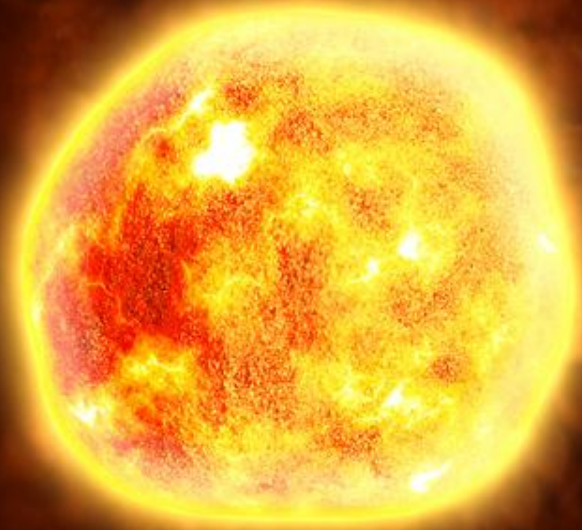


POST-2020 EU CLIMATE CHANGE POLICY

- LESSONS FROM THE 2020 CLIMATE AND ENERGY PACKAGE
FIRST MEETING OF THE CEPS TASK FORCE ON
“POST-2020 EU CLIMATE CHANGE POLICY“, BRUSSELS APRIL 24TH 2013



GÖRAN BÄCKBLOM, LKAB WWW.LKAB.COM
VP PUBLIC AFFAIRS

CORPORATE ADVISOR BUSINESS & TECHNOLOGY DEVELOPMENT

LKAB WORLD WIDE

- 
- A dark blue world map is visible in the background of the slide, showing the continents and major landmasses.
- 4,200 employees whereof 3,000 in Sweden, 17 % women
 - 90% of the EU's iron ore production
 - Production 2012: 26.31 Mt, of which pellets 23.8 Mt
 - Leading producer of iron ore pellets globally
 - Turnover 2012: SEK 27 billions SEK (€ 3.2 billion)
 - 123 years of operation in the Arctic
 - One of largest Swedish industrial investors 2012 (€ 600 million/year over the last 10 years) to grow production, increase performance in iron-making and further limit environmental foot-print
 - Sweden's largest carrier: more than 30 Mt in 2012



