Paper

Review of industry statements concerning the 'adverse effects' of European climate and energy policies

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Principal:

Mr. Claude Turmes, MEP,
Vice President of the Green Group in the European Parliament
Rue Wiertz, 60 Room: ASP 08 G112,
B-1047 Brussels

Agent:

IZES gGmbH
Institut für ZukunftsEnergieSysteme
Juri Horst
Altenkesseler Str. 17
66115 Saarbrücken
Tel.: +49-(0)681-9762-840
Fax: +49-(0)681-9762-850
Email horst@izes.de

Authors: Juri Horst, Uwe Klann, Andreas Weber

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1 Background

European industry claims that high energy costs and prices are the result of expensive and exaggerated environmental policies which ultimately affects Europe's competitiveness. What remains unspoken is that the energy intensive (and pollution intensive) industries already profit from many benefits, such as compensation for indirect electricity costs occurred under the ETS, reduced energy taxation or exemption rules on surcharges. Differing energy prices in different countries or continents, such as the difference in prices for gas and electricity between Europe and the United States, are the result of the different structural features of each country. Local energy resources and international transport costs also play a major role. Therefore energy price comparisons between qualitative comparable products can only be made on regional market level.

This paper will focus on the impacts of European climate and energy policies on the European steel industry. It will take real statements made by the industry as a structure, and these will be evaluated using official statistics, market figures and studies.

2 Main statements of steel industry

2.1 "EU climate policies impact strongly on the European steel industry"

At EU-level the Emissions Trading System (ETS) covers industrial facilities and power plants with at least 20 megawatt thermal firing capacity with direct costs for emission allowances. On the basis of product-based benchmarks the operators of these facilities have to buy emission allowances or reduce their emissions by efficiency measures. Therefore electricity-intensive consumers are indirectly affected by power prices.

To address the competitiveness of industries covered by the ETS sectors and subsectors deemed to be exposed to a significant risk of 'carbon leakage'[1] receive a share of free allowances (Article 10a paragraph 14 onwards of Directive 2009/29/EC) in comparison to sectors which are not or less exposed to 'carbon leakage'. On basis of computation formula the allocation can overcompensate the demand. Therefore in phases I and II of the ETS certain manufacturing sectors such as steel sector benefited from the free allocation of allowances.

The following Figure 1 shows the allocated emission allowances and verified emissions of selected big players in the European steel industry during the trading period II. The selected players were able to reduce their emissions, most likely due to the global economic crises, but nevertheless received the maximum allocation of free allowances.

[1] Carbon leakage is the term used to describe the situation that may occur if, for reasons of costs related to climate policies, businesses were to transfer production to other countries which have laxer constraints on greenhouse gas emissions.

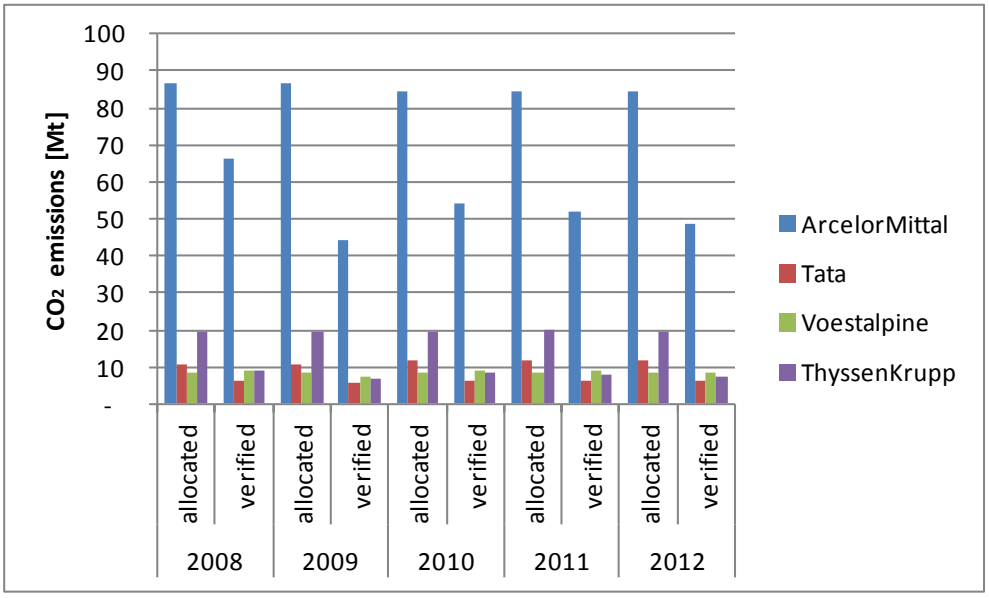

Figure 1 allocated emission allowances and verified emissions of selected big players in the European steel industry during the trading period II

