



ISSN 1001-6929  
CN 11-1827 / X  
CODEN HKYAEZ

第35卷 第2期 (Vol.35 No.2)

2022 / 02

# 环境科学研究

Research of Environmental Sciences

特色  
专题

- 国家重点行业  
碳达峰路径
- 新污染物治理



9 771001 692228

0.2>

中华人民共和国生态环境部 主管

中国环境科学研究院 主办

万方数据

- ☆ 中文核心期刊
- ☆ 中国科技核心期刊 (CSTPCD)
- ☆ 《国家哲学社会科学学术期刊数据库》(NSSD) 收录
- ★ 国际检索: Scopus、CSA:NS、AJ、CABI、ZR、JST、IC、EBSCOhost 等
- ☆ 中国科学引文数据库 (CSCD) 收录
- ☆ RCCSE 中国核心学术期刊

# 目次

第 35 卷 第 2 期 2022 年 2 月

## 国家重点行业碳达峰路径专题

基于重点行业/领域的我国碳排放达峰路径研究.....严 刚, 郑逸璇, 王雪松, 李 冰, 何 捷, 邵朱强, 李永亮, 吴立新, 丁 焰, 徐 伟, 李 新, 蔡博峰, 陈潇君, 宋晓晖, 王 倩, 雷 宇, 王金南 (309)

重点行业/领域碳达峰路径研究方法.....蔡博峰, 吕 晨, 董金池, 汪旭颖, 郑逸璇, 李 新, 王雪松, 李 冰, 何 捷, 李永亮, 吴立新, 邵朱强, 丁 焰, 徐 伟, 雷 宇, 严 刚 (320)

中国电力行业二氧化碳排放达峰路径研究.....王丽娟, 张 剑, 王雪松, 陈潇君, 宋晓晖, 周凌安, 严 刚 (329)

中国钢铁行业二氧化碳排放达峰路径研究.....汪旭颖, 李 冰, 吕 晨, 管志杰, 蔡博峰, 雷 宇, 严 刚 (339)

中国水泥行业二氧化碳排放达峰路径研究.....贺晋瑜, 何 捷, 王郁涛, 范永斌, 石红卫, 蔡博峰, 严 刚 (347)

中国石化化工行业二氧化碳排放达峰路径研究.....庞凌云, 翁 慧, 常 靖, 李永亮, 蔡博峰, 雷 宇, 严 刚, 吕 晨, 张 立, 戚志强, 孙伟善, 曹丽斌, 张 哲, 李 森, 韦志浩 (356)

中国煤化工行业二氧化碳排放达峰路径研究.....金 玲, 郝成亮, 吴立新, 徐 鑫, 刘文革, 陈潇君, 严 刚, 张泽宸, 张鸿宇 (368)

中国铝冶炼行业二氧化碳排放达峰路径研究.....王丽娟, 邵朱强, 熊 慧, 李 丹, 杨富强, 严 刚 (377)

中国道路交通二氧化碳排放达峰路径研究.....黄志辉, 纪 亮, 尹 洁, 吕 晨, 王军方, 尹 航, 丁 焰, 蔡博峰, 严 刚 (385)

中国建筑领域 CO<sub>2</sub> 排放达峰路径研究.....袁闪闪, 陈潇君, 杜艳春, 曲世琳, 胡楚梅, 金 玲, 徐 伟, 严 刚 (394)

建设项目温室气体环境影响评价方法研究.....宋晓晖, 吕 晨, 王丽娟, 郑逸璇, 陈潇君, 蔡博峰, 严 刚 (405)

重点行业/领域碳达峰成本测算及社会经济影响评估.....张 静, 薛英岚, 赵 静, 何 捷, 李 冰, 张鸿宇, 袁闪闪, 李 勃, 黄志辉, 翁 慧, 邵朱强, 曹 东, 张 伟, 蒋洪强 (414)

## 新污染物治理专题

基于文献计量学的环境内分泌干扰物研究热点分析.....乔 宇, 闫振飞, 冯承莲, 王锦东, 白英臣, 吴丰昌 (424)

