



THIRD ALUMINIUM TASK FORCE MEETING

20 NOVEMBER 2007, HYDERABAD, INDIA

MEETING RECORD

Agenda Item 1 – Welcome and Introductions

Mr John Hartwell –Chair of the Aluminium Task Force - welcomed members to the meeting and thanked the Indian members, in particular Professor Murthy, for hosting the meeting. Mr Hartwell noted that this was the first Aluminium Task Force meeting since Canada had joined the Asia Pacific Partnership on Clean Development and Climate (APP) and welcomed the Canadian delegation.

Professor Murthy of the Aluminium Association of India (AAI), on behalf of the host country, welcomed the Aluminium Task Force meeting to Hyderabad. He noted that this year is the silver jubilee year of the AAI which coincided with the fifth International Conference on Aluminium (INCAL).

Mr David Cammarota – Co-Chair of the Aluminium Task Force – welcomed participants and added his thanks to Professor Murthy for hosting the meeting and thanked Mr Hartwell and the Secretariat for organising the meeting. Mr Cammarota indicated he was looking forward to attending INCAL.

Meeting participants introduced themselves (a list of participants is included at [Attachment A](#)).

Agenda Item 2 – Statement by each member country

Each member country provided a brief statement with the key points outlined below:

India: Professor Murthy stated that the Indian aluminium industry's next mission plan notes the industry is poised for growth driven by strong consumption growth in all consuming sectors. It is anticipated that new smelters were expected to be established that would increase annual production by one and a quarter million tonnes per annum.

USA: Mr Boots Poliquin stated that the US Department of State (DoS) has allocated \$22 million in funds to APP clean energy projects for 2006-07 with the majority allocated to 2007. An outline of the DoS selection process for funding APP projects in India was provided. It was indicated that as a result 12 projects have been funded at a cost of \$6.81 million, one of which is the proposed extension to the Linkages to Technology Providers project. It was also indicated that a similar process would now be undertaken to identify projects in China that may receive DoS funding.

Australia: Mr Ross Carter outlined the Australian Government's further commitment to the APP of \$50 million. It was indicated that this money was intended to fund a small number of larger clean energy projects and guidelines governing this expenditure are currently being prepared.

Mr Ron Knapp identified the importance that industry placed on the APP as an effective vehicle for industry engagement and cooperation

Canada: Mr Emile Beauchamp indicated that having only been an APP partner for one month that the government in close collaboration with the Aluminum Association of Canada was working through participation requirements. The delegation was confident of being in a good position to contribute and become more engaged as their knowledge and understanding of the Aluminium Task Force's activities improved.

Mr Christian Van Houtte noted that Aluminum Association of Canada was pleased to be a part of the APP. He outlined the membership of the Association and described the state of the aluminium industry in Canada including that all plants were anticipated to be state of the art by 2015.

Agenda Item 3 – Policy Implementation Committee and Ministerial Meeting Reports

Mr Poliquin provided reports on the outcome of the Policy and Implementation Committee (PIC) meeting held on 19-20 July 2007 in Tokyo, Japan and the Ministerial meeting held in New Delhi, India on 15 October 2007. The key points are:

PIC

- Each Task Force provided updates on progress achieved since the last PIC meeting.
- PIC endorsed a number of CFE, Cement and Coal mining Task Force projects.
- PIC agreed to submit Korea's proposed Energy Technology Co-operation Centre (ETCC) to Ministers.
- PIC agreed on a number of matters related to the upcoming Ministerial meeting.

Ministerial

- The second Ministerial meeting in New Delhi provided the opportunity for Ministers from all partner countries to review the progress that Task Forces had made to date.
- The meeting heard that the APP has 110 endorsed projects, recognised 18 projects as Flagships, including the Aluminium Task Force's Management of Perfluorocarbon (PFC) Emissions and Management of Bauxite Residue projects.
- Canada was announced as the seventh member of the APP.
- The Asia-Pacific ETCC which aims to aid in sharing and disseminating energy efficiency knowledge and best practice was formally launched.

