

城市煤炭消费总量控制战略和行动计划 ——基于案例城市的研究

Study on Coal Use in Chinese Case Cities: Strategy and Action Plan

中国人民大学环境学院/**Renmin University of China**
发改委能源所/**ERI, NDRC**

Tuesday, October 20, 2015

1 城市煤控相关政策与实践

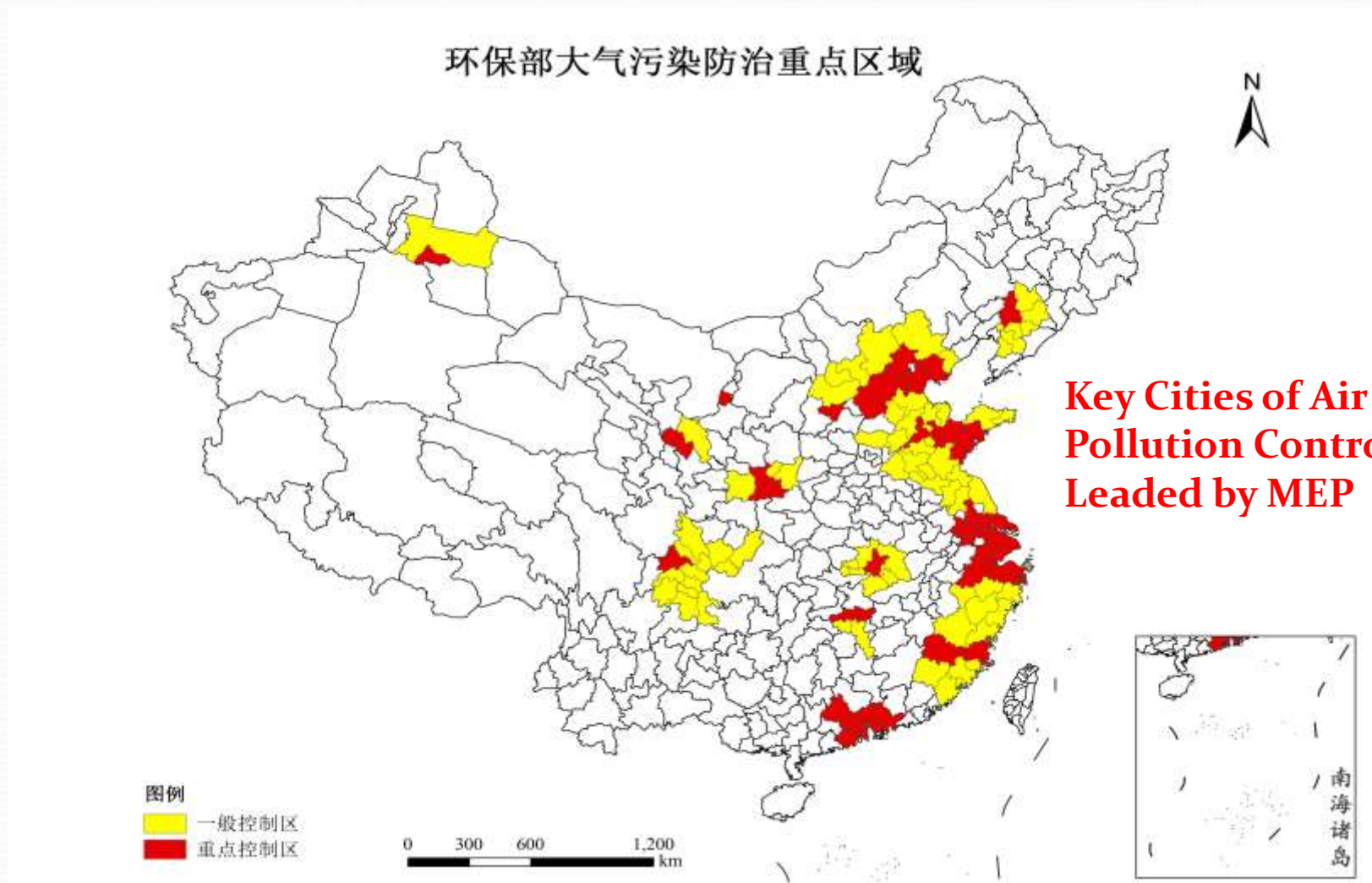
Policies and Actions Related to Coal Cap in City level

- 我国煤炭总量控制政策的缘起和发展
- The Origin and Development of Coal Cap Policies in China



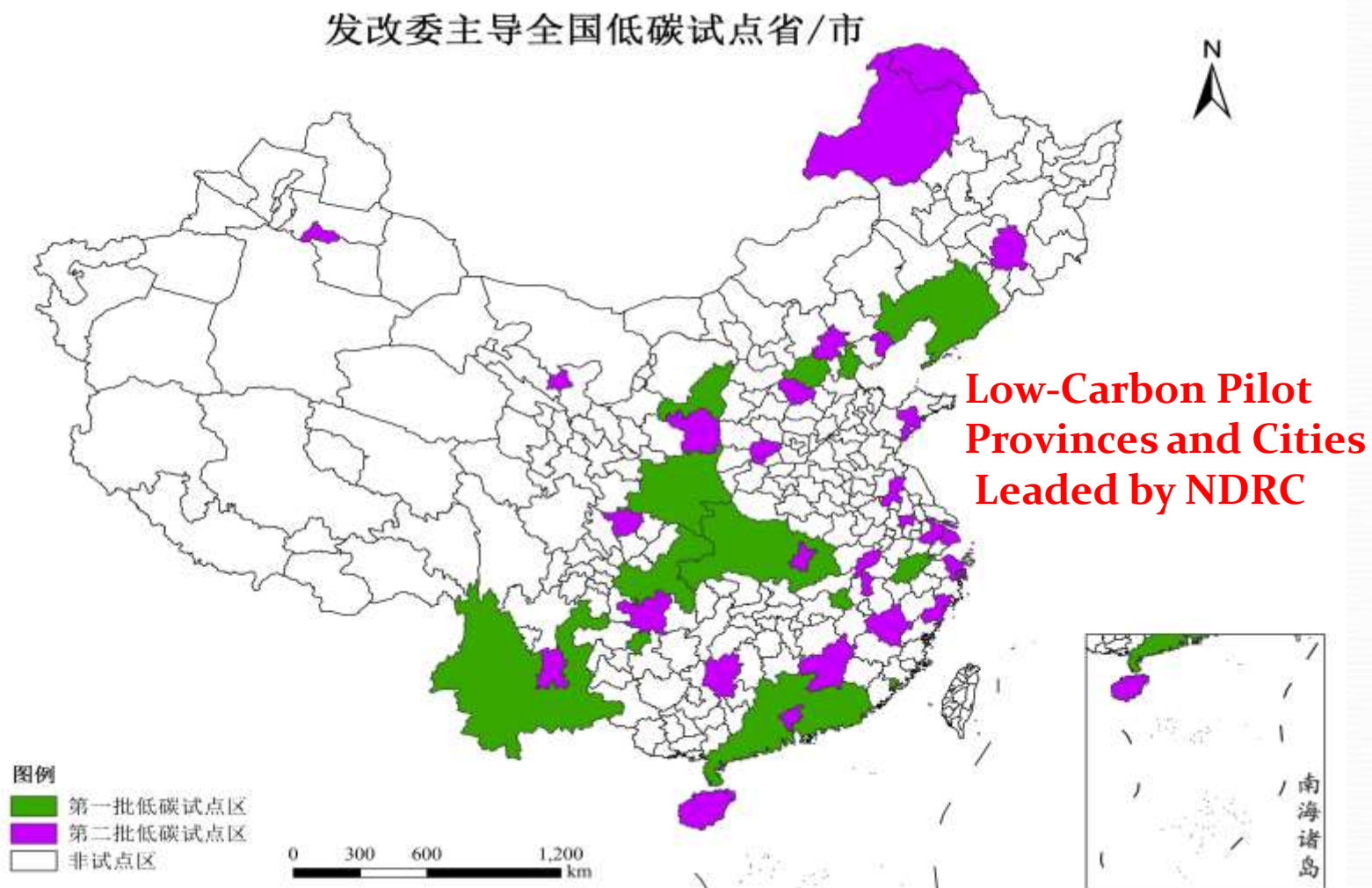
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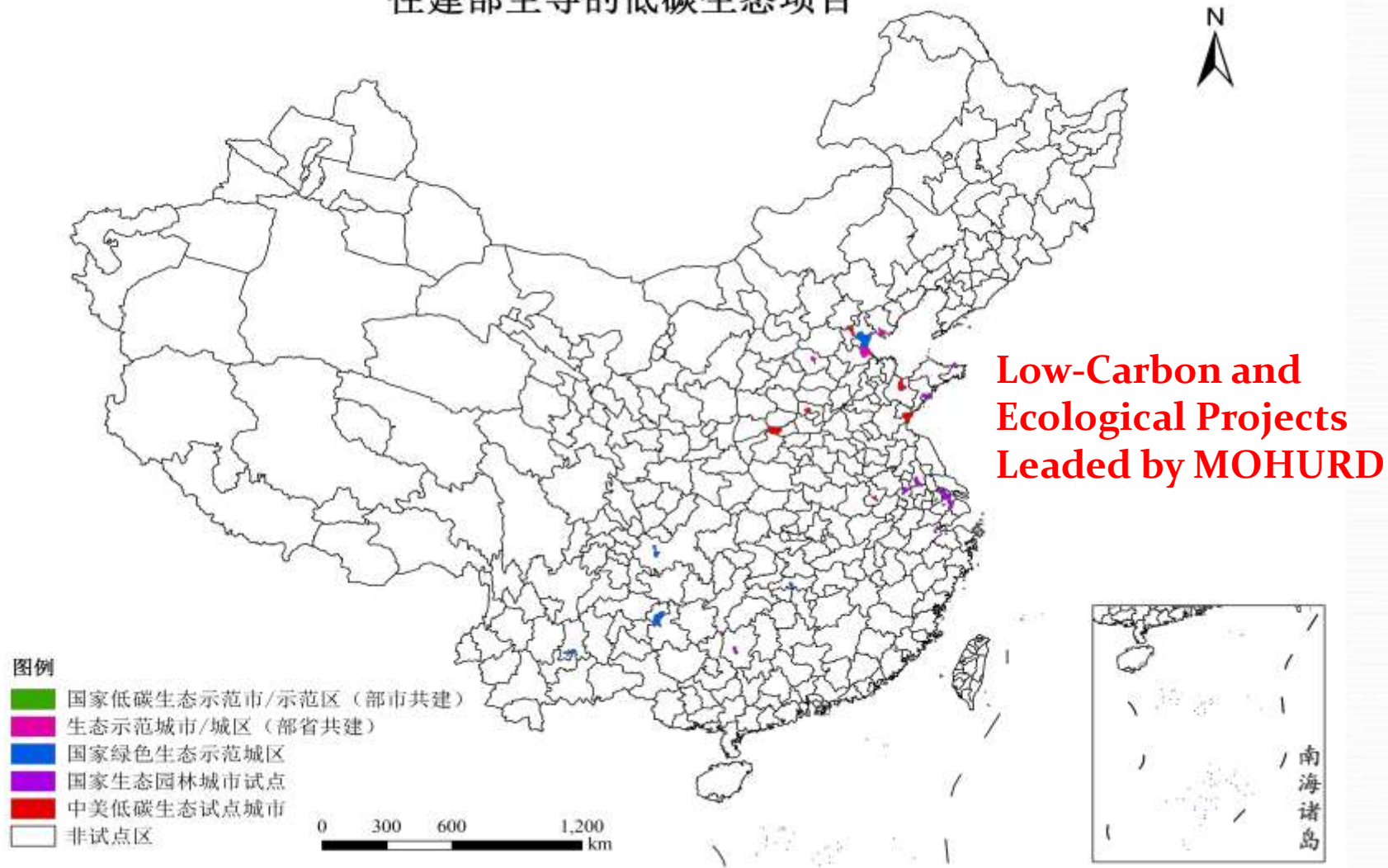
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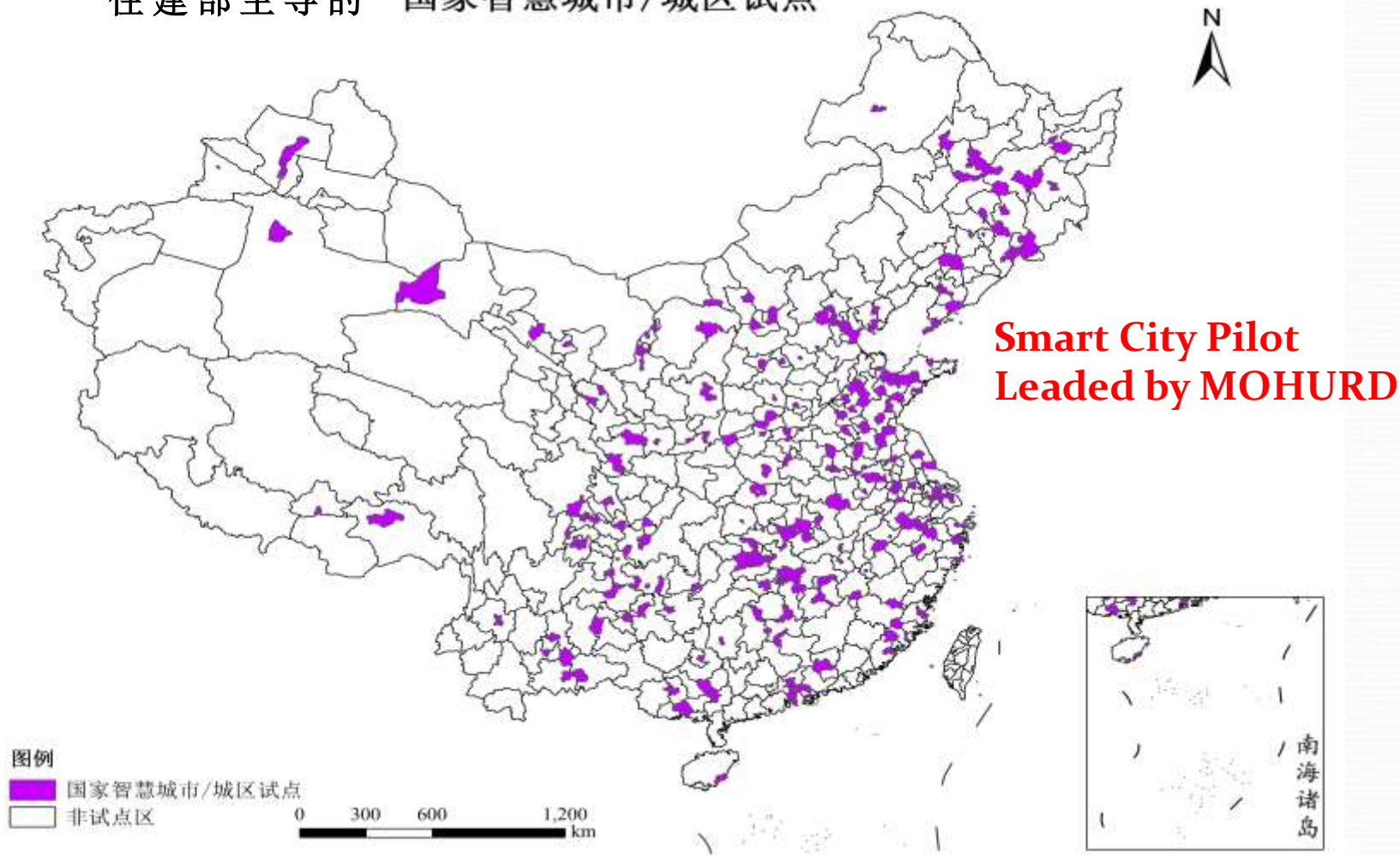
住建部主导的低碳生态项目



