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SHALE GAS DRILLING IN EASTER EUROPE: A NEW ENERGY FRONTIER OR ANOTHER RECKLESS OPERATION?

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Energy related issues have been capturing the attention of politicians and institutions in Eastern Europe in a strong way during the last fifteen years and are now at the top of the political and economic agendas of governments throughout the region. Oil has been, and still is, the major source of energy for Eastern Europe as well as the rest of the continent. The last fifteen years have seen the use of this hydrocarbon soar in accordance with the new developing model adopted since. In the same period the rising prices and diminishing availability of oil for the European countries have pushed the institutions and private economic actors to search for new sources of energy supply in order to diversify the channels from where to satisfy every nation's energy need. Moreover, high pollution levels and the global warming effect are also playing a certain role in the region's all too slow decline of oil and coal use. In the context of the rush towards a possible solution to this Eastern European energy problems, a range of

solutions have been tried by local and international political/economic actors. In any case the main answer to this challenge that can be found in the energy policies of national and regional bodies, is focusing on replacing, as much as possible, coal and oil with natural gas. The former is nowadays imported in Europe mainly from Russia, Norway, Caucasus or North Africa through pipelines. For what concerns Eastern and Balkan Europe, the imports of gas are at the moment coming from Russia, although new energy routes are being explored and some of them are being built (especially the Nabucco pipeline from Caucasus and the Black Sea through Turkey up to Balkans and Central-Eastern Europe).

Apart from its place of origin, the share of gas on total energy supplies in Eastern Europe is growing steadily. The preference for natural gas derives from three elements. The first is its high power generating potential, which is almost equal to the one of oil. The second is its lower environmental impact in terms of greenhouse emissions, if compared to oil and coal. The last element its inferior price on the world market in comparison to other widespread kinds of fuel. Nevertheless even the amount of imported gas is causing growing concerns inside governments of the region, because of the rather unstable situation of the pipelines routes and the geopolitical uncertainties existing inside the producer states. Moreover the dependence on foreign supplies and the monetary burden that it generates, which weighs on the various countries balances of trade, are persuading the authorities of the area to pursue alternative ways to gather the energy they need. To combine the qualities of natural gas cited above and the urgency of free themselves from energy dependence (both economic and political) from abroad, the Eastern European executives are searching for new technologies and possibilities in order to make the best out of their own natural gas resources and, by doing so, reducing their difficulties in dealing with their nation’s energy demand. While trying to reach a satisfying level

of energy security and cut their imports costs, the states of the area will have the chance of eventually exporting a certain amount of the gas taken from their own shale layers and improve their technological expertise, in order to benefit their economic structure as a whole.

One of the pioneering techniques to extract gas from the underground that is gaining ground in Eastern Europe is called “fracking” (which stands for hydraulic fracturing) and it is aimed at drilling the gas reserves contained inside the rocks of shale placed at great depth. The method used for this type of mining consists in injecting highly pressurized water mixed with sand and chemical agents in the underground layer of shale to cause its explosion and free in this way the gas previously enclosed in the rocks. The gas is then brought to the surface through drilling machines and is therefore ready to be processed and distributed. The result of this process, which is already operating in various areas of the world, takes the name of “shale gas” and it is seen as a source of energy with great potential in the near future.

The “fracking” system of obtaining gas, already employed in the U.S.A. since the mid nineties, has made its way into more than one European country during the last two years. It is spreading as a viable option inside the political and economic programs of more than one executive in Eastern Europe, which are building partnerships with some of the major energy companies of the world (above all from United States and UK). The exploration licences issued by the national authorities in the region are more then an hundred (the great majority in Poland) and the trend is that of increasing this number further. The drilling operations are still at an early stage, but the investments made by the multinationals involved, allow speculations of a quick development of the field activities. Among the nations interested in carrying on the fracking system procedures, Poland, Ukraine and Bulgaria are the more determined and willing to have shale gas available for the end of the decade. Romania and Hungary are also