Agenda Item 4 – Aluminium Task Force Action Plans

The Aluminium Task Force Action Plan was provided as **reference material only** with no specific discussion.

Agenda Item 5 – Aluminium Task Force Meeting Report – Beijing 21-23 March 2007

Mr Hartwell provided a report on the second Aluminium Task Force meeting and associated workshops held in Beijing, China on 20-21 March 2007 covering points not anticipated to be touched on by project proponents. Key points are:

- Three workshops were held to further develop and scope the Management of PFC Emissions, Management of Bauxite Residue and High Silica Bauxite Processing projects.
 - The workshops were attended by over 200 participants from government, industry and research organisations.
- The Chairs of the Steel and Cement Task Forces were approached about the potential for cross sectoral projects, and while no written responses were received, both of these Task Forces are known to be interested in feedback on relevant projects such as the Bauxite Residue project.
- It was agreed to include content produced by the Aluminium Task Force on the official APP website.

Agenda Item 6 – Project Update Reports

Item 6.1: ATF-06-1 Aluminium Measuring and Benchmarking

Mr Steve Larkin outlined that the project's objective to develop a process and indices for benchmarking and measuring the sustainability of the aluminium industry. He indicated that the International Aluminium Institute (IAI) has already undertaken a great deal of work in developing some 13 indices related to the industry.

Mr Larkin proposed that the Aluminium Task Force would need to determine what indices should be adopted. Mr Jamble observed that industries may be reluctant to divulge sensitive information relating to business competitiveness like consumption factors etc. Further, he noted that the indices should not be a tool for inter partner industry comparison but rather to assist partners to add value by identifying ways to improve their own performance.

It was agreed that the Aluminium Task Force should focus on a small number of the key indices based on those developed by the IAI and ensure that the indices chosen can be presented as an APP data set. Mr Larkin was tasked with liaising with the IAI to determine if the indices chosen by the Aluminium Task Force could be packaged for the APP within the funding limits (noting the Australian Government had committed \$150,000 to this project) available. The seven indices agreed by the Aluminium Task Force are:

1. PFC greenhouse gas emissions reduction per tonne of aluminum produced for the industry as a whole. The IAI has developed an 80 per cent reduction goal by 2010 versus 1990 levels.
2. Fluoride emissions reduction per tonne of aluminum produced. The IAI has developed a 33 per cent reduction goal by 2010 versus 1990.
3. Average smelting energy usage reduction per tonne of aluminum produced. The IAI has developed a 10 per cent reduction goal by 2010 versus 1990.

7. Monitoring aluminum shipments annually for use in transport in order to track aluminum's contribution through light-weighting to reducing greenhouse gas (GHG) emissions from road, rail and sea transport.
10. Reduction of GHG emissions from the production of alumina per tonne of alumina produced.
12. To reduce Spent Pot Linings (SPL) disposal by either converting all SPL into feedstock's for other industries, which include cement, steel, mineral wool and construction aggregate companies or to re-use and or process all SPL in its own facilities. Pending final deposition, the industry will endeavor to store all SPL in secure waterproof, ventilated buildings/containers that will maintain the spent pot lining in a dry state with no potential for the build up of noxious gases.
13. The industry will pursue advancement in recycling rates and recycling operations as being developed under the Aluminium Task Force Aluminum Recycling Project, reporting regularly on its global recycling performance.

Item 6.2: ATF-06-2 Management of PFC Emissions

The project seeks to enable all primary production facilities to identify and implement cost-effective and technically feasible opportunities to minimise PFC emissions during smelting. Mr Robert Strieter indicated that this project is progressing well and was confirmed as a Flagship project by Ministers in October 2007. He indicated that implementing the project priorities – training, establishing an emissions baseline, reporting data annually and undertaking facility-specific PFC measurements –had all been progressed since the last Aluminium Task Force meeting.

