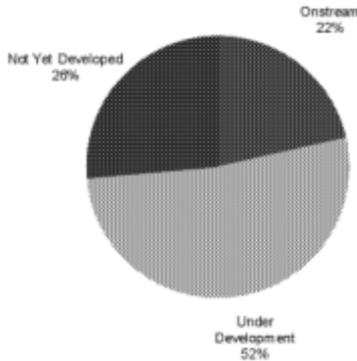




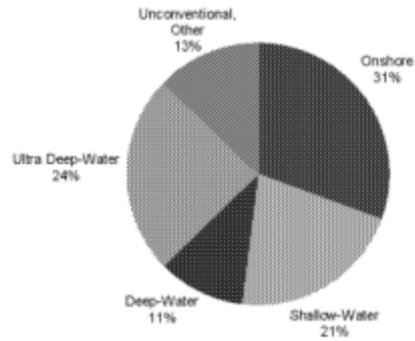
Post-2017, project risk increases materially, with 25% of expected growth from 2018-2020 not yet sanctioned (and unlikely to be sanctioned anytime soon). The ultra-deepwater grows increasingly important during this time period, rising to ~24% of expected growth, with another 11% from deepwater projects.

Figure 18: Post 2017, growth from "Not Yet Developed" bbls is expected to increase to 25%...



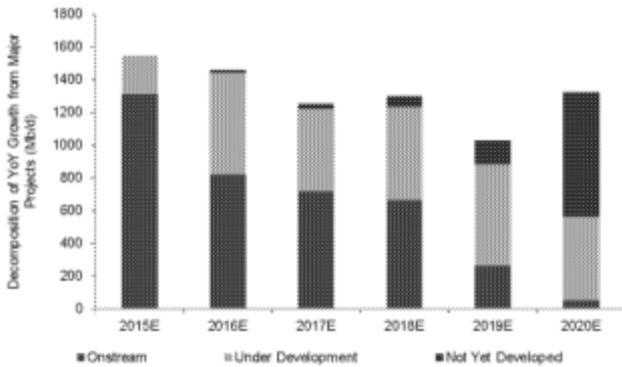
Source: Deutsche Bank, Wood Mackenzie, IEA

Figure 19: With Deepwater (UDW and DW) expected to be the single highest source of growth (~35%)



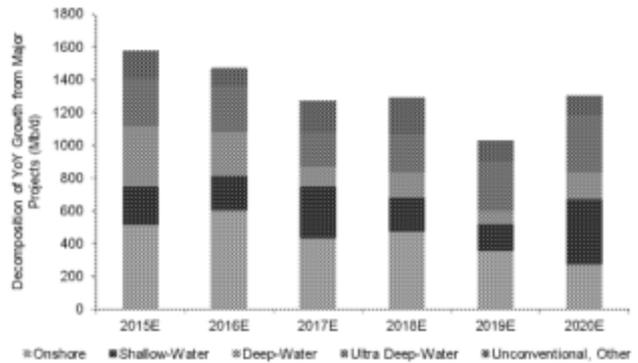
Source: Deutsche Bank, Wood Mackenzie, IEA, Unconventional includes oil sands, bitumen

Figure 20: Decomposition of YoY Growth from Major Projects By Development Status



Source: Deutsche Bank, Wood Mackenzie, IEA, adjusts for Brazil Lula/Itacema FPSOs not currently onstream

Figure 21: Decomposition of YoY Growth from Major Projects By Project Type



Source: Deutsche Bank, Wood Mackenzie, IEA, 2020 pick-up in shallow water growth from Johan Sverdrup ramp

In terms of the physical decomposition of the crude bbls that are to hit the global market in the coming years, the mix is weighted heavily toward heavy Canadian oil sand volumes and medium heavy Brazilian barrels (Iara and Tartaruga Verde fields)