**Narvik
(Norway)**
Atlantic port



**Kiruna
operations**



**Malmbanan
railroad**



**Malmberget
operations**



**Svappavaara
operations**



Luleå
Baltic sea port
and HQ

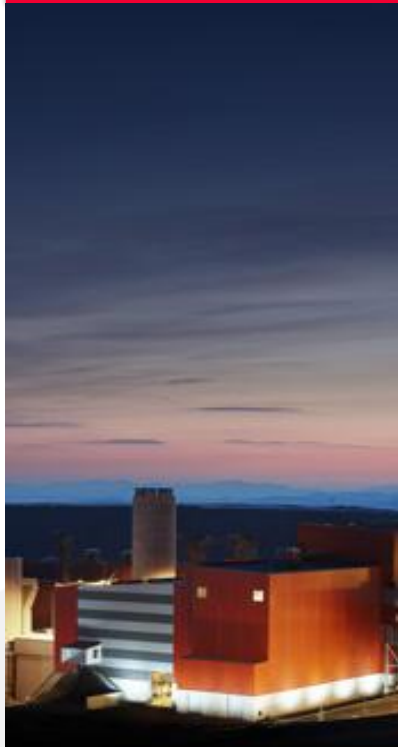
IRON ORE OPERATIONS

HIGH TECH PROCESS INDUSTRY

High technology mining



Clean technology for
pelletising plants



Effective and
environmentally friendly
logistics



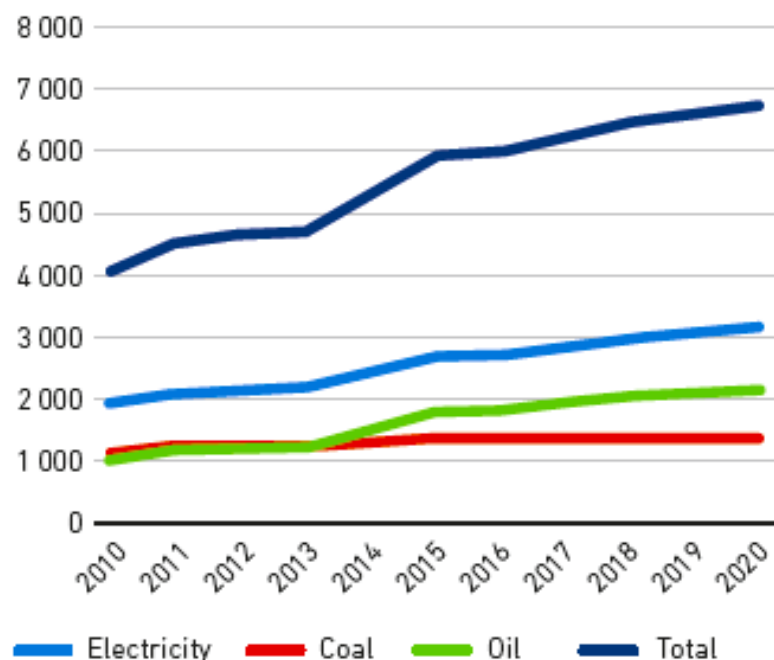
World-leading
R&D in pelletising and
ironmaking



ENERGY CONSUMPTION AND CO₂ EMISSIONS

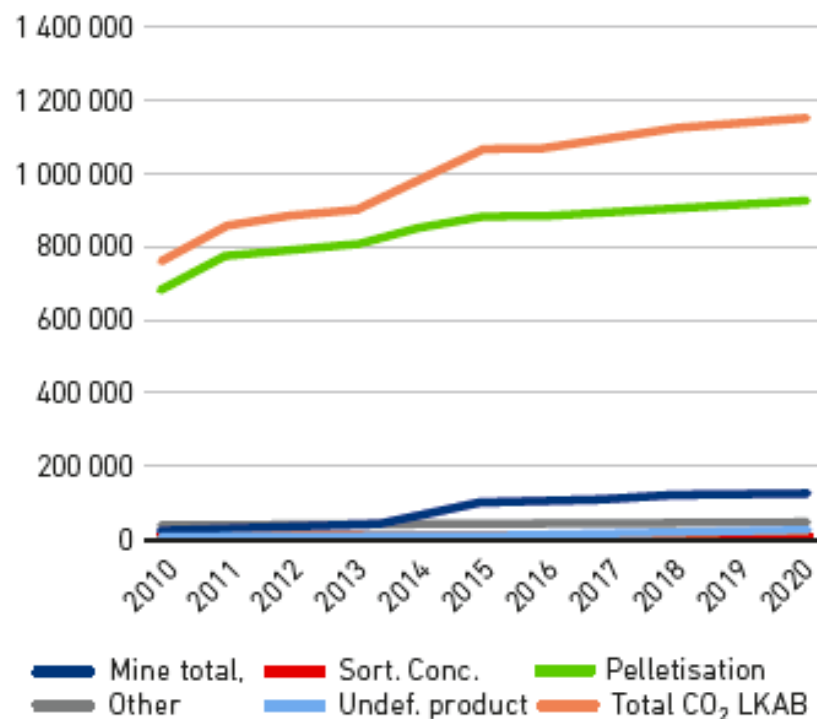
Energy consumption by energy source (BAU)

(GWh)



Carbon dioxide emissions (tons) by production stage (BAU)

(ton CO₂)



BAU = Business As Usual

LKAB GREEN PELLETS

Magnetite oxidises during the manufacturing of pellets and thereby provides **60 percent of the energy required.**