1 城市煤控相关政策与实践

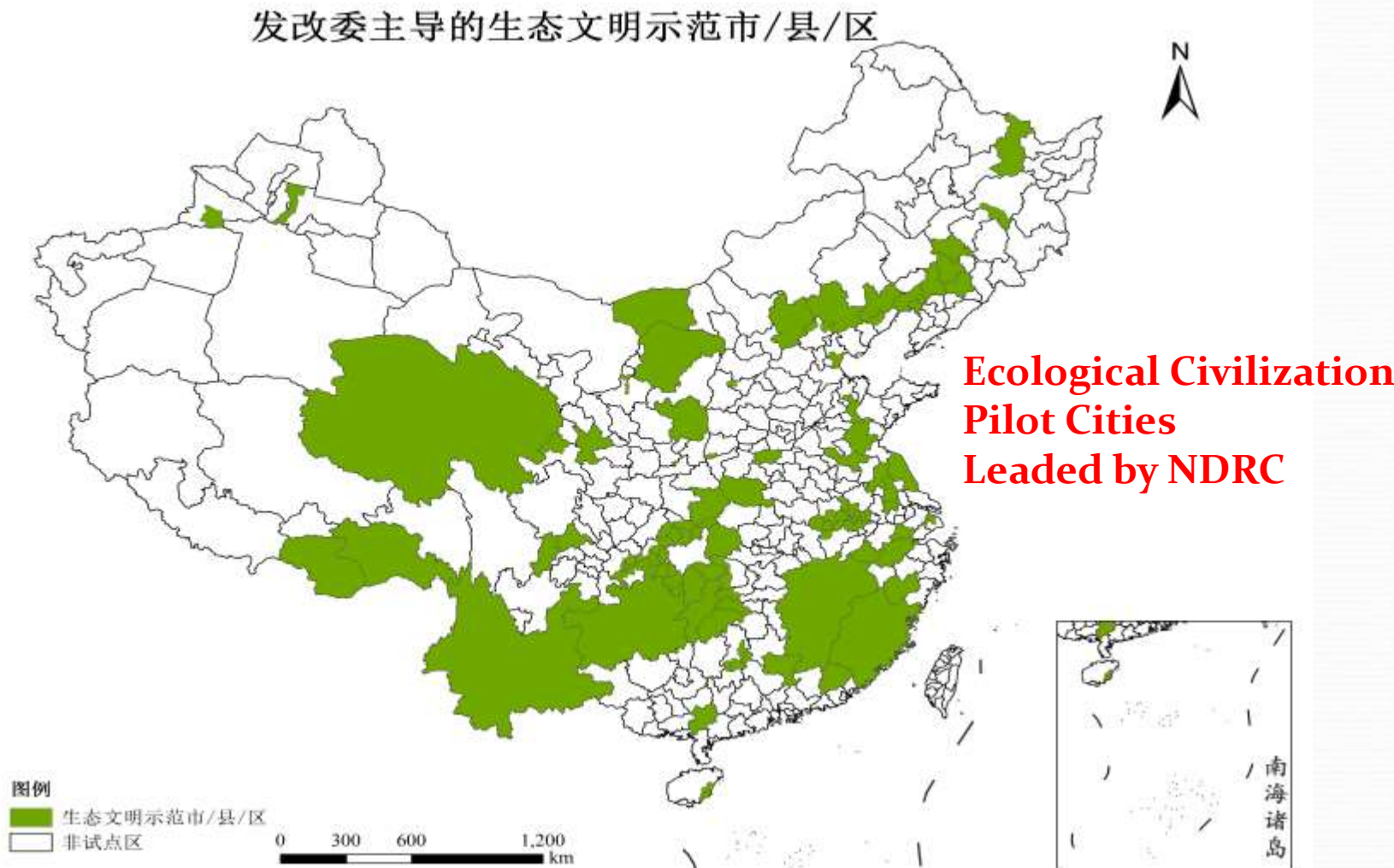
Policies and Actions Related to Coal Cap in City level

住建部主导的 国家智慧城市/城区试点



1 城市煤控相关政策与实践

Policies and Actions Related to Coal Cap in City level



1 城市煤控相关政策与实践

Policies and Actions Related to Coal Cap in City level

城市煤控相关的政策措施：

- 更严格的法律法规和标准
- 高污染燃料“禁燃区”
- 淘汰改造燃煤小锅炉
- 产业结构调整
- 提高工业能效
- 能源结构调整
- 建筑节能
- 经济激励
- 信息公开和监督核查

Policy Measures Related to Coal Cap:

- More Stringent Law and Regulation in Air Pollution Control
- High Polluting Fuels “Forbidden Burning Zone”
- Eliminate and Transform Small Coal-Fired Boilers
- Industry Structure Adjustment
- Energy Efficiency Improvement in Various Sectors
- Energy Mix Optimization
- Energy Conservation in Building Sector
- Economic Incentives
- Information Disclosure, Supervision and Verification in Air Pollution Control

1 城市煤控相关政策与实践

Policies and Actions Related to Coal Cap in City level

城市煤控的问题与挑战:

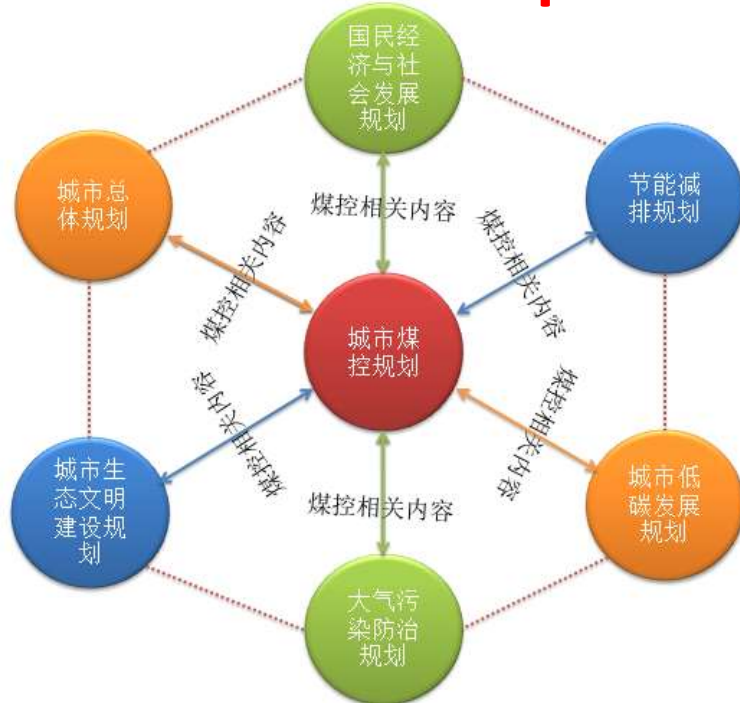
- 煤控实践没有形成合力
- 地方经济发展情况的制约

Issues and Challenges:

- Coal Cap Practices Didn't Form a Resultant
- Constrained by Local Economic Development

2 城市煤控规划的路线图

Roadmap of Coal Cap Planning in Cities



Coal Cap Planning:

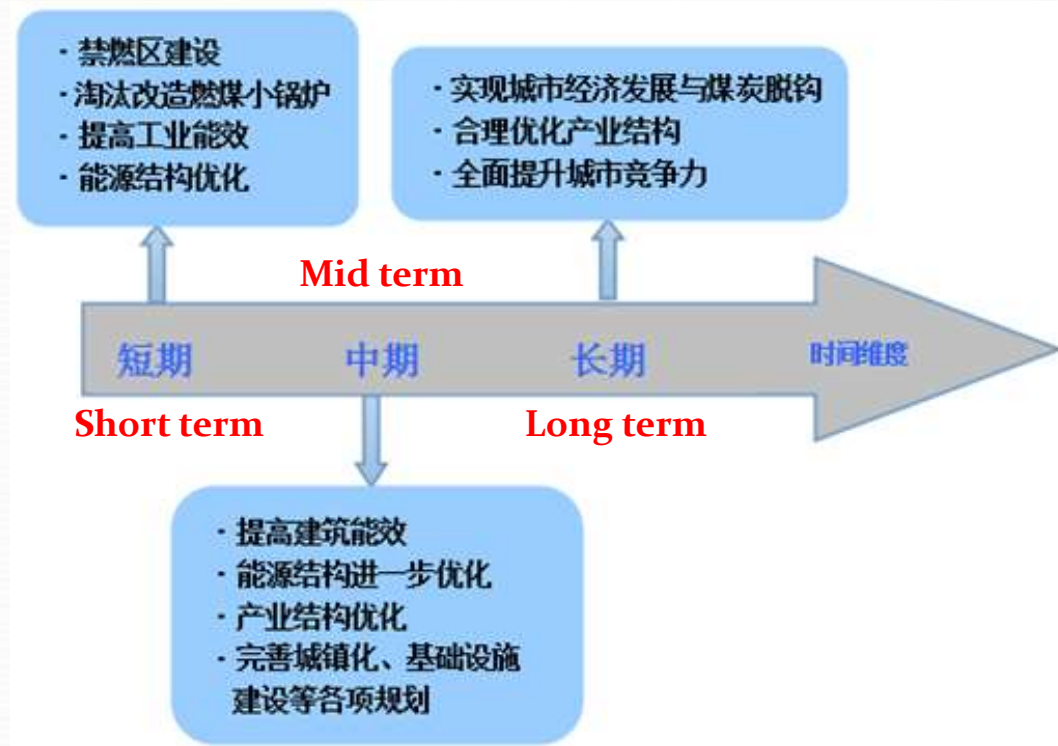
Air Pollution Control Planning
Low-Carbon Development Planning
Ecological Civilization Construction Planning
Master Planning
Economy and Social Development Planning
Energy Conservation and
Emission Abatement Planning

城市煤控的相关因素

The Related Factors of Coal Cap Planning in Cities

2 城市煤控规划的路线图

Roadmap of Coal Cap Planning in Cities



时间维度的煤控路径

The Time Dimension of Paths to Cap the Coal

2 城市煤控规划的路线图

Roadmap of Coal Cap Planning in Cities

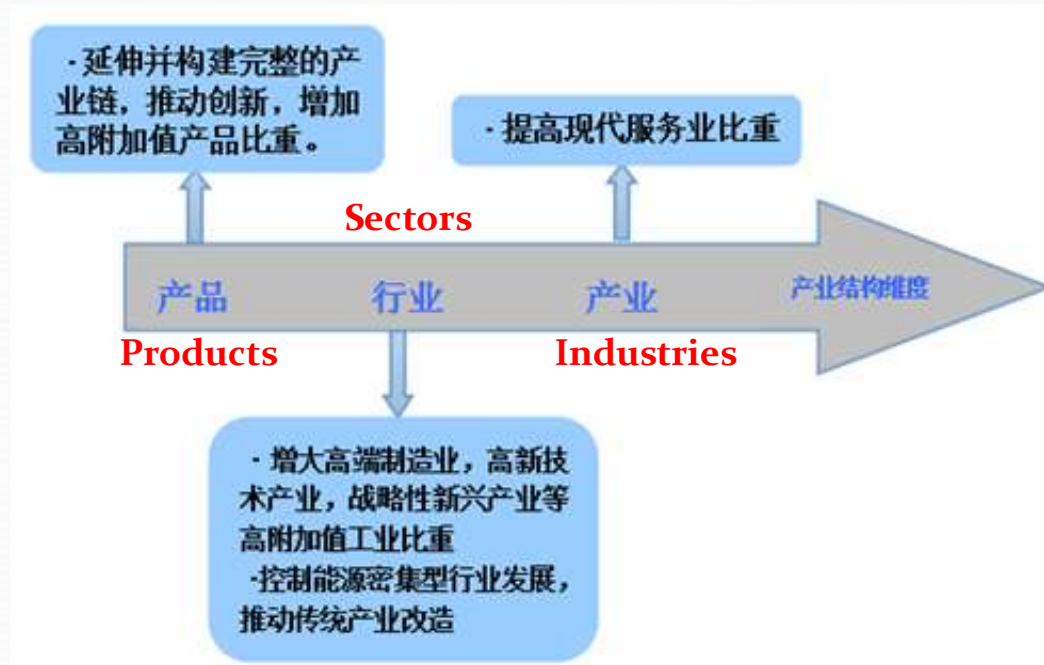


空间维度的煤控路径

The Spatial Dimension of Paths to Cap the Coal

2 城市煤控规划的路线图

Roadmap of Coal Cap Planning in Cities



结构维度的煤控路径

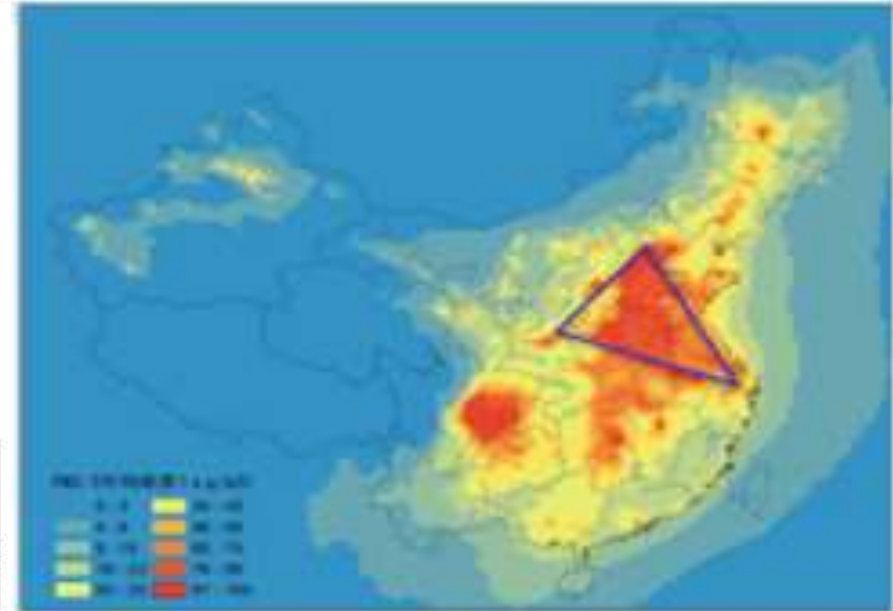
The Structural Dimension of Paths to Cap the Coal

3 案例研究

Case Studies



2010年中国城市地均煤炭消费量
**Coal Consumption per Unit Area
of Prefecture-level Cities in 2010**

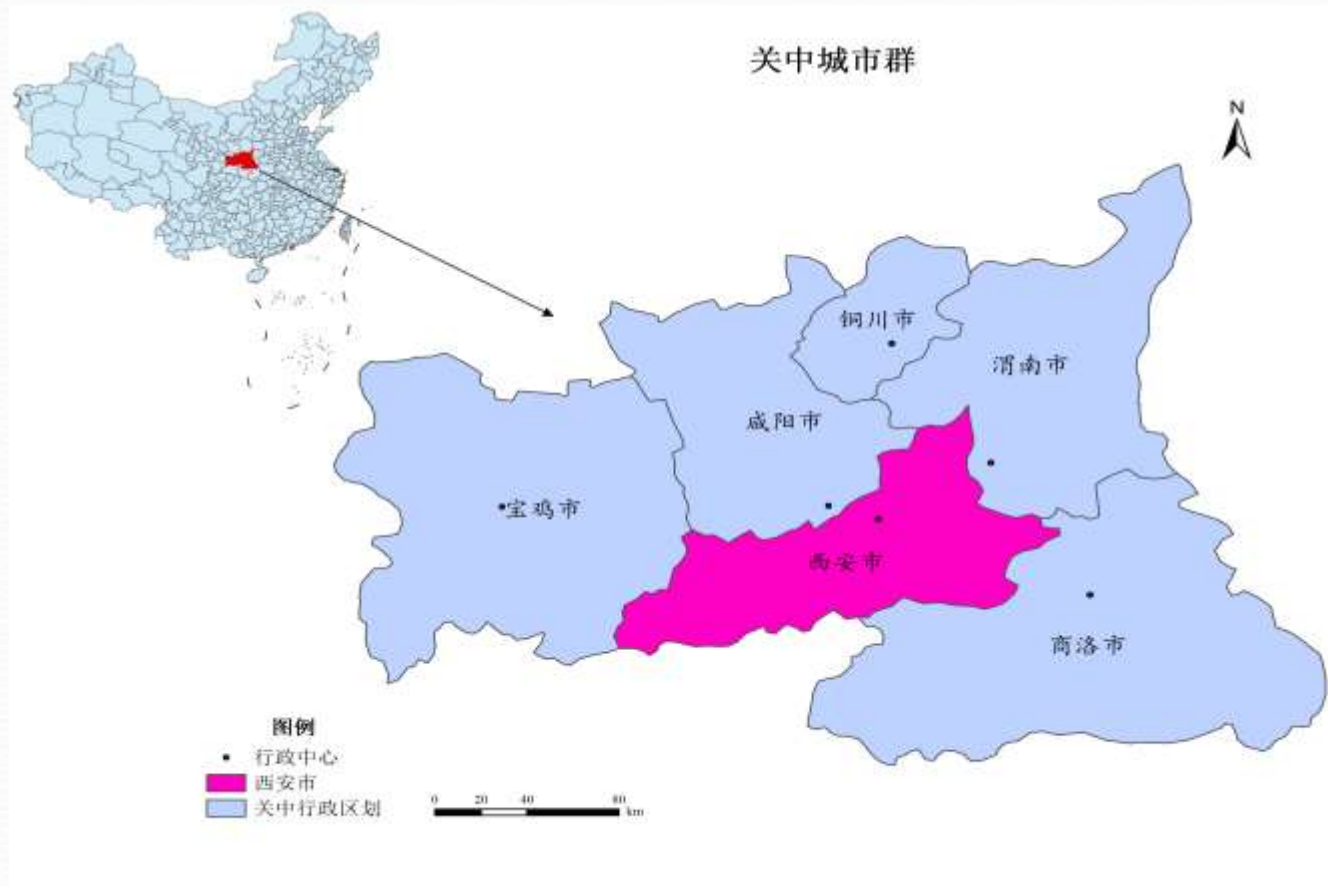


2010年中国PM_{2.5}年均浓度模拟结果
**Annual Average Concentration
Simulation Results of PM_{2.5} in 2010**