Source: Union Registry

Factoring in the average price of the particular year, the selected enterprises had windfall profits (extra earnings) amounting to 3.7 bn Euros – only for steel mills - in period II.

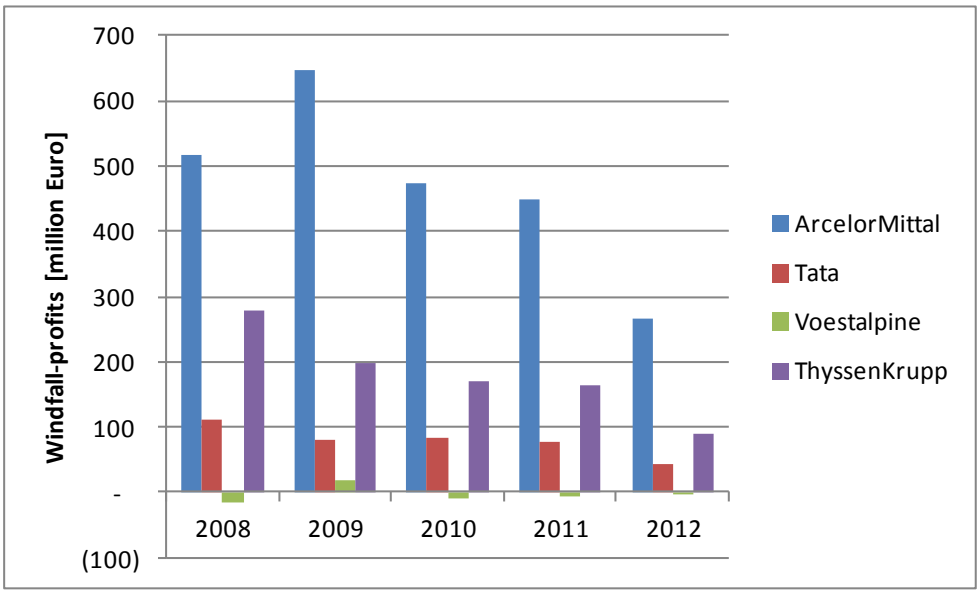

Figure 2 windfall profits in the trading period II of the selected players

Source: Own calculations on basis of Union Registry, European Environment Agency

For Europe a cumulated surplus of nearly 1.8 billion allowances is found at the end of the period II. Nearly 1 billion[2] come from huge entitlements for the use of cheap external emission reduction credits (CDM and JI)[3] as well as the continuing impacts of the economic crisis. The total amount of international credits that can (will) be used in the ETS in both phase 2 and phase 3 is 1.6 billion Euros.[4] Against this, fuel switching and the development of renewable energy have only a minor contribution to the surplus results, because the growth plans for renewable energies match fairly well with the assumptions made for cap-setting in 2008. As banking of allowances is permitted between the second (2008–2012) and third trading period (2013–2020), this surplus is carried over to the next stage of the scheme.[5] Therefore the Climate Change Committee decided to lower the planned amount of allowances about 900 million allowances in the term of 2014 to 2016 and bring them back into the market in 2019 and 2020.[6] But the total amount stays on level. This procedure is called 'back-loading' and should reduce excessive supply of emission allowances, the resulting price decline and the breach of the 2020 goals. Nevertheless that is only half of the surplus from the second period.

