

Greening of Industry Networks Studies

Volume 4

Series editors

Diego A. Vazquez-Brust, Egham, Surrey, UK

Joseph Sarkis, Worcester, MA, USA

More information about this series at <http://www.springer.com/series/10444>

Behnam Fahimnia · Michael G.H. Bell
David A. Hensher · Joseph Sarkis
Editors

Green Logistics and Transportation

A Sustainable Supply Chain Perspective

 Springer

Editors

Behnam Fahimnia
Institute of Transport and Logistics Studies,
The University of Sydney Business
School
The University of Sydney
Sydney, NSW
Australia

David A. Hensher
Institute of Transport and Logistics Studies,
The University of Sydney Business
School
The University of Sydney
Sydney, NSW
Australia

Michael G.H. Bell
Institute of Transport and Logistics Studies,
The University of Sydney Business
School
The University of Sydney
Sydney, NSW
Australia

Joseph Sarkis
Foisie School of Business
Worcester Polytechnic Institute
Worcester, MA
USA

Greening of Industry Networks Studies

ISBN 978-3-319-17180-7

ISBN 978-3-319-17181-4 (eBook)

DOI 10.1007/978-3-319-17181-4

Library of Congress Control Number: 2015937381

Springer Cham Heidelberg New York Dordrecht London

© Springer International Publishing Switzerland 2015

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

Springer International Publishing AG Switzerland is part of Springer Science+Business Media
(www.springer.com)

Contents

1	The Role of Green Logistics and Transportation in Sustainable Supply Chains	1
	Behnam Fahimnia, Michael G.H. Bell, David A. Hensher and Joseph Sarkis	

Part I Green Logistics Network

2	Behavioural Influences on the Environmental Impact of Collection/Delivery Points	15
	Andrew T. Collins	
3	Dynamic Supply Chain Greening Analysis	35
	Armin Jabbarzadeh and Behnam Fahimnia	
4	City Logistics for Sustainable and Liveable Cities	49
	Eiichi Taniguchi	

Part II Green Land Transportation

5	Green Transport Fleet Appraisal	63
	Chunguang Bai, Behnam Fahimnia and Joseph Sarkis	
6	The Inventory Pollution-Routing Problem Under Uncertainty	83
	Hooman Malekly	
7	Vehicle Orientated Initiatives for Improving the Environmental Performance of Urban Freight Systems	119
	Russell G. Thompson	

**8 Greening Demand Chains in Urban Passenger Transport:
Emissions Saving from Complex Trip Chains. 131**
Chinh Ho and David A. Hensher

Part III Green Air and Water Transportation

**9 A Review of the Literature of Green Ports
and Maritime Logistics 149**
Hoda Davarzani, Behnam Fahimnia, Michael G.H. Bell
and Joseph Sarkis

**10 Economic and Environmental Trade-Offs in Water
Transportation 159**
Thalis Zis, Panagiotis Angeloudis and Michael G.H. Bell

**11 The Economic and CO₂ Emissions Performance in Aviation:
An Empirical Analysis of Major European Airlines 175**
Chikage Miyoshi and Rico Merkert

Conclusion

12 The Future of Green Logistics and Transportation. 193
Behnam Fahimnia, Michael G.H. Bell, David A. Hensher
and Joseph Sarkis

Contributors

Panagiotis Angeloudis Centre for Transport Studies, Department of Civil and Environmental Engineering, Imperial College London, London, UK

Chunguang Bai School of Management Science and Engineering, Dongbei University of Finance and Economics, Dalian, China

Michael G.H. Bell Institute of Transport and Logistics Studies, The University of Sydney Business School, The University of Sydney, Sydney, Australia

Andrew T. Collins Institute of Transport and Logistics Studies, The University of Sydney Business School, The University of Sydney, Sydney, NSW, Australia

Hoda Davarzani Discipline of Business Analytics, The University of Sydney Business School, The University of Sydney, Sydney, NSW, Australia

Behnam Fahimnia Institute of Transport and Logistics Studies, The University of Sydney Business School, The University of Sydney, Sydney, Australia

David A. Hensher Institute of Transport and Logistics Studies, The University of Sydney Business School, The University of Sydney, Sydney, Australia

Chinh Ho Institute of Transport and Logistics Studies, The University of Sydney Business School, The University of Sydney, Sydney, NSW, Australia

Armin Jabbarzadeh Institute of Transport and Logistics Studies, The University of Sydney Business School, The University of Sydney, Sydney, Australia

Hooman Malekly School of Industrial Engineering, Azad University of Tehran—South Tehran Branch, Tehran, Iran

Rico Merkert Institute of Transport and Logistics Studies, The University of Sydney Business School, The University of Sydney, Sydney, Australia

Chikage Miyoshi Centre for Air Transport Management, Cranfield University, Cranfield, Bedfordshire, UK

Joseph Sarkis Foisie School of Business, Worcester Polytechnic Institute, Worcester, MA, USA

Eiichi Taniguchi Department of Urban Management, Kyoto University, Kyoto, Japan

Russell G. Thompson Department of Infrastructure Engineering, Melbourne School of Engineering, The University of Melbourne, Parkville, Australia

Thalis Zis Centre for Transport Studies, Department of Civil and Environmental Engineering, Imperial College London, London, UK