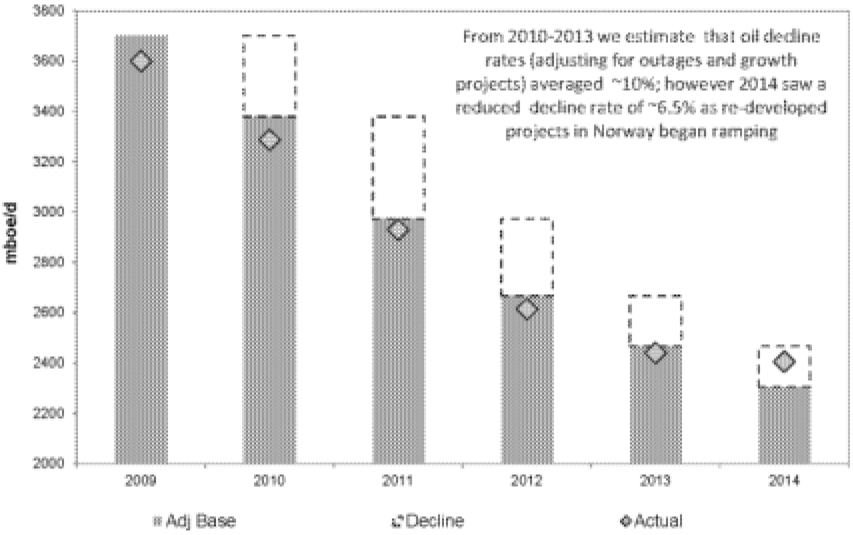
North Sea Decline Rate Framework: We construct our decline rate analysis for the underlying asset base by adjusting the actual reported monthly production numbers for growth and maintenance outliers. Specifically, we extract production contributions from growth projects and normalize maintenance outages on a monthly basis over the examined time window (we use a normalized 3% of prior year adjusted production as a normal run-rate). We then calculate the resulting annual decline and find that over the last five years decline rates peaked in 2011 at 12% following the drop-off in investment in 2010. In our view, the 12% decline in 2012 is likely understated given the V-shaped recovery in the commodity. The UK Oil and Gas industry mentions a normalized decline rate of 10% in the UKCS with moderate levels of brown-field investing, though decline-rates on mature assets could be expected to reach declines of 15%+ with minimal capital influx.

In our base case we assume a gradual reversion to a more normalized decline-rate of 12%. We estimate that a 1% change to our base case decline rates would impact 2017 production by 3%. In our view, a further devaluation of local currencies in the near-term, alongside capital reallocation tail-winds would present upside to brown-field investments.

Figure 35: Brownfield spending has kept declines (ex new growth projects) at ~10% YoY over the last 5 yrs, peaking in 2011 following a drop in prior year spending and dropping to 6.5% in 2014 on increased redeveloped activities.



Source: Deutsche Bank, Bloomberg, UK Oil and Gas, Norwegian Petroleum Directorate, Wood Mackenzie