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Transport of liquefied natural gas (LNG) by river and river-sea going vessels as an efficient facility solving actual gas crisis

Motion for a recommendation
tabled by Mr Miloš MELČÁK and other members of the Assembly

This motion has not been discussed in the Assembly and commits only those who have signed it

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Many European Countries are almost entirely reliant on natural gas from geographically very limited sources. Moreover, the natural gas is transported over the continent mostly by pipelines. i. e. only in fixed routes that cannot be simply modified in conformity with changing conditions of the market and of the political situation. Consequently, occasional crises caused by various disturbances cannot be promptly and successfully solved. The actual gas crisis that was caused by misunderstandings between Russia and Ukraine and affected the economy of many European countries indicated that completely new solutions must be taken to diversify the continental gas transport.

In the case of the long-distance marine transportation, the special LNG carriers are used. When transporting natural gas the gas is cooled down to approximately -163 degree Celsius where it will condense to a liquid kept at atmospheric pressure. The tanks onboard the LNG carriers function as giant thermoses where the liquid will be kept cold during storage. No insulation is perfect, however, and so the liquid is constantly boiling during the voyage. An estimated 0.1% – 0.25% of the cargo converts to gas each day, depending on the efficiency of the insulation. Nevertheless, the gas produced in boil off is traditionally diverted to the engines and used as a fuel for the vessel. In this way, up to 100 % of this gas can be utilized. At the moment there is a boom in the fleet, with a total of more than 140 vessels on order at the world's shipyards. Today the majority of the new ships under construction are in the size of 120,000 m³ to 140,000 m³. But there are orders for ships with capacity up to 260,000 m³. According to the fact that 1 m^3 of LNG equals to 600 m^3 of natural gas in gaseous state, such ship can carry 156 mil. m^3 of gas.

Barges and vessels for river and canal transport of LNG are – of course – smaller and have usually a capacity up to 2,000 – 4,000 m^3 equivalent to 1.2 – 2.4 mil. m^3 of natural gas. There is – however – a possibility to increase this capacity up to approximately 20,000 m^3 (up to 12 mil. m^3 of natural gas) on the rivers offering sufficient heights of bridges. The necessary draught of special vessels is – on the other hand – rather small thanks to the low specific gravity of the LNG (0.45 t/m^3).

The Danube River is of great potential in this regard, as it offers bridges of sufficient height and permits vessels of advantageous size. Moreover, the Danube River:

– follows a course parallel to the transport flows of natural gas from all important sources of this fuel including Middle East, Algeria and countries overseas;

– enables a high operational diversification of gas supply from one source to another;

– offers a traffic of combined river-sea LNG tankers of varied origin (from Algeria, Middle East, etc.);

– connects with important centers of consumption: such as chemical industry centers in Romania, Serbia, Hungary, Bratislava and Vienna;

– in connection with the planned first stage of the Danube-Oder connection (Danube-Hodonín in the Czech Republic) it offers direct transport to the huge underground gas storage facilities in Western Slovakia (Záhorie) and Southern Moravia. These storage reservoirs are connected with main routes of gas (pipelines) connecting Russia with Central and Western Europe.

Consequently, the system of LNG transportation using the Danube River can be considered as an interesting complement to, for instance, the Nabucco pipeline and could provide for useful collaboration among countries along the Danube.

In view of the above, the Parliamentary Assembly therefore:

– calls for an urgent international feasibility study with a view to the preparation of a new diversified system of gas transportation using the Danube River;

– urges an accelerated preparation of the Danube-Oder -Elbe connection and especially its first stage, which could make a substantial contribute to the functioning of the above-mentioned diversified system – this being in full conformity with the Parliamentary Assembly's Resolution 1473 (2005) on European waterways: focus on the Danube-Oder-Elbe Canal project".

Signed (see overleaf)

Signed[1]*:*

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1. ALDE: Alliance of Liberals and Democrats for Europe
EDG: European Democrat Group
EPP/CD: Group of the European People's Party
SOC: Socialist Group