



近零碳排放区示范工程 Demonstration Projects of Near-Zero Carbon Emission Zones

研究进展与政策建议
Research Progress and Policy
Recommendations

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近零碳排放区示范工程

研究进展与政策建议

Research Progress and Policy Recommendations for Demonstration Projects of Near-Zero Carbon Emission Zones

- 一、国内的主要做法及面临的主要问题
- 二、近零碳排放区示范工程的内涵
- 三、近零碳排放区示范工程的基本要求
- 四、近零碳排放区示范工程的主要任务
- 五、推进近零碳排放区示范工程政策建议

I.Key approaches and major challenges in China

II.Projects Introduction

III.Basic Requirements

IV.Main Tasks

V.Policy Recommendations

PART
01

主要做法与面临的主要问题

Key approaches and major challenges

- 主要做法
- 面临的主要问题
- Key approaches
- Major challenges

1.1 主要做法Key approaches

广东省——国内最早开展近零碳排放区示范工程的省份 Guangdong - the first pilot province in China

- ✓征集25个项目，最终确定了4个项目，其中两个是小岛形式的，另外一个社区，一个是工业园区。
- ✓4 projects were selected out of 25 projects, including 2 small islands, 1 community and 1 industrial park.



- ✓前期调研Preliminary investigation
- ✓基础研究Fundamental research
- ✓项目申报和遴选Project application and selection
- ✓跟踪评价Follow-up evaluation

- ✓《关于征集近零碳排放区示范工程试点项目的通知》
- ✓《广东省近零碳排放区示范工程实施方案》
- ✓《广东省近零碳排放区示范工程试点建设指南》
- ✓Notice on Seeking Pilot Near-Zero Carbon Emission Zone Demonstration Projects
- ✓Implementation Plan for the Demonstration Projects of Near Zero Carbon Emission Zones in Guangdong Province
- ✓Guideline on the Pilot Construction of Demonstration Projects of Near Zero Carbon Emission Zones in Guangdong Province

陕西省——《关于组织开展近零碳排放区示范工程试点的通知》（陕发改气候〔2016〕1691号） Shaanxi Province - Notice on Organizing Pilot Near-Zero Carbon Emission Zone Demonstration Projects (Shaanxi NDRC Climate [2016] No. 1691)



- ✓确定了3个重点示范项目，分别属于煤化工企业、生物制药企业和煤矿采掘行业。
- ✓Three key demonstration projects were identified (in coal chemical sector, biopharmaceutical sector and coal mining sector respectively).

浙江、海南、云南、江西、安徽等地也在积极探索开展近零碳排放区示范建设。
Zhejiang, Hainan, Yunnan, Jiangxi, Anhui and other provinces are also actively exploring the development of near-zero carbon emission zones.

1.1 主要做法Key approaches

上海市
Shanghai



横沙“零碳岛”
——主要依托“滩涂湿地碳汇”
Zero-carbon Hengsha
Island –wetland carbon sink



临港“近零碳排放区”
——主要依托“零碳能源（海上风力发电）”
Lingang Near-Zero Carbon Emission
Zone——zero-carbon energy (offshore
wind power generation)

镇江市
Zhenjiang



扬中市、世业洲、江心洲——“零碳岛”
主要依托太阳能发电和生态碳汇
Yangzhong City, Shiye Island, Jiangxin Island - "Zero-
Carbon Island",
solar power generation and ecological carbon sinks