3 案例研究

Case Studies

西安市
Xi'an



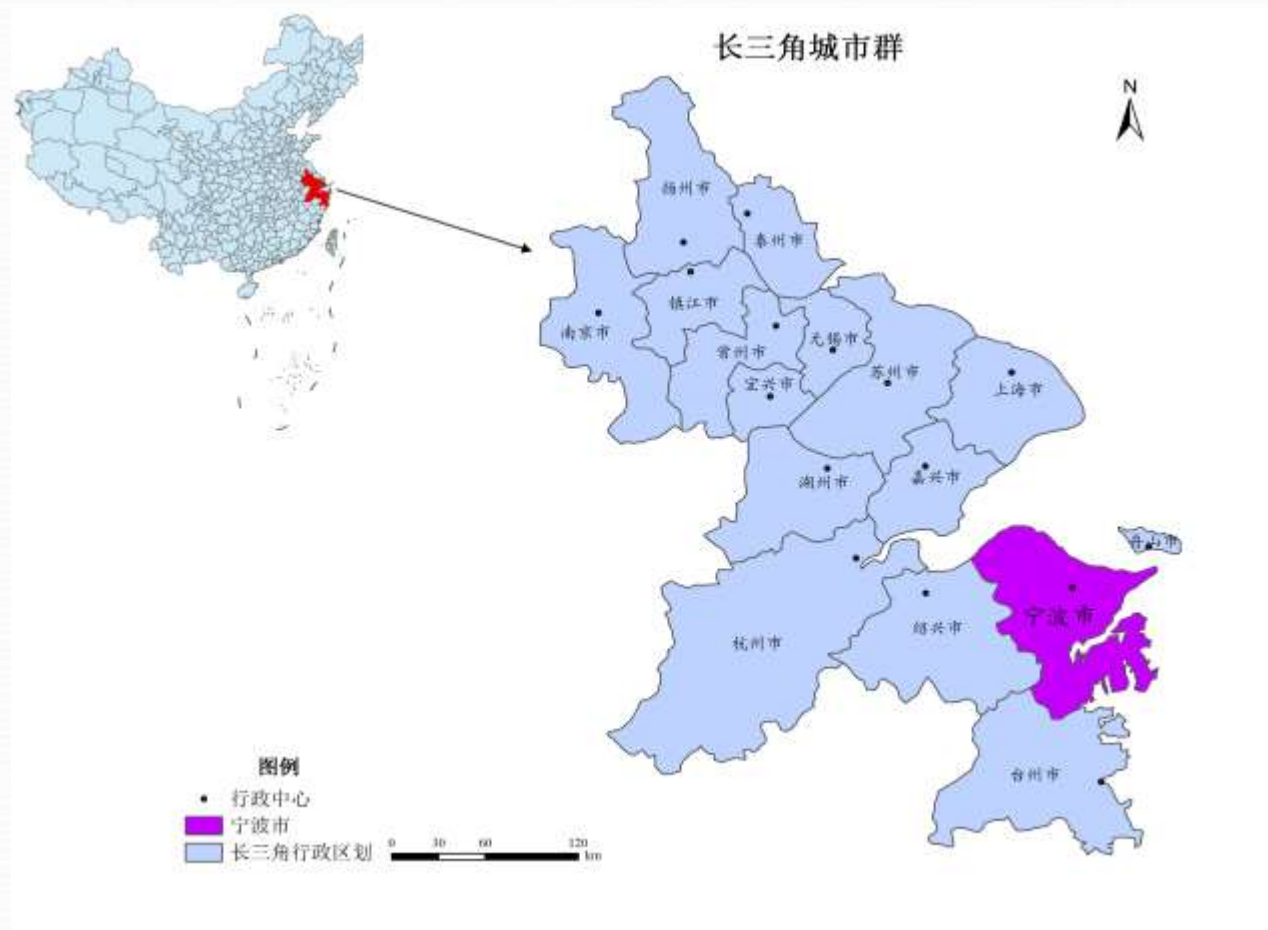
西安市位于关中城市群

Xi'an is located in the Guanzhong City Cluster

3 案例研究

Case Studies

宁波市 Ningbo



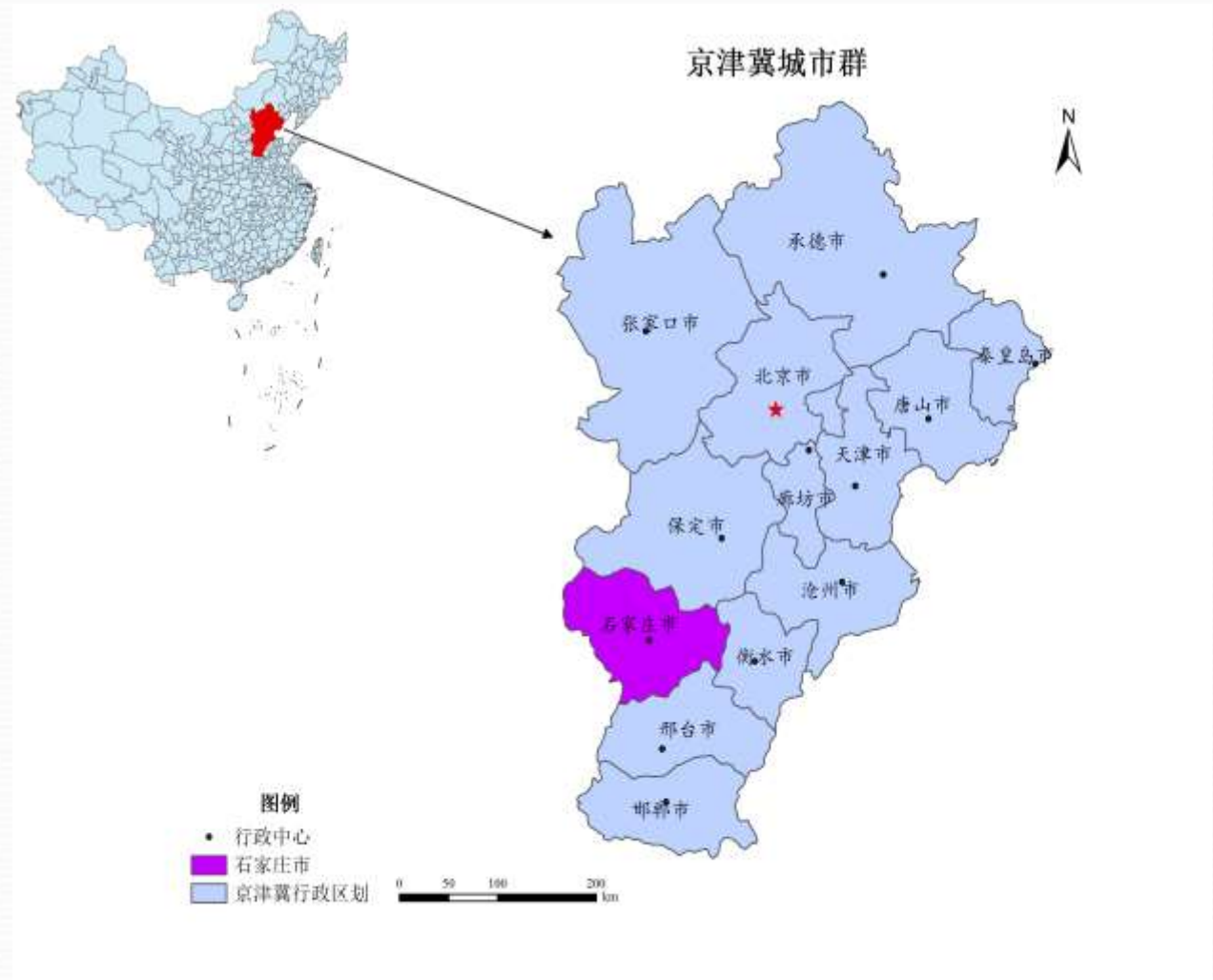
宁波市地处长三角城市群

Ningbo is located in the Yangtze River Delta City Cluster

3 案例研究

Case Studies

石家庄市
Shijiazhuang



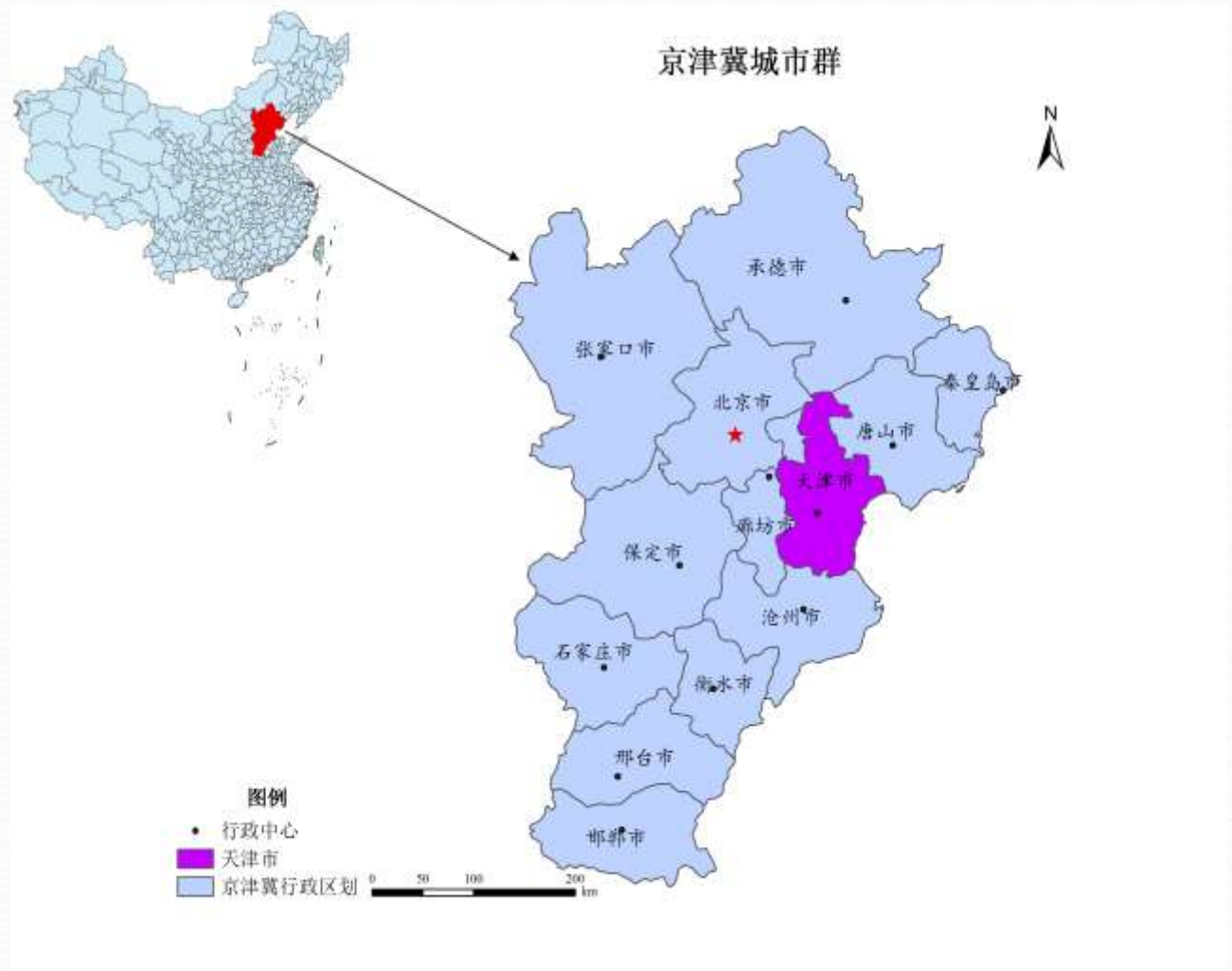
石家庄地处京津冀城市群

Shijiazhuang is located in the Jing-Jin-Ji City Cluster

3 案例研究

Case Studies

天津市
Tianjin

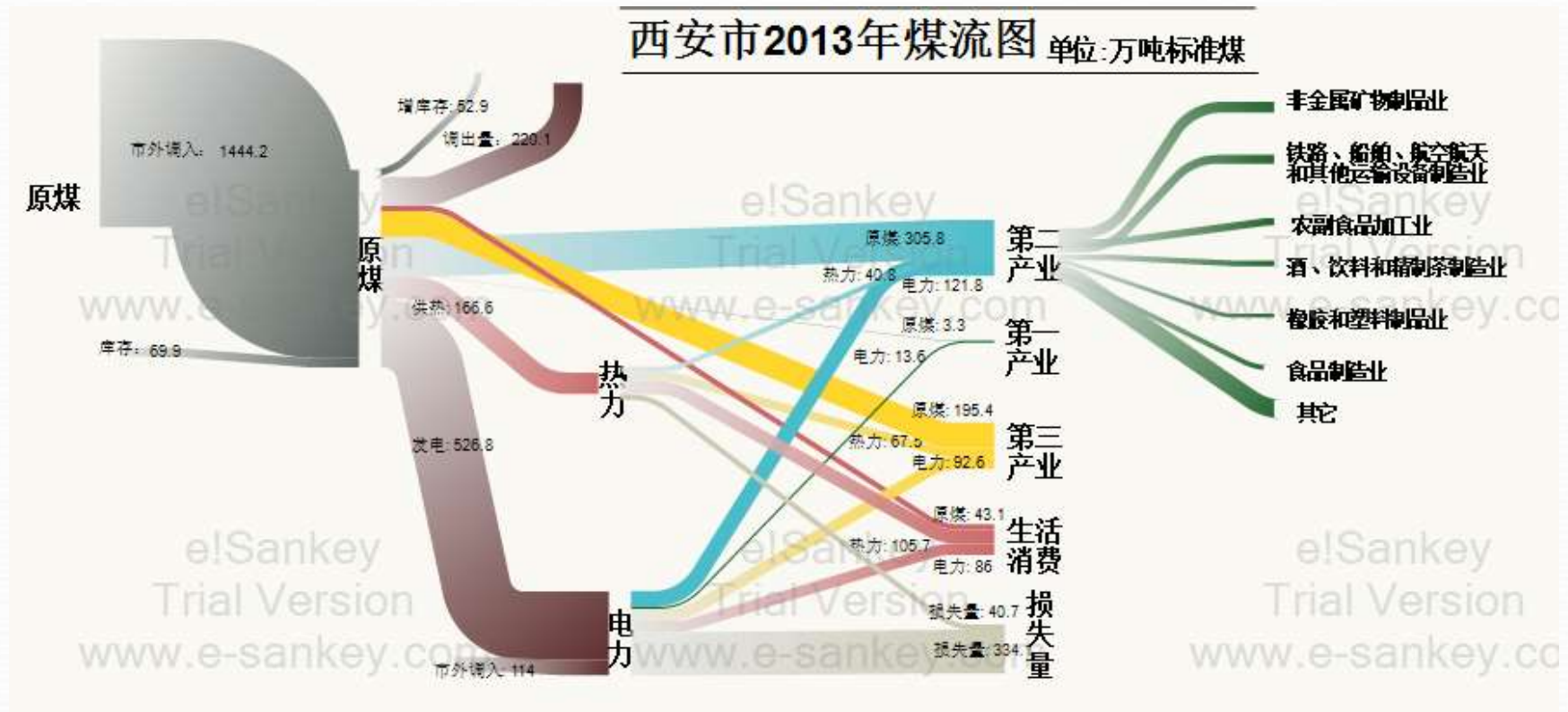


