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## **ECOLOGICALLY MANAGED EFFICIENCY ASSESSMENT OF MANUFACTURING ENTERPRISES UNDER LOW CARBON DEVELOPMENT ENVIRONMENT**

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### **Abstract**

Low-carbon development emphasizes companies' focus on protecting the environment while achieving economic benefits for their business. Ecologically managed efficiency refers to the introduction of ecological concepts in the business strategy of an enterprise. It guides the manufacturing process in a direction conducive to comprehensive resource utilization and ecological environmental protection and promotes a virtuous cycle among economic, social, and environmental systems. In order to evaluate the ecologically managed efficiency of manufacturing enterprises, this paper proposes an efficiency evaluation model combining the entropy method and DEA model, aiming to assess whether or the ecological management behaviors and strategies are effective. Specifically, this method first uses the DEA model to calculate the cross-efficiency evaluation matrix of the evaluated enterprises. Then, the information entropy and weights of the evaluation information by the entropy method. Next, the comprehensive evaluation value and ranking of ecologically managed efficiency can be obtained by aggregating the information entropy and weights. Finally, a case study is used to validate the proposed method, and the results show the effectiveness of the proposed method.

*Key words:* ecologically managed, efficiency assessment, low-carbon

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