



The IAI is the Global Forum of the world's Aluminium Producers. The Institute has 25 Member companies and they are represented on the IAI Board of Directors by their CEO's. Together the IAI Member Companies are represented for more than 80% of world primary aluminium production. Through the IAI, the aluminium industry aims to promote a wider understanding of its activities and demonstrate its responsibility in relation to all key sustainability issues - environmental, health, safety and recycling.

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## Launch of New IAI Extranet



On the 9<sup>th</sup> June 2008 the IAI launched its new password protect industry Extranet, providing Member Companies and aluminium industry associations with a simple gateway to IAI documents, events, publications and data.

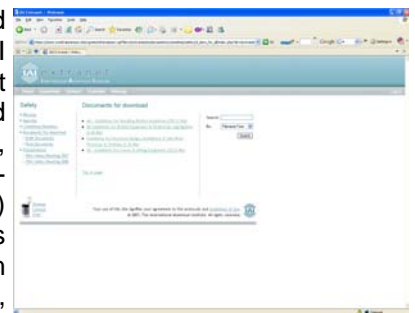
The new Extranet has been developed to improve the flow of information between IAI Members and between Regional/ National Associations.

The bulk of the existing Extranet has been transferred into a content management system, allowing items to be updated and published quickly and efficiently. The completely re-designed Extranet has a revised homepage and updated content with the addition of new features including:

- Enhanced capability to archive a large amount of information (in a range of formats), make it more easily navigable by users and more easily managed (with over 750 users already) by the IAI Secretariat.
- On-line meeting registration, calendar of IAI events, simplified archiving and committee document search.
- Latest news and publication sections providing the latest up to date information.
- Improved user/access management and tighter security.

### Structure and Content

The site provides detailed information on the IAI Committees (Environment and Energy, Bauxite and Alumina, Health, Safety, Statistics, and Communications and Promotions) working groups (Sustainable Aluminium Working Group, Water, Recycling, Greenhouse



Gas) including meeting minutes and agendas, draft and final committee reports/documents, and presentations.

The new extranet can be reached at:

<http://www.world-aluminium.net>

For more information please contact **Nimalan Ramasamy** [ramasamy@world-aluminium.org](mailto:ramasamy@world-aluminium.org)

## **BAC Activities and Up to Date Information**



The IAI Bauxite and Alumina Committee's (BAC) current focus is on Bauxite Residue Management and Energy Efficiency for Alumina Refining.

The next meetings are planned for 12 Sept in Darwin, Australia during the Alumina Quality Workshop (AQW) and for 18/19 Sept in Belem, Brazil including a site visit of the Alunorte Refinery.

### **Residue Management**

The IAI encourages refineries around the globe to improve their residue management practices of existing, new and inactive residue storage areas (RSA). This will include appropriate design and operation of new RSA's as well as procedures of how to best manage post refinery closure and rehabilitation in a sustainable manner to minimize environmental impacts and long term liabilities.

A residue metrics was established addressing storage volume, land area (footprint) and rehabilitation under an active, historic and rehabilitation perspective. The questionnaire was sent out to respective refineries for input in order to establish baselines for residue management, to set a reduction goal against these baselines, to measure and report progress towards better residue management, closure and rehabilitation of residue storage areas. In addition to the residue management metrics the IAI Board approved the bauxite residue research projects and funding with \$250k pa over the next 5-years in order to achieve improved residue management. The following projects on in-situ modification of residue alkalinity and bauxite residue use options are envisaged:

1. In-Situ Treatment of Residue & Remediation
2. Reactivity of Solid Alkalinity
3. Long Term Stability of Treated Residue & Alkalinity
4. Risk Based By-Product Assessment Methodology for Bauxite Residue
5. Life Cycle Analysis & Residue Management Costs  
Residue Use: Literature Research & Targeted Application

### **Energy Efficiency**

The IAI Board approved the new energy efficiency voluntary objective for alumina refining: 10% reduction in energy use per ton of produced alumina by 2020 with 2006 as the baseline year. BAC activities regarding energy efficiency and reduction will include the following:

- Reporting on current data collection,
- Verification and validation of collected data,

- Establishment of a baseline year value for 2006
- Technology grouping (nepheline, bayer sinter, high, low temperature digestion) and establishment of specific energy consumption for the different groups
- Development of an energy reduction strategy

Possible measures for energy reduction could include:

- Implementation of benchmarking report systems for energy intensity (digestion, calcination, evaporation)
- Benchmarking of waste heat recovery and reuse practices
- Benchmarking of process temperature control
- Improvement of energy measurement and management systems

### **Bauxite Mine Rehabilitation & Residue Management Surveys**



The mine rehabilitation and residue management survey for 2006 are still incomplete. So far only 66% of world bauxite and 51% of world residue production are covered by the survey responses. Companies are being encouraged to complete the surveys. Up to now there is still no data from China and Russia and very rarely from India. An 80% survey coverage of world production for bauxite and residue was considered to be representative for the world aluminium industry. Previous reports have covered approx. 65 to 72% of world bauxite and alumina production. It seems that data collection has become a very challenging task for this round of surveys. Data collection and how to proceed in case of insufficient data coverage will be discussed during the next BAC meeting and reported to the IAI Board at the October 08 meeting in London.