天津地处京津冀城市群

Tianjin is located in the Jing-Jin-Ji City Cluster

3 案例研究— 西安市

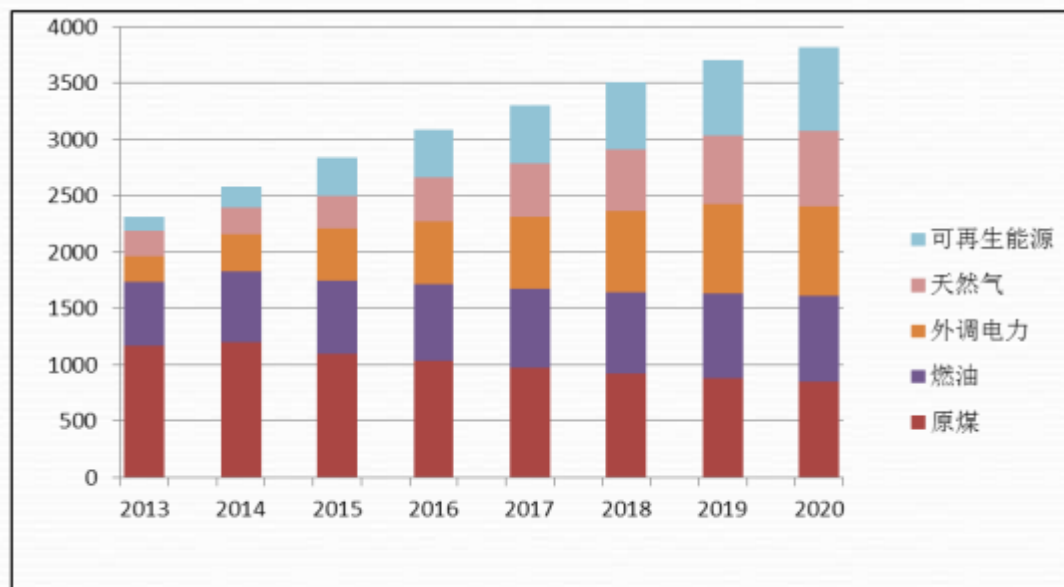
Case Studies: Xi'an



Xi'an 's Coal Flow Diagram in 2013 (Units: 10 thousand tce)

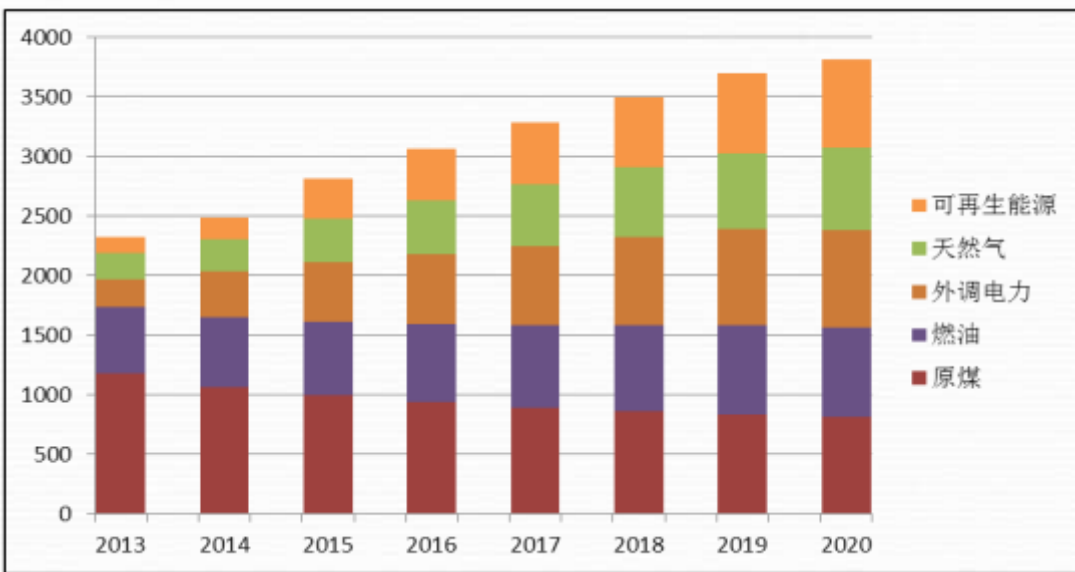
3 案例研究— 西安市

Case Studies: Xi'an



能源消费基准情景
(单位: 万tce)

BAU Scenario of Energy Consumption
(Units: 10 thousand tce)

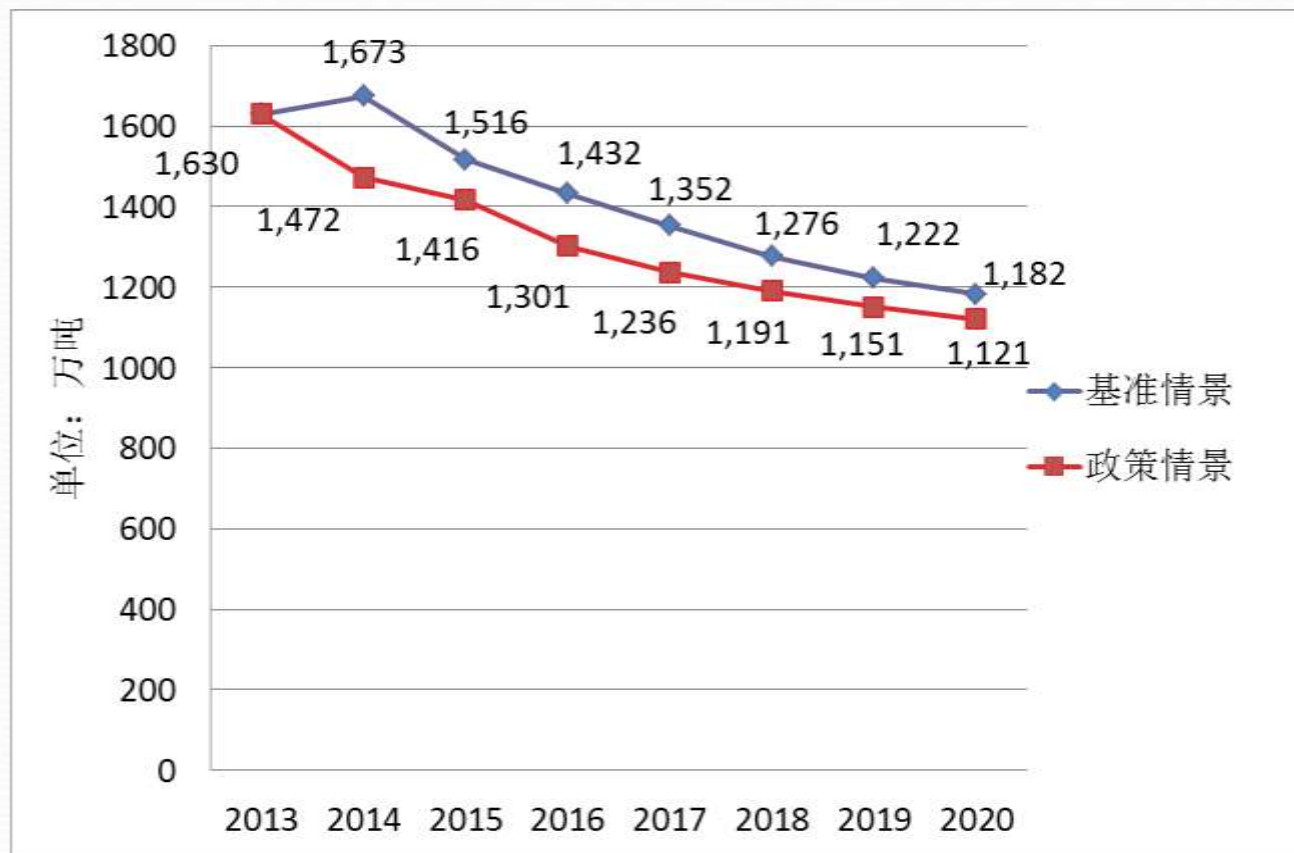


能源消费政策情景
(单位: 万tce)

Policy Scenario of Energy Consumption
(Units: 10 thousand tce)

