# Accepted Manuscript

Modelling intervention policies of government in price-energy saving competition of green supply chains

#### Ashkan Hafezalkotob

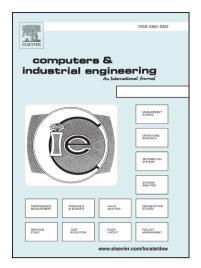
PII: S0360-8352(18)30122-0

DOI: https://doi.org/10.1016/j.cie.2018.03.031

Reference: CAIE 5135

To appear in: Computers & Industrial Engineering

Received Date: 31 August 2017 Revised Date: 8 February 2018 Accepted Date: 19 March 2018



Please cite this article as: Hafezalkotob, A., Modelling intervention policies of government in price-energy saving competition of green supply chains, *Computers & Industrial Engineering* (2018), doi: https://doi.org/10.1016/j.cie. 2018.03.031

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# **ACCEPTED MANUSCRIPT**

#### TITLE PAGE FOR SUBMISSION OF MANUSCRIPT

Modelling intervention policies of government in price-energy saving competition of green supply chains

### Ashkan Hafezalkotob\*<sup>1</sup>

<sup>1</sup>College of Industrial Engineering, Islamic Azad University, South Tehran Branch, Tehran, Iran \*Corresponding author

Abstract. Energy saving efforts decrease the demand of energy services, and it can yield improvement in the environmental protection, national security, financial benefits, and social welfare. In this research, we investigate the effects of various governmental regulation policies on competition of green supply chains. We consider six regulation policies of deregulation, direct tariff, direct limitation, government certificate, government permit, cooperative energy saving as well as two decision making structures of centralized and decentralized green supply chains. We formulate twelve mathematical programming models using Stackelberg game between government and supply chains. A comprehensive analysis of brick production supply chains reveals some managerial insights. We find that all intervention policies are advantageous because they result in more social utilities than deregulation policy; however, the policy should be chosen regarding the effects on consumers, green supply chains, and the environment. In particular, cooperative energy saving policy yields the highest social utility and energy saving level; meanwhile, it involves the highest government investment. Moreover, we know than profit seeking behaviour of government in all policies causes the decrease in social utility.

**Keywords:** Energy saving efforts; Governmental regulation polices; Game theory; Green supply chain; social welfare.

#### Ashkan Hafezalkotob:

E-mail address: a\_hafez@azad.ac.ir, hafezalkotob@iust.ac.ir, ashkan.hafez@gmail.com Tel:  $+98\,912\,778\,5681$ ,

Postal address: College of Industrial Engineering, Islamic Azad University, South Tehran Branch, Entezari Aly, Oskoui St, Choobi Brg, Tehran, Iran; Postal-Code: 1151863411.

# دريافت فورى ب متن كامل مقاله

# ISIArticles مرجع مقالات تخصصی ایران

- ✔ امكان دانلود نسخه تمام متن مقالات انگليسي
  - ✓ امكان دانلود نسخه ترجمه شده مقالات
    - ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
  - ✓ امكان دانلود رايگان ۲ صفحه اول هر مقاله
  - ✔ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
    - ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات