# AN OVERVIEW OF THE CURRENT SITUATION OF THE COPPER PRODUCTION AND USAGE IN THE EU, ACCEDING AND CANDIDATE COUNTRIES

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# PREHĽAD SÚČASNEJ SITUÁCIE O VÝROBE A VYUŽITÍ MEDI V EÚ, PRISTUPUJÚCICH A KANDIDÁTSKYCH KRAJINÁCH

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**Abstract**

The aim of this paper is to give a brief overview of the current situation of copper production and usage in the EU, acceding and candidate countries. Copper mining and production, copper fabrication; trade in copper commodities and intensity of refined copper usage is discussed on the basis of statistical data on International Copper Study Group.

**Key words:** copper mining, copper production, copper fabrication, refined copper, European Union

**Abstrakt**

Cieľom tohto príspevku je podať stručný prehľad o súčasnej situácii vo výrobe a využití medi v EÚ, pristupujúcich a kandidátskych krajinách. Ťažba a produkcia medi, výroba, obchodovanie s výrobkami a intenzita využitia rafinovanej medi je diskutovaná na základe štatistických údajov International Copper Study Group.

## 1. Introduction

After growing from 6 to 15 members, the European Union is now preparing for its biggest enlargement ever in terms of scope and diversity. 13 countries have applied to become new members: 10 of these countries - Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic, and Slovenia are set to join on 1st May 2004. These are currently known by the term "Acceding Countries". Bulgaria and Romania hope to do so by 2007, while Turkey is not currently negotiating its membership.

In order to join the Union, they need to fulfil the economic and political conditions known as the “Copenhagen criteria”, according to which a prospective member must:

- be a stable democracy, respecting human rights, the rule of law, and the protection of minorities;
- have a functioning market economy;
- adopt the common rules, standards and policies that make up the body of EU law.

The EU assists these countries in taking on EU laws, and provides a range of financial assistance to improve their infrastructure and economy.

Table 1 Selected Macroeconomic Country Statistics on the EU Enlargement

| Scope | Population [Million] (Source: Eurostat) | Land Area [1000 km$^2$] (Source: Eurostat) | GDP (Great domestic product) (Billion Euros) (Source: IMF) |
|---|---|---|---|
| "EU 15" | 378,7 | 3,191 | 8,629 |
| 10 Acceding countries | 74,8 | 739 | 369 |
| Total "EU 25" | 453,5 | 3,930 | 8,998 |
| 3 Candidate countries | 98,2 | 1,129 | 200 |
| Total "EU 28" | 551,7 | 5,059 | 9,198 |

The acceding countries currently account for 20% of the population, 23% of land area, and 5% of GDP in comparison to the EU 15 country group. In the acceding countries, 79% of total foreign direct investment has come from the EU in 2000 representing 6% of total EU foreign direct investment outside the EU (based on Eurostat data). The acceding countries will increase the share of the EU in the world's GDP from 27.8% to 29%. If the candidate countries entered at the same time, they would have added another 0.6% to the EU's share (based on IMF data for 2001).

## 2. Copper Industry in the Acceding and Candidate Countries

The acceding countries will significantly increase the European Union's copper production. Mine production will quadruple (based on 2002 data). Whereas the copper refinery production of the enlarged EU will significantly increase by 28%, the increase of refined usage will be rather modest (up 2% - based on 2002 data). But there is a potential for growth in refined usage especially due to expected infrastructure improvements after the accession.

If we include the three candidate countries, based on the same reference year of 2002 mine production would further increase by 25% compared to the enlarged EU 25. Refinery production would increase by a further 4% and refined usage up a further 6%.

Table 2 Historical Production and Refined Usage in the Enlarged European Union (ICSG 2003)

