

## عنوان مقاله:

Role of Golden Age of Natural Gas in Targeting the 2°C Policy

## محل انتشار:

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Currently, policy makers put high attention in supplying global energy demand by focusing on 2°C policy; global temperature anomaly based on the global mean temperature of pre-industrial era (13.7°C). How to keep the 2°C policy at global scope is the main question in climate framework. It is widely believed that primary energy resources (mainly coal, oil and natural gas) will be the main resources to global energy demand. In this paper, based on historical data, future atmospheric concentrations of the three main greenhouse gases; Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), and Nitrous Oxide (N<sub>2</sub>O), were estimated. Using Educational Global Climate Model (EdGCM) software, future climate was simulated at global scale based on different scenarios of fossil fuel consumption. The results of the climate simulations show that if human activities switch from the current style of primary resources combustion (25.62% coal, 39.05% oil and 21.85% natural gas) to 8.5% coal, 19.24% oil, and 58.8% natural gas in average until 2100, there would be USD 19.82 billion (2005 USD) saved annually until 2078, for the countries who are paying for adaptation to climate change; meanwhile we can keep the 2°C policy until the end of 21st century. Although the golden age of natural gas will increase mean temperature at some regions but the proposed scenario has a cooling impact on Iran compared to the current style of consumption

## کلمات کلیدی:

Climate Change, Golden Age of Natural Gas, Greenhouse gases, Climate Simulation

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