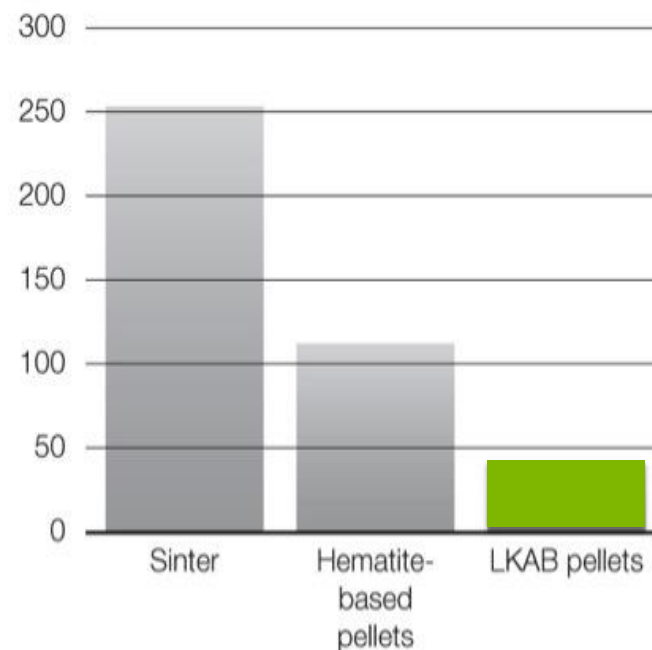
LKAB has **the world's most energy-efficient pelletizing manufacturing process.**

- Less fossil fuels
- Lower CO₂ emissions
- On the track to further emission reductions