### **Bauxite Mine & Residue Storage Area Rehabilitation**

The committee decided to produce a guidance document on "Sustainable Rehabilitation & Best Practice for Rehabilitation". The next BAC meetings will provide an excellent opportunity to discuss future steps and to start drafting the table of contents.

**For more details** on the Bauxite and Alumina Committee please contact **Christian Wagner:**

[wagner@world-aluminium.org](mailto:wagner@world-aluminium.org)



### **International Aluminium Institute appoints new Chairman Dick Evans**

The International Aluminium Institute (IAI) is pleased to announce that Dick Evans, chief executive of Rio Tinto Alcan and executive director of Rio Tinto, has been appointed its new Chairman.

Dick Evans has served as a director of the IAI since 2001 and previously acted as Chairman in 2006, following the incumbent Chairman's retirement. "I am honoured to once again be serving the IAI as Chairman and will continue its substantial work towards improving the global sustainability of the aluminium industry, as well as the promotion of aluminium's benefits to society and the environment," commented Mr. Evans. IAI Secretary General Robert Chase welcomed the news of Mr. Evans' appointment. "Dick has played a strong leadership role on the IAI's Board for some years now. The Institute looks forward to his Chairmanship, as the industry embarks on a set of challenging climate change and sustainability objectives, while managing the growth that comes from an ever increasing demand for its high quality, safe and recyclable products."

Mr. Evans has an extensive background in general and executive management within the aluminium industry. He joined Rio Tinto in 2007, following 11 years with Alcan - where he was CEO from 2006 - and 27 years of American and international postings with Kaiser Aluminum & Chemical Corporation.

Mr. Evans is currently a director of Abitibi-Bowater Incorporated and is a member of the Board of Directors of the Conference Board of Canada. He is also the past chairman of the U.S. Aluminum Association's Board of Directors. He has served as co-chairman of the Environmental and Climate Change Committee of the Canadian Council of Chief Executives and as member of the Board of the United States Climate Action Partnership (USCAP), a Washington-based coalition concerned with climate change.

### **IAI Board Member Changes**

**John Bevan** has been appointed Chief Executive Officer of **Alumina Limited** effective 16 June 2008 replacing **John Marlay**.

He is a Director of Alcoa of Australia, Alcoa World Alumina LLC, and Deputy Chairman of Alcoa World Alumina & Chemicals (AWAC) Strategic Council.

Previously, he held senior executive positions and directorships with The BOC Group PLC. John Bevan completed a Bachelor of Commerce, Marketing at the University of New South Wales.



**Roy Hammer** has replaced **Helge Holen** as the IAI Director for **Elkem AS**



Roy (42) joined Elkem in 2006 as Managing Director of Elkem Aluminium ANS. He came from Alcoa where he held the position as Managing Director of Alcoa Automotive Castings in Norway. Before Roy joined Alcoa in 2000 he worked for Elkem Aluminium from 1995 to 2000 where he held the position as Finance & Information Systems Manager. Roy worked as Financial Accountant at Norsk Hydro from 1993 to 1995. Roy started his professional career in 1992 as Financial Controller at Dureco Norge AS (pre-production and manufacturing of compact discs).

Roy earned his Masters of Science in Economics and Business Administration from the Norwegian School of Economics and Business Administration in 1991, and Post-Graduate Certificate in Education also from the Norwegian School of Economics and Business Administration in 1991. He has also studied law and philosophy at the University of Oslo.



**Jon Dudas** has replaced **Nelson Silva** as **President Aluminium, BHP Billiton**

Jon was born in England. He holds engineering degrees from the University of the Witwatersrand (South Africa) and a MBA from Heriot-Watt University (UK). He is an EU registered Professional Engineer.

He was appointed President of Aluminium effective 21 April 2008. Jon has extensive experience in the metals and mining industry ranging from operations management, marketing, business development and corporate projects. He has worked in the gold, titanium minerals, freight and energy coal/power/emissions sectors.

Jon's previous role (appointed September 2007) was as Group CIO, primarily tasked with conducting a strategic review of the global IT function, in order to realign IT with the new Group operating model. Jon is a member of the Global Ethics Panel.

Jon first joined BHP Billiton in 1991. Prior to joining BHP Billiton, Jon was General Manager, Winkelhaak Gold Mines Ltd (South Africa). His previous positions with BHP Billiton include VP Corporation Alignment Planning (Australia), Chief Commercial Officer Energy Coal (The Netherlands), Marketing Director Energy Coal (Switzerland), Project Director Mineral Sands (South Africa).

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**Mr. Yasuo Kamei** has replaced **Hideaki Watanabe** as the IAI Director for **Sumitomo Chemical Co. Ltd.**

Yasuo Kamei graduated from the Faculty of Commerce, Hitotsubashi University in 1969. Later that year he joined Sumitomo Chemical. In August 1980 he had an overseas assignment to work at the Polyolefin Company of Singapore. In 1993 he became the General Manager of the Inorganics Chemicals Department in Osaka.

In June 1997 Yasuo Kamei was appointed General Manager, Inorganics & Industrial Chemicals Division and in June 2000 he became the Director of the Company.

From June 2004 onwards Yasuo Kamei held Managing Executive Officer positions in different divisions of Sumitomo Chemical Co. Ltd. before being elected to the Board of Directors in June 2006. In June 2007 he became a Director and Senior Managing Executive Officer responsible for Petrochemicals and Plastics Sector and in June of this year replaced Hideaki Watanabe as Director and Senior Managing Executive Officer for the Basic Chemicals Sector.

