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Volumetric gas-in-place assessment of shale gas potential in Germany

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A volumetric gas-in-place estimation of shale gas in Germany is given in this presentation. This is a first step in a general assessment of potential unconventional hydrocarbon resources in Germany, which is conducted on behalf of the German Federal Government.
This first estimation is based on three major shale formations which are widespread in Germany and might have a considerable gas potential. These are Lower Carboniferous marine, bituminous shales, the Jurassic Posidonia shale and the Lower Cretaceous Wealden formation. The assessment units are defined according to following criteria: TOC > 2%, depth between 1000 m and 5000 m, thickness > 20 m and thermal maturity between 1.2 and 3.5% Ro. The distribution of these assessment units is mapped using GIS. Subsequently rock volume calculations and estimation of gas-in-place in these units are performed. However, for gas-in-place calculations, several physical parameters such as porosity are generally poorly known. Therefore, uncertainties in the assessment are calculated using Monte-Carlo simulations. As a first result it turns out, that the distribution of the assessment units in general resembles the major known hydrocarbon source regions in Germany. We expect the North German Basin to have the highest shale gas potential in Germany.