EUROFER
The European Steel Association

The Japan Iron and Steel Federation

Tokyo, 29th November 2011

European Climate Change Policy and its implications for the steel industry

Gordon Moffat, Directeur General

EUROFER

Policy background
EU Emissions Trading System post - 2012

Main features

Cap → cut in emission for ETS sectors of 21% by 2020
(compared to 1990)

Auctioning of allowances

100% auctioning for the power sector from 2013

Measures to protect the competitiveness of energy-intensive industries

100% free **allocation** at the level of benchmarks for sectors exposed to leakage

Compensation for electricity price rises (as a result of auctioning)

European ETS – Main problems for industry:

1. European Measures are unilateral and disproportionate compared to the rest of the world
2. The cap disproportionately affects industry
3. The implementation of measures designed to give industry 100% free allowances, but in fact won't!

EU legislation to reach -20% target by 2020

1. **ETS Directive** with a 21% reduction in GHG emissions by 2020 compared to 2005 levels:

   = In reality a total reduction of 35% compared to 1990 due to early action by ETS sectors which reduced emissions by 15% 1990-2005

2. **Efforts Sharing Directive** proposing a 10% reduction in GHG emissions by 2020 compared to 2005 for emissions not covered by the EU ETS (buildings, transport, agriculture, waste, small emitters, etc.)

   = In reality a reduction of only 6% compared to 1990 since emissions for these sectors increased 1990-2005

ETS: Results of Implementation contrary to the political understanding made with the member states

Benchmarks

The adopted benchmark values differ substantially from those proposed by EUROFER due to the refusal of the Commission to assign all the carbon in recovered waste gases to the steel producer benchmark (the proportion used for power generation has been excluded).

Result: → Even the best performers will be short 8,5%
→ The sector as a whole will be short over 23%
Total cost to industry €11bln

Cross-Sectoral adjustment Factor

Could reduce the benchmarks by a further 2-3%.
Cost = €1bln

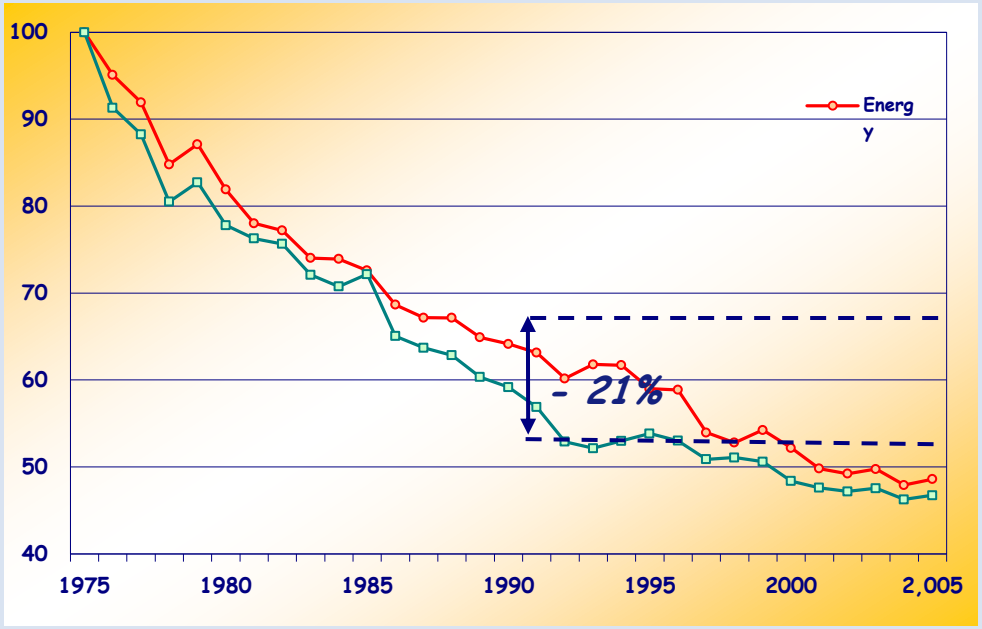
Electricity Compensation:

Electricity prices estimated to increase by 30% 2013-2020.
Compensation will be limited, covering only marginal increases.

