

**NATURAL GAS PRODUCTION FROM GAS HYDRATES – AN ECONOMIC
PERSPECTIVE**

CONSTANTIN CRANGANU¹, BOYKO NITZOV²

¹Brooklyn College of the City University of New York, 2900 Bedford Avenue,
Brooklyn, NY 11230, New York, USA

²University of Oklahoma, 100 E Boyd St., Norman 73072, Oklahoma, USA

Abstract

Various methods of exploiting gas hydrates have been proposed so far, but each of them has some drawbacks. To overcome some of these drawbacks, we propose a new technology for producing methane from gas hydrates. The method uses *in situ* thermal stimulation by introducing a specially designed hydrate heating apparatus into a horizontal borehole drilled in gas hydrate zones (GHZ). An estimated energy gain efficiency of the proposed method shows that only about 1.1 to 1.7% of gas produced will have to be burned to decompose hydrates. An analysis of determinants of costs associated with production of natural gas from gas hydrates reveals the important role of the rates of production, proximity to large energy markets, pipeline networks, locations of gas hydrate deposits, etc. Finally, an economic modeling of gas production from hydrates emphasizes the importance of defining the baseline economics for gas production from various sources.

Key words: gas hydrates, gas production, energy efficiency, thermal stimulation

¹ e-mail: cranganu@brooklyn.cuny.edu