Mr Jamble enquired about the type of initiative taken at China's workshop – technical or management oriented. Mr Strieter confirmed that there were no technical changes, but only management thrust in terms of controlling anode effects.

Upcoming activities for the project included:

- a study tour at Rio Tinto's Bell Bay plant for pot room operators from China which was outlined by Mr Knapp;
- commencement of on-site intensive training at two smelters in China selected as demonstration pilot plants;
- inventory data collection adopting the IAI global methods;
- increasing the number and capacity to undertake PFC measurement across APP countries; and
- developing a generic computer algorithm to assist in reducing anode effect duration time.

Mr Strieter sought nominations for a pilot project "Tiger Team" that is industry experts to participate in a 2-3 day intensive training session at smelters in March/April 2008. He also raised the issue of additional participants in the project.

It was agreed that partners would provide nominations for the Tiger Team to Mr Strieter – copied to the Aluminium Task Force Secretariat.

Canada indicated a desire to participate in the project and would confirm with Mr Strieter.

Agenda Item 7 – Project Update Reports (continued)

Item 7.1: ATF-06-3 Management of Bauxite Residue (Red Mud)

The meeting was informed that the CSIRO Light Metals Flagship would be undertaking project work being funded by the Australian Government. Dr Raj Rajakumar from CSIRO provided a brief outline of the outcome of the workshop held in association with the Beijing Aluminium Task Force meeting in March 2007.

Dr Rajakumar indicated that as a result the project would be conducted across 3 themes 1) storage practices 2) reuse options and 3) knowledge sharing. It was also stated that the project would be looking at identifying options to be utilised in appropriate situations and noted comments from India outlining issues and the need to evaluate all factors before reaching conclusions.

After the presentation of Dr Rajakumar, Dr Jyoti Mukopadhyay – Director of JNARDDC – present proposed activities in the area of utilisation of re mud for various applications. Scientists of JNARDDC actively participated in the discussion of red mud utilisation.

Mr Jamble advised the Aluminium Task Force that there could be difficulties in using red mud in construction due to radon emissions, particularly as clay bricks already emit radon. He informed about the incidence in Jamaica, where the entire Parliament building constructed of red mud bricks was abandoned as a result of radon emissions. Mr Jamble also indicated that the project should aim for high value solutions and evaluate all factors before reaching conclusions on the use of red mud.

The Aluminium Task Force noted that the Indian Ministry of Mines had indicated that it has been decided that Jawaharlal Nehru Aluminium Research Design and Development Centre (JNARDDC), through its Director Dr. J. Mukhopadhyay had been assigned the role of coordinating on this project as Nodal Point. Dr Rajakumar indicated that he and Dr Chris Vernon (CSIRO) had visited the JNARDDC facility in Nagpur prior to coming to the Aluminium Task Force meeting and would continue to liaise with Indian and China as participating partners on this project.

Item 7.2: ATF-06-4 High Silica Bauxite Processing

Dr Vernon noted the outcome of the workshop held in Beijing was to agree to a theme approach to research covering:

- using beneficiation or pre-treatment to reduce the reactive silica content of the bauxite feed;
- producing lower soda values of desilication product (DSP);
- recovering of soda values from DSP concentrates or residue; and
- establishing a knowledge sharing mechanism amongst the APP partners.

He noted that CSIRO had just been asked to undertake the work funded by the Australian Government and that progress had been limited. Dr Vernon outlined the way forward on each of the themes and in particular noted the intent to hold workshops annually rotating through each of the participating partners – China, India and Australia.

After the presentation of Dr Vernon, Dr Mukopadhyay and scientists of JNARDDC actively participated in the discussion of high silica bauxite processing.

Mr Jamble inquired about the level of silica in bauxite which has been set by the project as defining the bauxite as high silica. Dr Vernon noted that for the purpose of this project, to be considered high silica the level in bauxite would need to be above 5 percent.

