting in a library of high quality western-world average LCI data on these products. This has

proved valuable for consumers of molybdenum, including the stainless steel industry, in helping to measure the impact of alloying elements and thus demonstrate the sustainability and green credentials of its products.

Ore & concentrates hazard assessment service

In 2009/2010 IMO A has offered a service to provide initial evaluation of the mineralogical content of Member companies' ores and concentrates in preparation for compliance with another new piece of EU legislation, the Classification, Labelling and Packing Regulation (EU CLP). This project was conducted separately to REACH because naturally-occurring, non-chemically modified ores and concentrates are exempt from REACH registration. It is designed to assist member companies to meet the requirement to notify the C&L Inventory established at ECHA (European Chemicals Agency) by 3rd January 2011. For more information on CLP visit www.imoa.info.

Active participation

IMO A continues to actively participate in trade associations of strategic importance in the conduct of its HSE activities, including Eurometaux, the North American Metals Council, Eurofer and the International Council on Mining and Metals. Likewise it proactively networks with its fellow non-ferrous trade associations on industry-wide HSE issues. One key benefit for IMO A members is the enhanced anticipatory capability of the Association to identify, well in advance, HSE issues and future policy that may impact upon the molybdenum industry, enabling IMO A to strategically respond in a timely and effective manner.

All the IMO A HSE activities are managed and driven-forward by the corporate representative members of the IMO A HSE Committee, its HSE Executive staff member and its consultants, to whom IMO A expresses its sincere gratitude for their dedication and professionalism.

Market Development Programme

Overview



Dr Nicole Kinsman
IMOA Technical Director

Since IMO A's Market Development activities were launched in 2002, they have contributed to an impressive growth in the use of molybdenum grade stainless steels, which has been much faster than the growth of all stainless steels.

Our continuing work has made the stainless steel users more aware of the benefits molybdenum brings. This achievement has opened the door for significantly increased use of molybdenum through a better understanding of its properties. We did this through focused programmes, continued networking and co-operation with stainless steel development associations and producers, conference presentations and participation in a variety of committees. All of this has provided these allied organisations with the tools to promote molybdenum grade stainless steels, especially in our two main areas of focus, Architecture Building and Construction (ABC) and Duplex stainless steels. At the

same time, IMO A's specialist consultants have promoted molybdenum grade stainless steels directly to end users and specifiers through seminars, articles in trade magazines and the creation of IMO A brochures and website content.

We now carry out similar work in low alloy steels to promote and facilitate the application of molybdenum in this area. This represents a significant expansion of our market development programme into a very large market. After many years of absence in this market our industry now has a new presence and molybdenum has again become an active topic of discussion in the carbon steel industry.



Market Development Programme

2009/2010 Work Programme Highlights

Supporting growth in duplex

The second edition of our brochure "Practical Guidelines for the Fabrication of Duplex Stainless Steels" has proved to be the most popular publication we have ever produced. Updated by Dr Gary Carinci of TMR Stainless and peer reviewed by member companies of the International Stainless Steel Forum (ISSF), the brochure is available in English and Mandarin translation either in hard copy or for download.

It is the most popular download on our website, achieving 800-1000 a month, a significant increase on the 300-plus downloads per month it had before the update. On the ISSF website, the English version of the brochure clocked up

The brochure is truly an international publication and demonstrates that IMOA has earned a high credibility rating in the stainless steel industry through its focus on excellence. It can be no coincidence that "duplex" is the most used search word to find the IMOA website.

Dr Jim Fitz of TMR Stainless has also written an excellent brochure, "Duplex Stainless Steel in Pharmaceutical Applications," which will be available by the time of the 2010 AGM.

Stainless steel in ABC

Catherine Houska of TMR Stainless continues to work tirelessly in North America, holding seminars – sometimes two a day – for architects, at which she explains

almost 1,000 attendees in total and IMOA literature was distributed at these events.

Stainless steel design guide

We are currently working on the development of a design guide for stainless steel in structures which will be published by the American Institute of Steel Construction (AISC). The guide, initiated by IMOA, will follow the format of the AISC steel construction manual, the definitive guide for structural engineers in America, to make it easy for them to work with stainless steel.

Molybdenum in steels

Professor Hardy Mohrbacher divides his work for IMOA into three domains:

Our new... Fabrication of Duplex Stainless Steels brochure has proved to be highly valued and requested all over the world.



4,000 downloads in December and January.

Euro Inox has received more than 1,100 requests for hard copies of the brochure. This far exceeded their expectations of 150 to 200 requests, and in addition, almost 1,000 copies have been downloaded from their website. The Mandarin PDF version of the brochure is now available on the websites of IMOA, ISSF, China Stainless Steel Council (CSSC) and Stainless Steel World Asia, where it has a special promotion on the home page.

the benefits of using moly-grade stainless steel. Over time this work has helped to increase the annual use of Type 316 in ABC in North America from 5,400 tonnes in 2000 to 58,000 tonnes and to grow the market share from 2 per cent to 12 per cent. In the past year, as part of the Architecture Project, successful workshops for architects have been held in Pittsburgh, Chicago and New York. In addition, the Nickel Institute of Beijing organised architects' workshops in Beijing, Guangzhou, Shenzhen, Zhangjiakou, Jinan, Harbin, Changchun. There were

- Knowledge gathering: collection of existing and new data on molybdenum alloying from literature, meetings and projects
- Knowledge consolidation: creation of articles and presentations with this data and development of compelling arguments for alloying with molybdenum
- Knowledge dissemination: promotion of molybdenum use through explanation of the benefits of molybdenum in low alloy steel in one on one



180 delegates attended our Beijing seminar on the effects of molybdenum in steels.



meetings with steel companies, and at conferences and symposia.