**Mr. Tito Martins** replaced **Mr. Murilo Pinto de Oliveira Ferreira** as **Vale's Executive Officer for Non-ferrous Minerals and Energy** in May 2008.



Mr. Martins was appointed as Vale's executive officer for corporate affairs and energy in April 2006 and for non-ferrous minerals and energy in May 2008, where he had already served as the Managing Director of the Corporate Finance Department from August 1999 to September 2003. Previously, from 1985 to 1999, he held different positions in Vale's financial areas. Mr. Martins was also the CEO of CAEMI Mining and Metallurgy Corp. and CEO and chairman of MBR Mineracoes Brasileiras Reunidas from 2003 to 2006.

As a result of his expertise in the fields of administration and finance, Mr. Martins became a member of the board of directors of several corporations both in Brazil and abroad. Among them, it is worth mentioning Vale Foundation, FCA Railways, Samarco Mining Co., Ferrobarragem, Acominas Steel Co., Gulf Industrial Investment Company (GIIC) in Bahrain, Itabasco and Hispanobras.

Mr. Martins holds a Bachelor's degree in Economics from the Federal University of Minas Gerais (UFMG) and a Master's degree in Management from the Federal University of Rio de Janeiro (IEAD). He has attended other executive education programs at INSEAD (France) and at the Kellogg School of Management of the Northwestern University (USA).

## Global Competition Seeking New Ideas for Aluminium Use

The **Global Technology and Innovation Project Initiative** is a UC RUSAL programme to which the IAI provides its support. The Global Technology and Innovation Research Project is designed to promote the identification of innovative and sustainable applications for aluminium products. In the period 2008-2010 we will be searching for the brightest ideas and research projects, which aim to foster the development of products and applications that encourage increasing use of aluminium in sustainable applications where the material can bring substantial benefits.

Over the next three years, the Global Technology and Innovation Project will select the most ground breaking ideas and research projects, with the aim of expanding the use of aluminium. New applications will be developed where the unique features of the metal could bring environmental benefits, improve energy efficiency, optimize use of resources, encourage recycling, and create secure packaging and transportation methods.

Up to 10 research projects will receive funding. Funding of research projects will focus on one specific end use market for each year of the programme. The following research topics have been defined for each year of the programme:

**2008 – Transportation**  
**2009 – Building & Construction**  
**2010 – Packaging**

UC RUSAL, the IAI and independent expert, Professor Thomas Graedel from the Yale University, will act as the selection committee to choose up to three of the most promising projects to be granted funding in 2009.

### **Professor Thomas Graedel**

Thomas E. Graedel is currently Clifton R. Musser Professor of Industrial Ecology, Professor of Chemical Engineering, Professor of Geology and Geophysics and Director of the Centre for Industrial Ecology at Yale School of Forestry & Environmental Studies and is a fellow of Pierson College. His research is centred on developing and enhancing industrial ecology, the organizing framework for the study of the interactions of the modern technological society with the environment.

UC RUSAL and IAI are inviting leading universities and research centres in America, Asia, Australia, Europe and Russia to participate in the initiative. The deadline for the submission of research proposals is 30 September 2008. Proposals should aim to deliver innovations and benefits and/or solve major challenges through the use of aluminium. More detailed information on the criteria and application procedures are available on the corporate web sites of UC RUSAL and IAI at:

<http://www.rusal.ru/en/gtip.aspx>

<http://www.world-aluminium.org/news/Latest+news>

## Transport light-weighting



### Transport Model

The transport life cycle model, developed by IAI Sustainable Aluminium Working Group in cooperation with the European Aluminium Association (EAA) and the Aluminium Association (AA), focuses on the environmental aspects of light-weighting in transport and the resulting savings of fuel and electricity. It quantifies the primary energy and greenhouse gas savings realised from the light-weighting of specific vehicle components based on life cycle assessment methodology.

The developed model is based on the ISO 14044 life cycle assessment methodology and covers the whole life cycle of a vehicle including production, use and end-of-life (collection, recovery and recycling). It can be used to assess future scenarios and applications.

The model can be downloaded at:

[www.world-aluminium.org/Downloads/Publications/Download](http://www.world-aluminium.org/Downloads/Publications/Download)

### Workshop: Improved Sustainability in the Transport Sector through Weight Reduction with Aluminium



The workshop will be held in Pune, India on 10-11 November 2008 and is co-organized by the India Aluminium Association and the IAI.

This two day workshop, the first of its kind to be held, will showcase the important role that aluminium light-weighting can play in enabling the transportation industry and members of its supply chain to meet their sustainability objectives of fuel efficiency and greenhouse gas emissions reduction. It will bring together life cycle experts, materials scientists, engineers and marketing professionals, representatives from the aluminium and transport industries and component manufactures to share and discuss aluminium solutions for sustainable transport applications.

#### Day 1: Aluminium industry and component suppliers

- Learn how to use the life cycle transport model for marketing aluminium in the transport sector
- Automotive plant tour

#### Day 2: Open to all

- Sustainability of aluminium
- Transport market in India and globally
- Automotive design with aluminium, forming technologies and joining methods
- Potential new aluminium applications in India

## Sustainable Construction

### New Green Building Co-chair for the Sustainable Aluminium Working Group (SAWG)

John Hannagan (UC RUSAL) and Ken Martchek (Alcoa) are welcoming **Joe Luthiger** (Hydro Building Systems) as **new Co-chairman** of the SAWG. Joe will add expertise to the SAWG with regards to sustainability challenges and opportunities for aluminium in the construction sector.