Item 7.3: ATF-06-5 Fluoride Emissions Management

Mr Ron Knapp reminded Aluminium Task Force members that this project was originally delayed in favour of first commencing work on the Management of PFC project, as both projects focus on pot room operations. Mr Knapp noted that fluoride management is a much more local smelter issue and the focus would be on the implementation of best practice and technology that will reduce fluoride emissions across all primary aluminium smelters in the Partnership. It will achieve this by focussing on employee awareness, housekeeping practices and regular scrubbing.

Mr Knapp indicated that the project had been further delayed through the sub contractor identified to work on the project being hospitalised. The Aluminium Task Force agreed that despite the delays experienced that this project should continue to be supported and would review progress at the next meeting.

Agenda Item 8 – Project Update Reports (continued)

Item 8.1: ATF-06-6 Aluminium Recycling

Mr Larkin outlined the objectives for the project as achieving the following by 2010:

- A completed database of benchmarked recycling rates for UBCs by nation.
- Annual updating of recycling rates by nation and for aluminium sub-sectors including UBCs.
- Establishment of methods to assess usage rates for long-life products including building and construction.
- A comprehensive database of best practices for operating recycling facilities.

He indicated that recycling reports had been solicited from Australia, India, Japan and the US and that the Aluminum Association was working with CNIA from China to complete their report. In addition, he would be sending the memo requesting a report from Canada outlining the requirements of the project.

It was noted that Japan had offered to present on their approach to recycling to share their experience. It was agreed that Mr Larkin should explore the possibility and timing of a workshop, involving Japan, to assist in finalising the reporting process and to consider next steps such as developing a best practice guide to recycling.

Item 8.2: ATF-06-7 Linkages to Technology Providers

This project aimed to develop a register of technology providers which will be accessible by industry and could form an effective mechanism to provide operators with the access to resources necessary to implement change. Mr Stephen Woolcott (Aluminium Task Force Secretariat) informed the Aluminium Task Force that the Linkages to Technology Providers directory website - www.apaluminiumtech.org - was launched on 30 August 2007.

It was noted that the key to success for this project will be the registration of technology providers and use of the directory by the industry. Aluminium Task Force members were requested to publicise the directory. It was agreed that the Aluminium Task Force Secretariat would draft a press release for use by members to publicise the directory and also look at reporting parameters of the directory's usage.

Mr Jamble raised the issue of whether technology providers from outside of the APP would be able to register on the website directory. The Aluminium Task Force agreed that in the interest of the industry having access to the best technology providers that those from countries outside the APP would not be excluded from registering.

Item 8.3: Proposed Project Extension - Linkages to Technology Providers

Dr Subodh Das outlined the proposed extension to the Linkages project whereby Secat would be funded by the US Department of State to populate the directory with US and Indian technology providers and to also create an information resource for the website. Ms Janice Weber from the US Department of State clarified that the intention was to start with populating the directory with US and Indian providers.

No Aluminium Task Force members objected to the proposed extension and it was agreed the Task Force Secretariat through the meeting record would notify China and Japan.

Agenda Item 9 – General Discussion (current and future projects)

Mr Hartwell noted that the Aluminium Task Force project roster stood at seven projects and indicated that the Aluminium Task Force may wish to consider if there any gaps in the coverage of the projects which could be undertaken. In response Mr Jamble indicated support for energy efficiency being important but noted there may be some proprietary issues. Mr Jamble also raised the prospect of developing a project around the issue of spent pot liners.