Within phase III sectors on the so-called carbon leakage list will continue to get free allocations[7] of a large share of the required allowances, based on product-benchmarks. As these benchmarks refer to production situation before the economic crisis, the effective allocation will be very generous. The total carbon budgets set by Europe to meet their 2020 target would theoretically allow a further increase of 19 % above current levels or 2 % per year.[8] The reference scenario of the Commission[9] expects a surplus of more than 2.6 billion allowances by 2020 which will gradually

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2 COMMISSION STAFF WORKING DOCUMENT – Proposal for a Decision of the European Parliament and of the Council concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and amending Directive 2003/87/EC; Brussels, 22.01.2014

3 Clean Development Mechanism (CDM) and on Joint Implementation (JI), two of the flexible mechanisms agreed under the Kyoto Protocol in efforts to reduce global greenhouse gas emissions.

4 Please see footnote No 2

5 EEA-report: Trends and projections in Europe 2013 - Tracking progress towards Europe's climate and energy targets until 2020, No 10/2013; ISSN 1725-9177, page 38-39

6 European Commission: MEMO - Europe strengthens its carbon market for a competitive low-carbon economy, Brussels, 8 January 2014

7 The free allocation of allowances in each Member State was set up by the EU Commission to 26.02.2014 and the allocation was carried out by the national authorities until 27.02.2014.

8 Sandbag 2014 "Europe's 2020 confidence trick" – room to grow emissions under the current climate targets.

9 Please see footnote No 2

decrease to around 2.1 billion by 2028. Compared to today the surplus at the end of phase 4 would be largely unchanged.

Until now the main-sector “manufacturing of basic iron and steel and of ferro-alloys”, as well as several sub-sectors of steel processing, enjoy privileges. In 2014 a new leakage list has to be decided.

There is also a second shorter carbon leakage list for manufacturers which are indirectly affected by the increasing electricity prices, resulting from allowances that power plants have to buy. Within the list of sectors and subsectors deemed ex-ante to be exposed to a significant risk of carbon leakage due to indirect emission costs, the ‘manufacturing of basic, iron and steel and of ferro-alloys, including seamless steel pipes’ is also privileged. On basis of product-benchmarks compensation payments (minus 15 % to 25 % of equity contribution in the term of 2013 to 2020) will be made. Member-states with comparatively low emissions from electricity generation in comparison with the capable average emission value can (over-) compensate the contribution.

There are exceptional rules to prevent steel-mills from carbon leakage.

In the second trading period steel-makers had windfall-profits of an estimated 3.7 billion Euros.

At the end of the third trading period an over-allocation of 2.6 bn is expected, gradually decreasing to a still massive allocation of 2.1 bn in 2028.

2.2 “High energy prices and costs impact strongly on Europe’s competitiveness”

There are several policies at EU-level that could directly affect the steel industry, or through national implementation, such as Directive 2009/28/EC with the aim to increase the share in renewable energies in the European Union up to 20 % on total energy consumption and Directive 2012/27/EC aiming to increase energy efficiency up to 20 %. There isalso Directive 2003/96/EC concerning the restructuring of the community framework for taxation of energy products and electricity as well as Directive 2004/8/EC to promote cogeneration based on a useful heat demand in the internal energy market. The implementation of all these directives at national level resulted in direct additional costs like surcharges and taxes, as well as indirect costs through building regulations or efficiency guidelines. However in most of these directives there are exceptional rules for energy intensive industries like the steel industry. So for example Germany, where the energy intensive industry had had benefits of at

least 9 bn Euros in 2011.[10] Most benefits came from a lower surcharge in the context with the German Renewable Energy Law (around 2 bn Euros in 2011 and around 5 bn expected in 2014) as well as with tax privileges on energy consumption (2.2 bn Euros).

There are different kinds of energy sources; primary energies like coal, natural gas and oil, and secondary energies like fuel or electricity. To produce steel in the oxygen blown converter process, coal is an important raw material in the furnace. Coal price differences were small in the past, because it can be cheaply transported worldwide. Nevertheless coal prices in countries with open-cast mining (like the USA) are quoted lower than in others because of transportation costs. The following will focus on electricity as in the majority of Member States the costs of implementation of European directives are distributed by electricity-price-components to the end-consumers. Additionally the development of gas-prices in Europe and the USA will be opposed, as natural gas will be used for processing of steel-semi-products and natural gas becomes an important energy sources for electricity generation in the USA.