武汉市
Wuhan



江夏梁子湖
Liangzi Lake,
Jiangxia District



中法武汉生态示范城
Sino-French Wuhan Ecological
Demonstration City

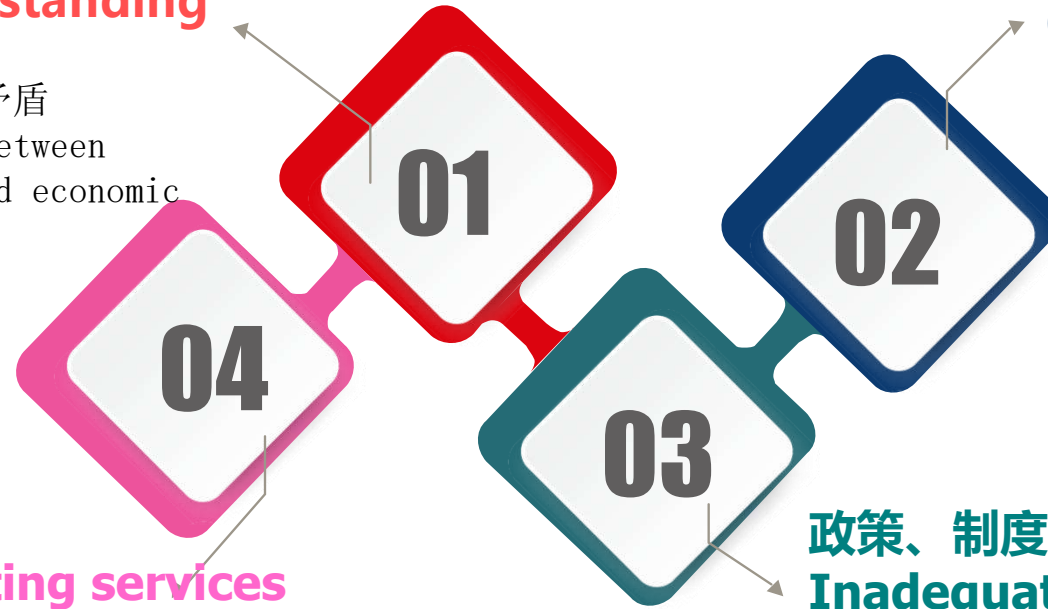
1.2 面临的主要问题 Major challenges

认识偏差 Misunderstanding

控排与经济发展间的矛盾
The contradiction between
emission control and economic
development

概念不清 Obscure concept

缺乏统一、明确的定义和标准
Lack of uniform and clear
definition and standards



配套服务落后 Backward supporting services

- ✓ 建设方案的咨询指导
- ✓ 先进技术的应用与推广
- ✓ 对外交流与合作等
- ✓ Consultation and guidance for construction plans
- ✓ Application and promotion of advanced technologies
- ✓ Foreign exchange and cooperation, etc.

政策、制度不完善 Inadequate policies and systems

- ✓ 缺少协调和统筹机制
- ✓ 缺少有效的激励和约束手段
- ✓ 缺少后续的监管和评价机制
- ✓ Lack of coordination mechanisms
- ✓ Lack of effective incentives and constraints
- ✓ Lack of follow-up regulatory and evaluation mechanisms

PART
02

近零碳排放区示范工程的定义

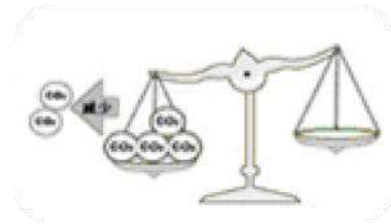
Definition of near-zero carbon emission zone demonstration project

- 从低碳到零碳
- 近零碳的内涵
- 近零碳排放区示范工程的定义
- From low carbon to zero carbon
- Features of near-zero carbon
- Definition

2.1 从“低碳”到“零碳” From “low carbon” to “zero carbon”

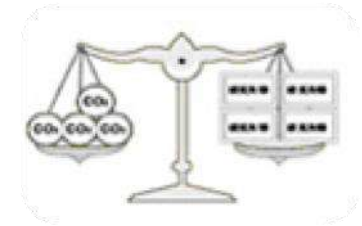
低碳
Low carbon

减少人为碳排放
Reduce anthropogenic carbon emissions



碳中和
Carbon neutral

- 1、在本区域或行业内碳源和碳汇平衡抵消
 - 2、通过生态补偿的方式或碳排放交易市场，购买区域或行业外的碳汇，实现碳源与碳汇平衡
1. Balance between carbon sources and carbon sinks in a specific region or industry
2. Through eco-compensation or buying carbon credits on the carbon market to achieve the balance



零碳
Zero carbon

(负碳、正气候)
Carbon negative,
climate positive)

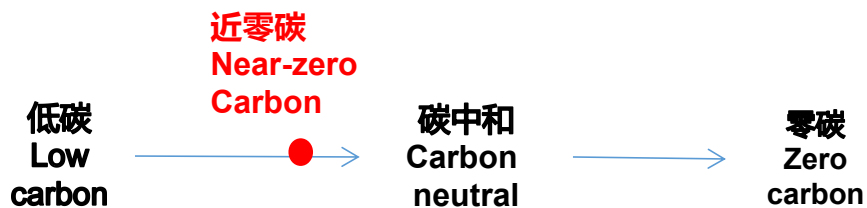
杜绝使用煤炭、石油、天然气等化石能源，完全使用零碳能源
Eliminate the use of fossil energy such as coal, oil, natural gas, and use zero-carbon energy instead



