



Atlantic
Ireland
An exciting petroleum province

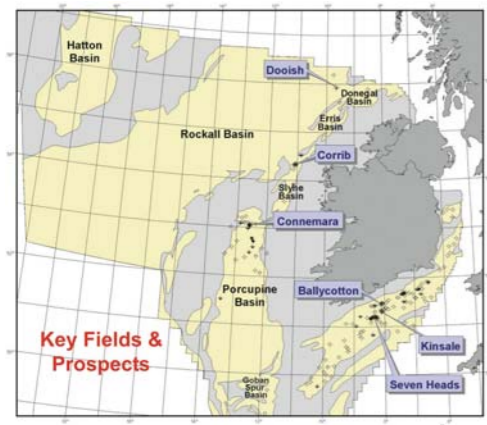
Department of Communications, Marine and Natural Resources
Beggars Bush, Haddington Road, Dublin 4, Ireland

Tel: +353 (0)1 678 2000 | Fax: +353 (0)1 678 2619 | Email: padadmin@dcmnr.gov.ie
www.pad.ie



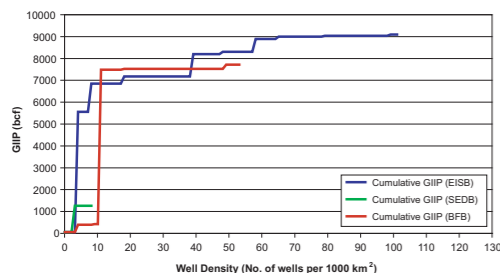
Atlantic
Ireland
An exciting petroleum province

The Slyne, Erris and Donegal Basins are under-explored with a number of proven and emerging play types. A total of 9 exploration wells have been drilled in the Irish Atlantic Margin, of which 5 have been drilled since 1996. There have been 2 play opening discoveries Corrib (gas) and Dooish (gas/condensate). The Corrib discovery (~1.2 Tcf GIIP) proves the existence of a significant Triassic play in the Slyne Basin.



These basins are analogous to the East Irish Sea Basin and the Broad Fourteens Basin (offshore Holland). Unlike the analogues it is clear that the Slyne/Erris/Donegal Basins are under-explored (a total of only 8 exploration wells have been drilled in these 3 basins).

Triassic Play cumulative GIIP plotted with well density for the Broad Fourteens, East Irish and Slyne, Erris and Donegal basins

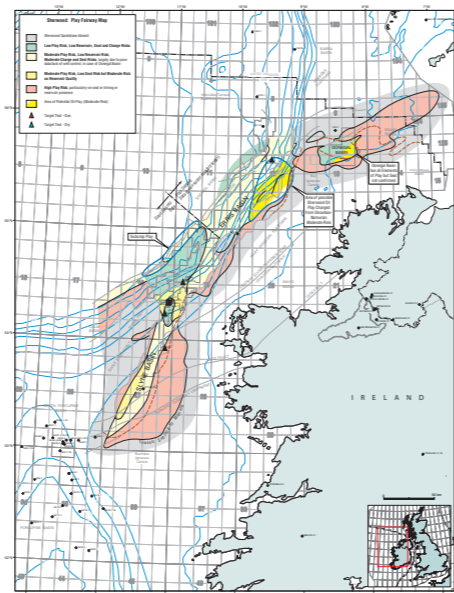


A modern new integrated play fairway analysis has provided greater insights into the possible play systems. It supports the existence of a variety of play types with significant Yet To Find potential. The major fairways are in the Carboniferous, Triassic, Middle Jurassic and Cretaceous. Prospectivity is in shallow to moderate water depths.

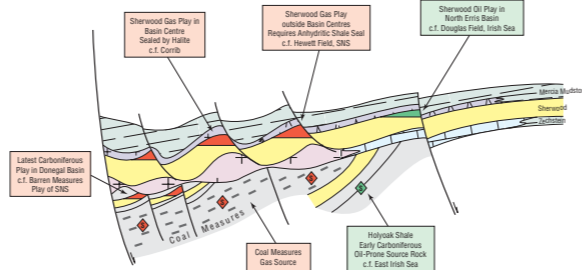
The play fairway analysis shows that to date the Slyne/Erris basins have one proven play fairway (namely the Triassic Sherwood Sandstone play). The Donegal Basin is virgin and is likely to contain a significant Carboniferous petroleum system.

