Integrating Life Cycle Thinking into the Business Processes of a Multinational Company
Alcan Inc – 4 Business Groups

BAUXITE AND ALUMINA

PRIMARY METAL

ENGINEERED PRODUCTS

PACKAGING
Global Presence (as of June 2007)
68’000 employees in 61 countries
Sustainability by Delivering Social, Environmental, and Economic Value

Think broadly about issues and impacts

Engage and partner with stakeholders

Make connections & integrate sustainability into the business

*Source: Dale Carnegie Training)
Product Stewardship (LCM) is Operationalizing Product Sustainability

- Criteria covering the 3 pillars of Sustainability:
  - Environment
  - Social
  - Economic (long term)

- Life Cycle Thinking: Integrating supply chain and downstream activities (suppliers, customers, consumers)

Product Stewardship (LCM) = Sustainability aspects + life cycle thinking in practice
2005 - 2007: The Development has been Strongly Accelerating

- Product Sustainability increasingly becoming a **REAL Business Issue**, driven by businesses (e.g. Wal-Mart, the world‘s largest company 2006, General Electric, etc.)

- It is becoming a **core competitive issue** → differentiation of products and suppliers (brand value)

- **Demand** globally accelerating with regional differences
  - Europe & Japan: steady development
  - North America: interest “exploding”
  - Other Regions: strongly emerging
The Business Case: Product Sustainability as Opportunity for Growth

New opportunities for differentiation (as quality some decades ago)

Product Sustainability ⇒ Top-line growth

Based on: U. Golüke, WBCSD
Key Challenges in Implementing Product Stewardship

- Has to fit to the **organizational structure(s):** no “one size fits all”
- **Complexity vs. easy-to-use approaches**
  - Too detailed/complex (e.g. detailed LCA): cost-benefit ratio??
  - Too simplistic: “perceived sustainability“ often misleading
- Differentiation between management/improvement approaches (e.g. internal application) and **reporting** (e.g. Wal-Mart scorecard)
- **Product system** vs. (traditional) **material view**
- Product System AND **Business Model** needs to be taken into account
- Don‘t reinvent the wheel
Reinventing the Wheel?
Example Alcan: Product Stewardship is a Key Business Strategy

- **Management/process approach** (vs. project approach)
  - managing sustainability as quality is managed
  - integration into EXISTING business processes, no add-on

- **Getting ownership throughout the business functions, e.g.**
  - Management
  - R&D
  - Procurement
  - Sales and Marketing
  - Human Resources
  - Finance

- "Mainstreaming": Capacity building, aligning organization and tools

- **Overall improvements of product portfolio** in the focus
  (incremental changes, no silver bullet)

- (More) sustainable products are a **strategic market focus**
  - innovation, growth opportunities
Think Broadly about Issues and Impacts
Environmental Sustainability Criteria

- Use (depletion) of energy resources
- Impact on biosphere / Use of non-energy resources
- Emissions to air (global warming gases / others)
- Emissions to water / Emissions to ground
- Impacts from waste treatment
- Quality of environment management system
- Good international practices regarding environment
- Risks of severe environmental accidents
Social Sustainability Criteria

• Safety & Health impacts

• Quality of Safety & Health management systems

• Good international practices regarding Safety & Health

• Risk of severe safety or health accident

• Adherence to Labor Rights

• Quality of Labor Rights management system

• Social Differentiation

• Impact on surrounding communities
Economic Sustainability Criteria

- Adherence to existing or anticipated regulations
- Availability of raw materials
- Assets needed
- Market differentiation
- Performance of quality management system
- Human capital factors
- Technical quality factors
- Performance of CI management system
- Governance / Transparency and accountability
Make Connections and Integrate Sustainability into the Business
Stepwise Process and Adapted Tools as Key Elements of Implementation at Alcan

1) Identification of priorities via involvement of top-management of Business Sectors/Units

2) Awareness creation and training for the relevant business functions

3) An interactive qualitative mapping of the sustainability aspects of the relevant products groups of a business → Qualitative fact base and initial action plans

4) Development of product group specific action plans

5) Continuous step-by-step integration, utilization of ASSET™ (Alcan Sustainability Stewardship Evaluation Tool)* → currently started for Alcan Packaging

*ASSET is a trademark of Alcan Inc. and/or its affiliates, patent pending
ASSET™: Enhancing the Offering of Packaging Products*

Think broadly about issues, opportunities, and impacts

Life Cycle Thinking

Make connections, integrate sustainability into our businesses

Support Businesses

Product Stewardship

Engage and partner w/ customers, suppliers, end consumers, ...

