ELEMENTS FOR PROGNOSIS OF STEEL PRODUCTION IN ROMANIA IN THE CONTEXT OF THE WORLD ECONOMIC CRISIS

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The paper presents the situation of the Romanian steel industry in the context of the international economic crisis. The reduction in production due to the general effects of the crisis, the increase in imports and a downward trend of exports have impacted on the overall evolution of the industry, that is confronted with sector benchmarks and EU requirements, such as the greenhouse gas emissions reduction.

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The consumption of steel products in the European Union (EU-27) has reached in 2007 the level o f193.2 million tons, approximately 16% of the total world consumption of the same products. In the case of Romania, the level is close to 2.5% of the total EU consumption, with a consumption of 4.8 million tons, causing estimation for 2008 of 4.6 million tons and for 2009 of 4.5 million tons. The figures are higher that the projected number of 4.3 million tons from the 2007 Steel Industry Restructuring Programme, sanctioned through the Governmental Decision 655/2007, thus proving a larger internal market for steel products.

The current technological level in the steel industry in Romania

The current technologies and equipment present in the steel industry have reached the theoretical limitations, from the point of view of the specific consumption. The main production flows used currently in Romania are the same as all around the world, that is:

- core - furnace - convertor (BOF - Basic Oxygen Furnace) - continuous casting - hot/cold lamination - adjustment

- used iron – electric furnace (EAF - Electric Arc Furnace) – continuous casting - hot cold lamination - adjustment

In secondary steel industry the following procedures have been used:

RF and VD for the degasing treatment of steel in vacuum

LF for steel refining

AOD for the advanced decarburation of inox steel

The injection of powders from Calcium alloys and refining flows

The injection of wires made of special alloys

The advancements in the lamination process, less spectacular than the advancements in the production sector, have been oriented towards the reduction of the usage of resources, the increase in automation and, implicitly, the more rigorous controlling of the technologies and quality, the compactness of the flows and the adjustment of equipment to the deformation requirements of the new types of steel from the HSS and UHSS generations. The two main procedures of production (BOF and EAF) have reached maturity, and have a reduced rate of

advancement, the main concern being the improvement and generalization of the continuous casting of thin steel bands, thus leading to energy savings.

The main elements of performance benchmarking in industry (closely followed by the Romanian industry), at the current technological level and environmental protection requirements, are the following:

- the weighing of the production procedures: BOF 66,3%; EAF 31,2%

- the weighing of continuously casted steel: 92,4%;
- the weighing of continuously casted thin bands: 5%;
- productivity in tons per person: 600 700;
- productivity of the steel production equipment in tons per hour: BOF = 353; EAF = 141;
- the integrated energy consumption, MJ/t: BOF = 16800; EAF = 6200;
- workload in hours/person/ton : BOF = 1,8 ; EAF = 0,5;

- CO2 emission in tons CO2 per ton of steel: BOF = 1,96; EAF = 0,47.

The reduction of Greenhouse Gas emissions

The EU Directive regarding the reduction in the emission of greenhouse gas trading aims at improving the situation in the case of greenhouse gas emissions, thus lowering the level from 2020 to 21% of the level from 2005. In Romania, there is currently underway an analysis of the risk of reallotement of emission certificates (the reallotement refers to the switch in the interest of the investors towards countries where the environmental requirements are less constrictive) towards the units that have implemented the BATs- Best Available Technologies. The entire steel industry is considered, as well as the profitable companies, in which the level of Gross Added Value is more than 25% of the sales. The Romanian companies should have a correct assessment of the risk of relocation, in order to fully benefit from a suitable approach in the allotment of emission certificates and the possibility of compensation in case of an increase in the price of electricity.

The Impact of the increase in imports of steel products

The steel industry in Romania is currently undergoing an unprecedented increase in the total import of steel products. Out of the total imports, the most aggressive are the ones coming from the European Union, with more than 70% of the entire amount. The evolution the overall steel imports for the past 4 years is presented in the next figure:



Figure 1: An evolution of the Romanian Imports of Steel 2005 - 2008

A more detailed evolution of imports in 2007 as compared to 2004 is the situation presented in Figure 2:



Figure 2: Detailed growth of imports 2007 from 2004

The steel consumption in Romania for the analyzed period of time is presented in Figure 3 and 4. It is obvious that the evolution of the steel consumption has followed to the letter the evolution of the GDP, thus proving an intense correlation between the two variables.



Figure 3: Evolution of the consumption of steel products in Romania 2005 – 2008 as compared to the GDP growth



Figure 4: Consumption of steel products in Romania 2005-2008

Compared to the previously presented evolution is the consumption, the production followed a more tempered pattern, and, more importantly, a downward trend:



Figure 5: The evolution in the production of raw steel and exports of laminates in Romania 2005-2008

It is possible that the increase in imports (with 230% in 2008 from the level in 2005) has been caused or facilitated by the protectionist policies regarding the cost of oil, electricity and transportation from the EU countries exporting to Romania and/or the Romanian extreme restrictions, imposed the EU Directives (such as the supplementary expenses for environmental protection). Based on this protectionist tendency, to be also followed in the near future, it is possible to imagine the application of measures such as the identification of new ways of restricting the imports of steel products, based on direct trade relations with countries outside the EU, or the putting in practice of anti-dumping measures.

Prognosis for the future steel production in Romania

It is expected for both the steel production and the consumption of finite products to decrease during 2009 as well as, probably, 2010, due to:

- the steep decline in the construction sector without a near future solution to the problem

- the decline in the automotive industry and chemical sector

- the existence of important stocks of steel, sold currently at prices lower than the production costs

- the difficulty in accessing credit lines under favorable conditions

- the decrease in the demand of steel products for export

The measures taken in most companies and steel producers all around the world, as well as in Romania, for reducing the steel production, may cause a recovery of the world steel industry at soonest during the second half of 2010. Unfortunately, these measures have created disturbing social issues, by causing massive layoffs.

In conclusion, it is to be expected a major change in the structure of the world and national steel market, leading to a stabilization of it with a lower number of competitors.

References

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