EU steel industry has already achieved a lot: nearing technical limits

Important CO_2 reductions and increased energy efficiency over the last 30 years in Europe (1970-95 c.-50%)

Energy use and CO_2 emission per ton of finished product - Index 100 - 1975

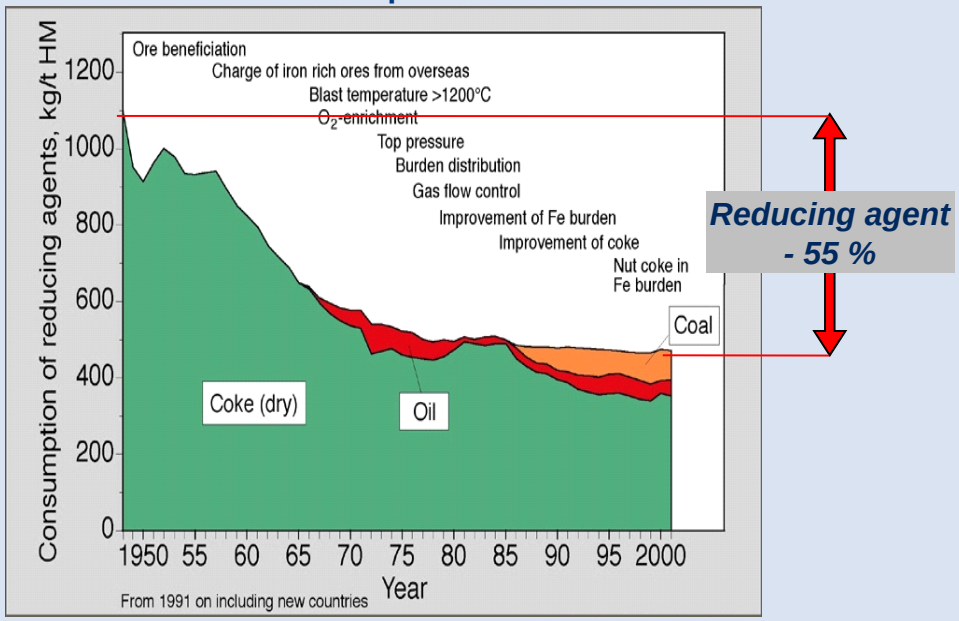


<u>21% reduction over 1990-2005</u>

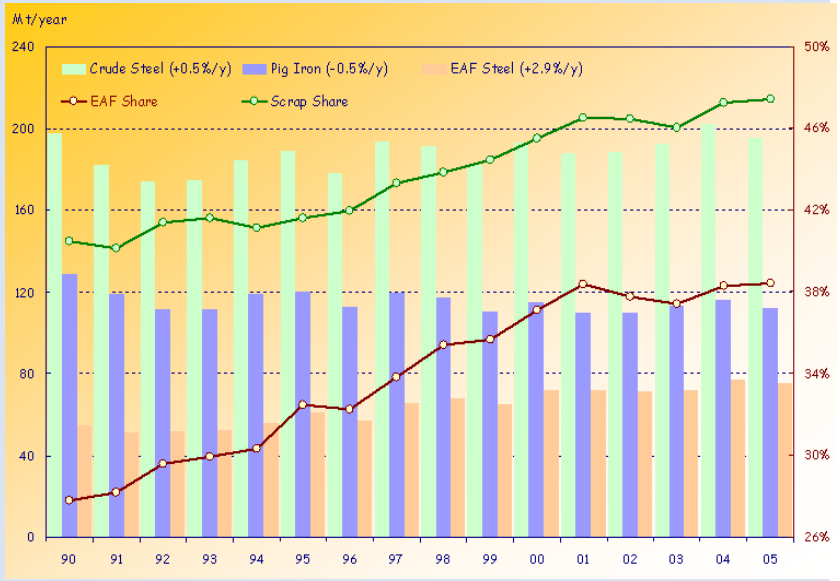
Reduction since 1975:

