

Petroleum geology of the Bulgarian Black Sea sector

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Although Biogenic (Balgarevo, Staro Oryahovo, Galata Gas Fields) and Thermogenic (Tulenovo Oil Field) hydrocarbon systems are now proven in the Bulgarian Black Sea basin these Petroleum Plays are still little understood and very much underexplored.

A combination of onshore surface geological mapping and offshore well and seismic data has been utilised to interpret the chronostratigraphy in the offshore area. This talk will aim to address the exploration, structural and depositional history of the Mesozoic (Pre-Rift & Rift) and Cenozoic (Post-Rift) of the off shore areas focusing on key events relevant to the known and potential hydrocarbon systems.

Exploration in the area began onshore with Biogenic Gas fields and Thermogenic Oil fields being found in the 1950's. The coastal region can be divided into 4 main structural domains, the Moesian Platform, the Kamchia Trough, the Balkan Fold & Thrust Belt and the Bourgas Basin which can be traced off shore. Hydrocarbon accumulations have been found on the Moesian Platform and in the Kamchia Trough with the Balkan fold and thrust belt and Bourgas basin having untapped potential.

The main proven offshore reservoir section has been found in the Maastrichtian-Paleocene which consists of a calcarenite dominated section.

Melrose has had significant exploration success in this play type on the Moesian Platform where 66Bcf has been produced from the Galata Field (production ceased in 2009 and this is a candidate for use as a gas storage facility) and the recent discoveries of the Kaliakra and Kavarna fields have added another 81Bcf of reserves to the Play Fairway. Extending the knowledge this proven Galata Play to other parts of the Moesian Platform and unlocking any hydrocarbon potential of other structural domains will be the key to fulfilling the potential of the off shore Bulgarian Black Sea sector.