纳米金属颗粒在土壤-植物系统中的迁移转化及生物效应研究进展.....疏 茂, 汤岑鹏, 赵峰娃, 赵 青 (435)

国内外新污染物环境管理政策分析与建议.....韦正峥, 向月皎, 郭 云, 黄炳昭, 蒋玉丹 (443)

- 反渗透技术对消毒副产物的去除效果、机理及影响因素研究进展·····何欢, 杨洁, 陈白杨 (452)
- 短链氯化石蜡分析方法、环境行为与健康效应的研究进展·····吴静, 于海斌, 张静星, 郑晓燕, 袁懋 (462)
- 抗生素磺胺嘧啶和磺胺甲恶唑在土壤中的淋溶行为研究·····胡双庆, 张玉, 沈根祥 (470)
- 氯咪巴唑在臭氧降解过程中的影响因素及其降解产物  
·····宋江燕, 李方鸿, 吴根义, 胡嘉梧, 余磊, 刘有胜, 柳王荣 (478)
- 常州市水环境中精神活性物质污染特征与生态风险·····邓洋慧, 郭昌胜, 殷行行, 罗莹, 徐建 (488)
- 固相萃取-超高效液相色谱-串联质谱法测定斑马鱼暴露体系 4 种双酚类环境激素的研究  
·····韩莹, 费雨萌, 杜尔登, 王明新, 薛银刚, 刘宇轩 (499)
- 多溴联苯醚和新型阻燃剂暴露与儿童肾损伤研究  
·····郭凌川, 刘涛, 肖建鹏, 李敏, 吕占禄, 张晗, 张金良, 马文军 (508)

## 生态环境

- 基于目标对照样本的自然保护地保护成效评估: 以梵净山冷杉群落为例  
·····王志学, 刘方正, 李海波, 杜金鸿, 李维东, 王伟 (519)
- 富春江库区高温热浪变化特征及对藻类水华潜在影响研究·····黄群芳, 国超旋, 李娜, 李渊 (530)

## 土壤与固废

- 燃煤锅炉协同处置油基岩屑碳排放核算及降碳贡献度分析·····崔长颖, 刘美佳, 葛金林, 王铭玮, 闫大海 (540)
- 沉积物活化氧气和过氧化氢产生羟自由基降解三氯乙烯的比较研究  
·····滕晓宇, 郑云松, 蔡其正, 卢钰茜, 张鹏, 袁松虎 (547)

## 环境污染与健康

- 北京市不同季节室外细菌气溶胶分布特征及其环境影响因素分析  
·····雒月云, 毛怡心, 庄思琪, 邓富昌, 侯敏, 唐宋, 姚孝元 (556)
- 天津某住宅区降雨径流颗粒粒径分布及污染物赋存形态  
·····谢尚宇, 邱春生, 张昱, 王晨晨, 王少坡, 孙力平, 赵乐军, 宋现财 (566)
- 基于根伸长测试终点的小白菜 Cd 及 Se-Cd 物种敏感性分布  
·····胡翔, 李湘凌, 张忠恩, 赵燕, 卢新哲, 魏迎春 (574)

## 环境经济与管理

- 不同补贴机制下的农村清洁取暖价格政策分析·····昌敦虎, 刘昕雅, 缪琪, 孙雅琪, 武娟妮, 董战峰 (583)
- 山地城镇化与资源环境承载力耦合协调发展的时空演变·····丁宇, 张雷, 马昕琳 (592)

## 信息

- 《环境科学研究》第五届编委会名单 (封二) “减污降碳协同增效” 专刊征稿启事 (封三)

**Research on Carbon Peaking of Key Industries and Sectors in China**

Pathway for Carbon Dioxide Peaking in China Based on Sectoral Analysis  
 ..... YAN Gang, ZHENG Yixuan, WANG Xuesong, LI Bing, HE Jie, SHAO Zhuqiang, LI Yongliang, WU Lixin, DING Yan, XU Wei, LI Xin, CAI Bofeng, CHEN Xiaojun, SONG Xiaohui, WANG Qian, LEI Yu, WANG Jinnan (309)

