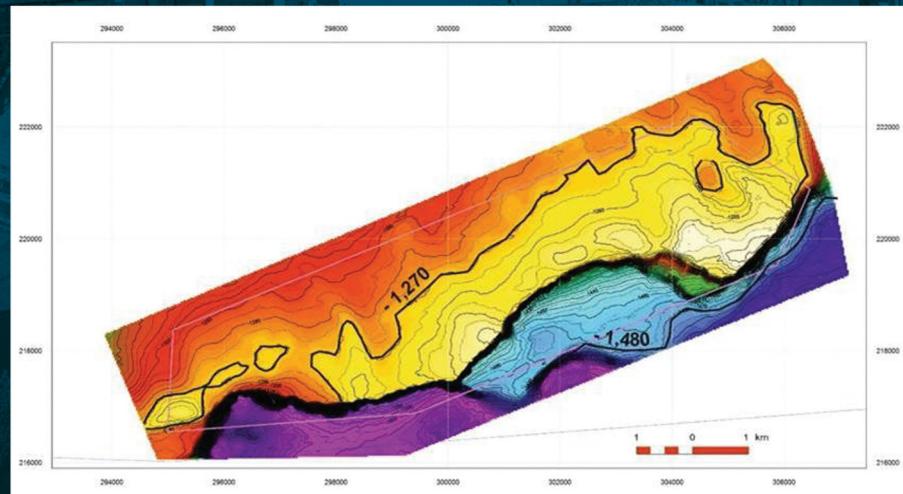


# Holt Energy Advisors HEA



## LICENCE 1-2018, Latvia, Baltic Basin E-17 Prospect Farmout

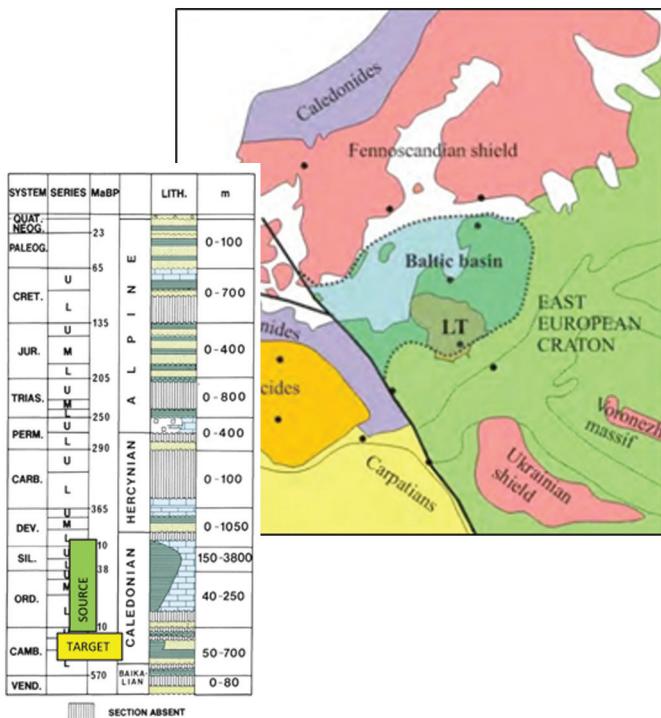


### Opportunity Highlights

- Drill-Ready, low risk shallow water prospect in an area with a proven petroleum system.
- Opportunity for early entry into an area with nearby producing field analogues.
- 2D and recently acquired 3D seismic over prospect with 85 mmbo reserves potential.
- Excellent reservoir and mature source rock.
- Opportunity to partner with a company able to build a wider regional position.
- Exploration well cost of \$16-\$20 MUSD with shallow water depth (25m).
- Excellent fiscal terms, business environment (EU) and licensing regime.
- Significant Equity available for a carry on a 2 well programme and repayment of back costs.
- Regional infrastructure and short distance to shore enabling rapid development with high value barrels.

# Licence Summary

Licence 1-2018 in the Baltic Basin in Latvia was awarded to the Odin Group on January 9th, 2018 for a 30-year term, including a 10-year exploration period. Since award, the group have acquired and interpreted a 3D seismic survey and further studies to mature the E-17 prospect ready for drilling in 2021. Odin now seeks to bring in one or more partners to fund and deliver the forward work plan in this underexplored basin with significant potential from its existing proven petroleum system.

