Total Products Stored in Use Since 1888

- Finished Products (output): 48.8
- Other Applications: 1.0
- Semi-fabricated and Finished Products (input): 80.5
- Traded New Scrap: 10.1
- Fabricator Scrap: 21.6
- Old Scrap: 10.6

Metal Losses: 1.9
Recovery and Disposal: 4.3
Under Investigation: 3.0

- Bauxite: 217.0
- Bauxite Residues and Water: 91.3
- Alumina*: 79.2

Values in millions of metric tonnes. Values might not add up due to rounding.
*Change in 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 deoxidation aluminium (metal property is lost); 4 Area of current research to identify final aluminium destination (reuse, recycling, recovery or disposal); 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 Either incinerated with/without energy recovery, material recovery or disposal; 9 Estimated stock increase 980,000 tonnes.

Primary Aluminium used: 41.1
Remelted Aluminium incl. Recycled Aluminium: 42.1

Material Flow:
Building: 33%
Transport: 28%
a.o. Automotive: 16%
Engineering: 10%
Packaging: 1%
and Cable: 28%
Net Addition 2010: 29.9

DRAFT 2010 Aluminium Mass Flow Model

Published 2011

Global Aluminium Industry Sustainability Performance 2010

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Reliability Statement: This information is given to the best of our own knowledge, but without warranty. The application, use and processing of the products is beyond our control and therefore entirely your own responsibility.
Aluminium Industry Key Facts

Production (2010)
- Bauxite: 220 million metric tonnes (Mt)
- Metallurgical Alumina Production: 82 Mt
- Chemical Grade Alumina Production: 6 Mt
- Primary Aluminium: 41 Mt
- Recycled Aluminium: 20 Mt

Semi fabricated products demand (2010)
- Building & Construction: 15 Mt
- Transport: 14 Mt
- Engineering: 13.5 Mt
- Packaging: 8.5 Mt
- Other: 8 Mt
- Total: 59 Mt

IAI data production coverage (2010)
- Bauxite Mining: 40%
- Alumina Refining: 60-100%
- Primary Aluminium Production: 50-100%

Summary information only - full details available on the IAI website

Bauxite Residue (“Red Mud”) Management

The IAI Board of Directors has adopted five voluntary objectives to strengthen bauxite residue management practices globally.

1. **Assured integrity of current residue storage facilities**: To re-assess the integrity of all existing residue storage facilities, including closed/legacy sites; ensure adequate monitoring, management & control processes in order to avoid future incidents;

2. **Provision of industry-based support**: To continue to identify and make available a pool of industry experts to (a) assist authorities on management of legacy sites and (b) provide operational support to industry participants for specific activities if requested;

3. **Best practice management**: To manage bauxite residue according to industry best practices, (including high storage density/low causticity storage and neutralisation where feasible); and reflecting local climatic, geographic, regulatory, residue properties and other conditions;

4. **Conclusion of bauxite residue solids disposal to marine & aquatic environment**: The industry commits to the conclusion of the few remaining aquatic and marine disposal activities by 2016;

5. **Improved technology**: Through collaborative and individual actions, to continue research and development into innovative industry-wide remediation, rehabilitation, re-use and benign storage options for bauxite residue – and to disseminate the research results on a global basis.

Refining Energy Consumption (global industry coverage)

**IAI Objective**: 10% reduction in global refining energy intensity, 2006 to 2020
- 9% improvement in energy intensity between 2006 and 2010
Fluoride Emissions (global industry inc. China)

**NEW IAI Objective (2010):** 35% reduction in global fluoride emissions intensity, 2006 to 2020
- 13% improvement in global particulate and gaseous fluoride emissions intensity between 2006 and 2010; 50% improvement between 1990 and 2010

**IAI Objective:** 50% reduction in global PFC emissions intensity, 2006 to 2020
- 26% improvement in PFC emissions intensity (as CO₂e/t Al) between 2006 and 2010

**Global Aluminium Beverage Can Recycling Rate**

**IAI Objective:** The aluminium industry will work to encourage a global aluminium used beverage can (UBC) recycling target of 75% by 2015
- 2009 global UBC recycling rate at 70%

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**Perfluorocarbon (PFC) Emissions (global industry inc. China)**

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Health & Safety (IAI Members)

- Over 95% of IAI member company facilities have Environment, Health and Safety Management Systems in place
  - 90% are ISO 14000 certified
  - Over 60% are OHSAS 18000 certified

- Over 95% of IAI member companies have implemented employee exposure assessment and medical surveillance programmes as defined in http://www.icmm.com/health-and-safety-indicators
- Over 50% of reporting facilities have ongoing health-related community initiatives

IAI Objective: 50% reduction in IAI member company lost time injury rate (LTIR) & total recordable injury rate (TRIR), 2006 to 2010
  - Lost Time Injury Rate (LTIR) has remained constant between 1.6 - 1.7 for past 4 years;
  - Total Recordable Injury rate (TRIR) decreased from 5.2 in 2009 to 5.1 in 2010

NEW IAI Objective (2010): 5% reduction in global smelting electrical (direct current) energy intensity by 2020 versus 2006
  - Direct current (DC) electrical energy intensity is a measure of the efficiency of the smelting process
  - Average DC electrical energy required to smelt one tonne of aluminium worldwide was cut by 4% between 2006 and 2010

Smelting Energy Consumption (global industry inc. China)

- Total smelting electrical energy intensity was cut by 10%, 1990-2010