

NATIONAL REPORT OF HUNGARY, 2017
45TH ISM PRESIDIUUM MEETING (Dr István HAVASI)

Trondheim, Norway, 10-12 May 2017

In the frame of the *Hungarian National Report* the following topics will be discussed shortly:

1. Training at the Department of Geodesy and Mine Surveying (Faculty of Earth Science and Engineering, University of Miskolc).
2. Present situation referring to mine surveying/mine surveyors in Hungary.
3. Professional event(s) which can be connected to home mine surveying and matters of legal regulation.
4. Production of mineral raw materials in 2016.

1. My department works in training structure of the Faculty of Earth Science and Engineering. At present all the students study in Bologna (BSc, MSc) multi-cycle linear training system either full time or part time schedule. The training time is, in general, 3.5 years for BSc students and 2 years for MSc ones. As far as *my Department* is concerned our teaching activity (*1st term of 2016/2017* /*bold/ and 2nd term of 2016/2017*) can be seen in Table 1.

Table 1. Bologna training at the *Department of Geodesy and Mine Surveying* in the last year

BSC TRAINING		
Subject	Branch	Term/Number of students
<i>Geodesy</i> (2 1 + 2 p, 4 credits)	Earth Science and Engineering	autumn (1 st term) 49
<i>Mine Surveying</i> (1 1 + 2p, 3 credits)	Earth Science and Engineering, Mining and Geotechnical Specialization	autumn (5 th term) 2
Basic knowledge in GIS (2 1 + 2 p, 4 credits)	Earth Science and Engineering	spring (2 nd term) <u>47 + 1</u>
<i>Geodetic basics in GIS</i> (2 1 + 2 p, 4 credits)	Environmental Engineering	autumn (1 st term) 9
Mapping (2 1 + 2 p, 4 credits)	Geography	spring (2 nd term) <u>12 + 9</u>
<i>Geodesy and GIS</i> (2 1 + 2 p, 4 credits)	Geography	autumn (5 th term) 19
Digital mapping (2 p, 2 credits)	Geography	spring (6 th term) <u>13</u>

MSC TRAINING		
Subject	Branch	Term Number of students
GIS (2 1 + 2 p, 3 credits)	Petroleum and Natural Gas Engineering; Mining and Geotechnical	autumn (1 st term) 9 + 5 (part time)
Geodesy and GIS (2 1 + 2 p, 4 credits)	Earth Science	autumn (1 st term) 0
Geodesy and GIS (English) (2 1 + 2 p, 4 credits)	Earth Science and Hydro-geological Engineering	autumn (1 st term) 8 + 9
Mine Surveying (part time, 3 credits)	Mining and Geotechnical Engineering	autumn (3 st term) 6 (part time)

2.

- On **May 1st, 2017** there were **186** chartered mine surveyors in Hungary.
- The certificates of **56** chartered mine surveyors are valid for both *surface and underground mining*.
- There are **12 new** certificates for *hydrocarbon special field* (including the establishment and operation of petroleum, petroleum products, and other hydrocarbon pipe systems with the exception of natural gas as well).
- The number of chartered mine surveyor's certificates for *surface mining* issued by the *Hungarian Mining Bureau* is: **116**.
- There are **2** certificates for **both surface mining and hydrocarbon special fields**.

3.

- The *LV. Jubilee Conference on Mine Surveying* was organized *in Budapest on June 8-10th, 2016*. The main topic was "*The 50-year-old Mine Surveying Group of Hungarian Mining and Metallurgical Society and the 25-year-old Foundation of Hungarian Mine Surveyors*". In the frame of a technical tour the Company 'Baumit' producing various constructional primary materials and its limestone mine were visited by the specialists and guests in Dorog. At this conference there were about **90 participants**, and **12** presentations (9 oral and 3 poster ones) were delivered. Of course, there were other professional, traditional and cultural programmes as well.

- *XVI Forum on Mine Surveying* was held in Budapest on *November 10th, 2016*. There were more than *60 participants*. At the forum actual professional and legal questions which refer to measuring, mapping and entrepreneurial activities of chartered mine surveyors were discussed in a circle of the concerned specialists. The participants were also informed about the problems and consequences related to *reorganizing mining authorities and planning a new credit system for licensing chartered mine surveyors*. *The effect of the application for an official surveyor's certificate on a mine surveyor's job* was also discussed during the forum.
- The *legal regulations* referring to mine surveying has been *modified* at the beginning of 2013.

It relied on the governmental decrees as follows (prevailing from 5 January 2013):

10/2010.(III.4)KHEM

about the scale and content of mining maps and

12/2010.(III.4)KHEM

about the chartered mine surveyor.

As a result of these modifications *usage of digital data bases and digital maps is compulsory*. There were *alterations* in connection with the **decree about the chartered mine surveyor** that is to say *12/2010.(III.4)KHEM* was modified again this year.

The introduced *new decree* is: *5/2016. (III.17.)NMF* in which in the process of being a chartered mine surveyor the earlier necessary special qualification exam was cancelled. At present the required academic qualification and the special mine surveying practice (4 years) for the requested field are compulsory for an applicant.

4.