- 1/3 for improvement of processes and change of raw materials
- 1/3 for material efficiency at all steps (Continuous casting)
- 1/3 for the increase of scrap recycling in EAF based production

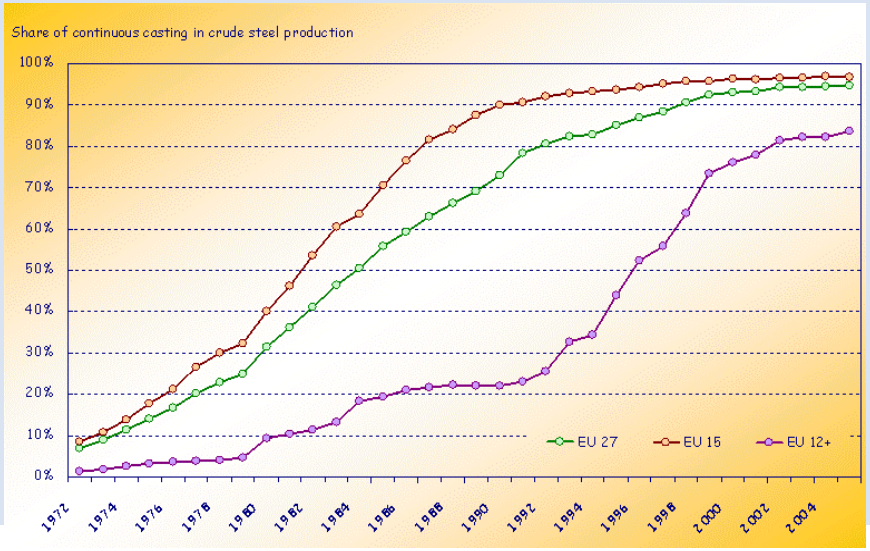
Approaching of theorical limits of the BF process
Increased Blast Furnace performance in EU 15



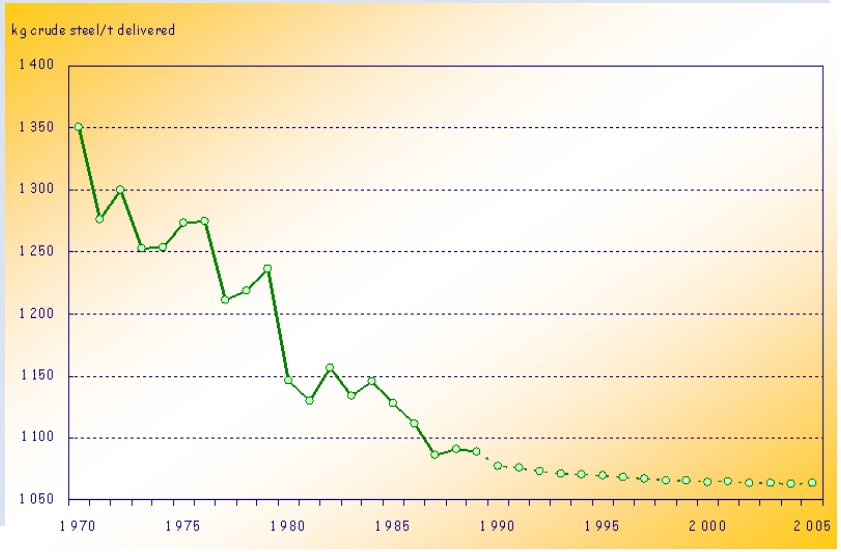
Development of recycling in EU 27:
Scrap usage increases 1.7% per year



