



SILICON:

A CRM AT THE CROSSROADS OF EU LEGISLATION

CRM ALLIANCE DAY

Brussels, 20th March 2019

EUROALLIAGES



OUR ASSOCIATION

- **Association of European ferro-alloys and silicon producers**
 - Ferro-alloys: essential raw materials for steel-making
 - **Silicon: end-users are aluminium, chemicals, electronics and solar industries**
- Membership: 23 companies, operating nearly 50 plants in 14 countries, with 8,000 employees and a cumulative annual turnover around €2 bn
- EUROALLIAGES represents about 95% of ferro-alloys and silicon production in Europe (EU + EEA)

OUR VISION

- A small sector in absolute terms, but **strategic for European economy**
 - **Part of major European value chains**
 - **Low-carbon / decarbonisation technologies enabler**
- At the crossroads of **several EU policies**, sometimes contradictory in their effects

WHAT IS SILICON?



DESCRIPTION

- Grey metallically lustrous **metalloid element**
- Used mainly as a “hardener” or alloying element to produce **aluminium alloys**, in the **chemical industry** and in the manufacture of **micro-processors** and **solar cells**
- Commonly produced by smelting submerged electric arc furnaces, which is an energy-intensive process

CRITICAL RAW MATERIAL FOR THE EU

- **Recognised as CRM in 2014 and 2017 lists**
- **EU is a net importer**; China has a dominant position in Silicon metal production (61% of the total refined production on average in the period 2010-2014, data from BGS, 2016)
- **Europe remains a producing region**, with plants in France, Spain, Germany, Norway and Iceland

THE FUTURE OF SILICON AS CRM



LOW-CARBON TECHNOLOGIES ENABLER

- Silicon is a crucial material to achieve a low-carbon / decarbonised economy in Europe

- Solar panels
- Light cars
- Batteries



- This has been recognised by European Commission's vision "A Clean Planet for All" regarding the decarbonisation of EU economy by 2050

NON-SUBSTITUTABLE

- There is no substitute to Silicon presenting the same performance or the same cost-benefit ratio

INTERNATIONAL TRADE

SILICON:

A COMMODITY “PROTECTED” FOR MORE THAN 25 YEARS BY AD MEASURES → IS THIS INDUSTRY VIABLE?

The European Silicon industry faces for more than 25 years a fierce competition from the PR China.

In the last AD review investigation (2016), the Commission made the following findings:

- Capacities kept **growing** without a corresponding increase of domestic consumption. Hence these additional capacities are all geared to exports.
- This expansion has generated **excess capacities** (overcapacities) to an unprecedented level: installed capacities in the PR China are now able to meet more than twice the worldwide consumption of Silicon....
- Most of Silicon Chinese capacities are **coal based** → highly polluting!

European Silicon producers do not compete at all on the same basis: there is no level playing field!

CLIMATE AND ENERGY



CLIMATE POLICY

- The **EU Emissions Trading Scheme (EU ETS)** involves a double cost:
 - **Direct emissions:** For many companies (especially SMEs), CO₂ allowances cost will completely wipe out the profit margin already in 2020; this will be all the more the case with the increasing CO₂ price
 - **Indirect emissions** (CO₂ cost passed into electricity prices): The cost impact is even higher (65% of CO₂ costs for Silicon producers)
 - These costs are **not borne by our competitors in third countries**

ENERGY POLICY

- As an energy-intensive industry, Silicon producers are concerned by **high electricity costs**
 - **Energy efficiency** is a matter of competitiveness and therefore a priority
 - However investment costs are high and business cases are hampered by a **lack of coherence between EU policies**
 - E.g. Heat recovery results in a loss of free allocation when the heat is transformed into electricity

REACH / EHS

IMPACT OF CLASSIFICATION & LABELLING REGULATION AND REACH

- Silicon is not hazard classified under the CLP and REACH Regulation. However, some **key raw materials** used in the production of Silicon are, like High Temperature Coal Tar Pitch (HTCTP) used in the electric arc furnaces.
- This use of HTCTP has been recognized as an intermediate use and hence is not subject to a heavy authorisation process to be still used. However, most of its constituents PAHs (polycyclic aromatic hydrocarbons) are now potential candidates to the authorization process.
- There is **no clear coherence and stability** in the regulatory framework.
- A lot of human and financial resources are used in abatement technologies, with exponential investments to reach **extremely low emission limit values** (closed to the detection limit sometimes, see Industrial Emissions Directive) which hence **divert important resources from innovation** to remain competitive on the market.
- A growing number of legal requirements are imposed to EU producers without equivalent in third countries exporting to the EU market, and this without proper controls at the EU border.

Strong regulations with weak enforcement ! Where is the coherence ?

IMPACT OF EU POLICIES

LACK OF COHERENCE

Silicon is a “good” example of the **lack of consistency** between EU policies.

On the **positive** side:

- Silicon is on the **list of critical raw materials** → European Silicon production is recognised as an asset for the EU. According to the EU raw materials policy therefore, production of CRM in Europe needs to be preserved to avoid dependency from external suppliers.
- This recognition is consistent with the role of Silicon in the **green energy** value chain (solar panels).
- Likewise, **the long lasting AD measures** sanctioning unfair competition conditions are consistent with the above policies.

BUT IS THIS ENOUGH?

IMPACT OF EU POLICIES

LACK OF COHERENCE

On the **negative** side:

- As energy intensive industry, Silicon production falls under **the ETS** constraints which will more and more erode its competitiveness on the international market (which is already distorted through the unfair Chinese competition).
- **Industrial Emissions and Chemical regulations** make this erosion of competitiveness even more acute already in the short term.
- The AD measures in Europe – deemed to restore fair competition – are **legally circumvented** through customs procedures (inward processing), hence drastically reducing the effectiveness of the trade defence measures. This possibility does not exist under US customs procedures: irrespective of the customs regime, AD duties are always collected.

IMPACT OF EU POLICIES

LACK OF COHERENCE

On the **negative** side:

- Silicon is a quite strong illustration of the distortions generated by State-led economies, which artificially create **overcapacities**. This issue has never been tackled by the EU in its relations with the PR China.

In the short and/or medium run, the combination of ETS cost constraints, of a series of environmental Regulations and the weak trade defense measures in Europe may definitively jeopardise the mere existence of Silicon production though it is recognised as a critical raw material, contributing to the green energy value chain.

CONCLUSIONS

- Need for a **proactive CRM policy**
 - Defend the competitiveness of CRMs produced in Europe
- Need for an **Industrial Transformation Masterplan**
 - Requested by the “Clean Planet for All” Vision
 - Putting the industry in the center of future policy
- Need of sustainable, stable and consistent **policy framework**
- Need of **EHS/Climate and social provisions** in free trade agreements and level playing field between EU and non EU operators