Research Method for Carbon Peaking Pathway in Key Industries/Sectors  
 ..... CAI Bofeng, LÜ Chen, DONG Jinchi, WANG Xuying, ZHENG Yixuan, LI Xin, WANG Xuesong, LI Bing, HE Jie, LI Yongliang, WU Lixin, SHAO Zhuqiang, DING Yan, XU Wei, LEI Yu, YAN Gang (320)

Pathway of Carbon Emission Peak in China's Electric Power Industry  
 ..... WANG Lijuan, ZHANG Jian, WANG Xuesong, CHEN Xiaojun, SONG Xiaohui, ZHOU Ling'an, YAN Gang (329)

China's Iron and Steel Industry Carbon Emissions Peak Pathways  
 ..... WANG Xuying, LI Bing, LÜ Chen, GUAN Zhijie, CAI Bofeng, LEI Yu, YAN Gang (339)

Pathway of Carbon Emissions Peak for Cement Industry in China  
 ..... HE Jinyu, HE Jie, WANG Yutao, FAN Yongbin, SHI Hongwei, CAI Bofeng, YAN Gang (347)

Pathway of Carbon Emission Peak for China's Petrochemical and Chemical Industries  
 ..... PANG Lingyun, WENG Hui, CHANG Jing, LI Yongliang, CAI Bofeng, LEI Yu, YAN Gang, LÜ Chen, ZHANG Li, QI Zhiqiang, SUN Weishan, CAO Libin, ZHANG Zhe, LI Miao, WEI Zhihao (356)

Pathway of Carbon Emissions Peak of China's Coal Chemical Industry ..... JIN Ling, HAO Chengliang, WU Lixin, XU Xin, LIU Wenge, CHEN Xiaojun, YAN Gang, ZHANG Zechen, ZHANG Hongyu (368)

Pathway of Carbon Emissions Peak of Aluminum Industry  
 ..... WANG Lijuan, SHAO Zhuqiang, XIONG Hui, LI Dan, YANG Fuqiang, YAN Gang (377)

Peak Pathway of China's Road Traffic Carbon Emissions  
 ..... HUANG Zhihui, JI Liang, YIN Jie, LÜ Chen, WANG Junfang, YIN Hang, DING Yan, CAI Bofeng, YAN Gang (385)

Pathway of Carbon Emission Peak of China's Building Sector  
 ..... YUAN Shanshan, CHEN Xiaojun, DU Yanchun, QU Shilin, HU Chumei, JIN Ling, XU Wei, YAN Gang (394)

Method of Greenhouse Gas Environmental Impact Assessment for Construction Projects  
 ..... SONG Xiaohui, LÜ Chen, WANG Lijuan, ZHENG Yixuan, CHEN Xiaojun, CAI Bofeng, YAN Gang (405)

Evaluation of Cost and Economic Impact of China's Carbon Peak Pathway on Key Industries  
 ..... ZHANG Jing, XUE Yinglan, ZHAO Jing, HE Jie, LI Bing, ZHANG Hongyu, YUAN Shanshan, LI Bo, HUANG Zhihui, WENG Hui, SHAO Zhuqiang, CAO Dong, ZHANG Wei, JIANG Hongqiang (414)

**Research on the Treatment of Emerging Contaminants**

Research Focus Analysis of Endocrine Disrupting Chemicals (EDCs) Based on Bibliometrics  
 ..... QIAO Yu, YAN Zhenfei, FENG Chenglian, WANG Jindong, BAI Yingchen, WU Fengchang (424)

Research Progress on Migration and Transformation of Nano Metallic Particles in Soil-Plant System and Their Bio-Effects on Plants ..... SHU Mao, TANG Cenpeng, ZHAO Fengwa, ZHAO Qing (435)

Analysis and Suggestions of Environmental Management Policies of New Pollutants at Home and Abroad  
 ..... WEI Zhengzheng, XIANG Yuejiao, GUO Yun, HUANG Bingzhao, JIANG Yudan (443)