2.2.1 Natural gas

With the shale gas boom and global recession gas prices are resulting in larger price discrepancies after a period of co-movement. The shale gas boom on the one hand and very little infrastructure for gas exports on the other hand result in reduced prices. Hence gas costs are temporarily much lower than in Europe, as can be seen in Figure 3.

[10] FÖS / IZES: STROM- UND ENERGIEKOSTEN DER INDUSTRIE - PAUSCHALE VERGÜNSTIGUNGEN AUF DEM PRÜFSTAND; short-study on behalf of Greenpeace e.V.

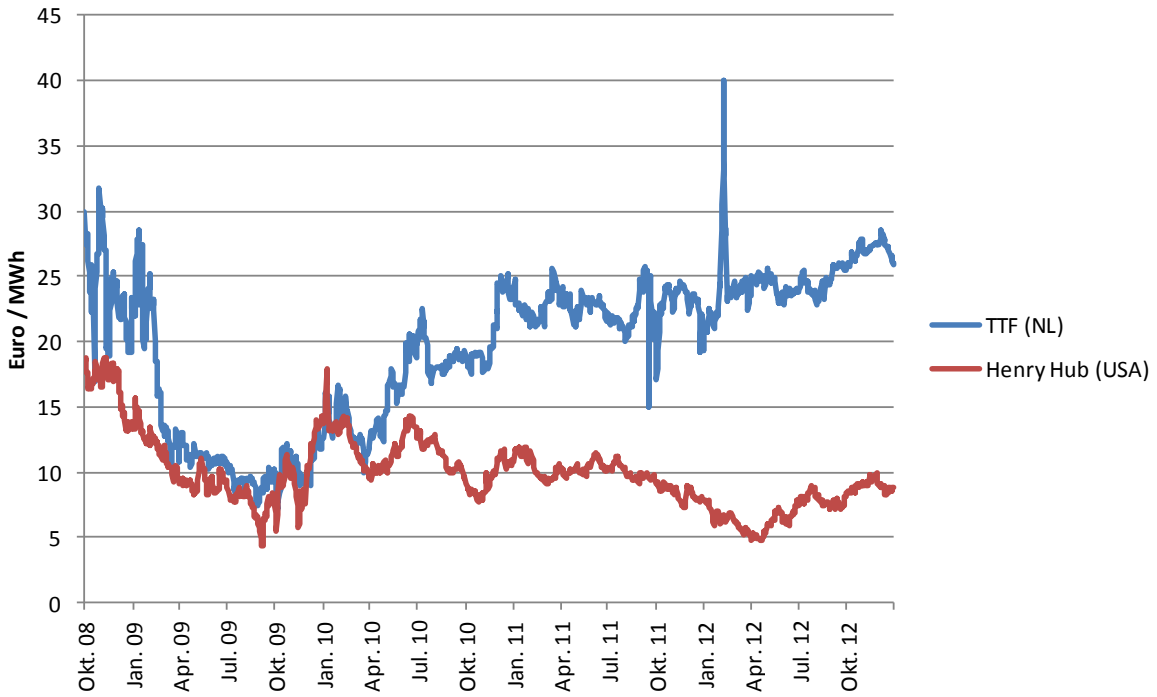

Figure 3 Development of natural gas prices in USA and western Europe

Source: U.S. Energy Information Administration (EIA); ICE Endex

In Europe natural gas prices are bound to pipelines and coupled to oil prices in long term contracts. More than 50 % of the long term contracts in the EU are currently controlled by oil, however it is estimated that in two or three years the link to oil prices will generally be a thing of the past[11].

2.2.2 Electricity

First of all it must be noted that wholesale electricity prices in central and northern Europe are strongly influenced by the price level of EU ETS and the merit order effect induced by growing shares of renewable in electricity markets.

Within the extension of transmission lines between the European member states and herewith the extension of power trading, the electricity prices are often on similar level. For Germany, Luxembourg, France, Austria and the Netherlands the wholesale prices for electricity will be shown in Figure 4 as a timeline and compared with the electricity wholesale prices in steel producing states (green and lilac lines in Figure 4)

[11] Bolz 2014: European gas market in change; http://www.energynewsmagazine.at/de/boltz+europas+gasmarkt+im+umbruch_n4150

of the United States of America. As energy intensive companies in each country are qualified for special provisions and are largely exempt from energy and climate related charges and/or taxes, the wholesale prices are to be used as proxy.