As far as the production of various mineral raw materials is concerned, data of the last two years can be found in Table 2. Changes in percentage of each material are involved in the last column of Table 2. In connection with *solid mineral raw materials* you can see that there was a decrease of *13.2%* in *total production*. You can see a significant large decrease of *70.8%* in *production of coals*, and about *0% (0.003%)* decrease in case of *lignite*. The *production of ores*, however, increased *very significantly* with *306%*. A *larger decrease* is characteristic for *peat (26.8%)*, and a large decrease for

clay (17.2%). A **very large decrease** can be seen in case of **other materials (77.4)**, and the production of **construction materials** also decreased (for sand and gravel with 12.0%). 1.6% decrease is characteristic for stones. The production of **crude oil** increased with 14.3%, and it is also increased with 12.7% for the **natural gas**. A nearly 7% (7.1%) increase can be seen in case of **carbon dioxide**. The production of raw materials for a **period of 2004 and 2016** are illustrated in Figures 1 and 2.

Table 2. Comparing the production of mineral raw materials in Hungary considering the last two years

Mineral raw materials	2015 [m ³]	2016 [m ³]
Coals	23026	6721 (-70.8%)
Lignite	7449876	7424831 (-0.003%)
Ores	3471	14092 (+306%)
Peat	298339	218362 (-26.8%)
Clay	1945704	1415783 (-17.2%)
Sand and gravel	17625282	15517454 (-12.0%)
Stones	7159140	7042315 (-1.6%)
Other	2623075	593922 (-77.4%)
Total [Mm³]	37.13	32.23 (-13.20%)
Crude oil [Mt]	0.63	0.72 (+14.3%)
Natural gas [Gm ³]	1.89	2.13 (+12.7%)
Carbon dioxide [Gm ³]	0.14	0.15 (+7.1%)

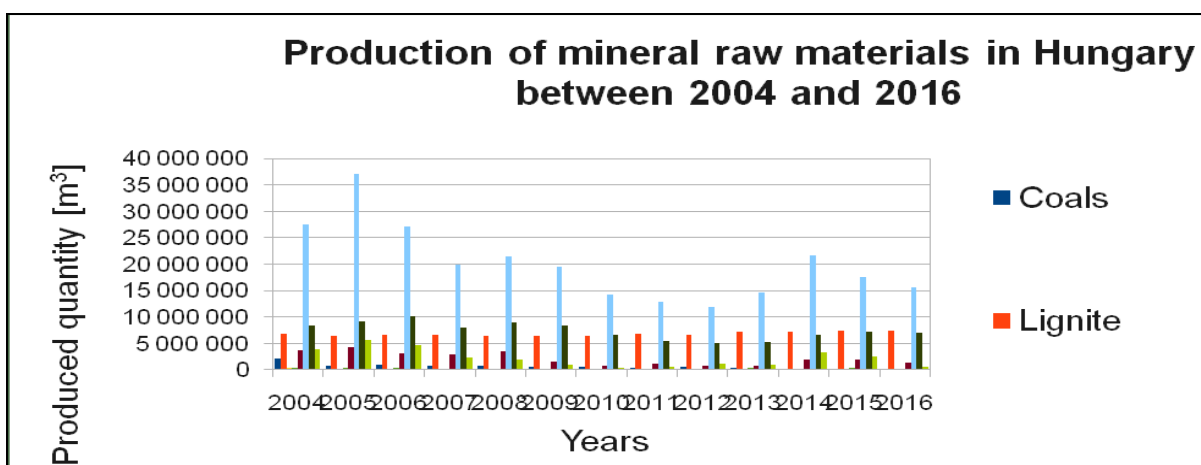


Figure 1. Production of solid raw materials

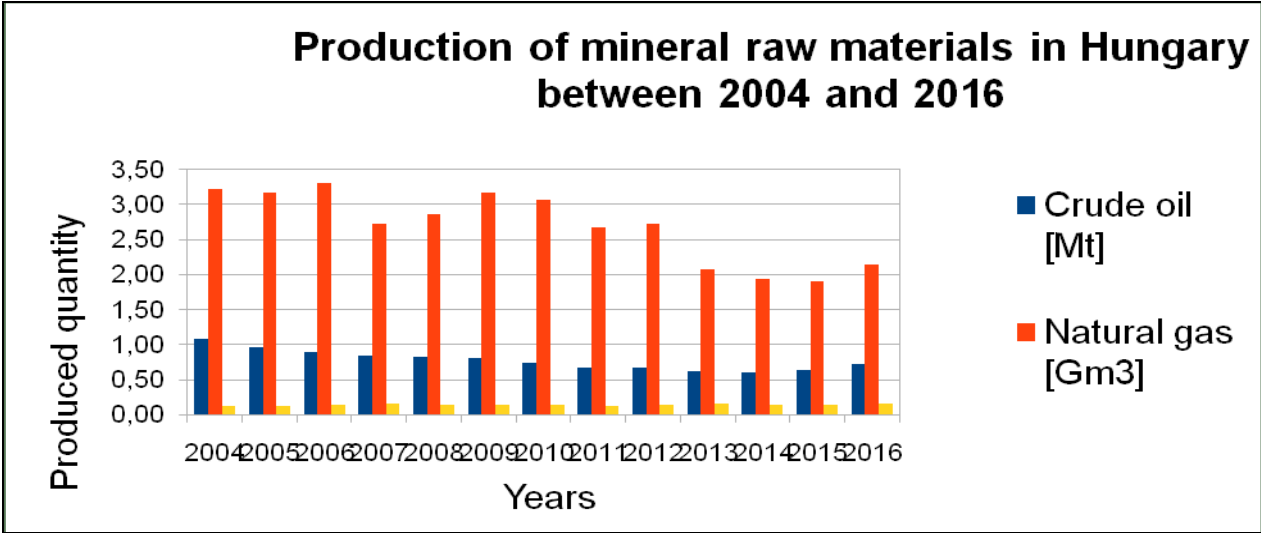


Figure 2. Petroleum and gas production