| EU 15 | 1998 | 1999 | 2000 | 2001 | 2002/p |
|---|---|---|---|---|---|
| Mine production | 232 | 182 | 189 | 179 | 165 |
| Refinery production | 1,796 | 1,793 | 1,810 | 1,840 | 1,874 |
| Refined usage | 3,779 | 3,867 | 4,007 | 3,899 | 3,711 |
| Acceding Countries | | | | | |
| Mine production | 441 | 468 | 459 | 479 | 506 |
| Refinery production | 476 | 478 | 491 | 519 | 522 |
| Refined usage | 110 | 85 | 43 | 129 | 83 |
| Total EU 25 | | | | | |
| Mine production | 674 | 650 | 648 | 659 | 671 |
| Refinery production | 2,272 | 2,270 | 2,301 | 2,359 | 2,396 |
| Refined usage | 3,889 | 3,952 | 4,050 | 4,028 | 3,794 |
| Candidate Countries | | | | | |
| Mine production | 179 | 188 | 184 | 178 | 171 |
| Refinery production | 145 | 123 | 108 | 103 | 89 |
| Refined usage | 236 | 236 | 274 | 223 | 241 |
| Total EU 28 | | | | | |
| Mine production | 853 | 838 | 833 | 836 | 842 |
| Refinery production | 2,417 | 2,394 | 2,410 | 2,461 | 2,485 |
| Refined usage | 4,125 | 4,188 | 4,323 | 4,251 | 4,035 |

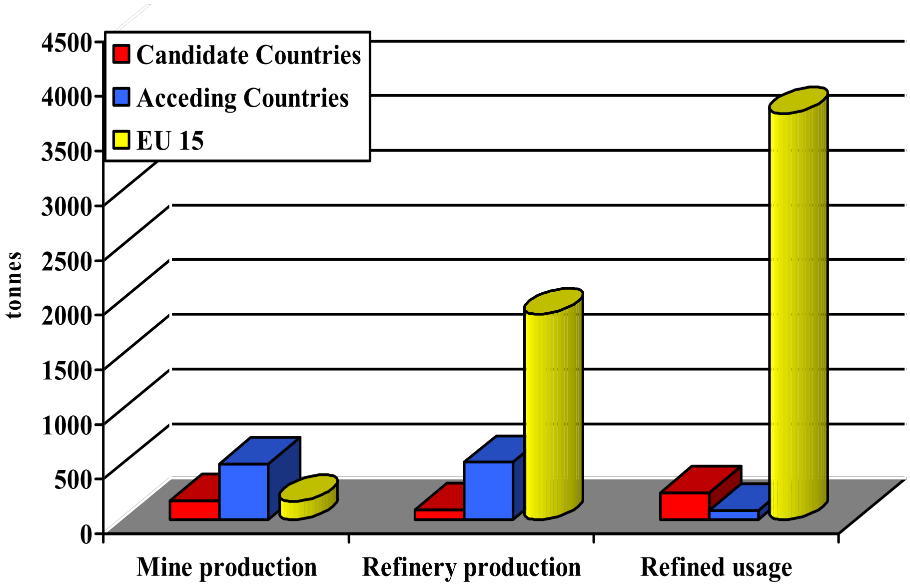


Fig.1 The impact of the EU Enlargement on the EU´s mine production, refinery production and refined usage (based on ICSG data for 2002).

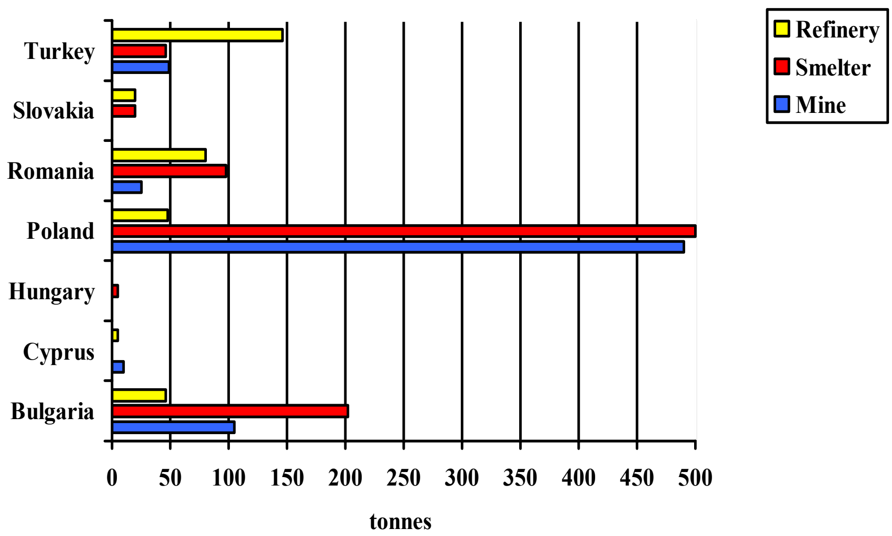


Fig.2 Copper mine, smelter and refinery capacities in the Acceding and Candidate Countries (ICSG – End 2002).