The Triassic play has arguably only been targeted with 3 wildcat wells and has delivered one success to date. The key risk on the play is the presence of a sealing facies. It is possible to reduce this risk significantly using modern seismic technology. The map shows a common risk segment analysis of the Triassic Fairway; while the figure below shows possible trap types.

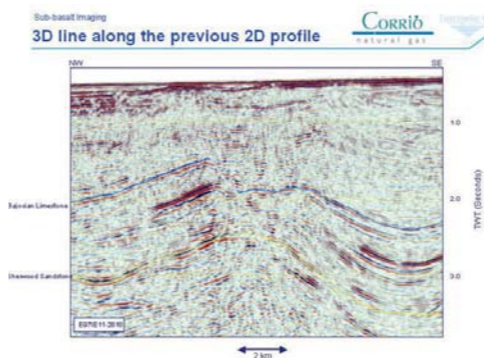
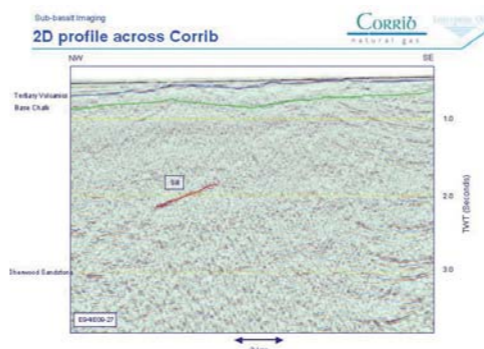
Triassic play fairway map



Carboniferous and Triassic Plays

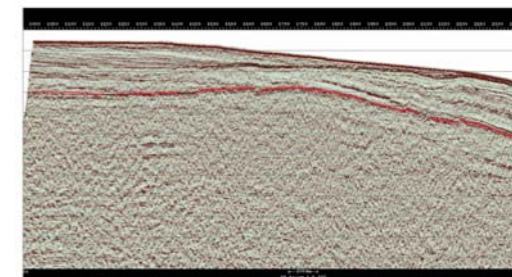


A critical issue for risk reduction of these plays is improving the quality of the seismic data. There have been major significant recent developments on this front which can lead to very significant uplift in data quality. An example from the Corrib field shows the impact of the upgrade that can be achieved by changing from 2D to 3D seismic.

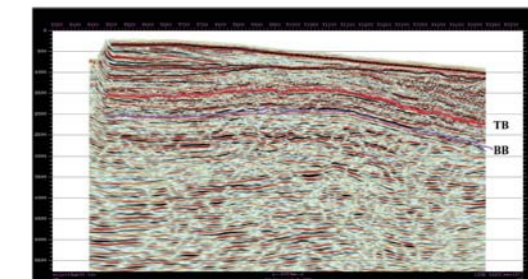


For areas of greater difficulty (with perhaps thicker Tertiary basalts, rugose sea bed and presence of sills) there have been recent experiments that demonstrate that significant improvements can be made even in this more challenging environment. The example shown below is from the Faeroes and demonstrates how usable images can be achieved even through fairly extreme thickness of basalt (much thicker than observed in these three basins).

(Gallagher and Dromgoole, "Seeing Below the Basalts", EAGE Conference, Madrid June 2005)



Typical Spec. 2D Seismic Data Quality, acquired in 1997 (Courtesy of VeritasDGC)



Statoil 3D seismic survey acquired in 2003

These three basins show promising potential which can be effectively and efficiently explored using modern technology and evaluation methods. The lightly explored nature of the area (Donegal is in fact undrilled) supports the proposition that the three basins are in the early stage of their exploration history. A conservative Yet To Find gas reserves estimate of ~4 Tcf that can be de-risked effectively with modern techniques is a rare opportunity in NW Europe.