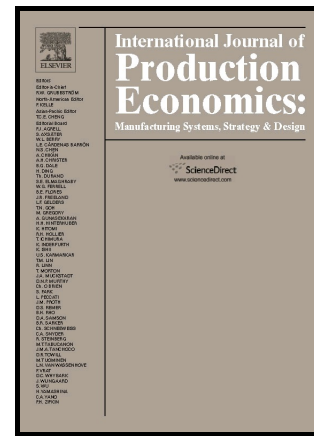


Author's Accepted Manuscript

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www.elsevier.com/locate/ijpe

PII: S0925-5273(16)30222-5
DOI: <http://dx.doi.org/10.1016/j.ijpe.2016.08.029>
Reference: PROECO6512

To appear in: *Intern. Journal of Production Economics*

Received date: 24 September 2015
Revised date: 24 August 2016
Accepted date: 30 August 2016

Cite this article as: Xiaoping Xu, Ping He, Hao Xu and Quanpeng Zhang, Supply Chain Coordination with Green Technology under Cap-and-Trade Regulation *Intern. Journal of Production Economics* <http://dx.doi.org/10.1016/j.ijpe.2016.08.029>

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Supply Chain Coordination with Green Technology under Cap-and-Trade Regulation

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Abstract

Cap-and-trade regulation is generally accepted as one of the most effective market-based mechanisms to curb carbon emissions. In this paper, we study the production and emission abatement decisions of a Make-To-Order supply chain consisting of a manufacturer and a retailer under cap-and trade regulation. Specifically, the manufacturer can reduce unit product carbon emission by using green technology, with the cooperation of a retailer by certain contracts, who sell the products to environment-concerned consumers. Wholesale price and cost sharing contracts are considered in the supply chain. We list some main conclusions here. First, as carbon trading price increases, the optimal production quantities (the optimal abatement levels) firstly decrease (increase) and then remain constant. Second, both wholesale price and cost sharing contracts can coordinate the supply chain. Last, combining the optimal operational decisions under the two contracts with two-part tariff agreement,

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