Support Supply Chain coop.

ASSET™ process and tool

* currently, ASSET™ is being adapted to be Used for other product groups as well
Simplified LCA is One Element of ASSET™

Defining the product and its use (life cycle): input/outputs, plant, markets

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Environmental indicators

Calculation of LCA results based on ISO 14040
# ASSET™ Sustainability Matrix Gives a Holistic View of Sustainability Performance

## SWOT analysis:
**Strengths (+), Weaknesses (-), opportunities (++)**, threats (--)
ASSET™ Results: Sustainability Profile and Index

Differences in criteria for specific assessment

- Quantitative environmental impacts
- Risk of severe environmental accidents
- Quality of safety & health management system
- Quality of social rights management system
- Operating costs
- Market differentiation
- Threats or opportunities in public perception

Normalized sustainability index (as internal KPI only)
Internal Organization is Key to Successful Implementation

Central team: guidance and support
- Develop long-term strategy
- Overall co-ordination
- Provide trainers and training material
- Development and maintenance of tools and background data

Business Sector/Unit: defines specific roll out plans
- Define responsibilities (co-ordination, technical supports)
- Define product groups & procedure to set targets and manage progress
- Integration into product development of R&D centers
- Sales & Marketing
  - Enhance Product Offering
  - Partner with customers
Engage and Partner with Stakeholders
Partnering with External Stakeholders
Along the Supply Chain

- **Cooperate with suppliers:**
  Data sharing, but also auditing in the supply chain
  (e.g. EHS and social responsibility audits)

- **Support to our customers**
  - Help our customers to better satisfy their own customers
  - Support our customers to prepare for existing and upcoming
    sustainability requirements (business, regulatory)

- **Address recycling/end-of-life performance**

- **Provide objective elements on sustainable products**
  - Resist to misleading “green/sustainable” statements and to
    popular short term trends
  - Offer unbiased, holistic point of view
  - Contribute to public and policy debate
Success Factors for Implementing Life Cycle Approaches in Industry

- View Product Stewardship (Life Cycle Management) as a process (similar) to quality management
- Focus on business value and core business functions
- Sales & Marketing as well as R&D/innovation can be powerful drivers
- Develop tools and organization TOGETHER with other business functions
- Better be roughly correct than exactly wrong
- Also focus on what LCA is NOT, address limitations and links to other approaches
- Sustainability is not only about environment, don’t forget other pillars
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Alcan’s Integrated Management System (AIMS) - 1

- **Value-Based Management (VBM)**
  - Brings clarity to the decision-making process
  - Allows each business group to better identify and seize opportunities
  - Value-generating initiatives:
    - Bauxite & Alumina: Expansion of the Gove alumina refinery in Australia
    - Primary Metal: Investment in Sohar smelter, Oman
    - Engineered Products: Supplier of aluminium plate for Airbus A380, long-term aluminium supply agreement with Boeing
    - Packaging: Increased number of operations in emerging markets, such as Russia, Poland, China and Malaysia

- **EHS FIRST**
  - Makes Alcan a recognized leader in terms of environment, health and safety
  - 20% improvement in the accident (LTII) rate over 2004
  - Improvement of PFC emissions over 2004
Continuous Improvement (CI)
- A culture of striving constantly to be better at everything we do
- 3,000 employees were trained as black and green belts between September 2003 and the end of 2006.
- Completed CI Projects generated the equivalent of $267 million in annual business group profit with another $196 million under way.

Alcan People Advantage
- Underscoring the importance of hiring, motivating and retaining the best people
- The objectives are to provide:
  - Employee recognition
  - Opportunities
  - Challenges
  - An exciting place to work
Revenues by Business Group

Revenues for 2006: $23.6 billion

- Engineered Products: $7.1 billion (30%)
- Packaging: $6.0 billion (25%)
- Primary Metal: $8.7 billion (37%)
- Bauxite and Alumina: $1.8 billion (8%)