The Groningen Field: Managing a Giant

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The Groningen Field is the largest (100 Tcf) onshore gas field in North West Europe. It was discovered in 1959 and started production in 1963. The gas is contained in a high quality Rotliegend sandstone reservoir at approximately 2900 meters below the surface.

The initial field development took some 15 years during which 29 production locations were build and some 300 wells were drilled. The development of the field was geared towards production capacity generation in order to provide the swing capacity for North West Europe. By the late eighties, with 50% of the gas resources recovered, two major investment projects were kicked-off. The first project involved the installation of some 20 compressors by 2010. The second project was initiated to realise Underground Gas Storages (UGS) for optimum depletion of the Groningen Field. Two UGS' were delivered in 1996/1997, providing some 100mln m/d of capacity and 100 Bcf of working volume.

Looking to the future, additional stages of compression will need to be installed in order to effectively deplete the field. It is planned to install second stage compression in the period 2015 till 2025 and third stage compression thereafter. Additional working volume and capacity will be realised at our UGS'.

The implementation and planning of these heavy investments is underpinned by state-of-the-art simulation and planning tools with which we can create a system capacity forecast. Several of the applications have been developed for the Groningen gas system and have been exported successfully to other fields. The integration of data from the field and the UGS' with state of the art modelling allows us to operate the Groningen system as a smart field. On a good day only two operators are needed to produce in excess of 15Bcf per day.