

THE RAW MATERIAL INITIATIVE – CHANCE FOR EUROPE?

Abstract:

Since the beginning of the new millennium a significant reallocation of material resources occurs in the world. It is caused by a huge economic growth of Southeast Asia, particularly China. Countries previously known as traditional exporters of raw materials have become their biggest consumers occupying traditional regions known as suppliers of Europe. Europe is waking up after the extensive decay in exploitation of its own resources, moreover constrained by environmental legislation networks. In such an environment, the initiative supported by the European Commission Vice-President G. Verheugen appears: declared in autumn 2008 and supported by a legislative proposal called "Raw Materials Initiative - to meet critical needs for growth and employment in Europe." Czech Republic during its presidency of the EU did support this important document and outlined the basic priorities for starting this process as to the definition of critical raw materials and as to the access to raw materials national policies.

Nová surovinová iniciativa – šance pro Evropu ?

Abstrakt:

Od počátku nového tisíciletí dochází ve světě k výraznému přerozdělení surovinových zdrojů. Příčinou je obrovský ekonomický růst zemí jihovýchodní Asie, především Číny. Země, které byly tradičně exportéry surovin, se staly jejími největšími spotřebiteli a obsazují i tradiční regiony, zásobující Evropu. Evropa se probouzí po rozsáhlém útlumu exploatace vlastních zdrojů, svázaná navíc sítí environmentální legislativy. V tomto prostředí se objevuje iniciativa podpořená místopředsedou Evropské komise G. Verheugenem, deklarovaná na podzim minulého roku a legislativně podpořená návrhem „Surovinová iniciativa – uspokojení kritických potřeb pro růst a zaměstnanost v Evropě“. Česká republika během svého předsednictví EU významně podpořila tento dokument a nastínila základní startovní priority tohoto procesu v oblasti vymezení kritických surovin a přístupu národních surovinových politik.

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The European raw material wealth is characteristic for its long time extraction in the history, rich resources have been exploited for many centuries. The present deposits are relatively poor and smaller than those exploited in the world. Also the impacts on environment have been significant. The majority of EU members countries changed the strategy of mining during last 30 years, later also the new EU members from former Eastern bloc.

This strategy was based on an idea that national mining activities are not of such a need, and that the more important is to save the environment, all the necessary mineral raw materials should be imported from non European territories. Political changes, decreasing prices, influence of green movement also contributed to this

situation. Nevertheless the extractive industry is an important part of economy. For example non–energy extractive industry had in EU27 in 2005 turnover about 45 bil. euros with 295 thousands employments, numbers in the energy raw materials are more higher.

Raw materials are essential for the innovation ability and competitiveness of the European economy. Important industries such as construction industries, chemical industry, automobile industry and information and communication technology (ICT) depend on a considerable degree of a safe supply of raw materials.

The European Union depends on a considerable degree of the import of strategically important raw materials. Thus the European Union must buy these raw materials on the world markets that are a subject of fundamental changes, which in turn threaten the competitive ability of the European industry. The dependence is shown in Fig. 1 and 2.

Since the year 2000 we could observe a strongly growing demand for raw materials from the developing countries. This leads to an unprecedented pressure on the supply side, and presumably suppliers will lay behind the demand for many years.

Many developing countries increasingly introduced industrial strategies, by which their own resources basis has to be protected. This is being translated into a multiplication of national measures, leading to a distortion of the international raw material trade. So far more than 450 different export restrictions have been applied. However the volume of exploited raw materials in general is growing (as illustrated by Fig. 3) whereas in the European countries the volume of exploited raw minerals is relatively decreased.

For example Russia raises duties on exports of up to 50 % on secondary raw materials such as copper and aluminium scrap and increased its duties on exports for soft wood. The situation is particularly concerning in China. Especially the numerous comprehensive export restrictions have been applied on many raw materials, among them metals for the high-level technology such as rare-earth metals, antimony, and tungsten, of which China is the leading global producer. For example, 95 % of the world production of rare-earth metals, 87 % of the world production of antimony and 84 % of tungsten production originates in China. In addition there is an increasing concentration of the mining industry, which we likewise witness with concern. China produces 95% of all rare earth concentrates (needed for hand-held consumer electronics, LCD's, high performance magnets), Brazil 90% of all niobium (needed for steel alloys in gas pipelines, super alloys in high performance jet aircrafts) and South Africa produces 79% of all rhodium (needed for car catalysts).