2.2 近零碳的内涵Features

近零碳排放区示范工程

Near-zero Carbon Emission Zone Demonstration Project

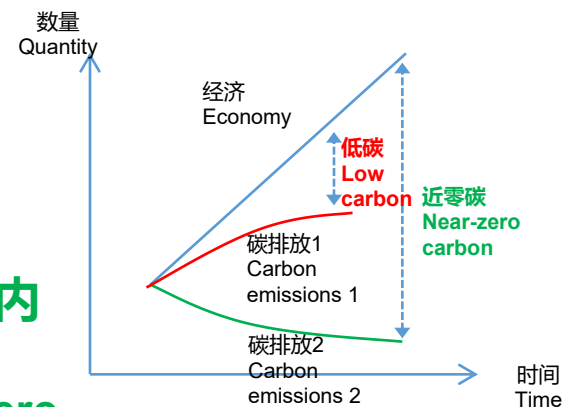


- ✓ 碳排放总量下降，并趋近于零
- ✓ 低碳发展水平（单位GDP碳排放、人均碳排放）国内领先
- ✓ Total carbon emissions have dropped and are near zero
- ✓ Low carbon development leading(carbon emissions per unit of GDP, per capita carbon emissions) the country

有明确的地理界限。（城镇、园区、社区、景区....）

Clear geographical boundaries. (towns, parks, communities, scenic spots....)

一项系统性、综合性、长期性的工作，而不是简单的“工程项目”。
Instead of a simple “engineering project”, it is a systematic, comprehensive and long-term work.



2.3 近零碳排放区示范工程的定义 Definition

近零碳排放区示范工程是指在**一定区域范围内**，通过优化空间布局、发展低碳产业、使用清洁能源、运用低碳技术、发展低碳经济、加强低碳管理、倡导低碳生活、加强生态建设等**综合性措施**，实现该区域**低碳发展水平达到国内领先、人为碳排放源与碳汇趋近平衡**的综合性示范工程。

Near-zero carbon emission zone demonstration project is featured by **comprehensive measures** adopted such as space layout optimization, low carbon industry, clean energy and LCTs, low carbon economy and management, eco-construction, and low carbon lifestyle, **in a specific region** to achieve **advanced low-carbon development in the country and a near balance between anthropogenic carbon sources and carbon sinks**.



低碳发展的 **“领跑者”**

Pace-setter of low carbon development



PART
03

近零碳排放区示范工程的基本要求
Basic requirements

3.1 近零碳排放区示范工程的基本要求 Basic Requirements

基本要求：“两性三可” Five Basic Requirements

系统性Systematic

涵盖生产、生活、生态等经济和社会发展的基本要素，在产业转型升级、能源结构优化、生态环境改善、低碳技术应用及管理模式创新等方面开展**系统集成示范**。

Cover the basic elements of economic and social development such as production, life, ecology, etc., and carry out **system integration demonstration** in industrial transformation and upgrading, energy structure optimization, eco-environment improvement, LCT application and management mode innovation.

创新性Innovative

体现技术应用、运营机制、管理模式、发展理念等多方面的创新实践，推动跨领域、跨行业的技术与管理融合，**探索减少碳排放、增加碳汇、实现碳中和的创新路径**。

Reflect the innovative practices of technology application, operation mechanism, management mode and development concept, promote the integration of technology and management across industries and **explore innovative ways to reduce carbon emissions, increase carbon sinks, and achieve carbon neutrality.**

3.1 近零碳排放区示范工程的基本要求 Basic Requirements

基本要求：“两性三可” Five basic requirements



可核查Verifiable

地理边界清晰、管理主体明确，提出并实施近零碳发展目标任务，拥有扎实的低碳发展工作基础和政策制度储备，具备良好的碳排放统计与数据管理能力，对区域内碳排放及碳汇数据实现定期监测与核查。

With clear geographical boundaries and responsible bodies, propose and implement near-zero carbon development goals, have a solid low-carbon development work base and policy system and sound statistics and data management capabilities, and regularly monitor and verify the carbon emissions and carbon sinks data in the region.



可持续Sustainable

将近零碳发展理念纳入区域经济发展中长期规划，采取政策措施持续保持和巩固低碳发展水平，实现区域内碳源与碳汇的长期动态平衡。

Incorporate the near-zero carbon development concept into the medium- and long-term economic development planning of the region, and adopt policy measures to continuously consolidate the low-carbon development level, and achieve long-term dynamic balance of carbon sources and carbon sinks in the region.



可推广Replicable

在碳减源及碳增汇技术手段、工程建设路径、运行管理模式、排放数据统计、支持保障措施等方面，可提炼出通用属性，可在更多同类地区或更大范围内推广应用。

Find out the common elements in carbon reduction and carbon sequestration technology, engineering path, operation management mode, emission data statistics, supporting safeguard measures, etc., that can be applied in more similar areas or wider scope.

