



The G8 Industry Task

Indicators for Industrial Energy Efficiency and CO₂ Emissions

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IAI - IEA workshop, 24 May 2007

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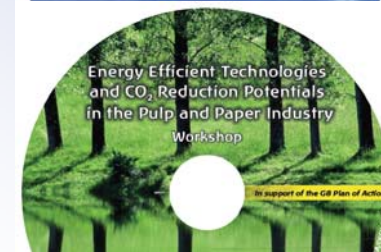
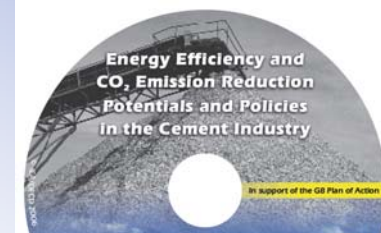
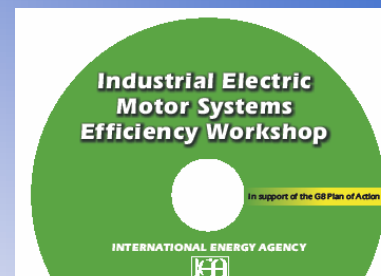
Workshop Goals

- **There will be a workshop statement, including:**
 - ◆ Your data on efficiencies & emissions worldwide, and where to find missing data
 - ◆ Your feedback on suitable indicators
 - ◆ Your feedback on scenario analysis & technology diffusion
 - ◆ Your advice on technology focus for energy efficiency & CO₂ reduction analysis
 - ◆ Your advice on cooperation & policy framework analysis
 - ◆ Your advice on G8 recommendations
- **Part of a dialogue**



Dialogue Workshops with Industry

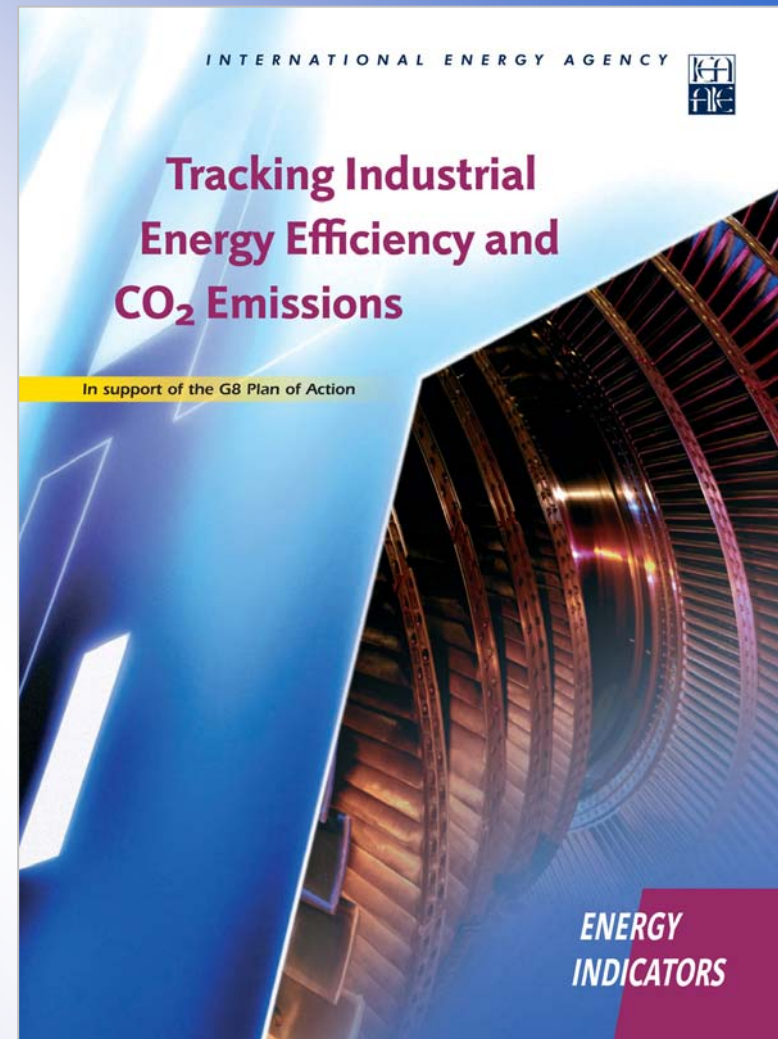
- Motor systems, 15-16 May 2006
- Cement, 4-5 September 2006
- Paper and Pulp:
 - ◆ Technical workshop, 9 October 2006, Paris
 - ◆ International Seminar, 30-31 October 2006, Rome
- Iron and Steel – 7 November 2006
- Petrochemicals- 12-13 December 2006
- Ammonia – 13 March 2007
- Aluminium – 24 May 2007
- Cooperation with: APP, CEPI, CEFIC, IAI, IFA, IISI, ICFPA, FAO, WBCSD,...





June 2006

INTERNATIONAL ENERGY AGENCY



June 2007

AGENCE INTERNATIONALE DE L'ENERGIE

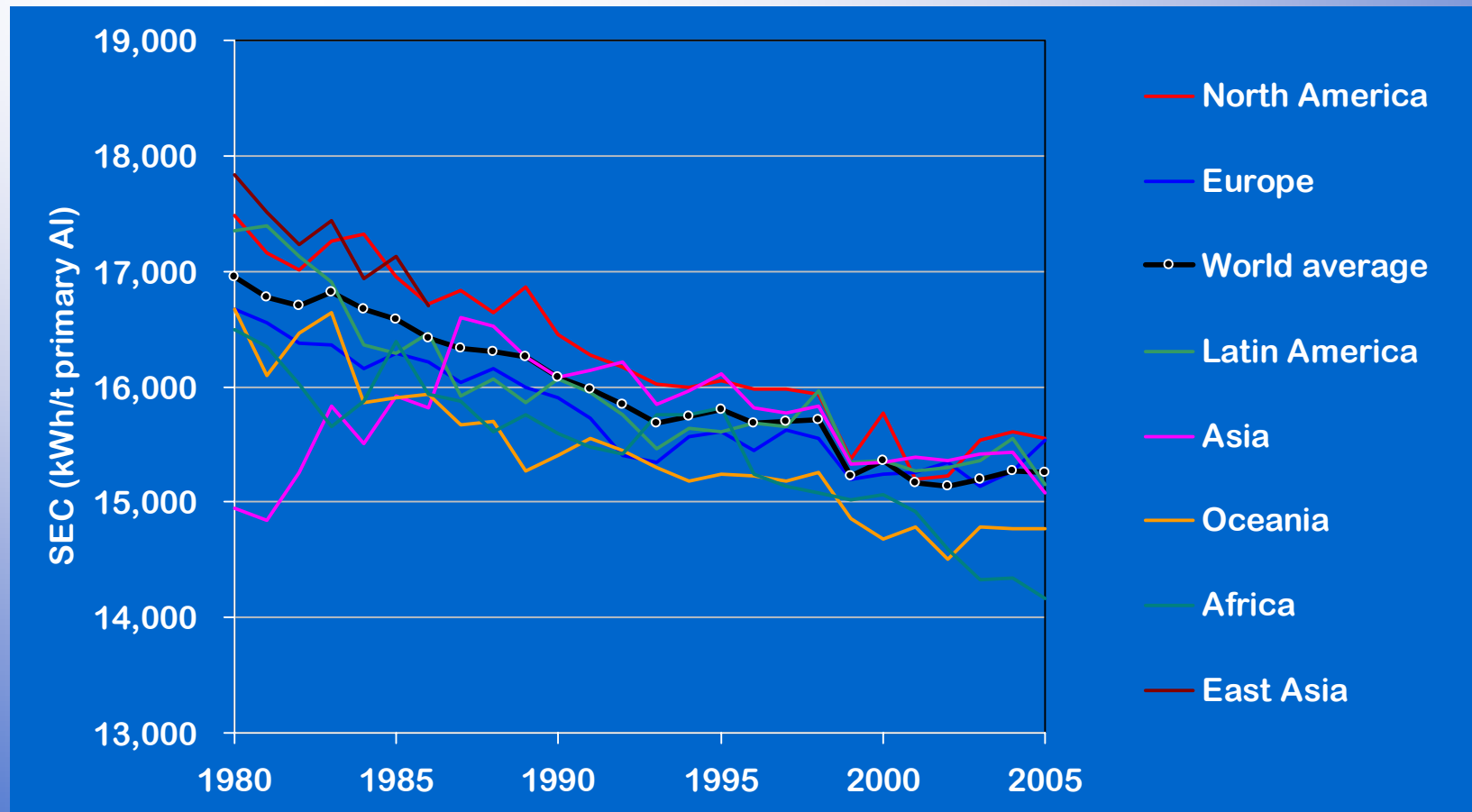


Aluminium Industry Relevance

- 1.7 EJ/yr of electricity for smelters (2.8% world demand)
- About 1.1 EJ/yr of fuels + feedstock (<0.3% world demand)
- More important for certain countries

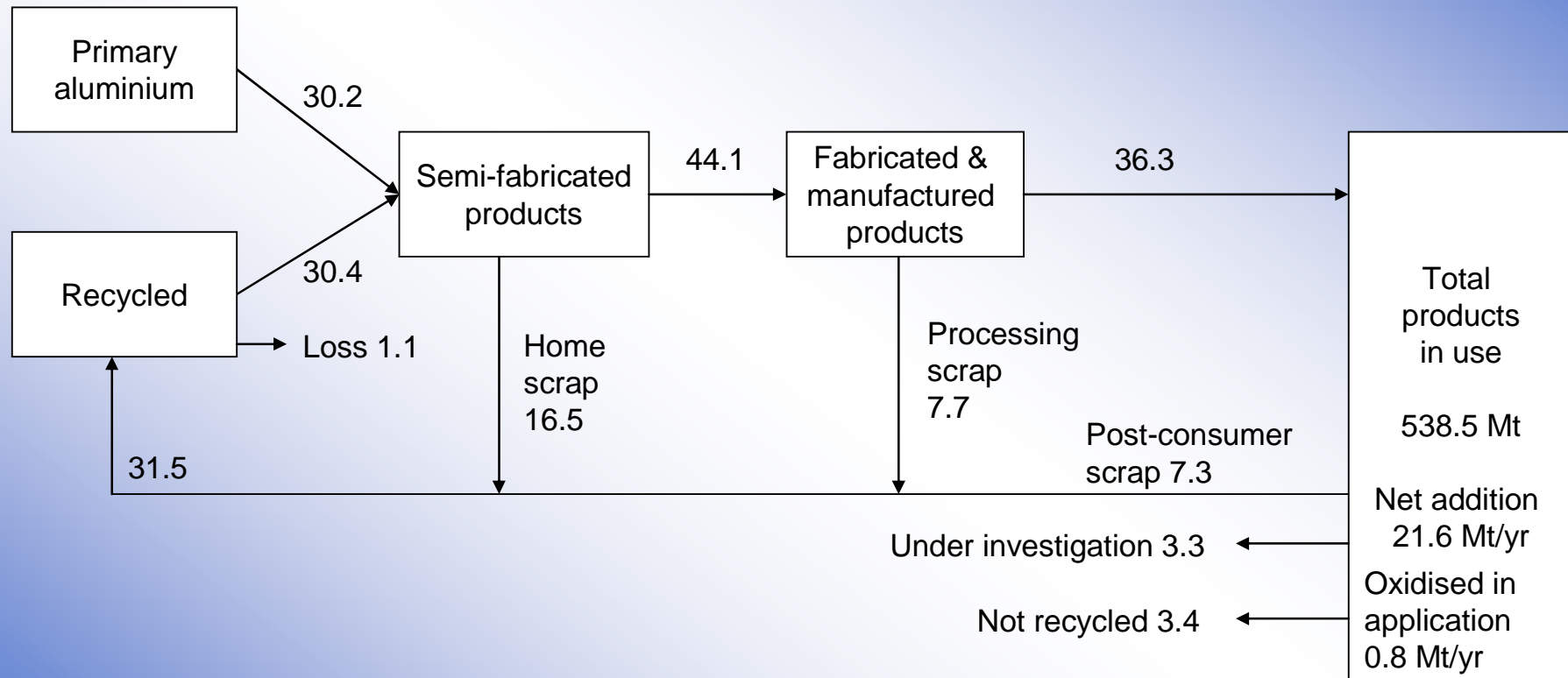


Electricity Use for Aluminium Smelters





Aluminium Mass Flow Diagram





Special Issues for Aluminium

- A commodity with a single world market
- Rapidly growing production
- Indirect emissions (from electricity production) dominate
 - ◆ Electricity emission allocation issues
- Energy prices are important for the location choice for new smelters
 - ◆ Potential carbon leakage is an issue
- Remaining recycling/recovery potential is unclear
- Aluminium can save energy in light weight applications (life cycle perspective needed)



G8 Industry: Next Steps

- Sectoral Approaches – November 2007 (Richard Baron, Julia Reinaud and Kanako Tanaka)
- Efficiency potential analysis (new technologies) – End 2007 (John Newman and Dolf Gielen)
- Broadened Indicators Analysis (G8 + 5, all economic sectors) – End 2007 (Peter Taylor)
- *Energy Technology Perspectives 2008*: industry sector level scenario analysis, technology roadmaps and electricity sector prospects – February 2008 (Dolf Gielen and Uwe Remme)
- IEA paper: Measuring Energy Efficiency Performance in Industry - mid 2007 (Kanako Tanaka)
- IEA paper: Review of Best Practice for Policies and Measures in Industry- late 2007 (Richard Baron and Kanako Tanaka)
- IEA publication: Competitiveness Implications for Energy Intensive Industries of GHG Emissions Reductions Policies - June 2008 (Julia Reinaud)



Proposed Cooperation Themes

- Energy efficiency & CO₂ emission indicators on a country level
- Review of options
 - ◆ Shift to pre-baked point-fed smelters
 - ◆ Inert anodes
 - ◆ PFCs
 - ◆ Recycling
 - ◆ Energy efficiency in alumina production
 - ◆ CO₂ capture from smelters ?
- Advice on what can be done realistically
 - ◆ Cost & competitiveness
 - ◆ Road map - time path
- Scenarios, policies and measures
 - ◆ Sectoral approaches
 - ◆ Carbon leakage
 - ◆ New industry scenarios



Thank you

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