Hydrocarbons in the Netherlands
Diversity as the key to successful exploration

**Tertiary**
- Bright spots: indicator of shallow gas presence
- High production rates
- More information on the “Shallow Gas” poster

**Upper Cretaceous – Chalk**
- Bright spots: indicative of shallow gas presence
- High production rates
- More information on the “Shallow Gas” poster

**Upper Cretaceous – Upper Chalk**
- A proven, but underexplored play
- Most important oil reservoir (production since 2001 (F2-Hanze field))
- Challenging 3D seismic plays (e.g. Fieseum field (NL), Ford field (IR), Halfdan field (DK))
- Potential for intra-Chalk structural or stratigraphic traps
- > 55 untested closures in the northern Dutch offshore, of which > 30 in open acreage: 10-300 MMbbls each

**Upper Cretaceous – Lower Chalk**
- Potential for intra-Chalk structural or stratigraphic traps

**Jurassic**
- Significant oil and gas prospectivity
- Requiring dedicated geological studies

**Triassic**
- Volumetrically, the second largest gas play in the Netherlands (e.g. F15-A field)
- Significant hydrocarbon potential
- More information on the “Triassic Hydrocarbon Potential” poster

**Rotliegend**
- Volumetrically, the most important gas play in the Netherlands (e.g. Wealden gas field)
- Still active, new closures discovered and proven: Ruby and Lijflega plays
- More information on the “A New Upper Rotliegend Play” poster

**Carboniferous**

**Upper Carboniferous**
- The Westphalian coals are the principal source rock for gas and are present in most of the Dutch subsurface

**Lower Carboniferous**
- Virtually untested and underexplored play
- More information on the “Lower Carboniferous” poster

**Dinantian Carbonates**
- Underexplored play: the Dinantian Carbonates have recently become the target of exploration for both hydrocarbons and geothermal energy in the Netherlands
- Several prospects and leads identified, currently being pursued

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**Figure 1.** Hydrocarbon systems in the Dutch subsurface. The arrows show hydrocarbon migration from the main reservoir units to the main trapping units (modified after de Jager & Geluk, 2007; Adrichem Boogaert & Kouwe, 1993-1997 and the Southern Permian Basin Atlas by Doornenbal and Stevenson, 2007).

**Figure 2.** Cumulative energy (PJ) per lithostratigraphic unit in the Netherlands. Pseudo creaming curve (after Doornenbal et al., 2019).