Neither a visual nor a mathematical relationship between the price-trends of European Member States and US-states is verifiable, with the exception of price development in summer 2009, coming from the economic crisis.

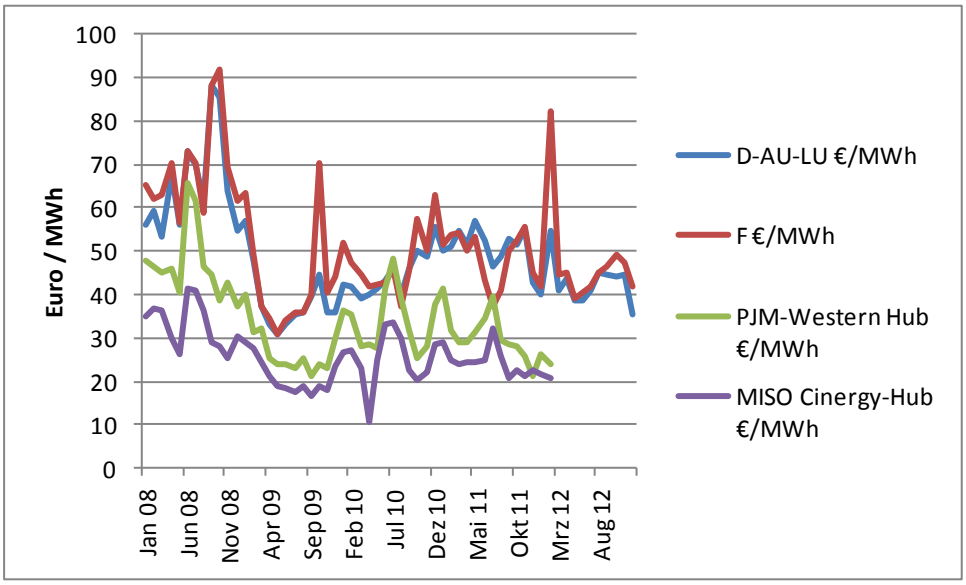

Figure 4 wholesale electricity prices

Source: EPEX Spot, MISO Cinergy-Hub, PJM-Western-Hub

Currently an international comparison of energy and electricity costs for energy-intensive industries is not very meaningful because there are no consistent data of reductions and exemptions from taxes and duties available. Therefore industry-statements on price comparisons are hardly proof. A survey by the European Commission[12] concerning real energy prices could give an initial– although not representative – impression.

Furthermore a view on the cost elements of electric arc furnace steelmaking shows that the influence of international prices of scrap metal on steel prices is more signifi-

[12] European Commission (2014): Energy prices and cost report, Commission Staff Working Document, especially pages 44ff., 64ff., 116ff. und 157ff.

cant than electricity costs.[13,14] Fluctuation of scrap prices of +/- 10 % can vary steel prices by around +/- 7 %. Against what a fluctuation of electricity prices up to + 100 % can just change the production cost to + 6 %.

If key-markets are mainly regional (see annex for electricity-intensive steel products) energy prices are not alone decisive.

In the majority of Member States costs of climate policies are mainly distributed by electricity-price-components to end consumers.

An international comparison of electricity costs for energy-intensive industries is not meaningful because there are no consistent data of reductions and exemptions from taxes and duties available.

Electricity prices are not the main impact on production costs.

[13] Calculated exemplarily with data of Steelonthenet.com, located in Essex, United Kingdom; http://www.steelonthenet.com/cost-eaf.html

[14] See also FöS / IZES 2012: Strom- und Energiekosten der Industrie: ‚Pauschale Vergünstigungen auf dem Prüfstand'; paper written by FÖS and IZES sponsered by Greenpeace e.V.; June 2012

3 Analysis of import/export statistics of main steel products

According to the World Steel Association (Steel Statistical Yearbook 2013) the European Union produced 168.6 million tons of crude steel[15] in 2012. In comparison with previous years – with exception of 2009 – the total annual output was the worst in the last 10 years. Since 2007 the annual output has dropped in the EU whereas the worldwide production has observed an annual increment from 971 million tonnes in 2003 to 1,545 million tonnes in 2012 (especially by China and India). In the EU27 Germany, Italy, France and Spain head the ranking.