Development of continuous casting



Improvement of material efficiency in 9 EU Countries
Is reaching its limits



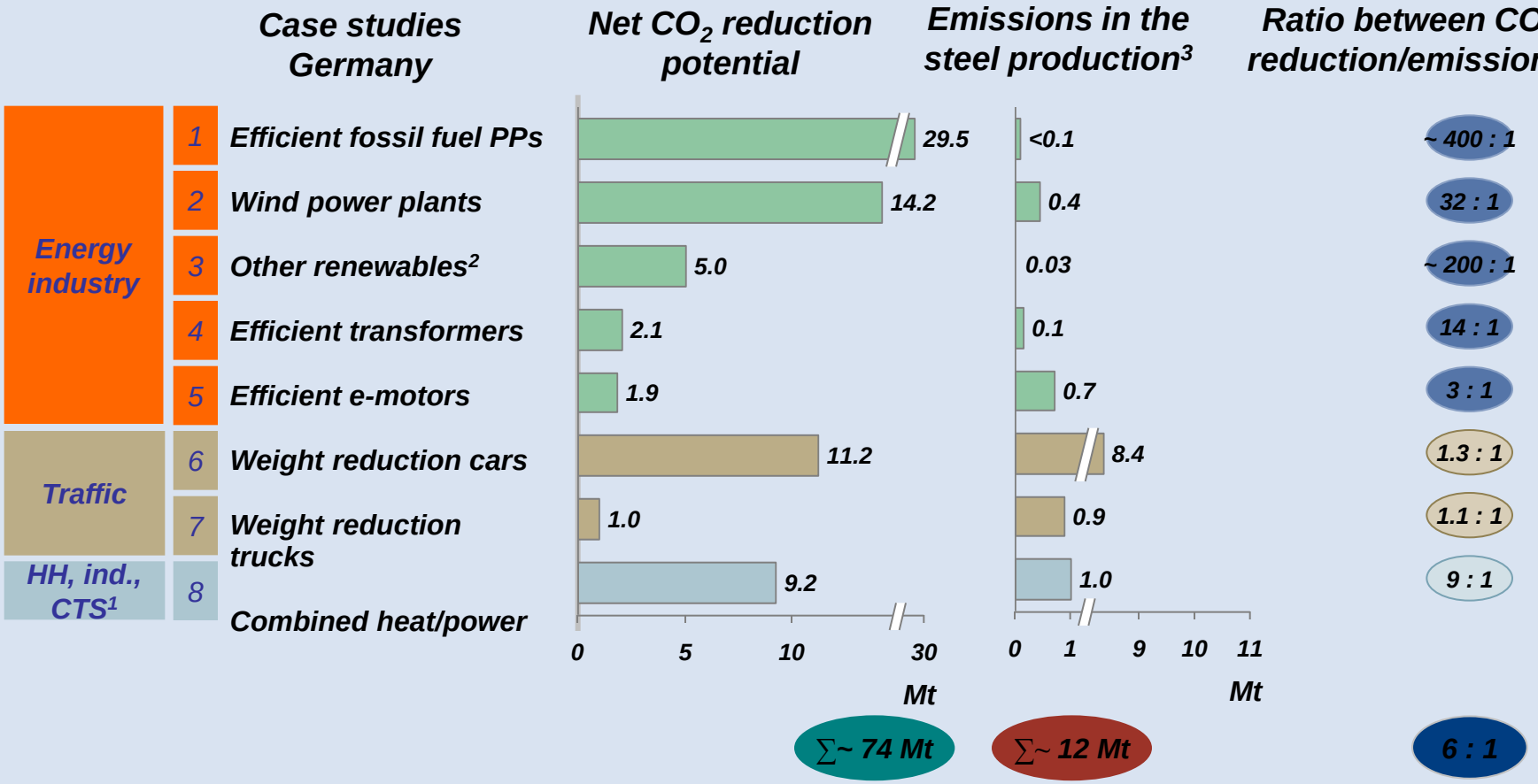
The Commission Low Carbon Roadmap 2050

In October 2009, the Council endorsed a long-term target of reducing collective greenhouse gas emissions by **80-95%** by 2050 compared to 1990 levels

Main EUROFER objections to the roadmap are:

- **Very questionable economic modelling**
- **The targets are not technology-led**. Only CCS is explicitly mentioned, the Commission assumes other technologies will "appear" as necessary.
- **The targets** are **unilateral**.
- **Confiscation of free allowances** (600-800 Mio).
- **No account of the situation of individual industries** and **no provision for economic growth**.
- **ETS sectors would have to reduce by 29% in 2020, by 45% in 2030, by 65% in 2040 and 87% in 2050.**

Innovative use of steel saves six times as much CO_2 as is caused by the production of the steel* - Case study Germany



