EVALUATION OF THE DEVELOPMENT LEVEL OF LOW-CARBON LOGISTICS IN BEIJING

Yanchun Chen¹,², Mingyu Zhang³*, Yihua Zhang⁴

¹Beijing Jiaotong University, Postdoctoral program of China Industrial Economic Security Research Center, 100044, P.R. China
²Shijiazhuang Tiedao University, School of Economics and Management, Shijiazhuang, 050043, P.R. China
³Beijing Jiaotong University, School of Economics and Management, 100044, P.R. China
⁴University of California, Santa Cruz, 317 High Street, Santa Cruz, CA 95060

Abstract

Low-carbon logistics is an important part of the fight against global climate change. It is particularly important that rapidly expanding cities establish scientific and comprehensive evaluation indexes for low-carbon logistics in order to accurately and quickly determine their logistics development situation. This paper develops an evaluation index system, especially including low carbon technological progress, and applies the entropy weight method to calculate the weights of indicators using the Driving force–Pressure–State–Impact–Response (DPSIR) framework, thus avoiding the defects of weighting indicators determined subjectively in a multi-index evaluation. The results show that Beijing’s logistics development is lower than that of comparable cities. The driving force is strong, but the pressure is weak. The “state” and “impact” factor scores indicate that the per capita increases in the logistics industry’s fixed asset investment and telecommunications business as well as consistent investments in labour and the implementation of logistics emissions standards have improved the development of Beijing’s low-carbon logistics. Mandatory policies could serve as a response factor and foster further improvement.

Key words: city logistics, DPSIR framework, low-carbon technology

Received: November, 2014; Revised final: July, 2015; Accepted: July, 2015

* Author to whom all correspondence should be addressed: e-mail: mingyuzhang@263.net; Phone: (86)13501278871