Neighbouring countries, in particular Turkey, was able to double the production amount from 18 million to 36 million metric tonnes per year. Also the Middle East has increased the total annual production from total 13.4 to 24.6 million tonnes. C.I.S., North and South America as well as Africa could more or less obtain the capacity in the named ten years period.

India was able to double, and China was able to more than triple their yearly outputs.

In comparison between the regions, the EU is on the second place in the world, behind Asia.

The World Steel Association publishes the key-figure ASU (apparent steel use), which appreciates the demand while subtracting exports and add imports to the national production. In comparison between the world-regions, the demand in EU-27 for crude steel as well as for finished steel products decreased by around 30 % since 2007. Here the Southern -Member-States Italy and Spain have had considerable market breaks up to 58 %. In addition other large European players in steel-manufacturing like Germany and France have had decreases in production, but could stabilise the demand on the pre-crisis time again. The main trading partners of European Members States are other European Member States. Around 76 % of imports come from European Member States and 70 % of exports go to European Member States.

Since 2008 the EU-27 can refer to a trade surplus as to see in Figure 5. Decreased steel production and steel imports show that the demand in Europe in comparison with the pre-crisis demand declined by around 30 %.[16]

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[15] Includes all qualities: carbon, stainless, and other alloy

[16] COMMUNICATION FROM THE COMMISSION TO THE PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF REGIONS - Action Plan for a competitive and sustainable steel industry in Europe; COM(2013) 407; Strasburg, the 11th June 2013

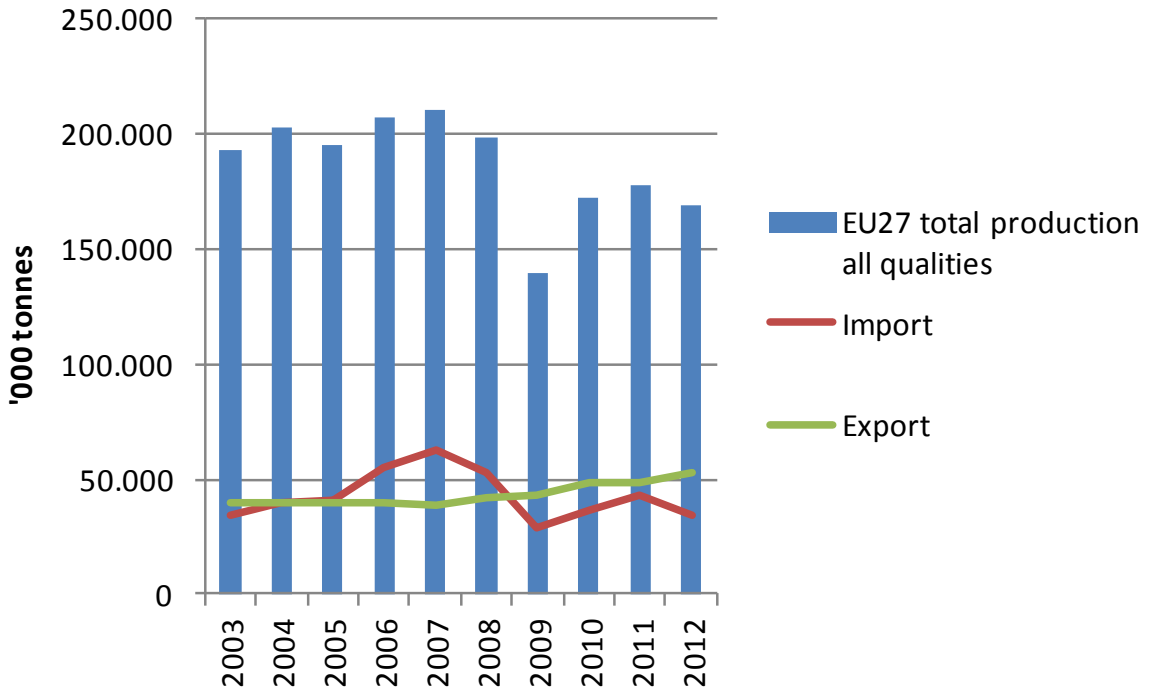

Figure 5 production of steel goods in EU-27 and foreign trade with iron and steel goods (HS 72)[17]