1. HH = households; CTS = commerce, trade, and service 2. Geothermal, biomass, hydro 3. CO_2 expenditure for other materials not examined; values are rounded 4. Ratio relates exclusively to the emissions of steel production; values are rounded
Source: BCG analysis
** Source: BCG report – Steel's CO2 Balance. The Steel Industry's Contribution to Climate Protection (2010)*

ULCOS 7 groups of potential solutions

New Production Routes: potentially from 2020-2050

- Hydrogen based Steel Making
- Use of Biomass
- Iron Ore Electrolysis

Existing Process Evolution: potentially from 2020

- New Blast Furnace with top gas recycling
- Improved Direct Reduction
- Smelting Reduction

Other Solutions

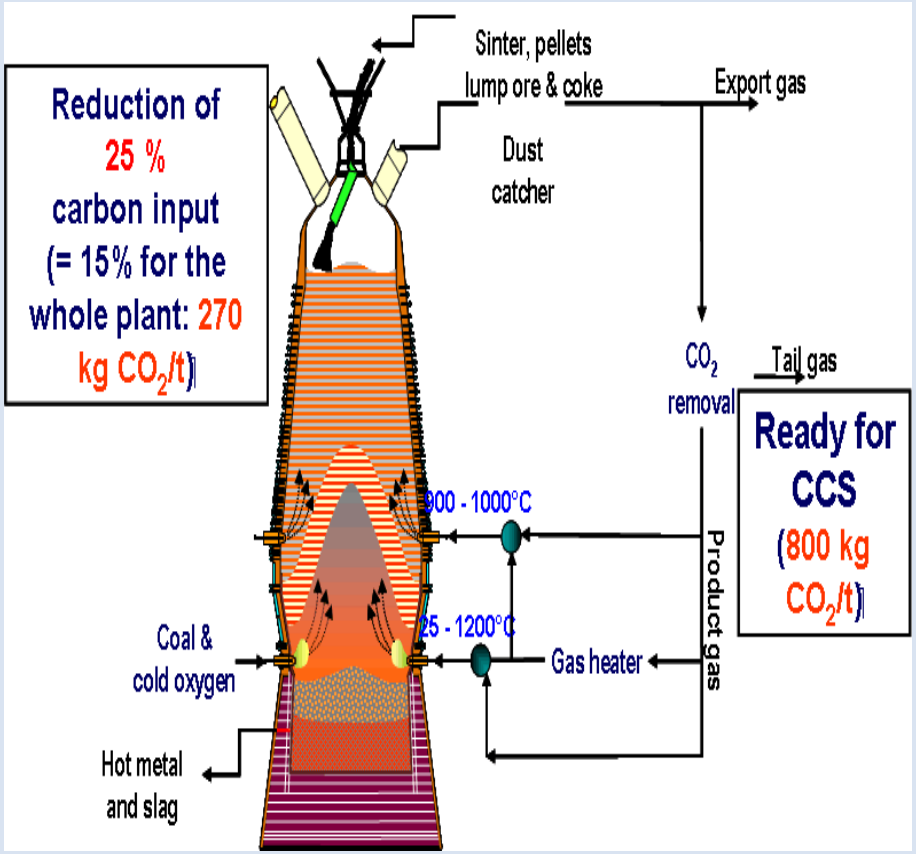
- Capture and Storage of CO_2

Prerequisites for these solutions

- Possibility of CO_2 sequestration, Abundant biomass, Cheap and carbon free electricity and hydrogen

Top gas recycling in blast furnace

Modification of blast furnace with gas recycling, CO_2 removal & injection of oxygen



Climate Policy : A more realistic approach for industry

- Policy should be based on a life cycle analysis approach rather than a simple measurement of production emissions
- Address manufacturing efficiency via industry agreements, not limiting emissions by limiting output
- Put more effort into construction and transport emissions reductions through efficiency measures, at the moment manufacturing industry and power are bearing 90% of the emission reduction effort. The whole economy should be sharing the load of the emissions reduction effort, not just industry
- Massive support for research and development for new technologies.