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 prophesies 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

practically inexhaustible reserves of natural ecological fertilizers found in the Bulgarian economic zone in the Black Sea.

The Black Sea is a powerful Natural Geobiotechnological Reactor, capable of producing various natural resources. The Black Sea is the biggest generator of H_2S in the world and is a global source for the production of hydrogen and sulphur.

The adoption of new, renewable sources of energy and the production of hydrogen and the accompanying products from the hydrogen sulphide extracted from the marine water and the sediments provides the hydrogen energy sector with a new perspective.

The unlimited reserves of H_2S in the Black Sea are an important challenge to the modern technologies for production of a new type of energy resources as H_2 and the accompanying products (S). The reserves of H_2S are evaluated to be between 2.88 and 4.18 billion tons or 169 – 245 million tons of H_2 and 2.7 – 3.9 billion tons of S.

Undoubtedly, the suggested energy corridors will contribute to the energy security of the Balkans. However, we should remember the immense potential of the unconventional resources of the Black Sea which studies and utilization will secure the future of the energy sector of Europe.

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Çamlıca High (South of Soma, Manisa): An important structure to understand the Neogene-Quaternary tectonics of the Central Western Anatolia

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E–W and N–S- trending cross grabens and horsts are the most important structures of Western Anatolia. Çamlıca High is a ~N–S-trending geomorphologic feature with a strong topographical manifestation. This feature, located at the northern tip of the Miocene Yuntdağı Volcanic Complex, is surrounded by Kırkağaç Graben to the east, Soma Graben to the north and Bakırçay Graben to the west. N–S- trending Kırkağaç Fault, E–W- trending Soma Fault and NE–SW-trending Kozanlı Fault set are the marginal faults of this structure. The lignite bearing deposits of N–S- trending Mio–Pliocene basin were elevated by these faults. These deposits and interior part of the High were also dissected by ~N–S and NW–SE- trending faults. To understand the tectonics of the region, field studies were carried out along the marginal structures and interior of the Çamlıca High. Based on the kinematic analyses, performed by using fault-slip data acquired from fault surfaces, the following results were obtained: i) NE–SW- trending faults have been formed under NW–SE extension and the principal stress distribution is σ_1= 278°/78°, σ_2= 63°/10° and σ_3= 155°/7° and the value Φ is 0.184; ii) NW–SE- trending faults have been formed under NE–SW extension regime and the principal stress distribution is σ_1= 154°/76°, σ_2= 305°/12° and σ_3= 37°/6° and the value Φ is 0.335; iii) for the formation of N–S- trending faults (Kırkağaç Fault), ENE–WSW extension is dominant. The principal stress distribution is σ_1= 334°/47°, σ_2= 187°/34°, σ_3= 91°/23° and the value Φ is 0.609, and σ_1= 166°/81°, σ_2= 335°/9°, σ_3= 65°/2° and the value Φ is 0.3 respectively. Under the light of these kinematic analyses, we can conclude that in the region two different tectonic regimes were revealed. The first one is NNE–SSW directed extensional regime resulted from WNW–ESE- trending compression. This tectonic regime was played an important role during the formation of N–S directed left lateral strike-slip faults with normal dip-slip component. The NW–SE- striking faults with normal dip-slip component and related