

Fuel Choice Trends in Fertilizer Industry of India

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The present study aims at analyzing fuel choice (Natural Gas) of the fertilizer companies during the period 2000-2006. Analyzing the choice of a fuel by company in terms of variables other than fuel cost would help the policy makers in planning the future needs of fuels. It might also help in framing policies of extraction, imports and pricing of fuels.

I Introduction

The fertilizer industry, particularly nitrogenous fertilizers, is highly energy-intensive. It is also one of the largest consumers of petroleum-based fuels. The energy consumed in the production of ammonia has a great impact on the overall energy consumption of the fertilizer industry. There are mainly four types of fertilizers: nitrogenous, phosphatic, potassic, and complex fertilizers. The share of phosphatic fertilizers in domestic production of fertilizers is very low, and India does not produce any potassic fertilizers. India operates around 55 nitrogenous plants and ranks second in the world in terms of production.

The production of urea involves the production of ammonia, which is then converted to urea. Ammonia can be synthesized using any of the following feedstock: Natural Gas (NG), Naphtha, Low Sulphur Heavy Stock (LSHS), Fuel Oil and Coal. Out of these, the share of NG accounts for around 45 per cent of the total production. Natural gas is the largest source of energy in the fertilizer industry and remains the most preferred feedstock with respect to its high calorific content. Higher energy efficiency of gas-based fertilizer plants and NG being a relatively cleaner fuel, it is preferred than other fossil fuels in the fertilizer plants.

The purpose of the paper is to examine the choice of a fuel from a firm's perspective. For this purpose, a probability analysis based on the linear logit model is estimated using maximum likelihood technique, to check firm's fuel choice given a case of coal, and natural gas. The rest of the paper is planned as follows. In Section II, a brief review of the earlier studies using linear logit estimation is presented. Section III briefs the data, methodology adopted for the study, and presents the model formulated for the present study. Section IV presents the empirical results of the model formulated, and Section V provides the conclusions drawn from the study.

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