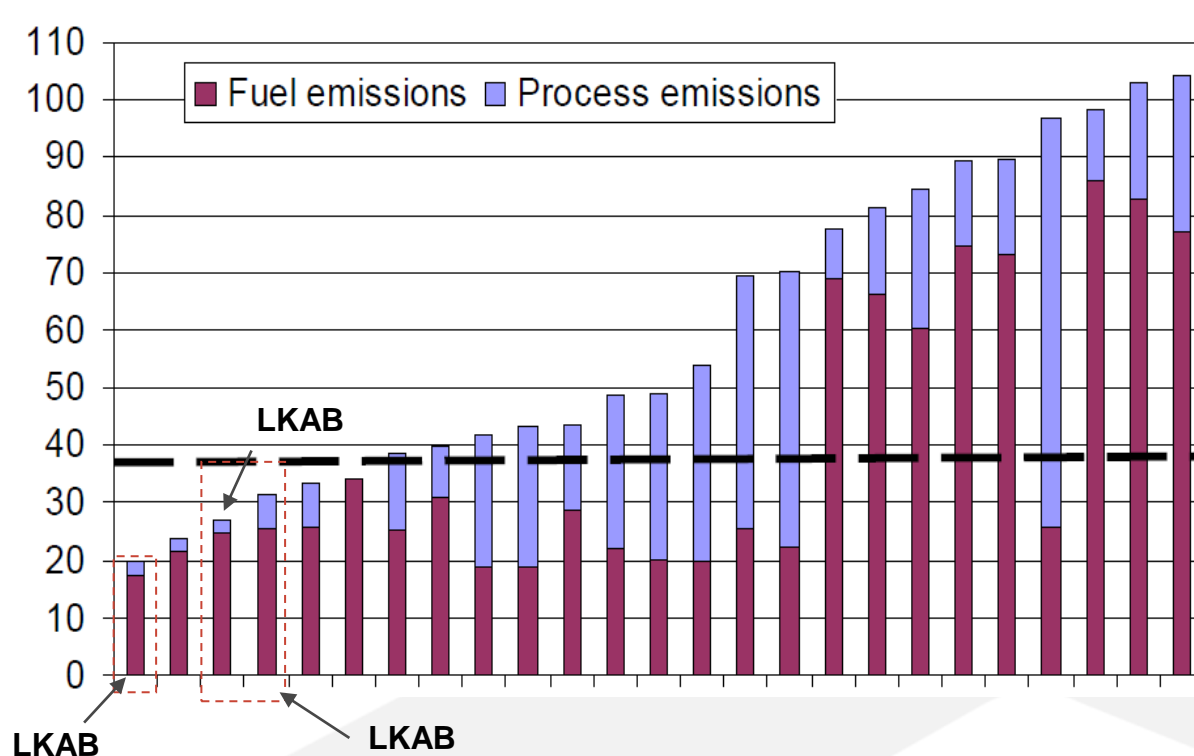


CO₂ EMISSIONS FROM MINES
TO SINTER AND PELLETS

kgCO₂/tonne crude steel



OUR PELLETISING PLANTS HAVE THE LOWEST CO₂ EMISSIONS IN THE WORLD...



...BUT WE WANT TO REDUCE OUR CO₂ EMISSIONS BY AN ADDITIONAL 30 PERCENT BY 2020 AND SAVE 1 TWH BY INCREASED ENERGY EFFICIENCY

LKABs CO₂ REDUCTION MEASURES

- Committed to meet the EU 2020 goals of reduced CO₂emissions.
- **The real driver for decreasing LKAB CO₂-emissions is the climate policy rather than the instrument EU ETS.** Meeting the targets would result in lower business uncertainty and operation in harmony with society.
- Increased energy efficiency
- Further electrification and shifting from coal and oil to gas (natural or LNG) for the pelletising plants to decrease CO₂-emissions and increase plant availability. Carbon-sinks through forest fertilisation
- Securing supply of energy by own investments in renewable energy
- Increased resource efficiency for long-term sustainability of LKAB operations (economy, environment, societal)

STRENGTHS AND WEAKNESSES OF THE ETS

STRENGTHS

1. Improved Reporting Monitoring and Verification of emissions
2. Increased industry awareness of climate actions
3. Low-hanging fruits through Clean Development Mechanism

WEAKNESSES

1. Uncertainties (political, market)
2. Bureaucratic and with low adaptation for changes in production volumes
3. Revenues from ETS not used for further investments in reduction of CO₂ emissions (windfall profits for the power utilities, best achievers, member states)
4. Covers only a limited part of society (sectorial, geographical)

FIVE OF OUR **CURRENT** UNCERTAINTIES WITH THE ETS-SYSTEM

1. **Allocation of Free Allowances**

In spite of having the best global benchmarks, LKAB needs a fall-back option for free allowances 2013-2020. LKAB likely to buy 10% EUA. **Decision by Commission on National Implementation Measures still pending**

2. **Eligibility for state aid concerning the indirect electricity costs**

The sector NACE 1310 “Mining of iron ores” is one of the very few sectors eligible for state-aid due to the high risks for carbon leakage. **National implementation uncertain**

3. **Commission’s plans for back-loading a certain amount of allowances**

4. **Commission’s plans for structural measures to the EU ETS**

5. **The work on the new Carbon Leakage List 2015-2019.** Will our sector NACE 1310 be included? If not all work with 1. etc is in vain.

Regulatory uncertainties influence the aptitude for investments in the EU.