### Global green construction workshop

The Aluminum Association (USA) and IAI have organised a global brainstorming workshop on 29 to 30 September in Baltimore (USA). It will bring together experts in sustainable construction and the use of aluminium products in buildings. Delegates are extruders, rollers, window/ curtain wall system suppliers (system houses) or cladding/ roofing/ suspended ceiling suppliers and system developers.

The goal is to find synergies, common challenges and opportunities with regards to sustainable construction and to define an action plan for the coming years.

## Life Cycle Assessment

**New Environmental Profile report** for European aluminium industry confirms that recycling saves 95% greenhouse gas emissions compared to primary production.

This report was produced and published by the European Aluminium Association. The IAI together with the OEA contributed to the recycling section of the report.

The full report can be downloaded at: [www.eaa.net](http://www.eaa.net)

### Set up of global LCI/LCA data management system:

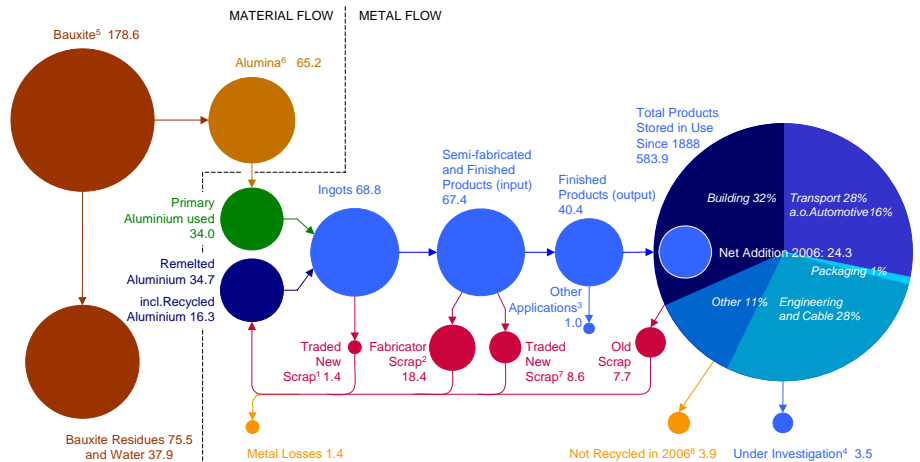
From 2009 onward, the IAI will offer free of charge consultancy service to aluminium associations and IAI members regarding life cycle data for bauxite mining, alumina refining, anode production, aluminium smelting. This service will include the supply of regional LCI data and LCA modules for primary aluminium, sharing of expertise on how to use the data and the underlying methodology. All downstream modules will be handled by the European Aluminium Association.

**For more information** on the Transport Model, Sustainable Aluminium Working Group, Life Cycle Assessment or either of the upcoming workshops please contact **Marlen Bertram** at: [bertram@world-aluminium.org](mailto:bertram@world-aluminium.org)

## Global Aluminium Flow

In 2006, approximately one-third of the metal in products available on the market is sourced from recycled (16 million tonnes) and two-thirds from primary metal (34 million tonnes). Around 8 million tonnes of scrap from used products (old scrap) were recovered globally.

Three quarters of all the aluminium ever produced (since the 1880s) is still in productive use. In 2006 this stock had grown close to 600 million tonnes. The global stock of aluminium in productive use is growing every year, in 2006 by 24 million tonnes.



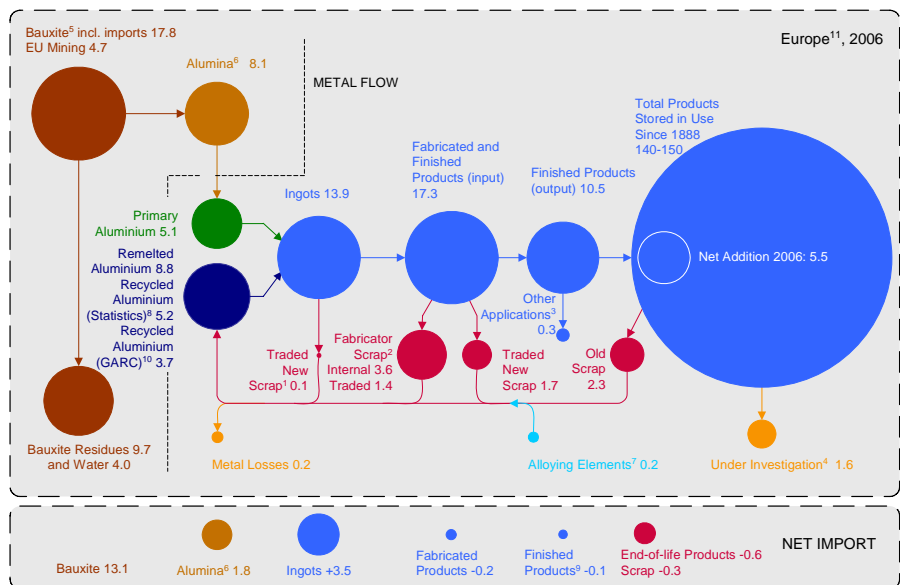
Values in millions of metric tonnes. Values might not add up due to rounding. Production stocks not shown. 1 Aluminium in skimmings; 2 Scrap generated by foundries, rolling mills and extruders. Most is internal scrap and not taken into account in statistics; 3 Such as powder, paste and deoxidation aluminium (metal property is lost) 4 Area of current research to identify final aluminium destination (reuse, recycling or landfilling); 5 Calculated based on IAI LCI report - update 2005. Includes, depending on the ore, between 30% and 50% alumina; 6 Calculated. Includes on a global average 52% aluminium; 7 Scrap generated during the production of finished products from semis; 8 Landfilled, dissipated into other recycling streams, incinerated, incinerated with energy recovery.

