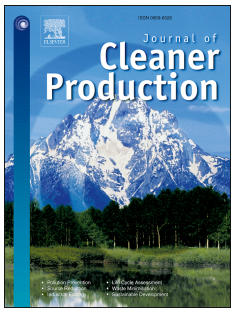
Accepted Manuscript



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PII: S0959-6526(16)31981-3

DOI: 10.1016/j.jclepro.2016.11.129

Reference: JCLP 8518

To appear in: *Journal of Cleaner Production*

Received Date: 21 August 2016

Revised Date: 19 November 2016

Accepted Date: 21 November 2016

Please cite this article as: Chen L, Wang Y, Lai F, Feng F, An investment analysis for China's sustainable development based on inverse data envelopment analysis, *Journal of Cleaner Production* (2016), doi: 10.1016/j.jclepro.2016.11.129.

An Investment Analysis for China's Sustainable Development Based on Inverse Data Envelopment Analysis

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Abstract: In the face of environmental degradation, sustainable development has become a common goal across the globe. Making a scientifically based investment scheme is of great significance to promote the sustainable development of China's economy. However, there is scarce research related to such an investment scheme of sustainable development. This paper proposes a new inverse data envelopment analysis method with undesirable outputs to make several scientifically based investment schemes from different perspectives, namely, the natural, regulation, and optimal perspectives. By this method, decision makers can scientifically forecast the specific amount of investment based on their actual sustainable development objectives, which is conducive for reducing the blindness of investment in the future. In addition, a new ideal perspective is defined to guide a definite direction for improving the level of sustainable development. Combined with the gray forecasting model GM(1,1), the methods proposed by this paper were then applied to analyze the investment problem for China's sustainable development during the 2015-2024 period. The results show that: the unbalanced distribution of labor investment and the excessive investment in capital and energy are serious barriers to China's sustainable development in the short term; and

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