

## **Possible Hydrocarbon Plays in the South Adriatic Basin and Analogues with Ionian and Apulian Geological Provinces**

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### **Abstract**

Although 128 exploration wells exist on the Croatian side of the Adriatic Sea, the area has been unevenly explored. Most of the wells have been concentrated in the shallow water area of Northern Adriatic where biogenic gas has been produced from the shallow Pliocene clastic section. The underlying carbonates have several wells with Cretaceous heavy oil shows found at moderate target depths, whereas Vlasta-1 found Triassic oil but at substantial depths, in which case the costs of drilling is significant.

In contrast, the southern part of the Croatian Adriatic has a lower density of exploration wells, especially in its deep-water portion. In the shallow water portion most of the wells tested the carbonate shelf edge play, where only the Južni Jadran-3 well found noncommercial quantities of oil.

The Adriatic Basin belongs to genetically related Ionian and Apulian geological domains in Italy and Albania where one order of magnitude higher number of exploration wells exists with a significant amount of discovered oil and gas fields. Thus, hydrocarbon plays in Apulian and Ionian basins have been better understood. Mature source rocks, reservoirs, seals and timing of hydrocarbon generation have been well studied. Evidence has been found in outcrop and well data. Therefore, lessons learned in proven hydrocarbon provinces should be applied as analogy in the Croatian Adriatic. This article aims to balance the view on analogues with Apulian and Ionian zones and estimate chances of finding hydrocarbons in deep water of the Adriatic Sea.