ELABORATIONS ON POST-2020 EU CLIMATE CHANGE POLICY

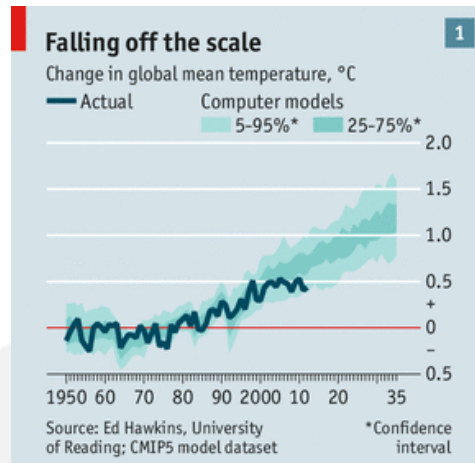
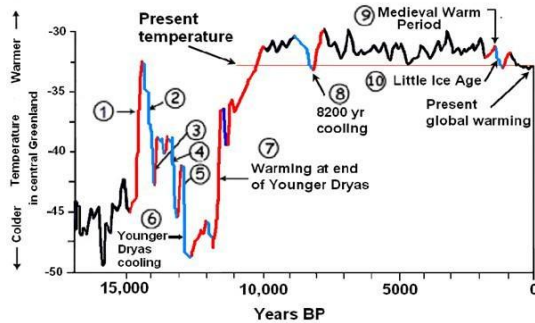
**Hazardness?
Guiding ethical principles?
Necessary investments and how to finance?**

HAZARDNESS

Complex science to superimpose combine large natural variations with man-made impact



Natural variations



Climate Science - a sensitive matter. Economist
March 30, 2013 ; 1,802 comments by April 22nd

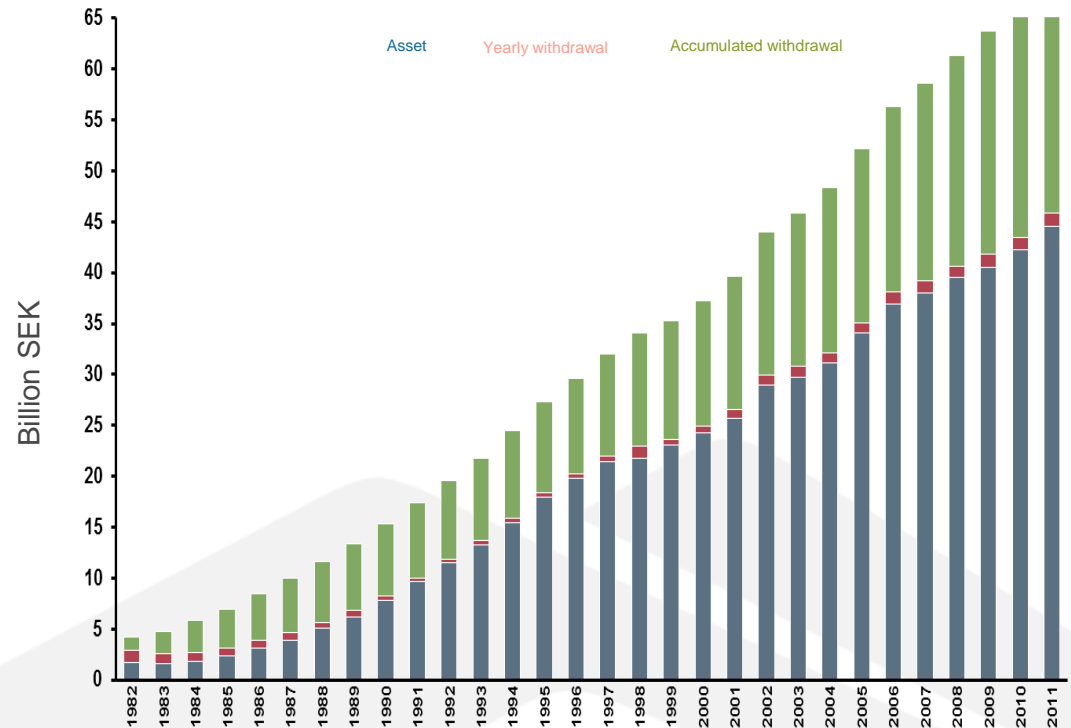
SUPPOSE CO₂ EMISSIONS ARE “POISON” OR “DISPOSAL OF HIGH-LEVEL NUCLEAR WASTE”?

