

International Aluminium Institute

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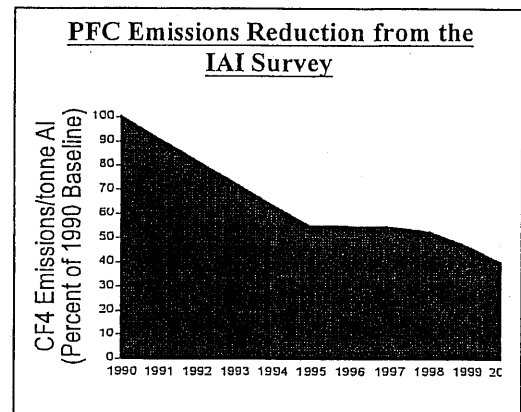
Website: www.world-aluminium.org

Ms Joke Waller-Hunter
Executive Secretary
UNFCCC, Climate Change Secretariat
P O Box 260 124
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Dear Ms Waller-Hunter,

We were grateful for SBSTA's invitation contained in SBSTA Report Document FCCC/SBSTA/2001/8 to the UNFCCC Secretariat to provide information by 1 March on the International Aluminium Institute's activities related to the reduction of global Perfluorocarbon emissions by the aluminium industry. The International Aluminium Institute (IAI) currently has 21 member companies representing almost every continent. The split of total primary aluminium production between OECD and non-OECD countries is roughly 50:50. Together the member companies produce around 60% of the world's primary aluminium. The IAI is involving the Chinese and Russian producers in its activities and aims to bring the Institute's coverage to around 90% of world production. The compact structure of the industry facilitates the gathering of global performance data including greenhouse gas emissions and the spreading of good practice through benchmarking and training seminars aimed at reducing GHG emissions.

The industrial processes of the primary aluminium industry in 1997 emitted 110 million tonnes of CO₂ equivalents. 50 million tonnes (45%) of which originated from two perfluorocarbon compounds (PFCs) CF₄ and C₂F₆. PFCs have the greenhouse gas warming potential of 6,500 and 9,200 times that of CO₂ for CF₄ and C₂F₆. Perfluorocarbons (PFCs) emissions are produced during brief upset conditions of the electrolysis process and the Institute carries out annual surveys of these PFC emissions. The aluminium industry has made good progress in reducing PFC emissions over the past decade as demonstrated by the three PFC surveys conducted by the IAI between 1990 and 2000. The data from the 63% of world aluminium production that participated in these surveys shows that the emission rate (per tonne of aluminium) for CF₄ had reduced by 60% over the 1990 to 2000 time period while the emission rate for C₂F₆ (per tonne of aluminium) had reduced by 62% over the same period.



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Worldwide estimates of PFC emissions have been based on an extrapolation of the IAI survey data using knowledge of the reduction technologies at those facilities, which have not reported anode effect data. While worldwide primary aluminium production had increased over that period by some 24%, the analysis of the worldwide data from 1990 through 2000 using the Intergovernmental Panel on Climate Change (IPCC) methodology and applying estimates for

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those facilities not reporting detailed anode effect data indicates a reduction from some 86 million metric tonne equivalents carbon dioxide (MMTE-CO₂) to 53 MMTE- CO₂, a reduction of 33 million tonnes of carbon dioxide (39%). This is one of the few examples of where the global emissions of a greenhouse gas from an industry sector are actually in decline. Voluntary agreements, between government and industry have played a significant role in encouraging this reduction in PFC emissions in many countries, such as Australia, Bahrain, Brazil, Canada, France, Germany, New Zealand, Norway and the UK. Together they represent around 50% of world primary aluminium production. The Surveys show that smelters in the developing world are performing as well, if not better than some plants in Europe or North America.

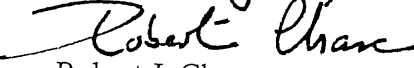
The PFC Surveys have also highlighted the considerable variation in performance between smelters using different types of technology and even between smelters using the same technology, so there is a need to encourage further improvement. The IAI sends out benchmarking reports, so that individual plants can compare their performance with other de-identified plants using the same technology. Each reporting smelter receives a performance graph showing where it ranks in relation to the performance of other de-identified plants with similar technology. A series of regional workshops are being organised to promote the spread of good practice throughout the industry. Companies are being encouraged and where appropriate assisted to carry out actual sample measurements from the potroom ducts. These can then be used to verify the results achieved through using the slope factor calculations.

The Industry has appointed a PFC Consultant to hold seminars and carry out measurement programmes to encourage the wider adoption of good operating practices. The IAI's PFC Reduction Initiative involves:

- Surveying producers for anode effect frequency and duration data;
- Publishing reports that serve as a data source on PFCs from aluminium production;
- Providing advice on good practices for PFC measurement procedures;
- Conducting workshops for benchmarking and good practices for reduction of Anode effects;
- Collaborating with national regulatory agencies, international business groups and member companies to develop better PFC inventories;
- Sponsoring fundamental atmospheric research to understand better how PFCs affect climate change;
- Sponsoring measurements of PFCs in historical air samples to establish the relationship with aluminium production.
- Drawing up a Greenhouse Gases Protocol for the Aluminium Sector to ensure similar methodologies for measuring and calculating the greenhouse gas emissions for all the production processes.

I have pleasure in attaching a preliminary draft of the IAI Report entitled "Perfluorocarbon Emissions Reduction Programme 1990-2000", which sets out in more details the survey results. If you would like any further information or require any further copies to be sent to SBSTA Members or to colleagues in the UNFCCC Secretariat, please let us know. May we take this opportunity of congratulating you on your recent appointment to this very important post.

c.c. Dr H Thorgeirsson Ph.D.

Kind regards

Robert J. Chase
Secretary General