3 案例研究— 西安市

Case Studies: Xi'an

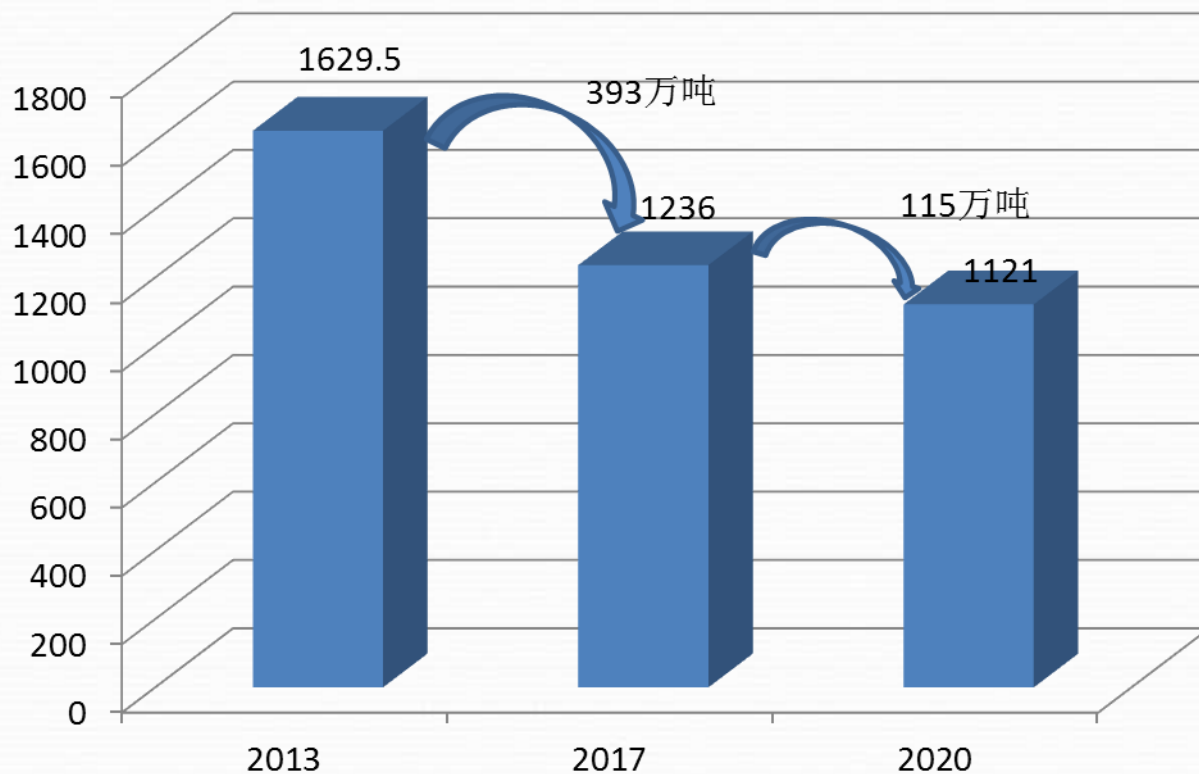


煤炭消费情景（单位：万t）

Coal Consumption Scenarios (Units: 10 thousand t)

3 案例研究— 西安市

Case Studies: Xi'an



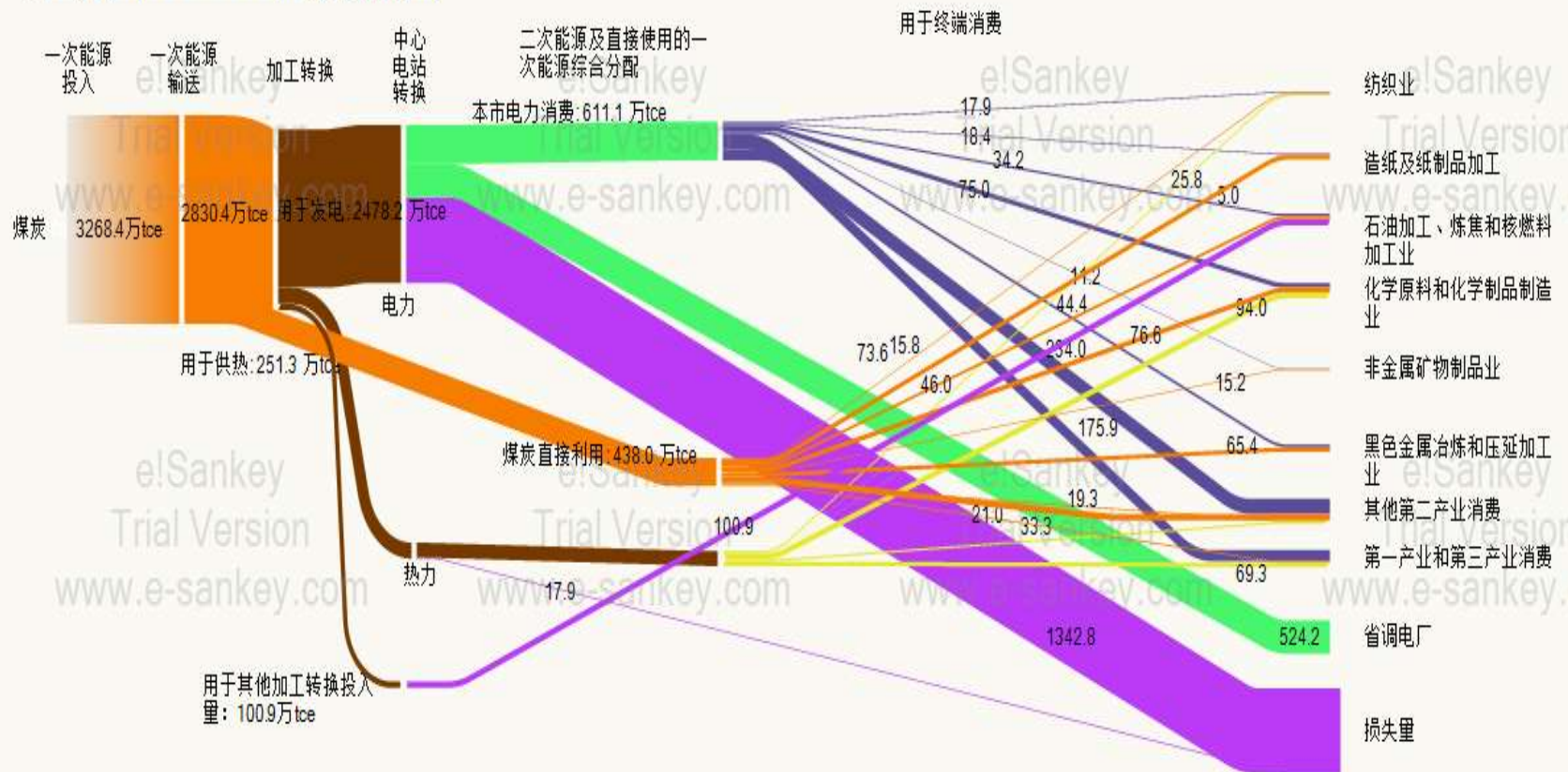
分阶段燃煤总量削减值（单位：万t）

Coal Reduction in Different Stages(Units: 10 thousand t)

3 案例研究— 宁波市

Case Studies: Ningbo

宁波市2013年煤流图



Ningbo 's Coal Flow Diagram in 2013 (Units: 10 thousand tce)

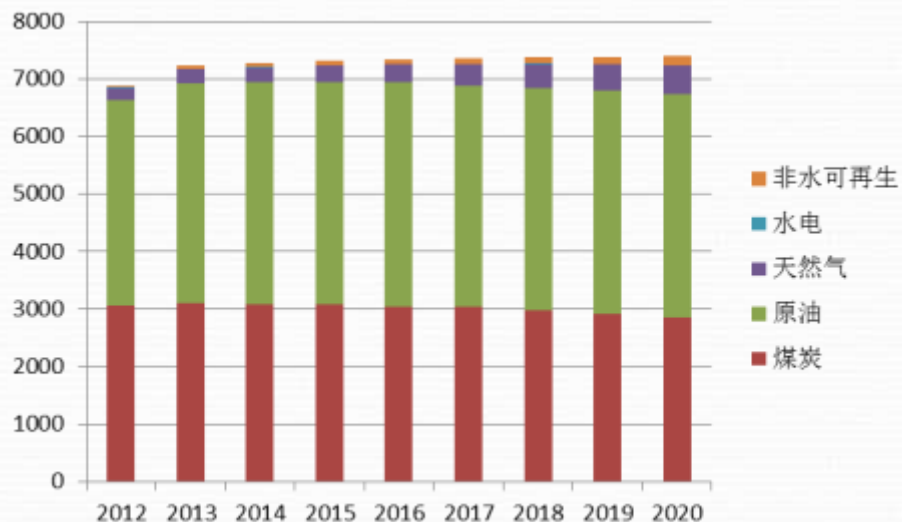
3 案例研究— 宁波市

Case Studies: Ningbo



能源消费基准情景
(单位: 万tce)

BAU Scenario of Energy Consumption
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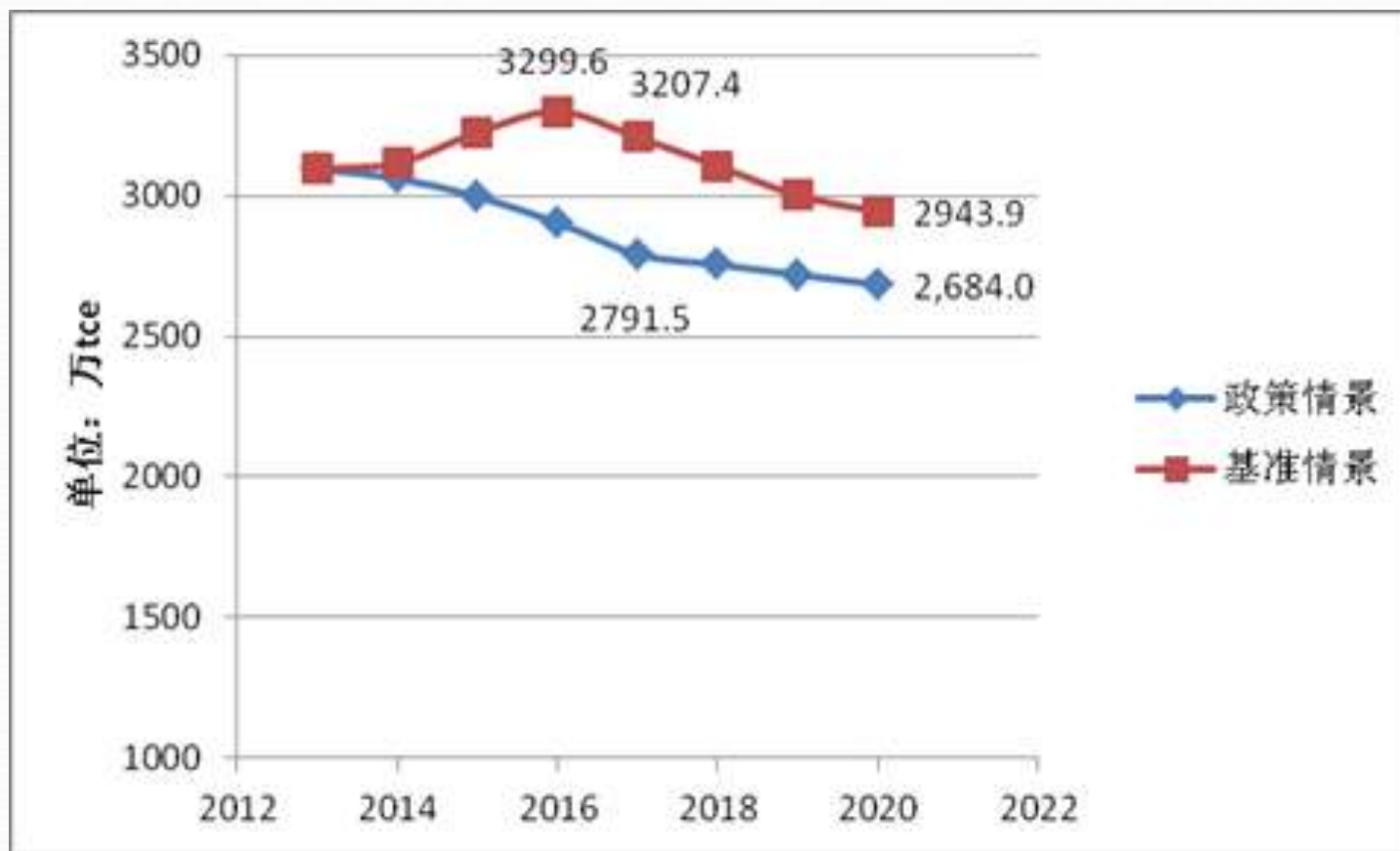


能源消费政策情景
(单位: 万tce)

Policy Scenario of Energy Consumption
(Units: 10 thousand tce)