- International standards and governance (e.g. IAEA)
- Principle of **ALARA** (As Low As Reasonable Achievable)
- Fairness and equity considerations between generations (**intergenerational responsibility**)
- Fairness and equity considerations between contemporary generations (**intragenerational responsibility**)
- Estimation of necessary **investments/operational cost**
- Financing of investments (“**polluter pay-principle**”/“**producer responsibility**” creation of funds to avoid liability for future generations)

INTERGENERATIONAL RESPONSIBILITY FOR FINANCING EXAMPLE SWEDEN

Swedish nuclear waste management financing

Utilities: 0.25 cent/ kWh electricity by nuclear energy., levied on consumers.



Swedish Nuclear Waste Fund

GLOBAL SOLUTIONS FOR GLOBAL ISSUES

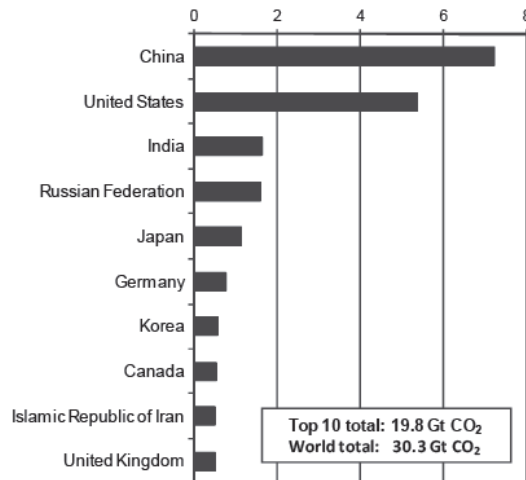
Table 1.5 Share of world CO₂ emissions (%)

	2000	2010	2020
EU	19	12	10
US	23	18	15
Non-OECD Asia countries	17	34	41

Source: Own calculations based on IEA (2010). Gros, D., Roth, F., 2012. The Europe 2020 strategy. Can it maintain the EU's competitiveness in the world? CEPS, Brussels

Figure 4. Top 10 emitting countries in 2010

GtCO₂



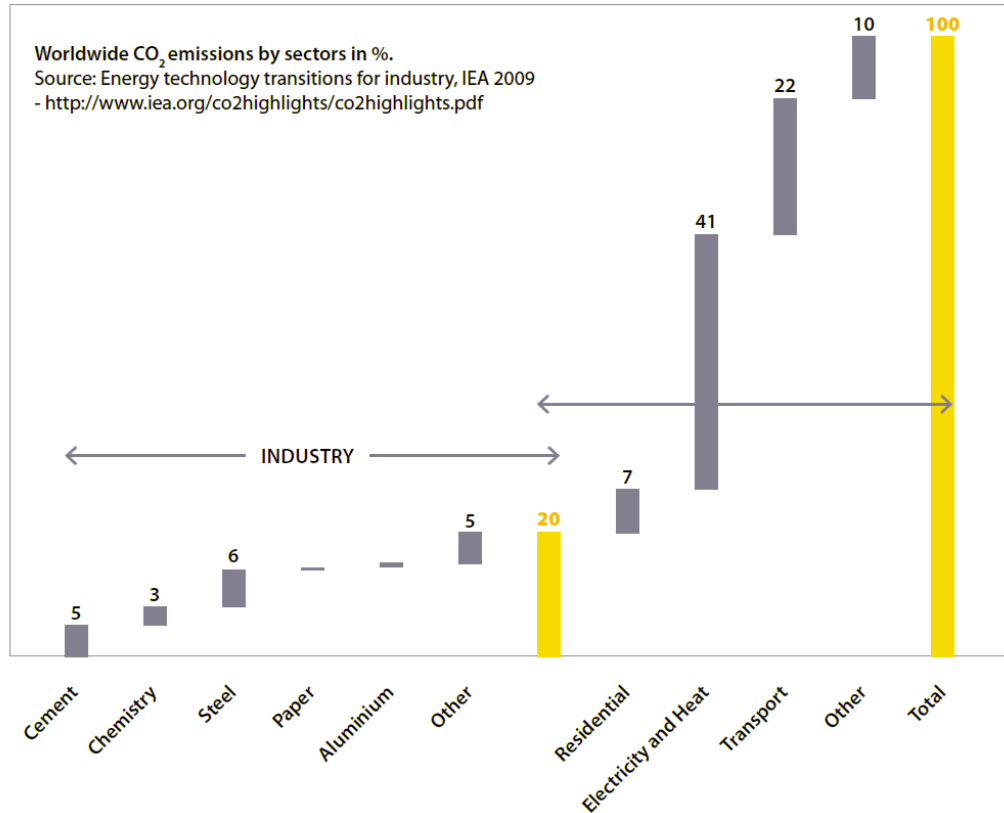
Key point: The top 10 emitting countries account for nearly two-thirds of the world CO₂ emissions.