## European Aluminium Flow

In 2006, metal demand in Europe is supplied by 5.1 million tonnes of primary, 5.2 million tonnes of recycled and 3.5 million tonnes of imported metal.

Between 140 and 150 million tonnes of metal are currently stored in use and the stock is still increasing by 5.5 million tonnes annually.

Developed by the European Aluminium Association, Organisation of European Aluminium Refiners and Remelters and IAI.



Values in millions of metric tonnes. Values might not add up due to rounding. Production stocks not shown. 1 Aluminium in skimmings; 2 Scrap generated by foundries, rolling mills and extruders. Internal scrap is not taken into account in statistics; 3 Such as powder, paste and deoxidation aluminium (metal property is lost) 4 Area of current research to identify final aluminium destination (reuse, recycling or landfilling); 5 Calculated based on EAA Env. Profile Report (2008). Includes, depending on the ore, between 30% and 50% alumina; 6 Imports calculated based on EAA Env. Profile Report (2008). Includes on a global average 52% aluminium. Excludes non-metallic uses; 7 alloying elements are only shown for recycling; 8 Based on statistics; 9 Passenger vehicles and foil only; 10 Excluding fabricator scrap. This figure should be used when comparing to IAI Global GARC model; 11 West and Central Europe (Former CIS excluded, except Baltic states)

## Aluminium use in Europe – Country profiles

This leaflet was developed by the European Aluminium Association with the support of the IAI and OEA on recycling.

The purpose is to calculate the use of aluminium on the semi fabrication level (mill products) for each European country. Unique to this publication is that all recycling production and scrap flows are now included. Total recycling production includes the production of recycled aluminium from tolled and purchased scrap. Also unique is that scrap flows are analysed for each country based on the same methodology.

For more information or to request a copy of the brochure please contact: **Bob Lambrechts** at [lambrechts@eaa.be](mailto:lambrechts@eaa.be) or **Marlen Bertram** at [bertram@world-aluminium.org](mailto:bertram@world-aluminium.org)

## Occupational Health Metrics Guidance & Reporting Workbook

Following extensive consultation within the IAI and in co-operation with the International Council of Mining and Metallurgy (ICMM), the Institute has developed a guidance document and reporting tool for collection of occupational health data. As a number of IAI member companies are also ICMM members, both organizations believe that it is important for the mining and metals industry to have a consistent approach to the gathering of health statistical data.

The Institute has been collecting health data against a set of "leading indicators" for some years now, as part of its annual sustainable development survey. As of 2009 it is planned to roll out full voluntary reporting by IAI members against the "lagging indicators" defined in the Health Metrics Guidance. Some IAI member companies are already participating in a pilot programme this year to validate the metrics reporting process.

The Health Metrics Guidance document provides an overview that includes key definitions of:

- Illness
- Occupational illness
- Sickness
- Disease
- Lagging Indicators
- Leading Indicators
- New Cases
- Business Areas Affected by these Metrics
- Statistical Calculations

The document also includes an extensive discussion of the core health metrics (lagging indicators that will be gathered by all organizations); additional health metrics (lagging indicators for ICMM member companies and IAI companies that want to include these metrics); and leading indicators.

The Reporting Workbook, a Microsoft Excel calculation tool which will be used to gather data from reporting companies within the IAI, includes five sections:

- A short introduction;
- A section on the Core Lagging indicators;
- A section on the Additional Lagging indicators (for ICMM members);
- A section on the leading indicator Ergonomics;
- A section on Disease Rates Output.

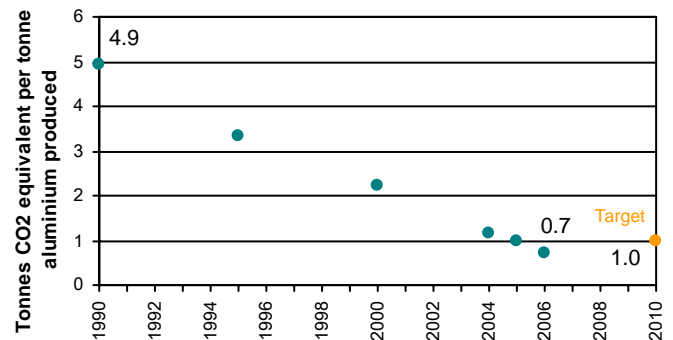
Only one leading indicator is included in the Reporting Workbook as the other leading indicators will continue to be gathered through the sustainability data gathering process.

IAI Members are encouraged to review these documents to assist in planning for voluntary participation in the IAI Health Metrics reporting programme. They can be obtained by contacting **Chris Bayliss** at [bayliss@world-aluminium.org](mailto:bayliss@world-aluminium.org).