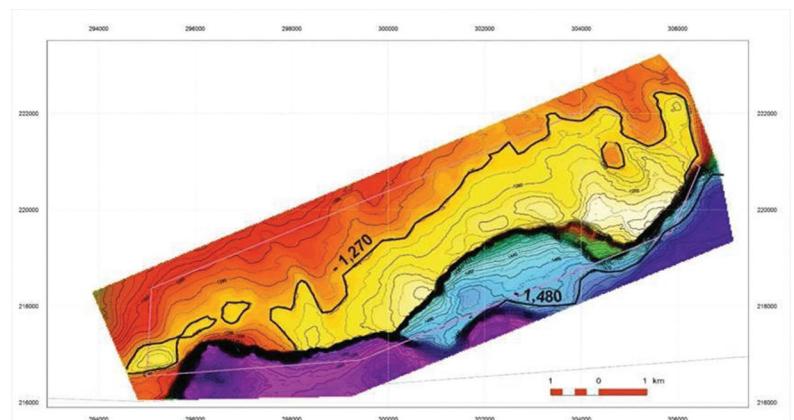


## Latvia, Baltic Basin

The Baltic Sedimentary Basin covers an area of around one quarter of a million Km<sup>2</sup> (~100,000 sq. miles), including the SE part of the Baltic Sea and the onshore parts of Poland, Kaliningrad, Lithuania and Latvia. The basin has a sediment thickness of up to 5 Km (~3 miles) and is primarily filled with Caledonian and Hercynian cycle sediments. The Caledonian cycle embraces the target petroleum system. The onshore sector of the basin has seen oil production for up to 100 years but the offshore has largely gone under the radar primarily due to decades of Soviet administration despite USGS estimates of 500 mmbo oil potential and close to 150 billion cubic metres (BCM) of natural gas potential.

## E-17 Prospect Summary

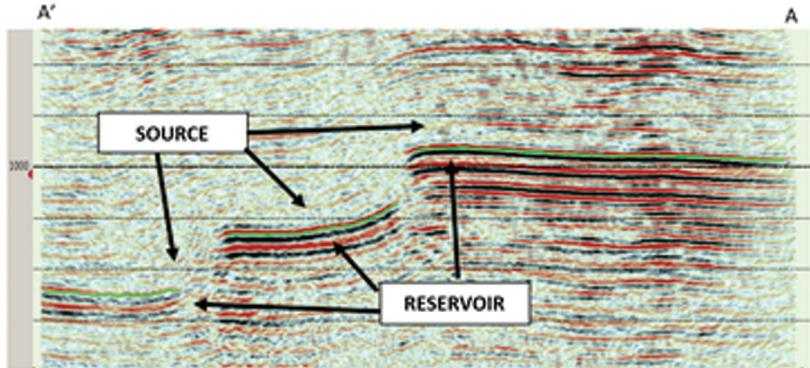
E-17 is a Caledonian aged closure located within about 10 Km of the coastline in a water depth of 25 m. The main closure has an area of 15 Km<sup>2</sup> and a culmination at the Cambrian reservoir target at a depth of 1,370 m SS. In addition to the main closure there is a 200 m deeper footwall closure with an area of 4 Km<sup>2</sup>.



The E-17 closure is located to the south of the regional Liepaja-Saldus ridge on which the E-6 well was drilled in 1984 at a distance of ~ 30 Km from E-17. The E-6 well found the Cambrian reservoir to be water wet with oil shows, while a 10 m thick upper Ordovician oolite layer was oil bearing.

## Structure

The E-17 structure was identified during the Soviet era and was covered by a 1 Km 2D seismic grid. During 2019 a 3D seismic grid was acquired over the entire licence. The structure is a shallow dipping fault trap with a well-defined, southern bounding fault with a throw varying from 100 to 200 m. There appears to be drag on the fault which is thought to provide closure for the downthrown fault block which therefore may also be prospective. The structure was primarily formed during the Caledonian orogeny but some rejuvenation is likely to have occurred during the Hercynian event.



## Reservoir

The Cambrian Deimena Fm. sandstones form the main reservoir in the Baltic with secondary reservoirs in Ordovician oolites and Silurian reefs. The Cambrian reservoir has a fairly uniform thickness of 50 m with a reservoir quality that depends on the depth of burial. The 53 m thick Cambrian reservoir section in the E-6 well (two offshore exploration wells) has an average porosity of 22% and the average permeability 150 mD based on conventional core analysis.