*2.2 Copper Fabrication ("First use")*

Statistical data concerning copper semis production in the acceding and candidate countries are fairly incomplete. In Table 3, most recent available data on semis production are compiled. Poland and Turkey dominate semis production. The overall production in the acceding countries can be estimated to be ~ 430,000 tonnes in 2000.

Table 3 Copper and copper alloy semis production in the acceding and candidate countries (ICSG data 1995 -2000)

| Country | Copper semis [tones] | Copper alloy semis [tones] | Total semi fabricates [tones] |
|---|---|---|---|
| Czech Republic (1995) | 10,000 | 16,200 | 26,200 |
| Hungary (2000) | 32,300 | 23,700 | 54,000 |
| Poland (2000) | 229,600 | 81,900 | 311,600 |
| Slovakia (1998) | 24,000 | 7,000 | 31,000 |
| Slovenia (1995) | — | 8,900 | 8,900 |
| Other Acceding Countries | Not available | Not available | Not available |
| Subtotal Acceding Countries | ~ 295,900 | ~ 137,700 | ~ 433,600 |
| Turkey (2000) | 242,700 (wire rod) | Not available | Not available |
| Romania, Bulgaria (2000) | ~30,000 (wire rod) | Not available | Not available |

Besides copper semis shapes, the acceding countries produced around 40,000 tones of copper based castings from ingots in 2001. In the candidate countries, copper foundry production in 2001 reached 13,000 tones. Aiming at assessing the first use sector, the ICSG has identified major wire rod, ingot and semis producers and their corresponding product shapes and capacities in the acceding and candidate countries.

According to this analysis, the first use capacity (including ingots for castings) in the acceding countries amounts to around 535,000 tones of copper and copper alloys. For the three candidate countries, first use capacity can be estimated to be around 980,000 tones. A great part of the latter capacity can be attributed to recent wire rod plant developments in Turkey (Sarkuysan, Er-Bakir, etc., total wire rod capacity of Turkey: ~500,000 tones) and the announced refurbishment of the Halcor-owned Sofia-Med brass mill in Bulgaria.

In the Figures 3,4 and 5 selected data concerning the identified “first use” capacity of the acceding and candidate countries including wire rod plants, brass mills and ingot makers are given.

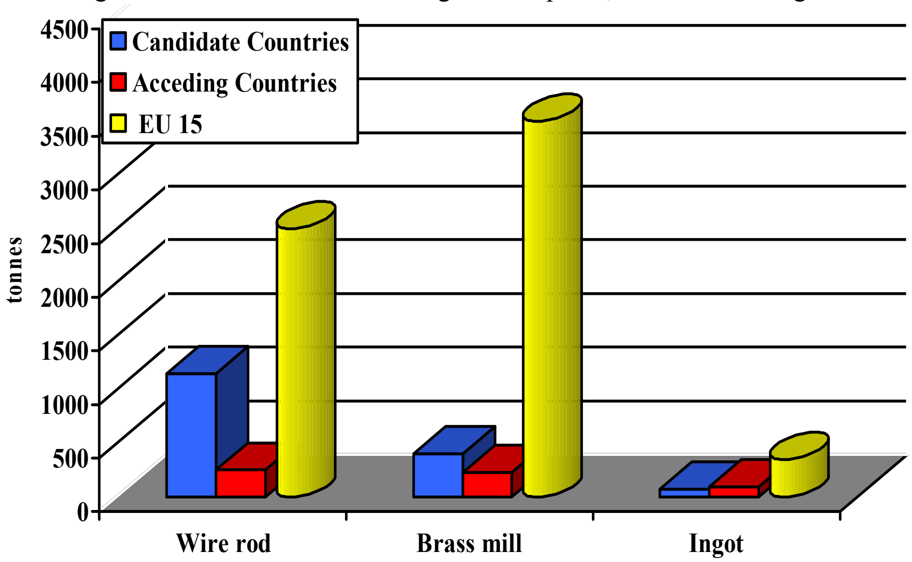


Fig.3 Copper wire rod, brass mill and copper alloy ingot capacities in the enlarged European Union (“First use” – ICSG estimate for year-end 2002).