evaluating the possibilities offered by this new technology. Each one of these countries assume to satisfy a significant share of their total gas consumption with shale gas and to move towards the partial resolution of their energy concerns into that framework of time. For what concerns the amount of shale gas reserves, Poland is believed to be the first of the Eastern European states, followed by Ukraine and Bulgaria. Warsaw has not only the richest unconventional gas reserves, but it has also is the fastest in taking the path of drilling explorations and is now ahead of any other government in the region in the field of shale gas drilling. The exact quantity of natural gas contained in the shale layers of Eastern Europe is not known and the estimates are controversial. Anyway the amount it's believed to be enough to feed a significant part of the nowadays consumption of the nations involved. All the states interested in pursuing the path that leads to shale gas extraction are adjusting their fiscal policies in order to attract foreign companies and make the operations viable on the side of the costs. Licences have been issued with highly favourable conditions for the multinationals which are developing this new energy frontier in Eastern Europe. This, of course, does not take into any account the environmental costs in terms of direct and non-direct impact on the natural balance in the region. Following are some reflections on some of the possible bad consequences of shale gas drilling in Eastern Europe.

The way in which unconventional natural gas is extracted, described before and called fracking, has some strong consequences to the environment. Amongst them there is the high risk of contaminating the water reserves contained in the underground with the chemical substances used in this particular process of drilling. Moreover that substances will remain active after the drilling, threatening for a long period of time Both the soil and the water at a more superficial level. The methane extracted can easily filter into the water-bearing stratums near the drilling site, polluting a natural

element essential for human life, animals and the general environment. Under these conditions the losses on the side of the population and nature will be enormous and will require many years to recover. The likely and frightening scenario of polluted water must be associated with billions of euro of damages to agriculture, water distribution to people and any other human activity.

Furthermore water is used in great quantities during the fracking process, by injecting it down to cause the explosion of shale rocks and free the gas they hold. All the while the social, strategic and economic value of water is rising steadily because of the recurring shortages and the pollution of rivers and other reserves. Using water for fracking reduces the availability of this vital element while there is a horizon of water scarcity and environmental crisis in front of Europe.

Exploiting shale gas deposits necessitates drilling many wells in a relatively small area, putting at risk the environment protection policies and diverting large portions of land and habitats otherwise at hand for sustainable agriculture or to keep the already damaged natural balance as healthy as possible. In addition, the Eastern European infrastructures of transport are not fit for the supply of the unconventional gas so new highways, roads and distribution networks should be built to ensure the practicability of the projects about shale gas. This will lead to the erosion of the natural spaces still remaining intact in the area and the increase of greenhouse emissions.

For what concerns the non-direct consequences on the environment, the issue of the greenhouse gas emissions is the more important one. In fact the drilling of unconventional gas will generate a huge amount of emissions during the preliminary activities, not to talk of the extraction operations, processing and distribution. Moreover, in Eastern Europe shale gas is intended as a possible substitute for the foreign gas supplies, especially the ones from Russia. In this way the total amount of

emissions will not be reduced and it will keep the present trend, that of continuously growth. On the other hand, the partial replacement of oil and coal used in the region with shale gas, would not be particularly useful because the decrease in emission would be too small in comparison with the European Union targets and the real emissions cutback needs of the world situation.

In order to collect as much foreign investments as possible, Eastern European states are pushing forward the shale gas market without paying enough attention to the safety rules on the ground and creating in this way a poorly regulated “fracking industry” which can be highly detrimental to public health and the environment. The absence of regulations is of maximum weight for dangerous drilling activities. For example the U.S.A. shale gas market has soared in the last years since the checks on this kind of extraction have been substantially removed. The pattern that Eastern Europe is following in this sector seems to be the same, but the costs for the public finances and the citizens will be much higher then the benefits in the medium and long run.

Finally, it is worth noting that combining all the disadvantages enumerated and imagining the economic and social costs deriving from the damages which will arise from the use of this technology, the decisions that governments of the region are taking should be more carefully evaluated by taking into consideration the environmental costs in comparison with the gains. In fact the ecological crisis already present and growing in Eastern Europe will be aggravated by the shale gas drilling. The likely loss or contamination of water reserves in the areas interested by the fracking system represents the main problem and the highest risk foreseeable in the near future, which alone should prevail over the energy lobby forcing for beginning the extraction of unconventional gas in the region. The shortages of water which will

originate from fracking would be much more expensive in terms of money and social stability than the temporary gains in terms of energy independence.

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