

乌鲁木齐节能减排规划研究

Study of Urumqi Energy Conservation and Emission Reduction Plan

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项目背景

- **2012-2013，EC2支持开展乌鲁木齐清洁能源城市示范区项目，包含三个主要研究部分**
 - 节能减排规划
 - 循环经济规划
 - 示范项目
- **节能减排规划的研究目的**
 - 将示范区建设与乌鲁木齐市节能减排工作相结合，在深入分析乌鲁木齐市“十二五”时期节能减排主要任务、关键措施的基础上，为示范区研究提出节能减排示范项目，并为中国西部城市节能减排工作提供经验

BACKGROUND

- **URUMQI Demo Zone Project was supported by EC2 from 2012 to 2013. The project contains three main part:**
 - Energy conservation and emission reduction (EC&ER) plan
 - Circular economy plan
 - Demo projects
- **Object for EC&ER plan**
 - this Project aims to integrate demo zone and works of EC&ER together and to identify EC&ER projects, as well as providing experiences for other western cities in China based on in-depth analysis on main tasks and key measures for Urumqi's 12th FYP

研究内容

- “十一五”节能减排工作回顾
- 能源消费和污染物排放现状调研
- “十二五”节能减排潜力分析
- 借鉴欧洲可持续能源行动方案经验
- “十二五”节能减排政策建议
- “十二五”节能减排关键领域、重点工程
- 清洁能源示范区示范项目

CONTENT

- **Review of 11th FYP EC&ER work**
- **Current situation study on energy consumption and pollutant emission**
- **potential analysis of 12th FYP EC&ER**
- **Learn from the European experience of Sustainable Energy Action Plan**
- **12th FYP EC&ER policy recommendations**
- **key areas and major projects of 12th FYP EC&ER**
- **Pilot projects in the clean energy demo zone**

研究方法

- **资料搜集**
 - “十一五”节能减排工作情况
 - 能源消费和污染物排放现状
 - 乌鲁木齐市相关发展规划
- **实地调研**
 - 参观节能减排项目
- **技术分析**
 - 能源需求预测：自下而上、部门分析（工业、建筑、交通）、重点项目核算
 - 污染物排放测算：存量、增量、减排量分析
 - 节能减排潜力：情景预测
- **座谈会、研讨会**
 - 经验交流
 - 专家咨询

METHODOLOGY

- **Material Collection**
 - 11th FYP EC&ER work
 - Current situation of energy consumption and pollutant emission
 - Relevant development plan of Urumqi
- **On-site investigation**
 - Visit EC&ER projects
- **Technology analysis**
 - Energy demand forecast: bottom up, sector by sector (industry, building, transportation), key projects
 - Pollutant emission: existing, incremental and reduced amount
 - EC&ER Potential: scenario forecast
- **Seminar**
 - Experience communication
 - Experts consultation

“十一五”节能减排工作回顾

- “十一五”节能减排工作成效显著
 - 2010年单位GDP能耗较2005年下降8%
 - 能源消费结构优化
 - 环境质量改善
 - 节能减排意识增强
- 依然存在的问题
 - 单位GDP能耗依然较高（是全国平均水平的2.4倍）
 - 环境污染依然严重
 - 第二产业比重持续上升

Review of 11th FYP EC&ER Work

- **11th FYP EC&ER work shows obvious effects**
 - the energy consumption per unit GDP in 2010 fell 8% compared to 2005
 - optimization of energy structure
 - improvement of environmental quality
 - awareness of EC&ER increased
- **Exisiting problems**
 - the energy consumption per unit GDP is still high (2.4 times the national average)
 - the environmental pollution is still serious
 - rising proportion of the secondary industry

“十二五”节能减排形势和潜力

- **形势**

- 工业化、城镇化快速发展阶段
- 高速经济增长目标
- 资源行业快速发展

- **潜力**

- 基于乌鲁木齐市能源平衡表、已发布的经济发展、工业、建筑、交通、能源、电力、环保等领域的相关规划、以及计划采取的节能减排措施等进行定量分析
- 2015单位GDP能耗可较2010年下降9%，节能555万吨标准煤
- 采取严格措施，可使2015年SO₂排放量低于2010年水平

12th FYP EC&ER situation and potential

- **Situation**

- rapid development of industrialization and urbanization
- rapid economic growth target
- rapid development of the resources sector

