



CBM and Shale Gas - An Option for Germany?

Ralph Schlüter

DMT GmbH & Co. KG, Exploration & Geosurvey, Essen, Germany (ralph.schlueter@dmt.de, +49 201 172 1971)

In Western Europe and especially Germany, production of two of the main fossil fuels doesn't seem to have a bright future. While crude oil production never provided a substantial share of the required volumes in Germany, also the North Sea oil production from UK and Norway is decreasing since peak production was reached at the turn of the century. Nevertheless, hard coal imports are still rising and lignite is still a competitive fuel in Germany. The use of lignite as well as hard coal, however, is increasingly disputed due to their relatively high contribution to greenhouse gases. In this situation, fostering of gas production may be one way to contribute to a cleaner energy production as well as to enhance energy safety by increase of domestic production.

In other countries, particularly the US and Australia, the last decades have seen a boost in the exploration and production of what is widely referred to as unconventional gas. This term summarizes particularly Coalbed Methane (CBM) and Shale Gas. Forecasts expect that by 2020 more than half of the US gas production will come from tight plays like CBM and shale gas. Since Germany has a great potential of coalbed methane – associated with the still great hard coal resources - and possibly shale gas, there is a growing interest in these resources.

Gas that was captured from mined seams (CMM) was locally utilized in Germany already early in the last century. In recent years, utilisation of methane from gas drainage systems in active mines in Germany rose to an all time high of approximately 75 %. A considerable increase of the utilisation followed the enforcement of the Renewable Energy Law (EEG). Even though CMM and AMM are not renewable energy in the true sense, utilisation is nevertheless, considered as environmentally friendly because methane is a strong greenhouse gas.

According to German legislation, methane produced as a by-product of coal can be utilized by the coal producer. But legally, all other types of hydrocarbon are summarized under the same hydrocarbon license. Previously, hydrocarbon production and licenses were concentrated in the North German Basin and the Molasse Basin in Bavaria.

In Germany, hydrocarbon production was concentrated north of the Alps. Therefore, in these regions after some exploration wells were unsuccessfully drilled in e.g. in North Rhine Westphalia in the 1960's and 1970's. Conventional hydrocarbons were only detected in minor amounts. Therefore, the oil and gas industry lost interest in this area. In increasing number of hydrocarbon licenses was issued for small areas around and after the turn of the century. These licenses for abandoned mine methane mostly covered certain old mining areas and were tailored accordingly.

In the mid 1990's, the successful implementation of a CBM industry in the US, CBM projects were launched in Europe including the German Ruhr and Saar coalfields. These projects were terminated because potential production was not economically feasible in view of the actual low gas prices under the prevailing geological conditions.

Several developments led to a renewed interest in recent years. New technologies like enhanced directional drilling and advanced fracturing have been developed and matured and gas prices increased considerably.

The presentation summarizes recent developments regarding increasing interest in CBM and Shale Gas in Germany and tries to give a short outlook on the future of tight gas in Europe.