

an imminent threat of being washed out by the intense erosion that now affects the shoreline as well as the adjacent seabed.

The results from monitoring of the Krupnik seismogenic area in SW Bulgaria

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The new results from monitoring of the Krupnik seismogenic area in the Southwest Bulgaria are presented. Special attention is paid to the geodetic analysis using present-day GPS data and seismological modelling of regional stress field in order to constrain the kinematics and dynamics of the region. On the base of the complex analysis of the recent seismicity, geodetic data and fault plane solutions modelling we can conclude that the present tectonic activity in the Krupnik area in SW Bulgaria is associated with the main geodynamic processes in the central part of Balkan region.

The Black Sea – an energy crossroads and/or an unconventional energy and resource center in Europe

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The irregular geographic distribution of the raw materials for the energy industry such as oil and gas on the world geographic map creates a problem with their transportation to the end consumer. Nowadays hydrocarbons are transported by tankers or via pipelines. Pipelines are preferable due to a number of reasons. Their advantages make them very attractive and are expressed as follows:

- considerably shorten the distance to the end consumer;
- transport charges for the transit of the products are avoided;
- risks of pollution during this means of transportation are reduced.

Russia and the countries from the Caspian region, the Middle East, the North Sea and Middle Asia are seen as the natural centers of energy resources for Europe. Since these centers of energy resources are available the economic advantage of their use is determined mainly by the methods of their transportation to the end consumers. Two competitive projects - the South Stream and Nabucco – are launched.

Even today we can often hear apocalyptic prophecies of the near end of oil and gas era and appeals to industrial societies to quit the use of oil and natural gas and to start using alternative energy sources and raw materials.

The only outcome is the search for unconventional (alternative) sources of energy, moreover that the prices of these resources will continue to grow in the foreseeable future. The search for unconventional alternative (oil and natural gas) resources and the prospects for their use will bring reassurance for the future of humanity.

New results were obtained over the past 20 years in the sphere of unconventional resources of energy in the Black Sea and the sophisticated technologies that made possible the development of several pilot projects. The topmost is the project for research and production of methane gas from the gas hydrate deposits on the bottom of the Black Sea.

The studies of DSOMS as a complex resource have indicated broad perspectives for their application in the sphere of agrobiotechnologies, nanotechnologies, construction sector, medicine and other spheres. Under the conditions of chronic energy crisis and shortage of quality food products we have to pay special attention to unconventional raw materials and resources of energy. An important factor for the organic farming in Bulgaria is the use of the