Important raw materials sources are increasingly located in parts of the world with the lack of political and economic stability. Over 50% of major reserves are located in countries with a per capita gross national income \$10 per day or less.

On the other hand Europe is under a „green“ pressure, licensing procedures for mining are very lengthy because of a strong protection of areas (NATURA 2000, protected areas) and environmental laws. Mining and prospecting areas are under legislative pressure on the border of the financial prosperity.

Europe has not, by far, exhausted its possibilities for a decrease of consumption of primary raw materials. Recycling is a large chance to reduce our import dependence. EU industries rely heavily on secondary raw materials. As examples, recycled aggregates may substitute 10 -20% of primary aggregates, while the use of recycled scrap metal production. However, unfortunately, many of the so called "end-of-life" - products are not recycled in Europe but exported, frequently illegally. Thus Europe loses many secondary raw materials.

Big industrialized countries like the U.S.A or Japan also feel a similar situation. In the U.S.A. critical raw materials were defined and stores for raw materials have been developed, which are essential for the American defence industry. Japan has started to broadly put on a raw material diplomacy. Also European EC is feeling the problems for a few last years.

The official impulse to change this situation from the position of EC was initiated by the speech of G. Verheugen, vice-president of EC for enterprises and industry, on November 10th, 2008 in Germany. Afterwards, in the end of November 2008, the Commission of the European Communities published Communication COM(2008)699 “The Raw Materials Initiative – Meeting Our Critical Needs for Growth and Jobs in Europe”.

The industry welcomed this initiative. Raw materials are essential for the sustainable functioning of all societies, equally so for the EU. Securing reliable and undistorted access to raw materials is increasingly becoming an important factor for the EU's competitiveness and, crucial to the success of the Lisbon Partnership for growth and jobs. Hence three policy areas were identified:

1. Access to raw materials on world markets at undistorted conditions.
2. Sustainable supply of raw materials from European sources.
3. Increase of resource efficiency and promotion of recycling.

As it had been laid out in the Commission's report on the competitiveness of the sector the issues of access to these resources were manifold and varied from sub-sector to sub-sector. Although some, not all EU Member States were and are pursuing raw material policies; so far there had not been any integrated policy response at EU level to secure access to raw materials at competitive prices. The Commission therefore proposed in its Communication that the EU should agree on an integrated raw materials strategy.

Communication is divided into three chapters:

- 1st: Analysis of supply and demand of non-energy raw materials
- 2nd: The policy response: An integrated strategy
- 3rd: The way forward

The first chapter describes the supply situation in Europe with regard to the various raw materials ranging from self-sufficiency to high import dependence. Because of the fact that the EU faces fundamental changes on the global market this part is focussing also on availability and price development of raw minerals and new industrial strategies and risks of dysfunctional global markets.

In the second chapter a new EU integrated raw materials strategy is proposed and should include ensuring access to raw materials from international markets under the same conditions as for other worldwide industrial competitors. It recommends setting the right framework conditions within the EU in order to foster sustainable supply of raw materials from European sources; and last but not least boosting overall resource efficiency and promoting recycling to reduce the overall EU's consumption of raw materials in order to decrease the relative import dependence.

Three strategic pillars are defined:

First pillar:

Access to raw materials on world markets at undistorted conditions.

Defines core key actions:

pursuing raw materials diplomacy;
promoting enhanced international cooperation;
access to primary and secondary raw materials should become a priority in EU trade and regulatory policy;
EU policy development at three levels: strengthening states; promoting a sound investment climate; promoting sustainable management of raw materials.

Second pillar

Foster sustainable supply of raw materials from European sources.

Core actions were defined:

having the right framework conditions for securing access to the land;
improving the knowledge base of mineral deposits within the EU;
better networking between the national geological surveys;
promoting research projects;
addressing the problem of skill shortage;
raising awareness of the importance of domestic raw materials for the European economy;
developing guidelines to reconcile Natura 2000 areas with extractive activities.

Third pillar

Reduce the EU's consumption of raw materials

Key actions:

promoting resource efficiency and recycling;
substitution and increased use of renewable raw materials;
ensuring the treatment of waste under fair and sustainable conditions in relations with third countries.

The third chapter summarizes main topics with focus to three pillars.

