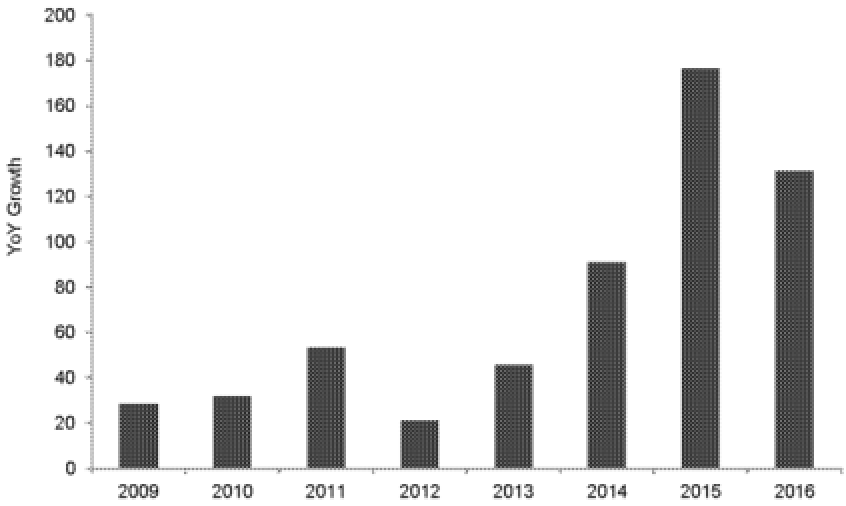
Figure 34: Norwegian North Sea – Incremental Project Growth Barrels



Source: Deutsche Bank, Wood Mackenzie, includes Ekofisk II

Taking a closer look at decline

While current reductions to capital budgets will eventually show up in underlying decline of mature assets (ie. reductions to infill drilling, workovers, and other decline mitigation expenditure), significant re-development spending in 2013/2014 will soften the decline of several key fields in the nearer-term. Adjusting for growth projects (ex redevelopment activity) and after normalizing for maintenance impacts over the last few years, we estimate that decline rates on mature assets have decreased from a 5 year peak of ~12% in 2011 to ~6.5% in 2014. The peaking of decline rates in 2011 followed a cut of 17% in YoY dollar-adjusted investment spending in 2010 vs. 2008. However, in our view, the sudden V-shaped recovery in crude prices during the last cycle likely placed a floor on spending cuts that would have otherwise resulted in a higher decline rate in 2011.

In 2014 we estimate that decline rates on producing fields (ex-Ekofisk) reached a five-year low following an increase of ~50% in development spending in 2013/2014 over the prior 4-yr average (producing fields representing ~60% of this spend in 2013/2014). We forecast a normalized decline rate of 12% in the period's forecast (ex redevelopment activity which is modeled separately) during out forecast period. For every change to decline rates of 1% we estimate a production impact of 3% to our 2017 oil production estimate. In our view, the impact of project delays is mostly muted as growth projects are currently either on-stream or under development. In the following analysis, we detail our assumptions and identify the key growth drivers as well as present a framework from which to think about decline rates on the base assets.