The Mining and Metals Industry in Europe
Opportunities and Challenges

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JOINT STUDY GROUPS’ SEMINAR
Lisbon, 2 April 2014

The context

→ Global trends
  ✓ population growth, ageing, urbanisation
  ✓ Changing life style: mobility patterns, energy mix, communication ...
  ✓ Ever more global economy with a global perspective of growing markets for metals
  ✓ Greater focus on resources

→ An economic crisis
  ✓ Demand drops: lower prices
  ✓ Access to finance more difficult
  ✓ Fierce competition between regions and between materials

→ How can the mining / metals industry cope?
The world is focusing on resources

→ Driving forces identified
  ✓ Social: population growth, consumer behaviors, skills gaps, health and safety expectations
  ✓ Technological: automation of operations, substitutions for minerals, energy innovation, resource scarcity, low carbon technologies, new uses for materials
  ✓ Economic: global growth, emerging middle classes, access to capital, financial openness, global wealth distribution, fiscal policy
  ✓ Environmental: Climate policy, water availability, environmental degradation, price of water and CO2, Global industry adaptation, ecosystem valuation
  ✓ Geopolitical: instability, level of state intervention in business, degree of trade liberalization energy security, resource competition and management, global governance...

What about Europe?

→ Impact of the economic crisis ...
  ✓ Closures, markets and jobs losses
  ✓ ... but understanding that « Industry matters »
    ✱ Industry should contribute 20% of EU GDP by 2020

→ ... But, continuous pressure
  ✱ From regulators and ...
  ✱ ... from markets (customers)

→ In other words ... GREEN GROWTH!
  ✓ Wishful thinking or reality?
Regulatory Pressure: some examples

- Drastic reduction in energy/CC emissions (threat and opportunity)
- Increased resource efficiency through increased recycling and better use of resources (opportunity)
- Environmental taxation and internalisation of costs – remove subsidies (threat)
- More lenient production and consumption – impact on consumers behaviours (threat and opportunities)
- From a substance/media based approach to a product functionality approach meeting needs of value chain (opportunity)
- Rewarding eco-innovation (opportunity)

Green Growth?

- That’s how EU wants to lead on sustainability and economic grounds!
- How?
  - A global strategy (EU 2020) based on 7 pillars (flagship initiatives), incl.:
    - Innovation (Public – Private Partnership): How to link innovation to investments?
    - Resource Efficiency: How can minerals and metals contribute to a resource efficient society?
    - Industrial Policy: How can energy intensive industry operating under global pricing be competitive?
    - ...
What does it mean for us?

→ Sustained demand for metals is a long-term trend but competition between materials gets fiercer! Materials will increasingly have to demonstrate an acceptable sustainability footprint to access markets.

→ The future potential is high for a sustainable NFM industry provided it can promote itself and ensure that its assets and specificities are recognized.

→ Decouple economic growth from resource use and its environmental impact:
  ✓ Changing consumers behaviors
  ✓ Boosting efficient production
  ✓ Turning waste into resources
  ✓ Supporting research and innovation
  ✓ Phasing out inefficient subsidies
  ✓ Getting the prices right

The EU metals industry response

<table>
<thead>
<tr>
<th>Green</th>
<th>Growth</th>
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<tbody>
<tr>
<td>Develop an adequate strategy to <strong>successfully compete</strong> with other materials / promote metals as part of the solution</td>
<td>Continue to defend the competitiveness of the non-ferrous metals industry and <strong>presence in Europe</strong></td>
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<td>A global mining and metals industry response required</td>
<td>A European Industry response required</td>
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Proactive and long-term | Reactive and short-term
**CORE VALUES**

- **Respect/care:** for the environment, people and workers, local communities and suppliers
- **Integrity:** meeting strong governance principles
- **Accountability and transparency:** accountable and open with stakeholders
- **Innovation:** creating added value and minimising impact
- **Performance:** striving for efficiency across the entire value chain

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**Part of the solution**

- No sustainable society without metals
  - Mobility
  - IT and communication
  - Healthcare
  - Renewable energy
  - Building

- Capitalize on unique metals characteristics
  - Functionality
  - Durability
  - Recyclability

- Think long-term but act and communicate now
Guiding Principles

→ Effective resource efficiency
  ✓ Continuous progress towards improved resource efficiency at all stages of the value chain, including use and recycling

→ Adding value through the supply chain
  ✓ Provide knowledge and support through a continuous and open dialogue with stakeholders along the supply chain

→ Contributing to the development of improved products
  ✓ Continuously improve and innovate the use of the materials and products and the material conservation
  ✓ Risk assessment, life cycle assessment, and best management practice as central elements to develop sustainable products

→ Enhancing sustainability performance through the life-cycle by
  ✓ supporting a closed-loop material approach
  ✓ working to progressively decouple production and the impact on man and the environment

→ Building and driving on innovation

5 success factors – How?

- Governance to establish credibility (transparency, image)
- Value chain integration/symbiosis for both products conception and material management coupled with process and product innovation
- Deep knowledge of metals and risks
- Performance and Functionality – durability of products (innovative products and anticipation) and optimum resource (energy, carbon, material) per unit of functionality
- Closing the loop (recycling)

The above success factors will deliver a viable and desirable industry which will be more integrated towards meeting functional needs

Eurometaux has undertaken to develop all that in a Long term Sustainability Roadmap for the EU non ferrous metals Industry
And act towards EU legislation

Long-term trend: everything that will be produced and used in EU (and later also worldwide) will have to demonstrate acceptable “sustainability footprint”!

| Resource or energy efficiency | Product Environmental footprint | Eco-design | Sustainable Consumption and Production | End of Life legislation | Waste policy | ...

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<th>Toxicity FP</th>
<th>Transformation</th>
<th>Use</th>
<th>Recycling / Disposal</th>
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<td>Claren FP</td>
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<td>Resource intensity H²</td>
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<td>Water (retention FP)</td>
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<td>Socio-economic Value</td>
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<td>ICM / EM Work</td>
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Sum – Sustainability footprint of the metals supply chains

Competitiveness to operate in EU (1)

- **Industrial Policy**
  - Level playing fields
  - Innovation and Investment attractive regulatory environment (stability, coherence, predictability)

- **Environment (site)**
  - Industrial Emission Directive / BREF
  - Adequate quality standards (air, water)

- **Environment (product)**
  - REACH
  - Risk vs based
  - Adequate methodologies
  - Recycling ...
Competitiveness to operate in EU (2)

→ Energy and Climate Change
  ✓ Proper functioning of electricity market (LT contract)
  ✓ No unilateral EU policy detrimental to energy intensive sectors
  ✓ Continue to work for long term improvement of ETS (compensation)

→ Trade
  ✓ Promote free and fair and address trade distortions in numerous bilateral trade negotiations (TTIP, China, Russia, ...)
  ✓ Trade Defence
  ✓ Access to raw materials
  ✓ Conflict Minerals

Communicate

→ To regulators
→ To other stakeholders
→ To market: involve the value chain
→ We have a good story to tell
→ Be ambitious
→ Every step counts

→ Good progress but still a long way to go for convincing and demonstrating that ...
Without non-ferrous metals...
...no electric car runs.
...no mobile phone rings.
...no building functions.
...no airplane flies.
...no solar cell operates.
...no wind generator moves.