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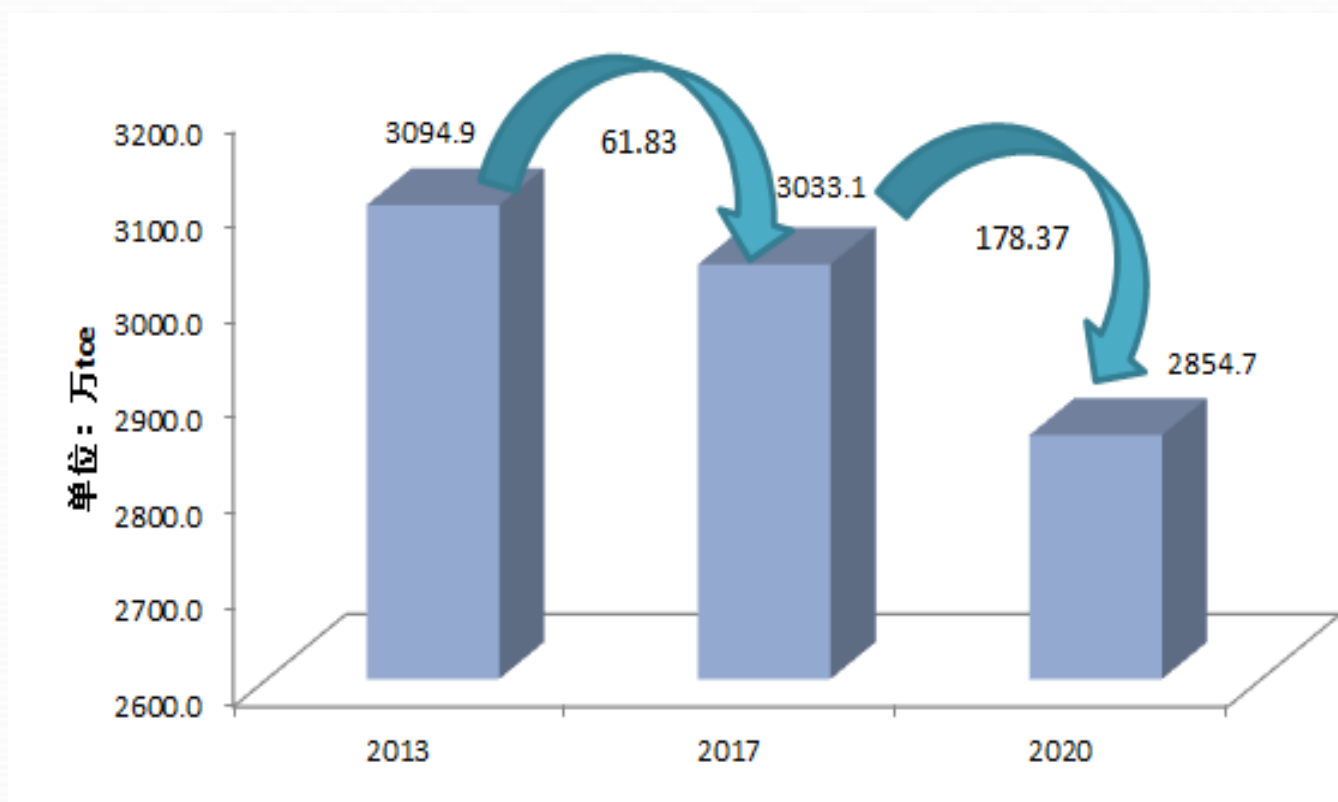


煤炭消费情景（单位：万tce）

Coal Consumption Scenarios (Units: 10 thousand tce)

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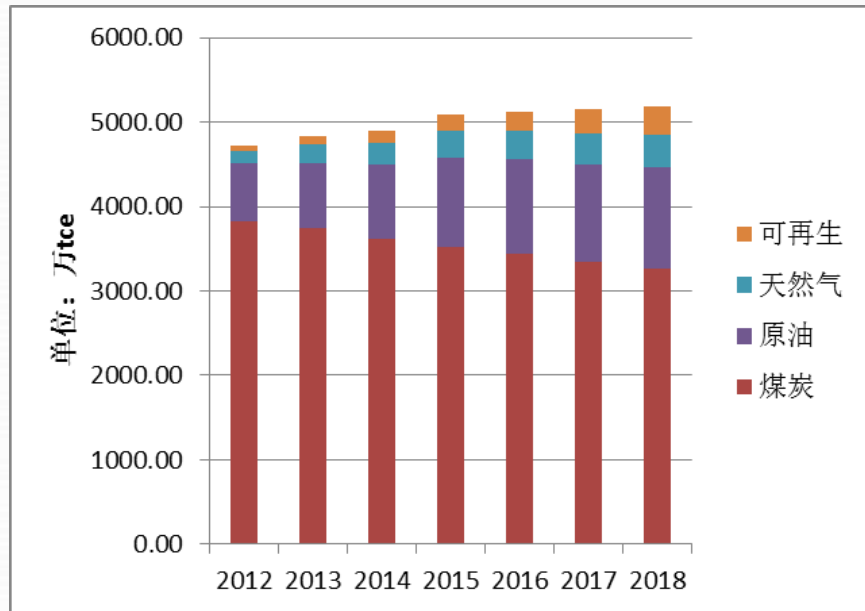


分阶段燃煤总量削减值（单位：万t）

Coal Reduction in Different Stages(Units: 10 thousand t)

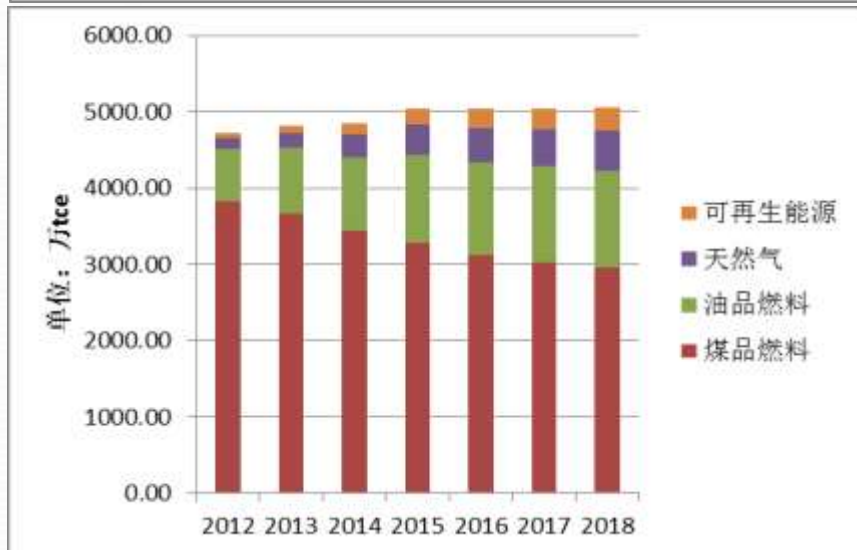
3 案例研究— 石家庄市

Case Studies: Shijiazhuang



能源消费基准情景
(单位: 万tce)

BAU Scenario of Energy Consumption
(Units: 10 thousand tce)

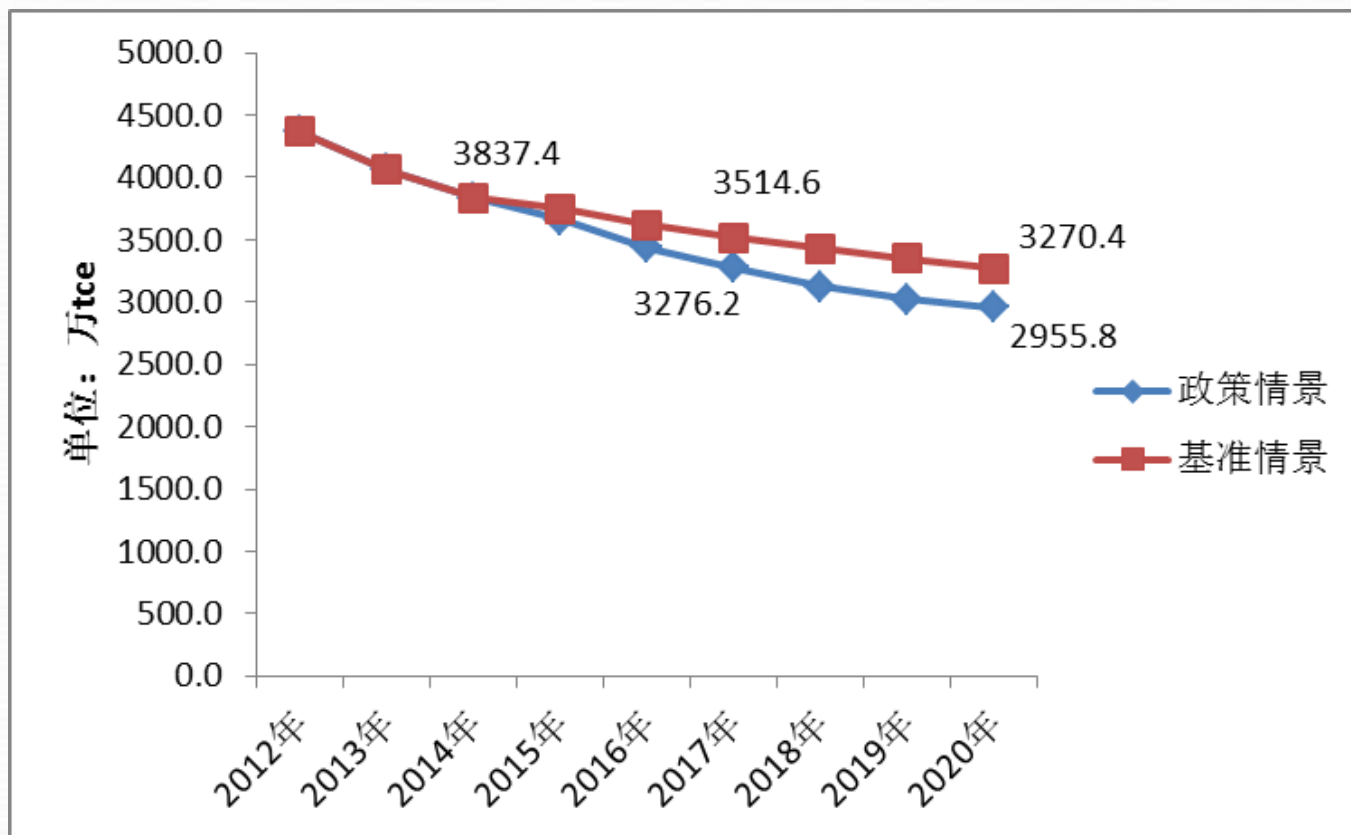


能源消费政策情景
(单位: 万tce)

Policy Scenario of Energy Consumption
(Units: 10 thousand tce)