The Aluminium Task Force agreed to 4 projects being further developed by proponents for consideration at the next meeting which are:

- Optimising Energy Productivity – aimed at assisting the industry to improve its energy efficiency. This project had previously been considered but was unable to gain partner support at the time. The US and Canada indicated they would consider support following consideration of more detail. It was also indicated that this would be consistent with work being progressed in China and they should be made aware of this project proposal. Mr Carter – Australian Delegation - was tasked with providing a more detailed description of the project.
- SPL – managing the disposal of pot linings once these had come to the end of productive use. It was suggested that this could be a cross sectoral project with the Cement Task Force and Mr Poliquin would investigate having an Aluminium Task Force person to present at the next meeting.
- Alcoa's carbon capture in bauxite residue – Alcoa have developed a process for mixing carbon dioxide into bauxite residue which locks up greenhouse gas and reduces the ph level of the residue to levels naturally found in alkaline soils. It was suggested that Alcoa appeared willing to share this technology. Mr Knapp was tasked with approaching Alcoa with a view to developing a project proposal.

- Net Carbon Consumption in Smelters – this proposal was to examine methods for limiting the level of carbon consumption in smelters. Mr Knapp was tasked with further developing this project proposal.

Mr Hartwell also indicated the intent for the Aluminium Task Force Secretariat to develop an Annual Report covering the work of the Aluminium Task Force which could be used for reporting and as a vehicle to publicise the Aluminium Task Force's activities.

Agenda Item 10 – Other Business

Next Meeting

It was noted that the Aluminium Task Force had intended on rotating meetings across locations in each of the partner countries. The Chair also noted that the driving factor for holding meetings should be a substantive agenda to be worked through rather than just for the sake of holding a meeting.

The Aluminium Task Force noted that this meeting had clearly indicated that there was a lot of work to do which should justify a meeting in around 6 months time to check progress and provide ongoing guidance. Mr Larkin informed members that the IAI would be holding a meeting in May 2008 in Cape Town, South Africa which all of the industry association Aluminium Task Force members would be anticipated to attend. It was suggested the Aluminium Task Force consider holding its meeting in conjunction with IAI meeting due to the synergies for industry members.

Mr Hartwell agreed the timing – May 2008 - appear to be good for holding the next Aluminium Task Force meeting but pointed out that the location in South Africa which is not an APP partner needed to be considered. It was agreed that Mr Hartwell as the Aluminium Task Force Chair would write to Dr Harlan Watson the PIC Chair seeking his views on the appropriateness of holding an Aluminium Task Force meeting in a non APP member country location.

Close of Meeting

Note: Action items are underlined.

PARTICIPANT LIST

APP COUNTRY	ORGANISATION	NAME
Chair	Australian Government Department of Industry, Tourism and Resources	Mr John Hartwell
Co-Chair	USA Department of Commerce	Mr David Cammarota
Secretariat	Australian Government Department of Industry, Tourism and Resources	Mr Stephen Woolcott
Australia		
	Australian Government Department of the Environment and Water Resources	Mr Ross Carter
	Australian Aluminium Council	Mr Ron Knapp
	CSIRO (Light Metals Flagship)	Dr Raj Rajakumar
	CSIRO (Light Metals Flagship)	Dr Chris Vernon
Canada		
	Canadian High Commission	Dr Saroj Mishra
	Industry Canada	Mr Emile Beauchamp
	Aluminum Association of Canada	Mr Christian Van Houtte
China		
	No delegation attended	
India		
	Aluminium Association of India	Prof K.S.S. Murthy
	Aluminium Association of India Hindalco Industries Limited	Mr S V Jamble
	Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC)	Dr Jyoti Mukhopadhyay
	JNARDDC	Dr K V Ramana Rao
	JNARDDC	Dr Mohamed Najjar PA
	JNARDDC	Mr Mukesh Chaddha
	JNARDDC	Mrs Suchita Rai
	Nalco	Mr M K B Nair
Japan		
	No delegation attended	
United States		
	Department of State	Mr Boots Poliquin
	Department of State	Ms Janice Weber
	The Aluminium Association	Mr Steve Larkin
	The Aluminium Association	Mr Robert Strieter
	Secat Inc	Dr Subodh Das
	Jupiter Oxygen Corp	Mr Thomas Weber
	Novelis	Mr Carl Roby
	Hazelett Strip Casting Corp	Mr David Hazelett