The three pillars of the proposed strategy aim to ensure a level playing field in access to resources in the third countries, better framework conditions for extracting raw materials within the EU and a reduced consumption of primary raw materials by increasing resource efficiency and promoting recycling.

The Commission proposes to launch a European Raw material initiative as set out below. The Commission will report to the Council in two years time on the implementation of the raw materials initiative.

Ideas of this communication are now filled. DG for Enterprise and Industry has established two expert Working groups: I. WG "Definition of critical minerals" and II. WG "Exchange the best practices on land use planning, permitting and geological knowledge sharing".

The European Union must develop its own knowledge base. Europe needs therefore more strongly networking geological institutes. The Commission also wants to examine, how the land monitoring service of the Kopernikus Earth Observation system could be useful for control of mining activities in the frame of land use planning.

Besides, the European Union must strengthen its research efforts. Exploration and production technologies have to be innovated in order to discover resources which lie very deeply underground or on the bottom of the sea. The research will play also a key role with the development of substitutes for critical raw materials.

There are needed young qualified people for the raw material sector. This requires a stronger cross-linking of the universities and of the industry, but generally also a larger sensitization for the meaning of the raw materials for the European society. For this reason the initiatives like „The European Mineral Day 2009" represent a very welcomed support.

The European Investment Bank has announced more credits for mining industry projects in Africa on the occasion of the publication of the Raw Materials Initiative. This is a welcome announcement, particularly since the EIB already invests approx. 140 MEuros per year into such projects.

The Raw Materials Initiative presented by the Commission is the first step towards a comprehensive answer. It introduces a process, but it is for sure not the solution of the problems.

The second step of this initiative will be to define critical raw materials, i.e. raw materials that are economically important, whose availability to Europe's industry is uncertain or could become uncertain.

This step was made during the Czech EU presidency at the conference Mineral Resources for Europe. The aim of the conference was to address the question of demand and supply of minerals for the European Union with the intention of providing additional input about the "strategic" short, medium and long-term needs for mineral

resources for Europe's industry and economy. The contributions (published on <http://www.euresources2009.eu/>) presented the statements to initiative from the position of extractive industry, scientists, economists and politicians. All agreed with a duty of the EU presidency country to organize an international conference with controlling of progress with filling the main aims of three pillars of the Initiative.

The next steps are now also on the all Member States. The Commission hopes that the Council fully supports this Strategy and is ready for its dedicated implementation. The main aim will be establishing of a clear mineral supply policy. Two years later, Commission will evaluate the implementation of this strategy and decide if further measures are necessary.

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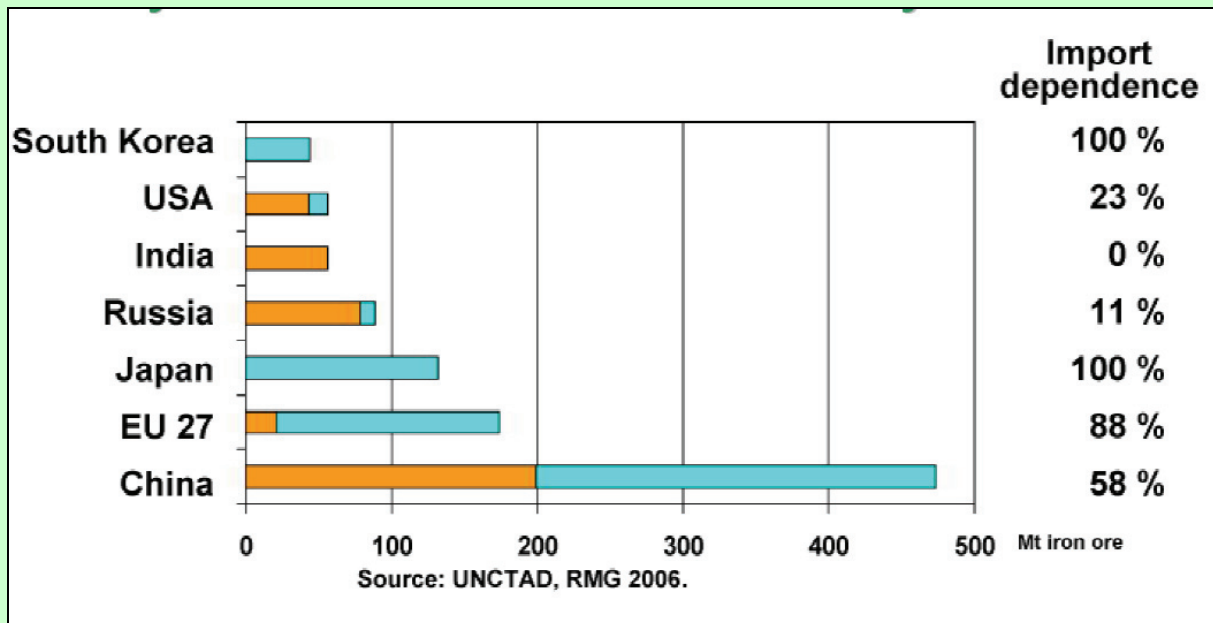