The situation in the EU-steel-sector is a direct consequence of the global economic downturn and remains difficult because of low demand from steel using sectors, such as automotive and construction sectors.[18] State intervention[19] plays a part in keeping the manufacturing capacity in Europe on the same level as before the crisis, while the demand has decreased. Worldwide an overcapacity of 300 million tonnes is estimated, while China represents near to 50 % of the global production-capacity alone.[20]

[17] EuroStat, foreign-trade statistics

[18] Rapport de M. de Gucht a la Commission sur la situation du commerce international dans le secteur de l'acier, Bruxelles, le 6 juin 2013

[19] According to H.-J. Fuhrmann, CEO of Salzgitter AG, Spain subsidizes its steel sector with EU-credits.

[20] Yann Lacroix: „Major overcapacity in the global steel industry", Euler Hermes Economic Research, 10th Oct. 2013

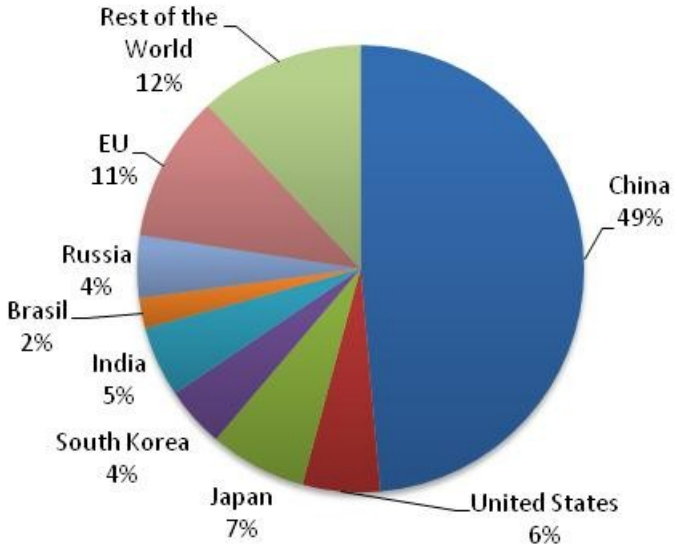

Figure 6 Distribution of the world production of steel in 2013 (Yann Lacroix 2013)

Overcapacity has driven down the prices by - 10% at an annual average by July 2013,[20] which causes a decline in margins.[21].

Around 65 % of the big players operated with negative cash flow in the last two years. Even in good years, according to market experts, the steel industry would require a 16 % average EBITDA[22] margin to be economically sustainable in the long term. In the future, margins are not expected to improve significantly. [23]

In the USA the demand has only just reached the pre-crisis level. Furthermore the import-ratio of steel-products on the demand increased. More than half of iron and steel imports in 2013 came from Canada, Brazil, South Korea, Japan, Mexico and Russian Federation[24]. Over 70 % of iron and steel-exports were made for Canadian and Mexican markets.

As is the case in Europe, the main focus of foreign trade in steel is regional.

[21] Heinz Jörg Fuhrmann (CEO Salzgitter AG): „Die Krise wird noch zehn Jahre dauern“ in Forum Magazin, issue 7 in 2014

[22] EBITDA: earnings before interest, taxes, depreciation and amortization

[23] McKinsey: overcapacities in the steel industry – OECD steel committee 74th session, Paris, July 2., 2013

[24] U.S. Departement of Commerce, TradeStatsExpress 2014

4 Conclusion

Public statistics have shown that the steel industry in Europe is in several cases exempt from surcharges and taxes and in addition will be (in-)directly state-aided by generous allocations in the emission trade system.

Statements made by the steel-industry concerning the negative effects on the sector should be understood as a call for protection of existing privileges, especially in context to the discussion concerning a new carbon leakage list.

The key markets for steel are regional, as illustrated by foreign-trade figures in the USA and Europe. Therefore overcapacities in Europe, partly kept alive with state-aid, generate a regional oversupply causing decreases in prices and consequently margins. Neither companies nor countries will cut capacities, afraid of giving advantages to competitors and cutting jobs.