Intragenerational responsibility 1.

Split between “rich” and “poor” countries?

GLOBAL SOLUTIONS FOR GLOBAL ISSUES

Emissions due to fuel combustion



Intragenerational responsibility 2.

Split of responsibility between sectors in due consideration of what is “reasonable achievable”?

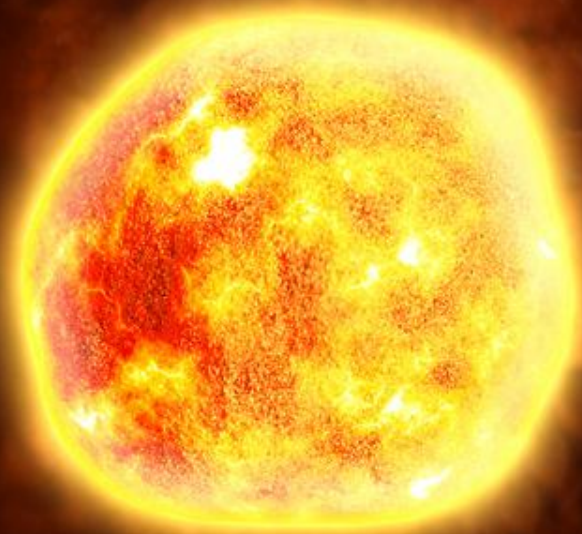
DIRECTIVE EU 2009/29

- “more harmonised emission trading system is imperative in order to better exploit the benefits of emission trading, to avoid distortions in the internal market and to facilitate the linking of emissions trading systems. Furthermore, more predictability should be ensured and the scope of the system should be extended by including new sectors and gases with a view to both reinforcing a carbon price signal necessary to **trigger the necessary investments** and by offering new abatement opportunities, which will lead to lower overall abatement costs and the increased efficiency of the system.”

FOOD FOR THOUGHTS

- **Lack of accepted global ethical principals**, standards (c.f. IAEA on nuclear safety) on climate change policies delays political decisions
- European industry has a technological leadership and is often the most energy and resource efficient producer in the world. Hence **increased production in EU** – “re-industrialisation” is the best environmental global solution. **How can energy and climate policy contribute?**
- **Stable regulatory environment** is vital for boosting investments within EU.
- EU-ETS produces an abundance of uncertainties for energy-intensive industries acting on the global market. Alternatives to EU-ETS to trigger investments for CO₂ reduction, that are **based on incentives** rather than the whip? Even the best performers are whipped.
- **Fair sharing of responsibility** for CO₂ reduction? Climate policy ≠ EU ETS.
- EU energy and climate policies have been de-coupled and sometimes contradictory.

**LKAB - +120 YEARS OF SUSTAINED COMPETITIVENESS BY
COMMITMENT, FRESH THINKING AND ACTING RESPONSIBLY**



**CONTRIBUTES TO COMPETIVENESS OF STEEL INDUSTRY BY DELIVERING
FUNCTIONAL, CUSTOMISED IRON ORE PRODUCTS
FOR RESOURCE-EFFICIENT PERFORMANCE IN IRON-MAKING.**