

Iran's Natural Gas Export: An Agent-Based Model

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This paper aims at exploring Iran's optimal strategy for natural gas export using Agent-Based Modeling (ABM) approach. Ten potential importers of Iran's natural gas and seven rival exporting countries have been designated as agents. The conceptual framework is designed based on three factors: price, infrastructure, and risk. Using Anylogic software, interactions and behaviors of importers and exporters have been simulated. The model simulates natural gas trade between these countries over a nine-year horizon. The empirical results of this study indicate that, in the first period, Iran's gas export targets based on their priorities include Turkey, Iraq and Armenia. After completion of Iran-Pakistan gas pipeline and subject to the construction of Iran-Oman gas pipeline, Iran will expand its exports to these countries significantly in the second period. Iran will expand pipeline exports to Georgia and start its LNG exports to India and China over the third period.

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