PART
04

近零碳排放区示范工程的主要任务

Main tasks

- 推进碳减源
- 实施碳增汇
- 加强碳管理

- Carbon reduction
- Carbon sequestration
- Carbon management

4.1 推动碳减排 Carbon sequestration

能源低碳化 Low carbon energy



- ✓ 传统能源清洁化、高效化
- ✓ 新能源开发利用
- ✓ Make traditional energy cleaner and more efficient
- ✓ Develop and utilize new energy

交通低碳化 Low carbon transportation



- ✓ 新能源车辆
- ✓ 车用替代燃料
- ✓ 低碳的道路建设
- ✓ 智慧交通
- ✓ New energy vehicle
- ✓ Alternative fuel for vehicles
- ✓ Low carbon road construction
- ✓ Smart traffic

产业低碳化 Low carbon industries



- ✓ 淘汰高耗能产业
- ✓ 发展战略性新兴产业
- ✓ 发展循环经济
- ✓ 清洁生产
- ✓ Eliminate energy-intensive industries
- ✓ Develop strategic emerging industries
- ✓ Develop circular economy
- ✓ Green manufacturing

公共基础设施低碳化 Low carbon infrastructure



- ✓ 区域空间规划布局
- ✓ 增加路网密度
- ✓ 完善污水、垃圾处理设施
- ✓ Regional spatial planning
- ✓ Increase road network density
- ✓ Improve waste treatment facilities

建筑低碳化 Low carbon buildings



- ✓ 推进建筑节能
- ✓ 推广绿色建筑
- ✓ 推广太阳能光伏建筑一体化
- ✓ Promote building energy efficiency
- ✓ Promote green buildings
- ✓ Promote integration of solar PV with buildings

低碳生活方式与消费模式 Low carbon lifestyle and consumption patterns



- ✓ 减少一次性用品使用
- ✓ 绿色出行
- ✓ 节能节水
- ✓ Reduce the use of disposables
- ✓ Green commuting
- ✓ Energy and water saving

4.2 实施碳增汇Carbon sequestration

- ✓ 森林碳汇Forest carbon sink
- ✓ 海洋碳汇Marine carbon sink
- ✓ 农业碳汇Agricultural carbon sink
- ✓ 草原碳汇Grassland carbon sink
- ✓ 碳交易、替代Carbon trading, substitution

注：允许通过碳交易、输出可再生能源等途径间接增加碳汇，但要限制一定比例

Note: Indirect increase of carbon sinks through carbon trading and exporting renewable energy, etc. is allowed but must be limited to a certain percentage

4.3 加强碳管理Carbon management

- ✓ 加强基础能力建设，强化各级管理人员的碳管理专业知识和技能
- ✓ 建立健全碳管理制度，加强碳排放的统计、监测、报告和核查体系建设
- ✓ 加强对相关减碳增汇政策行动效果的评估
- ✓ 加强体制机制创新，创新近零碳发展的管理模式
- ✓ Strengthen basic capacity building and strengthen carbon management expertise and skills of managerial personnel at all levels
- ✓ Establish and improve carbon management systems to strengthen the development of statistics, monitoring, reporting and verification mechanisms for carbon emissions
- ✓ Strengthen the evaluation of the effects of relevant carbon reduction and foreign exchange policy efforts
- ✓ Strengthen institutional innovation, and innovate the management model of near-zero carbon development



PART
05

政策建议

Policy recommendations

5.1 政策建议 Policy recommendations

- ✓ 加强先进低碳技术的推广应用
- ✓ 充分发挥行业协会、高校、科研机构的支撑作用
- ✓ Strengthen the promotion and application of advanced LCTs
- ✓ Give full play to the supporting role of industry associations, universities, and scientific research institutions

- ✓ 加强宣传引导，提高认识水平
- ✓ Strengthen publicity and guidance and enhance awareness



- ✓ 国家层面做好总体部署和协调指导
- ✓ 地方先行先试
- ✓ Overall deployment and coordination guidance at the state level
- ✓ Experiments and trials at local level

- ✓ 探索形成“一揽子政策包”
- ✓ 加大资金支持
- ✓ 鼓励地方制定配套措施
- ✓ Formulate a package of policies
- ✓ Increase funding support
- ✓ Encourage local governments to develop supporting measures

- ✓ 加强技术合作
- ✓ 加强低碳管理合作
- ✓ 国际交流活动
- ✓ Strengthen technical cooperation
- ✓ Strengthen low carbon management cooperation
- ✓ International exchange activities

谢谢

Thank you



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