Work is in progress in all three domains. Some of the highlights are:

In knowledge gathering we have initiated two research projects with leading specialist steel companies. We are working with Buderus to see how molybdenum can improve steel used in large gears for structures such as wind turbines, which are prone to failure. With Salzgitter Mannesmann we are demonstrating how molybdenum improves High Strength Low Alloy (HSLA) pipeline steel. The German steel manufacturer has not used molybdenum in its HSLA steels in recent years and we believe the project should convince them that alloying with molybdenum gives them a cheaper, higher quality product. Results of these projects

are expected in two years' time.

In knowledge consolidation we are working on the "molybdenum bible," a book that describes in detail the benefits of molybdenum in steels.

In knowledge dissemination we meet with technical staff at steel companies to discuss how molybdenum can help to improve product properties and reduce costs.

China Mo in steels seminar

The first-ever Chinese seminar on the effect of molybdenum in steels (another knowledge dissemination highlight) was held in Beijing in June 2010 and attended by 180 delegates. They were from research units, steel mills, molybdenum producers and traders as well as representatives of the organisers and sponsors. Internationally renowned experts explained,

in six presentations all focusing on different types of steels, how molybdenum could improve steels and help bring about the Chinese government's aim of reducing raw material waste, energy consumption and pollution.

The seminar was hosted by the Central Iron and Steel Research Institute of China (CISRI) and IMOA and organised by the Beijing Antaika Information Development Co Ltd. Held at the Beijing Friendship Hotel it was sponsored by IMOA, Beijing Antaika, Jinduicheng Molybdenum Co Ltd, China Molybdenum Co Ltd, Jinzhou New China Dragon Molybdenum Co Ltd and CoMoTech, Chile.

The proceedings of the seminar, containing all papers, are available free of charge for download in Mandarin and English from www.imoa.info.



Market Development Programme

2009/2010 Work Programme Highlights cont.

Our project to study and quantify first and end uses of molybdenum will help us track changes over time.



Intelligence gathering

A two year project by SMR to study and quantify first and end uses of molybdenum in detail will be completed by August 2010. This will, for the first time, give us a good, quantitative assessment of where molybdenum is used. The first part of the research has already been completed and covered power generation, oil and gas and non-chemical process industries. The second part is currently under way and is looking at molybdenum use in transportation, chemical processing, Architecture Building & Construction (ABC), consumer goods and other uses.

The study is being carried out through face-to-face and telephone interviews with end users, designers, engineers and producers of molybdenum containing products and through the use of the SMR statistical database. We plan to keep this information updated annually so we can track the changes over time.

Website development

Our website is extremely popular, achieving almost 8,000 individual visits a month. However, we strive to continuously improve the website and to that end, it has undergone a full review to ensure all links work and that the formatting of tables, titles etc. is uniform. Text has been edited to improve readability and work is under way on integrating the online MolyReview subscriber list and the contact database into the website.

Research projects

We are currently involved in two university research projects. In Grenoble, the university is studying the effects of molybdenum on corrosion resistance in duplex stainless steels in alkaline media. The University of Michigan is investigating the development of molybdenum carbide and nitride catalyst support.

Brochures

We continue to produce brochures which help to foster a wider understanding of molybdenum and its use in steels. The next, written by Professor Hardy Mohrbacher, deals with "Clean and Green Energy." Like Dr Jim Fitz's brochure on the use of moly-grade steels in the pharmaceutical industry, it will be available by the 2010 AGM.

MolyReview

Two issues have been produced in the past year and our circulation list continues to expand. Each issue contains around eight articles that demonstrate the varied uses of molybdenum in an interesting and easy to understand format.

Income And Expenditure Account

For The Year Ended 31 December 2009

IMOA/Molybdenum Consortium

	2009	2008
	\$	\$
Turnover	4,024,793	4,429,489
Operational and administrative expenses	-3,174,738	-3,511,658
Operating surplus/(deficit)	850,055	917,831
Other interest receivable and similar income	13,379	102,884
(Deficit)/surplus on ordinary activities before taxation	863,434	1,020,715
Tax on (deficit)/surplus on ordinary activities	-2,007	-2,112
Surplus/(deficit) on ordinary activities after taxation	861,427	1,018,603

Balance Sheet

For The Year Ended 31 December 2009

IMO A/Molybdenum Consortium

	2009		2008	
	\$	\$	\$	\$
Fixed assets				
Tangible assets		31,053		53,373
Current assets				
Debtors	251,040		756,769	
Cash at bank and in hand	5,553,776		4,755,683	
	5,804,816		5,512,452	
Creditors - amounts falling due within one year	-1,035,928		-1,627,312	
Net current assets		4,768,888		3,885,140
Total assets less current liabilities		4,799,941		3,938,513
Reserves				
Profit and loss account		4,799,940		3,938,513
Accumulated funds		4,799,940		3,938,513

Financial commentary

The 2009 audited accounts presented here are consolidated figures for IMO A and the Molybdenum Consortium and are subject to approval at the 2010 AGM.

Income from subscriptions and levies amounted to US\$4,024,793. After expenses of US\$3,174,738 a sum of US\$863,434 was carried forward bringing the combined accumulated funds to US\$4,799,940. Of this US\$2,406,577 is attributable to IMO A and US\$2,393,363 to the Consortium.

In the case of IMO A, the Executive Committee's policy is to maintain financial reserves roughly equal to the following year's projected expenditure, as a measure of sound financial management. The reserves act as a buffer against fluctuating income and ensure that the obligations of the Association can be met.

A significant percentage of the Molybdenum Consortium reserves at the end of 2009 were committed to expenditure in 2010.