Fig. 1. Import dependence on iron. According Wiehed P. (2007).

EU dependence on the import of metal ores (2003)

Antimony ore	100%	Rutile	100%
Beryllium ore	100%	Vanadium ore	100%
Boron	100%	Phosphate rock	92%
Cobalt	100%	Nickel	86%
Molybdenum	100%	Iron ore	83%
Niobium ore	100%	Bauxite	80%
PGM ores	100%	Zinc ore	80%
Rare Earth ores	100%	Tungsten ore	76%
Rhenium ore	100%	Lead Ore	76%
Tantalum ore	100%	Copper Ore	74%
Ilmenite	100%	Chromium ore	53%

Source: based on BGS Data (2005)

Fig. 2: European dependence on the import of metal ores. According Christmann P. (2009)

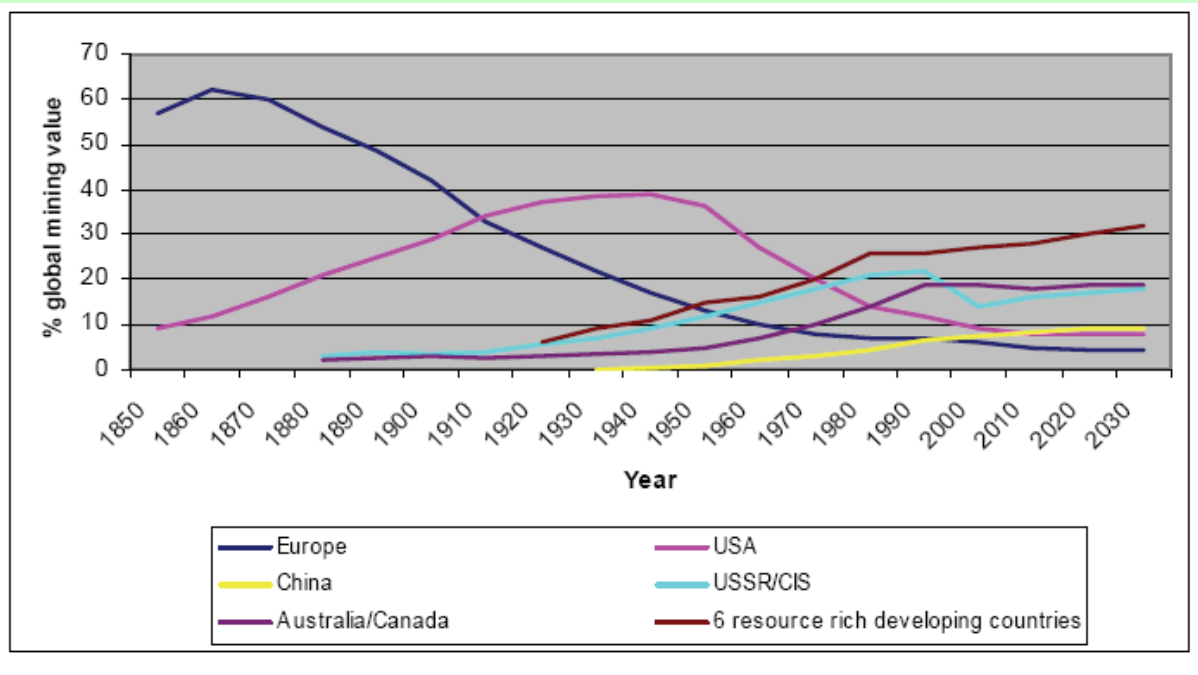


Fig. 3: Trends in global mining (Piettersen 2007)