As the sector itself expects a longer slump in demand it should sit together with politicians and decision makers to develop programs which increase the regional steel demand for instance in infrastructure projects such as grids, mobility and wind turbines.

Annex I

Austria	
main export partners (Top 5)	Germany, Italy, Czech. Rep., Poland, Hungary
trade partners 50 %	Germany, Italy
trade partners 75 %	+ Czech. Rep., Poland, Hungary
product codes	72
competitors (Top 5) in main markets and position of Austria (market share)	Germany: France, Italy; Netherlands, Belgium, Poland Italy: Germany, Ukraine, France, Russian Federation, Austria Czech Rep.: Poland, Germany, Slovakia, Austria, Russian Federation Poland: Germany, Ukraine, Czech Rep., Slovakia, Russian Federation Hungary: Ukraine, Germany, Slovakia, Italy, Austria

Belgium	
main export partners (Top 5)	Germany, France, Netherlands, Turkey, Egypt
trade partners 50 %	Germany, France, Netherlands
trade partners 75 %	+ Turkey, Egypt, United Kingdom
product codes	72
competitors (Top 5) in main markets and position of Belgium (market share)	Germany: France, Italy; Netherlands, Belgium, Poland France: Belgium, Spain, Germany, Italy, Luxembourg Netherlands: Germany, Belgium, Turkey, France, United Kingdom Turkey: USA, Russian Federation, Ukraine, United Kingdom, Romania

	Egypt: k.A.

France	
main export partners (Top 5)	Belgium, Spain, Germany, Italy, Luxembourg
trade partners 50 %	Belgium, Spain, Germany
trade partners 75 %	+ Italy, Luxembourg
product codes	72
competitors (Top 5) in main markets and position of France (market share)	Belgium: Germany, France, Netherlands, Turkey, Egypt Spain: France, United Kingdom, Germany, Italy, Portugal Germany: France, Italy; Netherlands, Belgium, Poland Italy: Germany, Ukraine, France, Russian Federation, Austria Luxembourg: Germany, France, Belgium, Netherlands, Italy

Germany	
main export partners (Top 5)	France, Italy; Netherlands, Belgium, Poland
trade partners 50 %	France, Italy; Netherlands, Belgium, Poland
trade partners 75 %	+ Austria, Luxemburg, Spain, UK, Switzerland, Czech. Rep.
product codes	72
competitors (Top 5) in main markets and position of Germany (market share)	France: Belgium, Spain, Germany, Italy, Luxembourg Italy: Germany, Ukraine, France, Russian Federation, Austria Netherlands: Germany, Belgium, Turkey, France, United Kingdom

	Belgium: Germany, France, Netherlands, Turkey, Egypt Poland: Germany, Ukraine, Czech Rep., Slovakia, Russian Federation

Luxemburg	
main export partners (Top 5)	Germany, France, Belgium, Netherlands, Italy
trade partners 50 %	Germany, France, Belgium, Netherlands, Italy
trade partners 75 %	+ Italy, USA, Poland, Sweden, Austria, Switzerland, Spain
product codes	72
competitors (Top 5) in main markets and position of Luxemburg (market share)	Germany: France, Italy; Netherlands, Belgium, Poland France: Belgium, Spain, Germany, Italy, Luxembourg Belgium: Germany, France, Netherlands, Turkey, Egypt Netherlands: Germany, Belgium, Turkey, France, United Kingdom Italy: Germany, Ukraine, France, Russian Federation, Austria

Netherlands	
main export partners (Top 5)	Germany, Belgium, Turkey, France, United Kingdom
trade partners 50 %	Germany, Belgium, Turkey
trade partners 75 %	+ France, United Kingdom, Spain
product codes	72
competitors (Top 5) in main markets and position of Netherlands (market share)	Germany: France, Italy; Netherlands, Belgium, Poland Belgium: Germany, France, Nether-

	lands, Turkey, Egypt Turkey: USA, Russian Federation, Ukraine, United Kingdom, Romania France: Belgium, Spain, Germany, Italy, Luxembourg United Kingdom: Germany, Russian Federation, Netherlands, Belgium, Spain