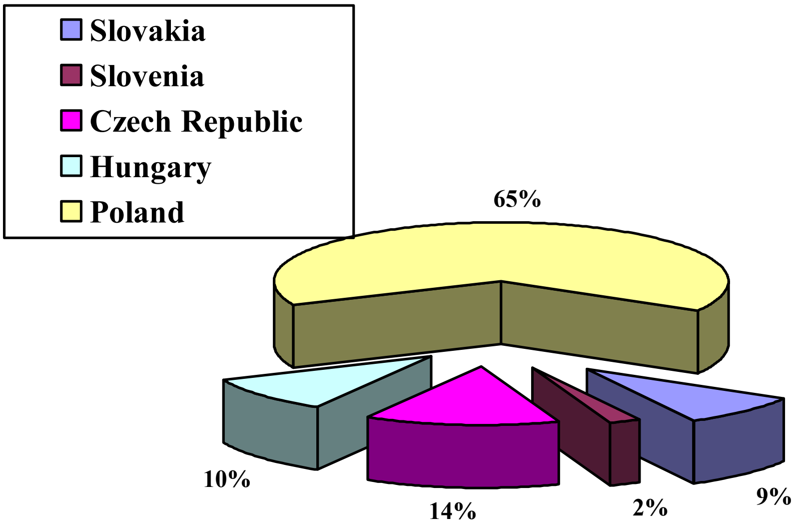


Fig.4 “First use” capacity in acceding countries by country share (ICSG estimate for the year end 2002).

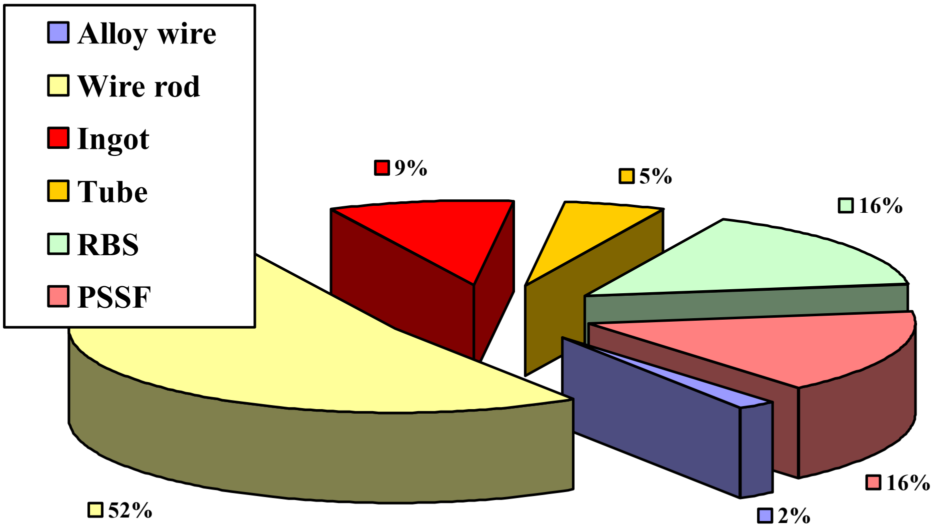


Fig.5 “First use” capacity in acceding countries by shape (ICSG estimate for the year end 2002).

*2.3 Trade in Copper Commodities (Import/Export Balance)*

Regarding net commodity trade of the acceding and candidate countries, the import-export statistics shows that net trade of copper concentrates, anodes/blister, ingots, and semis (other than wire rod) are almost negligible.

According to the Minerals Yearbook of Poland, the only major semis (net) export is attributed to wire rod exports from the KGHM wire rod plant in Poland. In 2001, 74,200 tones of wire rod have been exported from Poland mainly to Germany, Hungary, Czech Republic and

Austria. In 2001, semis exports into the EU 15 countries have accounted for 54% of total semis exports from the acceding countries and 28% from the candidate countries. In contrast, close to 70% of semis imports into the acceding countries and more than 90% of semis imports into the candidate countries derive from the EU 15 members.

In the case of refined copper and copper scrap the situation is somewhat different. The refined copper export surplus of the acceding countries amounts to ~180,000 tonnes annually (versus net import of ~2,100,000 tones of refined copper into the EU 15 countries according to ICSG trade data for 2001). Despite of Bulgarian exports (~20,000 tones net trade), Poland accounts for the vast bulk of refined copper exports of the acceding and candidate countries. While imports are negligible, in 2001, total Polish refined copper exports amounted to 240,000 tones. In the same year, the three major destinations for Polish refined copper exports have been France (71,200 tones), Germany (52,100 tones) and China (35,000 tones). The resting share is mainly exported to the resting countries of the EU 15 (~ 40,000 tones) and the other acceding and candidate countries (~26,000 tones).

