

Changing the Economics of Nuclear Power: Impact of Shale Gas E&P

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Abstracts

Shale Gas E&P Impact on Economics of Nuclear Power

BMI View: The proliferation of shale gas E&P activity in the US has turned the energy market on its head and is having a profound impact on investment calculations for new power generation assets. We believe that the ensuing glut in US natural gas supply has effectively killed off the momentum for a nuclear renaissance in the US. We anticipate US gas price dynamics will cascade through the European gas market, and in tandem with ongoing exploration for shale gas in Europe, we believe the European nuclear new-build plans can also be in line for a re-assessment by sponsors and financiers.

The financial crisis of 2008/2009 brought financing ventures for nuclear power to an abrupt halt. With sponsors and financiers taking a more circumspect approach to long-term risk, these extremely capital intensive projects went on the backburner and several were subsequently abandoned, at least for the time being (see Calvert Cliffs 3 in the US, Belene in Bulgaria and Cernadova 3 & 4 in Romania).

In tandem, the proliferation of exploration and production (E&P) activities for unconventional gas in the US proved so successful that most recent estimates show that (depending on depletion rates) the US can be self sufficient in natural gas for a century and possibly longer. [1]

This has proved to be a crucial factor that is altering the economics behind nuclear power projects. BMI believes that the dramatic increase in US domestic natural gas production and subsequent reduction in natural gas prices was the deciding factor that has tipped the balance of economic viability against nuclear power. According to the latest long-term price forecasts from the US Energy Information Administration (EIA), it

could be 15 years before nuclear power becomes cost competitive in relation to natural gas again.

In this special report we highlight trends and patterns that have arisen out of the US regarding the correlation between rising shale gas production and feasibility of nuclear power projects. We ask what this could mean for Europe's nuclear power sector as shale gas exploration proliferates across the region at a time when several governments are still trying to get plans for nuclear new builds off the ground.

We conclude that the dynamics of unconventional gas developments are different in the US and Europe; indeed, it is too soon to tell what the prospects are for unconventional gas production in Europe, and therefore have only attempted a theoretical scenario in this case. Based on this, we do believe that sponsors in Europe will hold off from commitments to major nuclear projects until they are able to gauge what, if any, impact on European gas prices the current exploration will have.

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