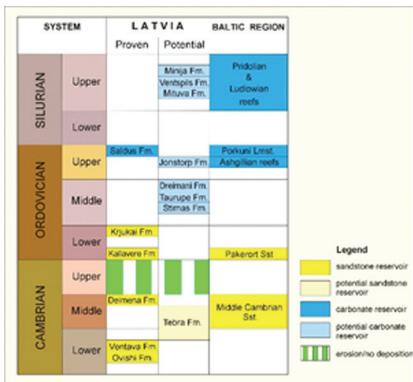


Fig.10. Reservoir rocks in Latvia and the Baltic Region

## Source and Migration

The predominant source rock in the Baltic Basin consists of Silurian hot shales with up to 20 % TOC and a thickness of up to 100 m. Ordovician and Cambrian shales form subsidiary source rocks. The world class Silurian source is believed to have initially reached maturity in the Devonian within the deeper parts of the basin to the southwest of the E-17 location. Migration then occurred through the E-17 area to source the onshore Lithuanian fields to the east.

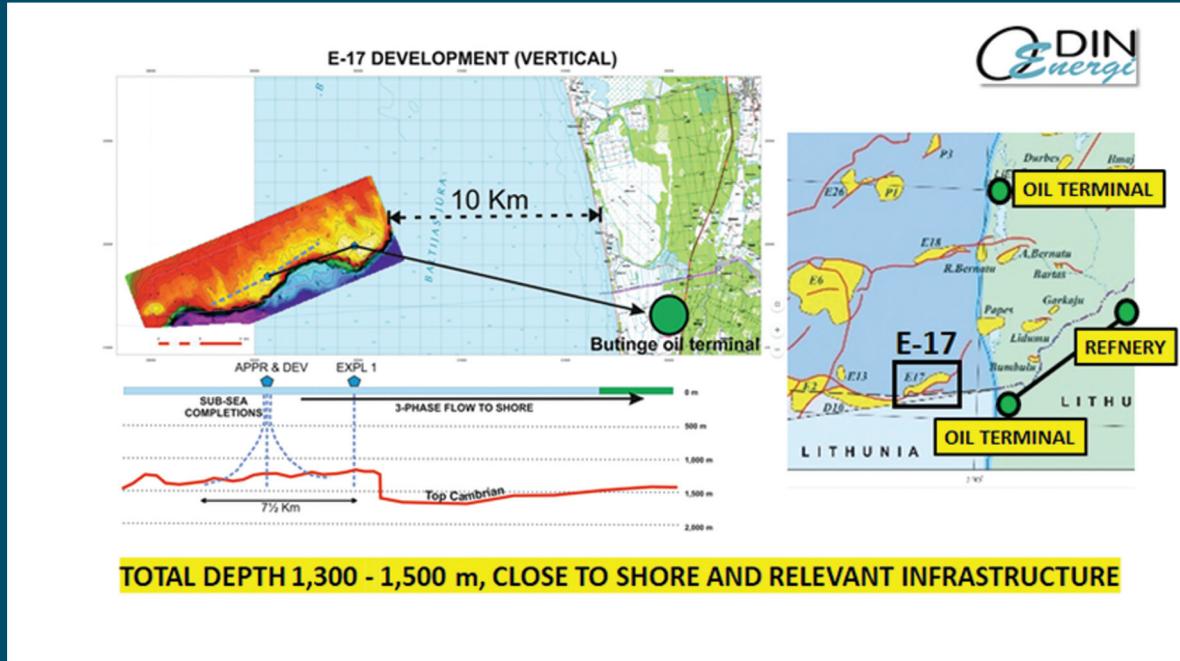
## Volumetrics

Using reservoir parameters from surrounding wells, the most likely STOIP and recovery factors seen onshore in Lithuania would generate economically recoverable reserves in the base case of 51 mmbo. Reservoir modelling results based on the anticipated reservoir characteristics (relatively uniform clastic reservoir with up to 17.5% porosity and 100 mD permeability) with expected production rates of between 2,000-3,000 boepd per well.

## Development and Commercial

A successful discovery could be developed by a combination of vertical, highly deviated and horizontal wells. The most likely option for development is an offshore platform and pipeline to shore with a small reception facility and onward transport to the Butinge Oil Terminal. Given the shallow water and shallow reservoir depth of E-17, finding costs are expected to be very low at around \$0.35/BOE with low development breakeven reserves of 11 mmbo.

# Summary



This opportunity provides prospective buyers with a chance to access a significant volume of high value barrels at relatively modest cost within an EU country providing a low level of above ground risk and a ready local infrastructure and market. In the success case there are potential additional opportunities to access further resource in the region in partnership with the seller.

For further information on the E-17 Opportunity please contact:



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