

Undiscovered Resources and Play Analysis in the Norwegian Barents Sea

Ramirez, Abryl O., Erling Kvadsheim, Per Blystad, and Gunnar Søliland, Norwegian Petroleum Directorate, Stavanger, Norway

The demand for energy world wide will increase in the years to come. Recent studies indicate that a significant part of the world's undiscovered resources are located in the Arctic region. This paper will focus on the undiscovered petroleum resources in the Norwegian Barents Sea based on the Norwegian Petroleum Directorate (NPD) play analyses.

The NPD estimates regularly the total amount of recoverable yet-to-find petroleum on the Norwegian Continental Shelf (NCS). This is an estimate of what will be technically possible to find and produce if all prospects are identified and drilled. The remaining undiscovered resources reflect the exploration potential with today's knowledge and understanding. As new exploration activity proves up new petroleum plays, this potential will be adjusted accordingly.

The Barents Sea is a large area covering 750,000 km² and it is the least explored region opened for petroleum exploration on the NCS, and it is characterized as a frontier province with a large petroleum potential yet to be found. A large number of plays have been mapped, however, only five plays have been confirmed to date. As most of the plays are still unconfirmed, the resource estimates carry a large degree of uncertainty, and they may rise significantly if more plays are confirmed. Most of the yet-to-find resources are expected to be found in the Triassic play models. Geologic and seismic data indicate large structures and favourable conditions for generating and trapping of petroleum. The paper will show examples of several of the plays in the Norwegian Barents Sea.