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## **Exploration Results in SW Black Sea Region (Bulgaria) and Petroleum System-Play Assessment**

The SW Black Sea region includes mainly the Moesian platform and the Balkan thrust-fold belt.

The Moesian Platform is fringed by two rift branches - to North by Dobrogea rift and to South by Eastern Srednogorie-Balkan rift zone (ESBRZ). Eastwards to the Western Black Sea basin only a broad transitional zone can be outlined. The Southern Platform margin was repeatedly affected by rifting cycles (during the Late Permian-Early Triassic, Late Triassic, Early Jurassic and Late Cretaceous), interrupted by compressional events, causing strong platform margin shortening and Alpine orogen overprinting. Mid-Cretaceous compression resulted in Balkan thrust-fold belt development, shaped lately by Mid-Eocene compression.

The ESBRZ is considered as a western branch of the South Crimea-Kure back-arc basins. The Campanian back-arc rifting records the initial opening of the Western Black Sea basin.

Exploration in the SW Black Sea region since 1949 onshore and since 1968 offshore resulted in 30 oil/gas discoveries, but only 12 are economic. The major reserves are linked to the Middle Triassic, Lower Jurassic, Valanginian and Eocene reservoirs. Most of the reserves (75 %) are related to the pre-Jurassic, Middle Cretaceous and Middle Eocene unconformities, hence the stratigraphic trap reserves dominate notably.

The seven hydrocarbon plays, grouped into three petroleum systems, are defined. Five of the recognized plays are proven and two prognoses. The three systems are related respectively to the Lower-Middle Jurassic, Eocene-Oligocene and Lower Carboniferous source rocks. In the richest Lower-Middle Jurassic source interval the three active pods are localized. The most promising plays and prospective areas are indicated.