## Aluminium Industry Surpasses its 2010 Perfluorocarbon Reduction Objective

One of the cornerstones of the Industry's climate change action plan and of its Aluminium for Future Generations sustainability initiative is a voluntary objective, agreed by the IAI Board of Directors, to reduce emissions of perfluorocarbons by the industry as a whole by 80% per tonne of aluminium between 1990 and 2010. PFCs are potent greenhouse gases with long atmospheric lifetimes, formed in the aluminium smelting process during brief upset conditions known as 'anode effects'. This voluntary objective is unique in that it encompasses the whole of the primary aluminium industry, not just IAI member companies.

The latest data collected and published by the Institute shows that in 2006 the global aluminium industry met and exceeded its voluntary objective, with PFC emissions reduced by 86% per tonne of aluminium produced between 1990 and 2006. Total aluminium PFC emissions to the atmosphere were reduced by over 61% between 1990 and 2006, even though total primary metal production increased by almost 80% from 19 to 34 million tonnes over the same period.



The 2006 survey report, published on the IAI website, continues the series of reports on surveys covering anode effect data from global aluminium producers over the period from 1990 through 2006. Survey data have been requested annually since 2000. The survey results have proven to be a useful tool in communicating the excellent progress that the primary aluminium industry has made over the last two decades in reducing greenhouse gas emissions and has provided survey participants with valuable benchmarking information with which to judge current anode effect performance and to set improvement objectives. The improvement in PFC emissions performance over the last fifteen years is in part due to a heightened awareness at all levels within companies and the availability of facility benchmarking data and sharing of best practices to reduce the frequency of anode effects.

There is still a considerable range of anode effect performance between facilities, indicating that there is still an excellent opportunity for further reducing anode effects and resulting PFC emissions.

### **Third Party Audit of the IAI's Anode Effect Survey Reporting and Assessment Processes**



In the first quarter of 2008, the Climate Change/Greenhouse Gas Task Force and the IAI Secretariat commissioned KPMG to carry out an audit of the processes behind the industry's PFC reduction voluntary objective.

Due to the uncertainty arising from the non-reporting 40% of global production and the lack of third party verification around the accuracy of the individual reporting companies' survey returns, KPMG advised that it would be premature at this stage to seek third party assurance of the industry's claim to have exceeded an 80% reduction in PFCs per tonne of production between 1990 and 2006.

KPMG recognised that the results of the annual surveys show that the aluminium industry has made significant progress in reducing PFC emissions from the smelting process, both on a per tonne of production as well as on a total CO<sub>2</sub> equivalent basis and that there is the potential for further significant reductions in the future. However the precise extent of this progress cannot as yet be confirmed by third party auditing and verification. As a consequence the IAI is introducing further measures to strengthen the credibility of the Anode Effect Survey results and thus enable the IAI to obtain third party assurance of its greenhouse gas reduction claims in the future. KPMG recommended that the IAI should address a number of uncertainties which they have identified as inherent to the current reporting process prior to commissioning third party verification:

1. Extrapolation of results from survey participants to provide a global view of PFC emissions for the entire sector, as currently survey participants account for around 60% of total global primary aluminium production. The extrapolation covering 40% of global primary aluminium production requires assumptions for facilities not included in the survey responses, including their smelting technology type; their annual production of primary aluminium; that their anode effect performance is equivalent to the median performance of survey participants employing the same technology type.

2. There is no independent third party assurance available to the IAI over the accuracy of the anode effect data provided by survey participants for the baseline year of 1990, nor from subsequent reporting periods. The IAI does perform high level quality checks on the survey submissions from participants, but the IAI is currently unable to provide assurance that plant submissions are free from material misstatement.

At its meeting in May 2008, the IAI Board of Directors endorsed a number of actions to be taken to reduce these uncertainties and to enhance the accuracy and rigour of the Anode Effect Survey process. These include:

- Increasing the proportion of the aluminium sector participating in the Anode Effect Survey to in excess of 80%.

- Obtaining progressively third party assurance over the data in the survey submissions, as an interim step requiring senior management to sign off on their plants' survey returns.
- Reduce the scope for error by replacing manual input and checking of the data spread sheets through the introduction of automated processing. An electronic reporting tool will be piloted for 2008 data collection early in 2009.
- Increasing the number of PFC measurements at aluminium smelting facilities (other than at high performing facilities) in order to develop facility specific Tier 3 calculation of PFCs from anode effect data.

Data collection has already begun for year 2007 anode effect statistics for publication in November 2008 and the Institute is delighted to announce that for the first time 100% of Russian aluminium production is represented in the database, bringing the survey coverage to around 65% of the global industry.

The IAI Board has also agreed to a new voluntary objective for PFC reduction, building on the great success of the industry in reducing its emissions over the last two decades and the opportunities for further reduction identified by the IAI Climate Change & Greenhouse Gas Task Force, while taking into account the recommendations from KPMG :

- The primary aluminium industry seeks to achieve the long term elimination of perfluorocarbon (PFC) emissions.
- Following an 86% reduction in its PFC emissions per tonne of primary aluminium produced (specific emissions) between 1990 and 2006, the global aluminium industry will further reduce specific emissions of PFCs by at least 50% by 2020 as compared to 2006, equivalent to a reduction of 93% compared to 1990.
- Coverage of the annual survey of PFC emissions from IAI member and non-member aluminium producers has more than doubled from a global aluminium production of 12 million tonnes in 1990 to 25 million tonnes (65% of the industry's production) in 2007, the highest greenhouse gas survey participation of any global industry sector. Through the efforts of its member companies, the IAI is striving to increase the global aluminium production coverage of its annual surveys to over 80%. Based on IAI annual survey results, by 2020 IAI member companies commit to operate with PFC specific emissions no higher than the 2006 global median level for their technology type.
- Progress will be monitored and reported annually and reviewed periodically by a recognised and independent third party. There will be interim reviews to ensure progress towards achievement of the 2020 objective.

