

Non-Renewable Resources and the Possibility of Sustainable  
Economic Development in a Positive or Negative Population  
Growth Economy\*

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**Abstract**

The purpose of this study is to investigate how the long-run growth rate of per capita output is determined when an economy is subject to non-renewable resource constraints and the population growth is negative by using a theoretical model. From this, we can examine the effect of population decline and the effect of depletion of natural resources on economic growth. Our results show that irrespective of whether the population growth rate is positive or negative, the long-run growth rate of per capita output can be positive depending on conditions. This result suggests that even an economy with non-renewable resources and declining population can obtain sustainable economic growth.

**Keywords:** non-renewable resources; declining population; endogenous growth

**JEL Classification:** O13; O44; Q32; Q43

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