

Analyzing Carbon Pricing Effects on Global Natural Gas Markets: Suppliers' and Consumers' Perspective

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Natural gas is the most environmentally friendly fossil fuel. Natural gas is more abandoned than the highly consumed oil and coal, and it is considered as bridging or transitional fuel between fossil fuels and renewable energy sources. Thus natural gas is expanding its share of consumption in global energy markets (growing from 15% in 1965 to 24% in 2010). While natural gas is expanding its share in global energy markets it is important to regulate emissions from this industry, since even though it is cleaner than other fossil fuels, natural gas extraction and combustion still generate emissions that contribute to global warming. To regulate the amount of emissions, a variety of policies and bills have been proposed in the United States as well as in other countries around the world. It is important to determine an appropriate approach for implementing carbon taxation, cap and trade programs along with carbon permits and allowances. The question of “How to apply the various policy mechanisms?” is complicated when considering both the supply and consumption sides of the market. To allow such policy analysis for natural gas industry a “World Gas Model” developed at the University of Maryland was extended and modified. The impacts of carbon cost implementation on both sides of the market from certain carbon policies were examined.

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