3 案例研究— 石家庄市

Case Studies: Shijiazhuang

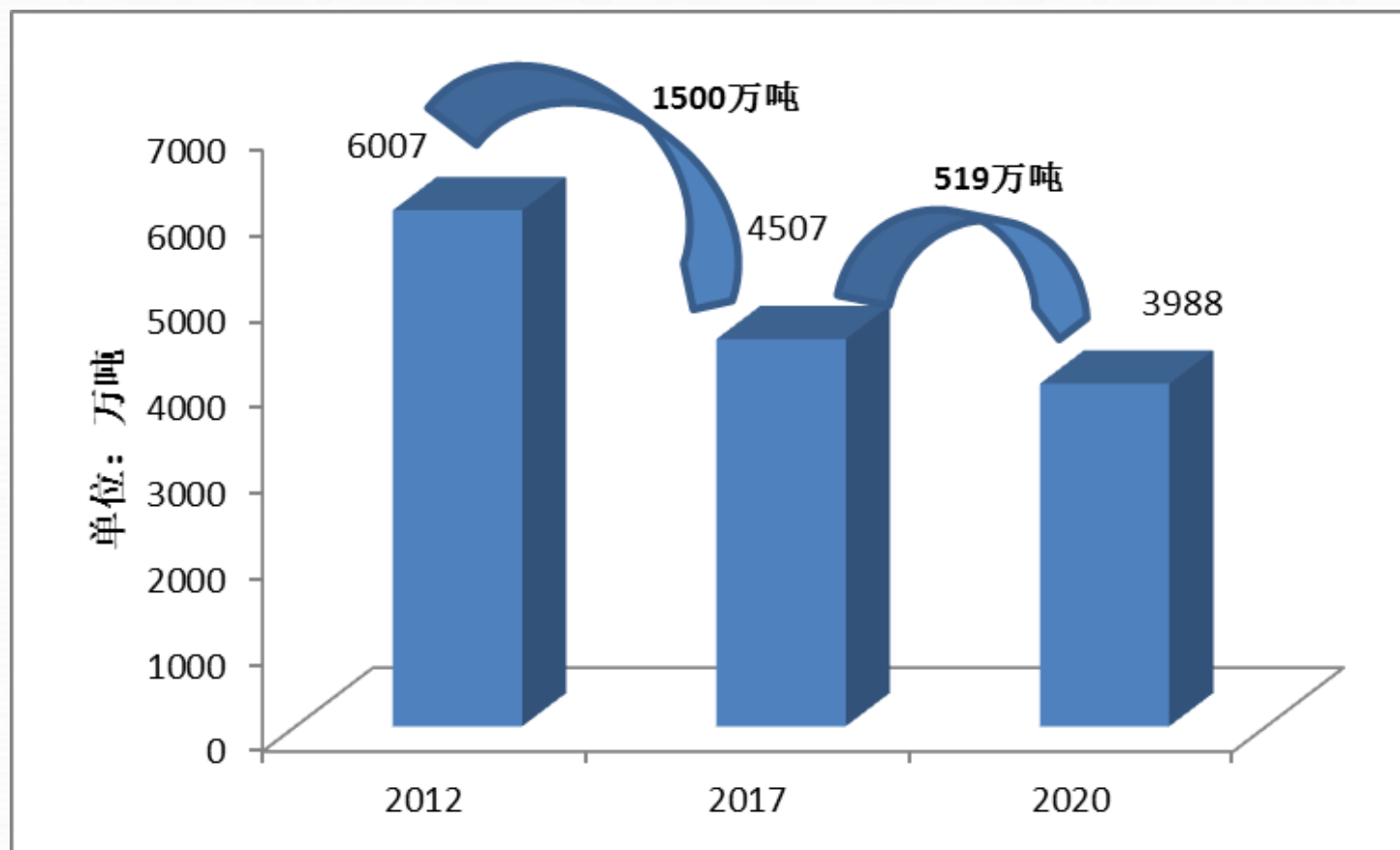


煤炭消费情景（单位：万tce）

Coal Consumption Scenarios (Units: 10 thousand tce)

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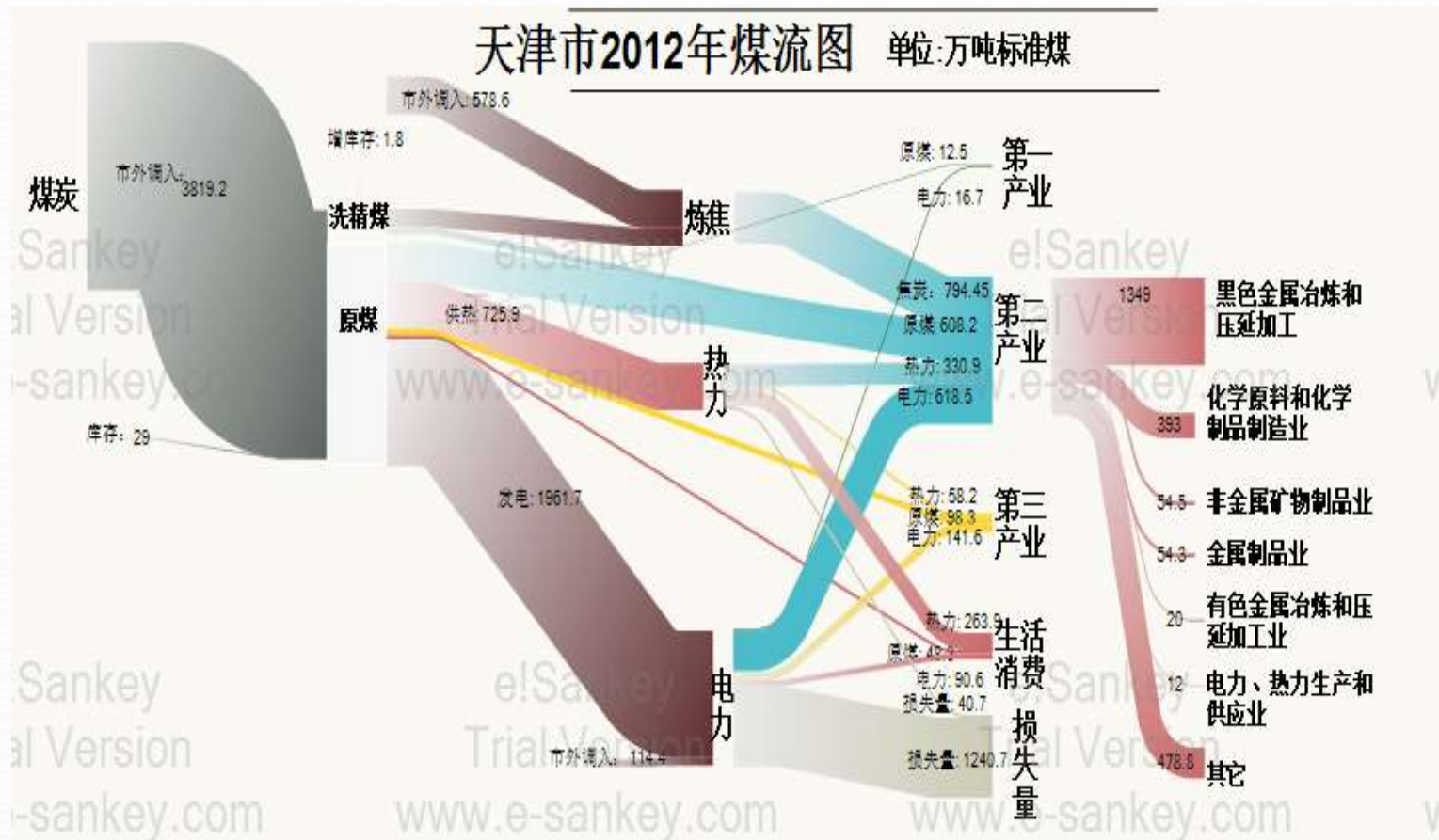


分阶段燃煤总量削减值（单位：万t）

Coal Reduction in Different Stages(Units: 10 thousand t)

3 案例研究— 天津市

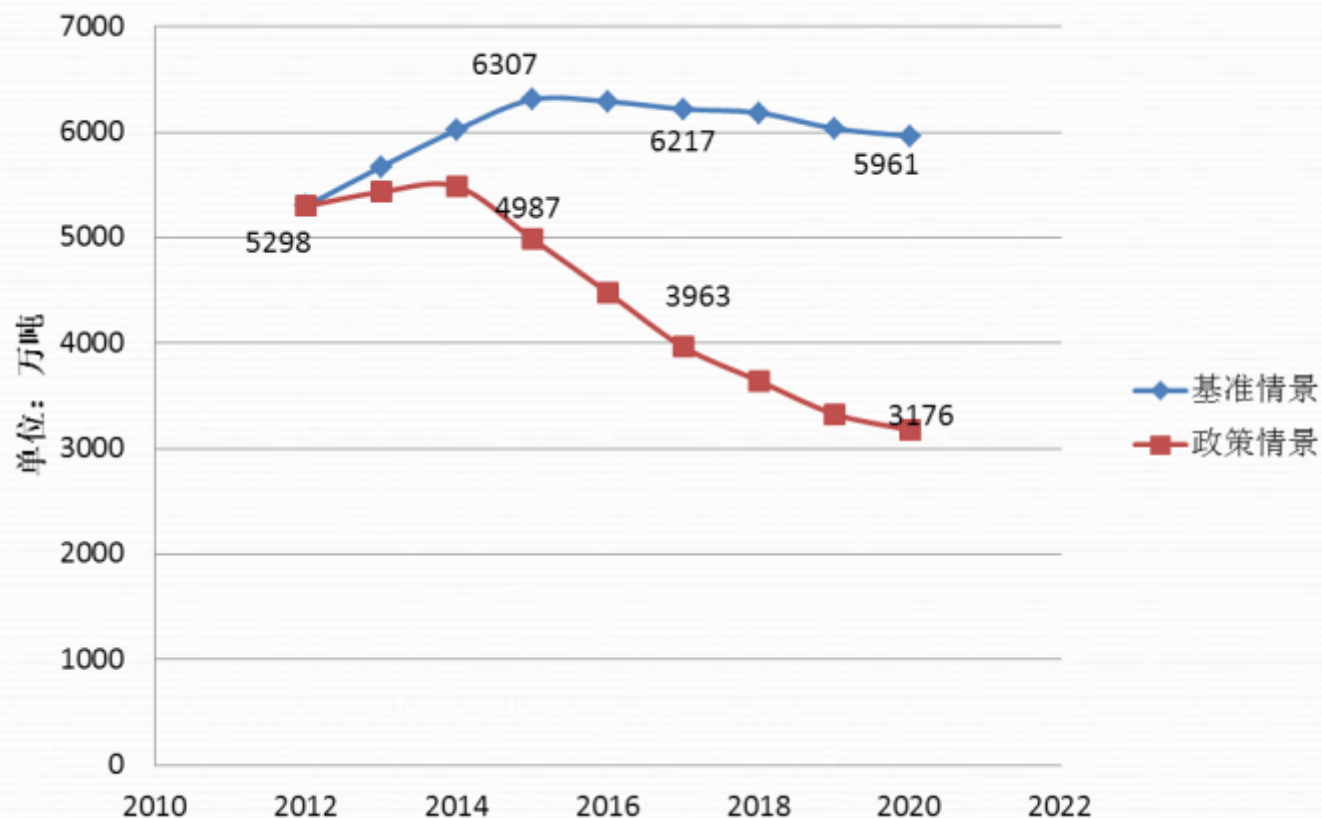
Case Studies: Tianjin



Tianjin 's Coal Flow Diagram in 2012 (Units: 10 thousand tce)

3 案例研究— 天津市

Case Studies: Tianjin



煤炭消费情景（单位：万tce）

Coal Consumption Scenarios (Units: 10 thousand tce)

3 案例研究— 总结

Case Studies: Conclusions

面临的挑战

- 产业结构和能源结构的锁定效应
- 天然气的可利用性和成本
- 可再生能源利用率不高
- 能源统计问题较多，煤控效率不高
- 缺乏市场机制，多为命令控制型政策

Challenges

- The Lock-in Effect in Industry Structure and Energy Structure
- The Availability and Cost of Natural Gas
- The Lower Utilization of Renewables
- Many Statistical Problems in Energy Area, Inefficient Coal Control
- Lack of Market Mechanisms, Mostly for Command and Control Policy

3 案例研究— 总结

Case Studies: Conclusions

建议

Suggestions

- 完善市场机制
- 鼓励公众参与和信息公开
- 开展建筑节能
- 创新融资模式，有条件的城市优先建设天然气管道
- 推行产业园建设，产业集聚化
- 节流为先，重在开源

- Improve the Market Mechanism
- Encourage Public Participation and Information Disclosure
- Energy Saving in Building Sector
- Gas Pipeline should be Constructed in Some Cities by Innovative Financing Models
- Promotion of Industrial Park and Industrial Agglomeration
- Energy Conservation & Alternative Energy Development