- A Review of Disinfection Byproducts Removal Efficiency and Influencing Factors of Reverse Osmosis Technology  
..... HE Huan, YANG Jie, CHEN Baiyang (452)
- Research Process on Analytical Methods, Environmental Behavior and Health of Short-Chain Chlorinated Paraffins  
..... WU Jing, YU Haibin, ZHANG Jingxing, ZHENG Xiaoyan, YUAN Mao (462)
- Leaching Behavior of Antibiotics Sulfadiazine and Sulfamethoxazole in Soil  
..... HU Shuangqing, ZHANG Yu, SHEN Genxiang (470)
- Degradation of Climbazole by Ozonation: Influencing Factors and Degradation Products  
..... SONG Jiangyan, LI Fanghong, WU Genyi, HU Jiawu, SHE Lei, LIU Yousheng, LIU Wangrong (478)
- Pollution Characteristics and Risk Assessment of Psychoactive Substances in Aqueous Environment of Changzhou City  
..... DENG Yanghui, GUO Changsheng, YIN Xingxing, LUO Ying, XU Jian (488)
- Determination of 4 Bisphenol Environmental Hormone in Zebrafish Exposure System by Solid Phase Extraction-Ultra  
Performance Liquid Chromatography-Tandem Mass Spectrometry  
..... HAN Ying, FEI Yumeng, DU Erdeng, WANG Mingxin, XUE Yingang, LIU Yuxuan (499)
- Renal Damage of Polybrominated Diphenyl Ethers and New Flame Retardants in Children  
..... GUO Lingchuan, LIU Tao, XIAO Jianpeng, LI Min, LÜ Zhanlu, ZHANG Han, ZHANG Jinliang, MA Wenjun (508)

### Ecological Environment

- Assessment of Conservation Effectiveness of Protected Areas Based on Target Control Samples: A Case Study of *Abies  
fangjingshanensis* Communities ..... WANG Zhixue, LIU Fangzheng, LI Haibo, DU Jinhong, LI Weidong, WANG Wei (519)
- Characteristics of Summer Heat Waves and Potential Effect on Algal Blooms in Fuchunjiang Reservoir  
..... HUANG Qunfang, GUO Chaoxuan, LI Na, LI Yuan (530)

### Soil and Solid Waste

- Carbon Emission During Co-Processing of Oil-Based Drill Cuttings in Coal-Fired Boiler and CO<sub>2</sub> Mitigation Prediction  
..... CUI Changhao, LIU Meijia, GE Jinlin, WANG Mingwei, YAN Dahai (540)
- Comparison of Sediment Activated Oxygen and Hydrogen Peroxide for Hydroxyl Radical Production and Trichloroethylene  
Degradation ..... TENG Xiaoyu, ZHENG Yunsong, CAI Qizheng, LU Yuxi, ZHANG Peng, YUAN Songhu (547)

### Environmental Pollution and Health

- Seasonal Distribution Characteristics of Bacterial Aerosols and Their Correlations with Environmental Factors in Beijing,  
China ..... LUO Yueyun, MAO Yixin, ZHUANG Siqi, DENG Fuchang, HOU Min, TANG Song, YAO Xiaoyuan (556)
- Particle Size Distribution and Pollutant Speciation Analyses of Rainfall Runoff in Urban Residential Community of Tianjin  
..... XIE Shangyu,  
QIU Chunsheng, ZHANG Yu, WANG Chenchen, WANG Shaopo, SUN Liping, ZHAO Lejun, SONG Xiancai (566)
- Pai-Tsai (*Brassica Chinensis* L.) Species Sensitivity Distributions by Cd and Se-Cd Based on Root Elongation  
..... HU Xiang, LI Xiangling, ZHANG Zhong'en, ZHAO Yan, LU Xinzhe, WEI Yingchun (574)

### Environmental Economy and Management

- Clean Heating Pricing Policies Based on Different Subsidy Mechanisms in Rural Areas: A Comparative Analysis  
..... CHANG Dunhu, LIU Xinya, MIAO Qi, SUN Yaqi, WU Juanni, DONG Zhanfeng (583)
- Temporal and Spatial Evolution of Coupling Coordination of Mountainous Urbanization and Its Resource and Environment  
Carrying Capacity ..... DING Yu, ZHANG Lei, MA Xinlin (592)