The acceding and candidate countries are important net exporters of copper and copper alloy scrap. Regarding scrap exports, over 90% of scrap exports from the acceding countries and two-thirds of the scrap exports of the candidate countries are shipped to the EU 15 member states. In physical terms, the (net) scrap exports to the EU 15 countries amount to close to 100,000 tones of copper and copper alloy scrap in the case of the acceding countries and somewhat less than 10,000 tones in the case of the candidate countries.

However, it is worthwhile mentioning that the European Union has become a net exporter of copper scrap over the last years despite of local demand. To the net scrap export of ~75,000 tones of the EU 15 countries the acceding countries would add a net export of further ~100,000 tones of scrap material (based on ICSG trade data for 2001).

*2.4 Intensity of Refined Copper Usage*

Figure 6 illustrates the intensity of refined copper usage per GDP unit and per capita in the enlarged European Union. Copper use per capita is significantly lower in the acceding and candidate countries compared to the average of the EU 15 countries. However, the analysis of the intensity of use based on GDP highlights the special importance of copper to the economies in the three candidate countries (Bulgaria, Romania and Turkey). The intensity of use considerations for the acceding countries support the view that these countries might increase their copper usage significantly in the near future once living standards and productivity are getting closer to Western European levels.

**3. Major Copper Producing and Fabricating Companies in the Acceding Countries**

KGHM Polska Miedz is a well-known key player in world copper mining and production. The company operates three major underground mines, two smelter and refinery complexes and is by far the largest producer of copper wire rod in Central and Eastern Europe. The company has installed a capacity of 475,000 tones of refined copper with an extension to 530,000 tones underway.

The non-ferrous metal trader Impexmetal holds controlling shares of three brass mills in Poland which together represent a first use capacity of close to 120,000 tones of brass mill products and alloy ingots for casting.

Beside this major polish companies, a number of small and medium sized copper smelters, refineries and fabricators are located in the acceding countries.

Major participations of EU companies in the acceding and candidate countries include the 67% stake of Montanwerke Brixlegg (Austria) in the Slovakian copper producer Krompachy, the 99,7% stake of Umicore (Belgium) in the Bulgarian smelter and refinery complex UM Pirdop, and the Bulgarian brass mill Sofia-Med which is currently refurbished with IFC loans by his new owners Halcor (Greece 90%) and Umicore (Belgium 10%).

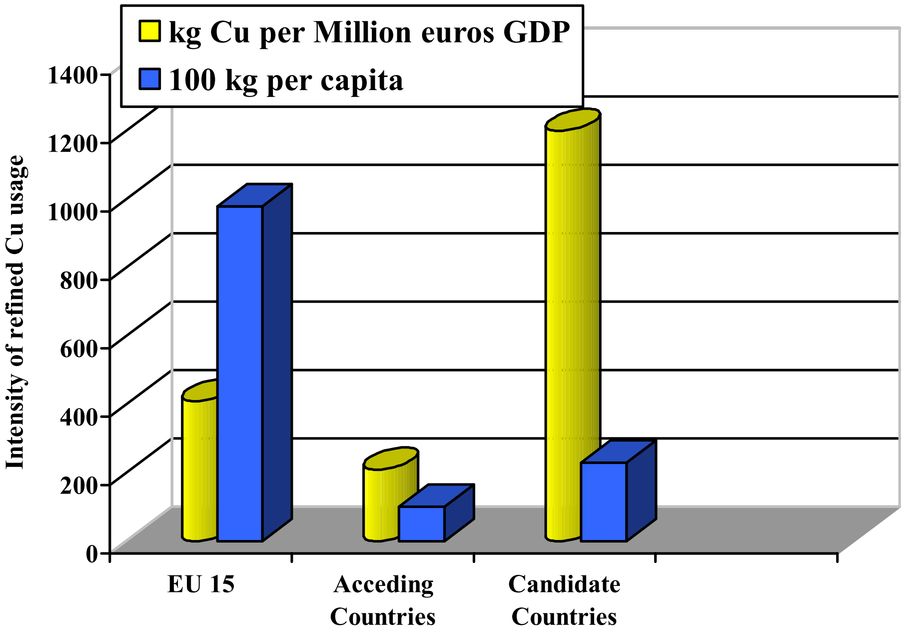


Fig.6 Intensity of use in the enlarged European Union (based on ICSG data for 2002)

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