International Workshop from the International Congress on Environmental Modeling and Software

(iEMSs2010)

Procedia Environmental Sciences Volume 5

Ottawa, Ontario, Canada 5 – 8 July 2010

Editors:

B. Chen S. Zhou

ISBN: 978-1-62748-528-9

ISSN: 1878-0296

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2010) by Elsevier B.V. All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact Elsevier B.V. at the address below.

Elsevier B.V. Radarweg 29 Amsterdam 1043 NX The Netherlands

Phone: +31 20 485 3911 Fax: +31 20 485 2457

http://www.elsevierpublishingsolutions.com/contact.asp

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: \$45,758,0400

Phone: 845-758-0400 Fax: 845-758-2634

Email: curran@proceedings.com Web: www.proceedings.com







Procedia Environmental Sciences 5 (2011) iii

Contents

Editorial	
Bin Chen and Shiyi Zhou	1
Study on energy strategy of Chinese capital region under the new national policy of reducing carbon dioxide emissions Dacheng Liu, Ning Li, Xianchun Tan, Xiaoou Yang, Li Wang and Jianbing Liu	2
The cumulative effects of dam project on river ecosystem based on multi-scale ecological network analysis	12
Shaoqing Chen, Bin Chen and Meirong Su	12
Gengyuan Liu, Zhifeng Yang and Bin Chen.	18
Energy cost and greenhouse gas emissions of a Chinese wind farm	25
Qing Yang, Guoqian Chen, Yuanhua Zhao, Bin Chen, Zhi Li, Bo Zhang, Zhanming Chen and Hui Chen. Application of Life Cycle Analysis (LCA) in evaluating energyconsuming of Integrated Oxidation Ditch (IOD)	25
Xianchun Tan, Junyi Xu and Sheng Wang	29
The development and utilization of forest parks based on the experiences strategy Chi Li and Longlong Lai	37
A spatial comparative analysis of environmental impacts in Chinese urban metabolic processes	31
Gengyuan Liu, Zhifeng Yang and Bin Chen.	43
How to guide a sustainable industrial economy: Emergy account for resources input of Chinese industry	
Bo Zhang, Guoqian Chen, Qing Yang, Zhanming Chen, Bin Chen and Zhi Li	51
A new way to quantify ecological and economic interactions between two cities using emergy analysis	
Shaoqing Chen, Bin Chen and Meirong Su	60
Design and practice of Foshan first ring landscaping	
Weidong Chen, Zilong Cao and Bing Chen	65
Ecological and economic analysis of planting greenhouse cucumbers with anaerobic fermentation residues Na Duan, Cong Lin, Ruying Gao, Yang Wang, Jinhua Wang and Jin Hou	71
Energy cost and greenhouse gas emissions of a Chinese solar tower power plant	, .
Qing Yang, Guoqian Chen, Yuanhua Zhao, Bin Chen, Zhi Li and Zhifeng Wang	77
Four angle model for the urban metabolism integrated analysis	
Gengyuan Liu, Zhifeng Yang and Bin Chen	81
Extended exergy-based ecological accounting of China during 2000-2007	
Jing Dai and Bin Chen	87
Is there causality from investment for real estate to carbon emission in China: a cointegration empirical study Jinqiu Xu	96
CO2 embodied in China's foreign trade 2007 with discussion for global climate policy	
Lei Liu and Xiaoming Ma	105
Evaluation of the changed properties of aquatic animals after dam construction using ecological network analysis Shaoqing Chen, Brian Fath, Bin Chen and Meirong Su	114
Study on integrated simulation model of economic, energy and environment safety system under the low-carbon policy in Beijing	
Dacheng Liu, XiaoouYang, Xianchun Tian, Ruihao Wu and Li Wang	120
Limiting factor analysis of urban ecosystems based on emergy—Acase study of three cities in the Pearl River Delta in China	
Meirong Su, Zhifeng Yang and Bin Chen.	131
Soil Total Organic Carbon, 13C Values and Their Responses to the Soil Core Transferring Experiment from High- to Low-elevation Forest	
along Natural Altitudinal Transect of Old Temperate Volcanic Forest Soils	120
Xinyu Zhang, Xianjing Meng, Jinjuan Fan, Lupeng Gao and Xiaomin Sun	139
Status-based evaluation and analysis of Yueyang's green space system	1.45
Chi Li, Jingwen Wang and Xiaoyu Du	145
Shaoqing Chen, Bin Chen and Meirong Su	153
Study on the effect of biogas project on the development of lowcarbon circular economy -A case study of Beilangzhong eco-village	133
Na Duan, Cong Lin, Xiaodong Liu, Yang Wang, Xiaojun Zhang and Yu Hou	160
Study on whole-life cycle automotive manufacturing industry CO2 emission accounting method and Application in Chongqing Xianchun Tan, Zekun Mu, Sheng Wang, Hongxing Zhuang, Longxing Cheng, Yanyan Wang and Baihe Gu	167
Sustainable design for low carbon architecture	107
Weihong Li	173
Comparison of different urban development strategy options to the urban metabolism optimal path	-
Gengyuan Liu, Zhifeng Yang and Bin Chen.	178
Embodied Energy Account of Chinese Economy 2002	
Meiming Jiang, Bin Chen and Shiyi Zhou	184
The exploration of concepts and methods for Low-Carbon Eco-City Planning Shan Cao and Chi Li	199
Impacts of economic development on ecosystem risk in the Yellow River Delta	
Qun'ou Jiang, Xiangzheng Deng, Jinyan Zhan and Haiming Yan	208
doi:10.1016/\$1878.0206(11)00000.5	