## **Quantification of Hydropower Greenhouse Gas Emissions**

The International Aluminium Institute has provided input to a series of workshops convened by UNESCO and the International Hydropower Association (IHA) to develop methodologies for the quantification of greenhouse gas emissions from freshwater reservoirs. These workshops and a number of follow up meetings have realised the following outcomes:

- A Scoping Paper**, describing science and processes incl. Literature on GHG emission from fresh water reservoirs.
- B Project Proposal** in order to develop:
- Measurement guidance for GHG emission assessment (credible data set)
  - Methodology for estimating net emission predictive modelling tools
  - Guidance on GHG mitigation options (design, construction, operation)

### **What are the benefits from the scoping paper and the project proposal?**

**Improved understanding of climate change impact** related to hydropower for companies, governments, project developers, authorities, international bodies, etc.

**Standardised measurement methodology** to set up measurement programs

**Quantification of net-emissions** which are due to the construction of a freshwater reservoir

**Prediction of emissions and impact** for future hydropower projects

**Complete Life Cycle Inventory for Aluminium** with a realistic CO<sub>2</sub> footprint for hydropower

**Publication of results** in peer reviewed journals

**Influence on Intergovernmental Panel on Climate Change (IPCC), Clean Development Mechanism (CDM) and carbon offset methodologies**

### **How will the project be financed?**

**Funding and financing** may come from: IHA member companies, electricity producers, reservoir owners, international organizations (UN, World Bank, International Energy Agency, etc.), associations, governments, research funds

**Financing of project components possible:** management, measurement, modelling, mitigation, monitoring

The IAI encourages its members to support the initiative, the measurement teams and offer reservoirs for measurement.

For more details and contact with the International Hydropower Association (IHA), feel free to reply to **Christian Wagner**: [wagner@world-aluminium.org](mailto:wagner@world-aluminium.org)

## **Job vacancies – Confidential Statistical Officer**

The International Aluminium Institute are looking for candidates to fill the post of Confidential Statistical Officer. The IAI has as one of its fundamental tasks, the collection, analysis and publication of statistical data provided by its Member and Correspondent Companies.

Applicants should have good analytical and communication skills and should be experienced in data collection and security, the use of electronic databases and statistical software. The person appointed will be responsible for safeguarding the confidentiality and integrity of the whole IAI statistical programme.

The CSO will have management responsibility for the production, inventory, capacity and recycling statistics of aluminium and alumina producing companies. He/she will organise and attend annual meetings of the IAI Statistics Advisory Committee, either in the UK or overseas, preparing necessary material and liaising closely with its Chairman.

The CSO will manage the electronic data reporting system for sustainable development and environmental surveys and advise the IAI environmental managers on ways to improve and develop the statistical system and the use of collected data for policy development.

Candidates will be expected to have a good knowledge of economics and statistics and be self sufficient in terms of producing their own reports and correspondence. The IAI comprises a small team of 8 staff members; he/she should therefore be a team player. Knowledge of sustainability, the aluminium industry and its production processes would be an advantage. All work at the IAI is conducted in English, so an excellent command of spoken and written English is essential. Other languages would be an asset, but are not essential.

For the complete job description please go to: [www.world-aluminium.org](http://www.world-aluminium.org)

For more information please contact: [iai@world-aluminium.org](mailto:iai@world-aluminium.org)

## Safety Committee Meeting

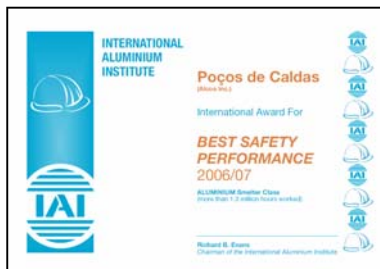
The 2008 Safety Meeting from 8 to 10 April in Ferndale, USA was a great success with participation from Alcoa (Europe, North America, Latin America & Caribbean, Iceland), Rio Tinto Alcan (Europe, North America, Australia), Dubal, Sumitomo Chemical (Japan), UC Rusal, Hydro, BHP Billiton (South Africa). The IAI is grateful for having had Alcoa hosting this event.



23 participants including company representatives, external consultants and IAI staff were presenting on best safety practice, fatality prevention, fatigue management and fitness for work programs. Key focus of this year's meeting was sharing of safety knowledge to provide an industry wide learning experience. On day 3 of the meeting the Alcoa Intalco plant organised a site visit of their smelter including a cast house tour and a hearing loss presentation.

### **IAI Safety Award 2006/07**

The safety committee awarded 7 plants within 5 categories. The winners who were officially awarded during the IAI Board meeting in May 2008 in Cape Town, SA are:



### **Mines**

Poços de Caldas (Alcoa Inc.)

### **Refineries <2 million hours**

Ehime Works (Sumitomo Chemical Company Limited)  
San Ciprian (Alcoa Inc.)

### **Refineries >2 million hours**

Nikolayev (UC RUSAL)

### **Smelters < 1.3 million hours**

Lynemouth (Alcan Inc.)

### **Smelters >1.3 million hours**

Poços de Caldas (Alcoa Inc.)  
Grande-Baie Works (Alcan Inc.)

The Safety Committee decided to supplement the existing safety award criteria with leading indicators and an audit team.

### **Future IAI Activities and New Safety Guidelines**

The safety committee has reached its voluntary objective in 2006 under the aluminium for future generation's initiative. In reducing LTIFR and TRIFR again by 50% from 2006 to 2010 a new objective was set in 2007. In order to reach this ambitious goal the committee strives for a champion safety level within global industry. The committee will focus on urgent topics like fatality prevention, fatigue management, behavioural safety, contractor management, fitness for work and information sharing via an online platform. Fatality prevention has never become more important than today. In 2007 fatalities increased by more than 50% from 15 fatalities in 2005 and 2006 up to 23 in 2007. The fatality rate increased by a factor of 4 for smelters compared to the previous year. 23 fatalities are the highest since safety data reporting started in 1997. In addition to the annual safety workshops, web conferences will be arranged on a monthly basis to share best safety practices, demonstrate case studies, initiate discussions and hopefully find solutions to reduce and prevent future safety incidents.

The committee agreed upon the idea to contact Chinese companies and investigate on the opportunity to organise a safety forum in Q4/2008 in China to share best practices in safety management. This could provide the opportunity for Chinese companies to showcase their latest safety initiatives and discuss the results that they have achieved by implementing these initiatives. An IAI delegation could inform about their safety experience and future IAI activities.

The safety committee decided on a **new guideline on "safety management for contractors"**. This guideline is the 4<sup>th</sup> of its kind following guidelines on cranes & lifting equipment (2007), mobile equipment & pedestrian segregation (2005) and electrical design installation and safe work practices in potlines (2000). In addition the AA produced a guideline on handling of molten aluminium (2002) which is envisaged to be revised in 2008.

**For more information** on the IAI's safety guidelines and work plan please contact:

**Christian Wagner** at [wagner@world-aluminium.org](mailto:wagner@world-aluminium.org)

**Nimalan Ramasamy** at [ramasamy@world-aluminium.org](mailto:ramasamy@world-aluminium.org)

## 2008 Calendar

### September

- 10-11 **Health Committee Meeting.** Oxford and Cambridge Club, London, U.K.
- 16-19 **Environment and Energy Committee and Climate Change Task Group and Bauxite & Alumina Committee Meetings.** Belem, Brazil
- 22 **Global Aluminium Recycling Committee/ OEA TQES Meeting.** Maritim Hotel, Düsseldorf, Germany. This is very close to the Essen Trade Fair (see below).
- 23-25 **7th World Aluminium Trade Fair and Conference.** Essen, Germany.
- 29-30 **AA/IAI Global Green Building Workshop.** Washington, USA.

### October

- 14 **IAI 74<sup>th</sup> Board Meeting.** Oxford and Cambridge Club, London, U.K.

### November

- 10-11 Workshop and Conference: **Improved Sustainability in the Transport Sector through Weight Reduction with Aluminium.** Le Méridien Hotel, Pune, India.
- 12 **Sustainable Aluminium Working Group Meeting.** Le Méridien Hotel, Pune, India.

## Other Events with IAI Involvement

### November 2008

- 9- 12 **13th International Arab Aluminium Conference and Exhibition ("ARABAL 2008")** Grand Hyatt Hotel, Dubai, UAE

By design, the ARABAL series provides a forum for specialists and major aluminium companies from the Arab world to transfer their experiences and exchange information with the regional aluminium smelters and other downstream companies, alongside participants from multinational organisations. As a result, the forum has evolved over the years into one of the most important events in the international aluminium industry calendar, attracting delegates from across the globe.

<http://www.iirme.com/arabal2008/>

## IAI 74th Board Meeting

The International Aluminium Institute will hold its 74th Board Meeting at the Oxford and Cambridge Club in London during LME week on Tuesday 14th October 2008.



### **Oxford and Cambridge Club**

71 Pall Mall,

London, SW1Y 5HD

Tel: + 44 (0)20 7930 5151

Fax: + 44 (0)20 7930 9490

[www.oxfordandcambridgeclub.co.uk/](http://www.oxfordandcambridgeclub.co.uk/)

It is intended that the Board meeting will conclude by 13:15 and we very much hope that all the spouses will join for lunch in the Princess Marie Louise Room.

There will be a meeting of the REACH Consortium Committee at 14.30 pm in The Marlborough Room.

As Directors will be attending other events in London during that week such as the LME Dinner on the night of 14<sup>th</sup> October 2008 and may well prefer to stay in an Hotel in a location of their choice, we do not propose to make any block room bookings at a specific Hotel. However we have a corporate rate at the Trafalgar Hilton which is within easy walking distance of the Oxford and Cambridge Club

For help with accommodation or any other queries please contact Katy Tsesselis, IAI Support and Events Manager at:

[tsesselis@world-aluminium.org](mailto:tsesselis@world-aluminium.org)

Fax: +44 (0) 20 7321 0183

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