- **Potential**

- Quantification analysis based on Urumqi energy balance tables, issued development plan in economy, industry, building, transportation, energy, electricity, environment protection and other sectors, and EC&ER measures to be implemented
- energy consumption per unit GDP in 2015 can be decreased by 9% compared to 2010, saving 5.55 million tons of standard coal
- SO₂ emission in 2015 below 2010 levels if strict measures are taken

“十二五”节能减排政策建议

- 实施污染物排放总量控制和能源消费总量控制
- 调整经济增速目标，努力优化产业结构
- 大力提高重点用能领域能源利用效率：新增项目严格准入门槛，既有项目加快节能改造
- 加大新增项目污染防治力度
- 完善节能经济激励和市场机制：税收、价格、金融
- 加强节能减排能力建设：统计、监测、监察、宣传等

12th FYP EC&ER policy recommendations

- Implementation of total pollutant emission control and total energy consumption control
- Adjust the economic growth target, making efforts on optimize the industrial structure
- Vigorously improve energy efficiency in key energy sector: strict access treshold for new projects, accelerate energy efficiency retrofit for the existing projects
- Increase pollution prevention and control efforts on new projects
- Improve economic incentives and market mechanisms for energy efficiency: taxation, pricing, finance
- Strengthen EC&ER capacity-building: statistics, monitoring, surveillance, propaganda, etc.

“十二五”节能减排关键领域

- **工业：**调整内部结构，淘汰落后，节能技术改造，重点用能企业节能管理，中小企业节能
- **建筑：**更严格的节能标准，绿色建筑，既有建筑节能改造，优化供热结构，可再生能源应用
- **交通：**节能型综合交通体系，发展公共交通，道路运输节能
- **公共机构：**建筑节能、公务车节能
- **大气污染治理：**准入标准、脱硫、除尘、脱硝、污染企业搬迁
- **高效清洁利用水资源：**严格用水标准、推广节水设备工艺、污染防治

12th FYP EC&ER Key areas

- **Industry:** adjusting the internal structure, phasing out backward productivity, energy saving retrofit, energy management in key energy enterprises, energy efficiency for SMEs
- **Building:** stricter energy efficiency standards, green building, energy saving retrofit of existing buildings, optimize heating structure, renewable energy application
- **Transportation:** energy-efficient comprehensive transportation system, develop public transport, road transport energy efficiency
- **Public institutions:** building energy efficiency, energy saving of the official vehicles
- **Air pollution control:** strict standard, desulphurization, dust removal, denitrification, relocation of polluting enterprises
- **Clean and efficient use of water resources:** strict water using standards, promote water-saving equipment and technology, pollution prevention

“十二五”节能减排重点工程

- 工业节能技术改造工程
- 淘汰落后产能工程
- 既有建筑节能改造工程
- 清洁供热系统建设工程
- 低碳交通系统建设工程
- 清洁能源和可再生能源利用工程
- 大气污染治理工程
- 水污染物减排工程
- 节能减排技术推广工程
- 节能减排能力建设工程

12th FYP EC&ER Major projects

- Industrial energy-saving technology retrofit project
- Eliminate backward production capacity project
- Existing building energy saving retrofit project
- Construction project of clean heating system
- Construction project of low-carbon transport system
- Clean energy and renewable energy project
- Air pollution control project
- Water pollutant emission reduction project
- Project to promote energy saving technology and product
- EC&ER capacity building project

清洁能源示范项目

- 基于重点工程，结合企业意愿推荐三类项目

1、节能设备生产企业建设项目

- 离网型风光互补发电设备产业化项目建设
- 干空气能间接蒸发制冷设备生产基地建设

2、建筑节能改造项目

- 节能“暖房子”改造项目

3、能源系统改造项目

- 热力公司换热站热计量和节能改造项目
- 甘泉堡经济技术开发区能源系统优化项目

Clean energy demo projects

- Based on the key projects and integrate the willingness of the enterprises, recommend 3 types of projects:

1. Construction project of energy-saving equipment manufacturing enterprises

- Off-grid wind and solar power equipment industrialization projects
- Dry air energy indirect evaporative cooling equipment production base construction

2. Building energy-saving retrofit projects

- Energy saving "Warm houses" retrofit project

3. Energy system retrofit project

- Heat metering and energy-saving retrofit project in heat transfer station for Heating Power Companies
- Energy system optimization project for Ganquanbao Economic and Technological Development Zone

谢谢！
Thank you!