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# Nur-Sultan Low Carbon Development Efforts

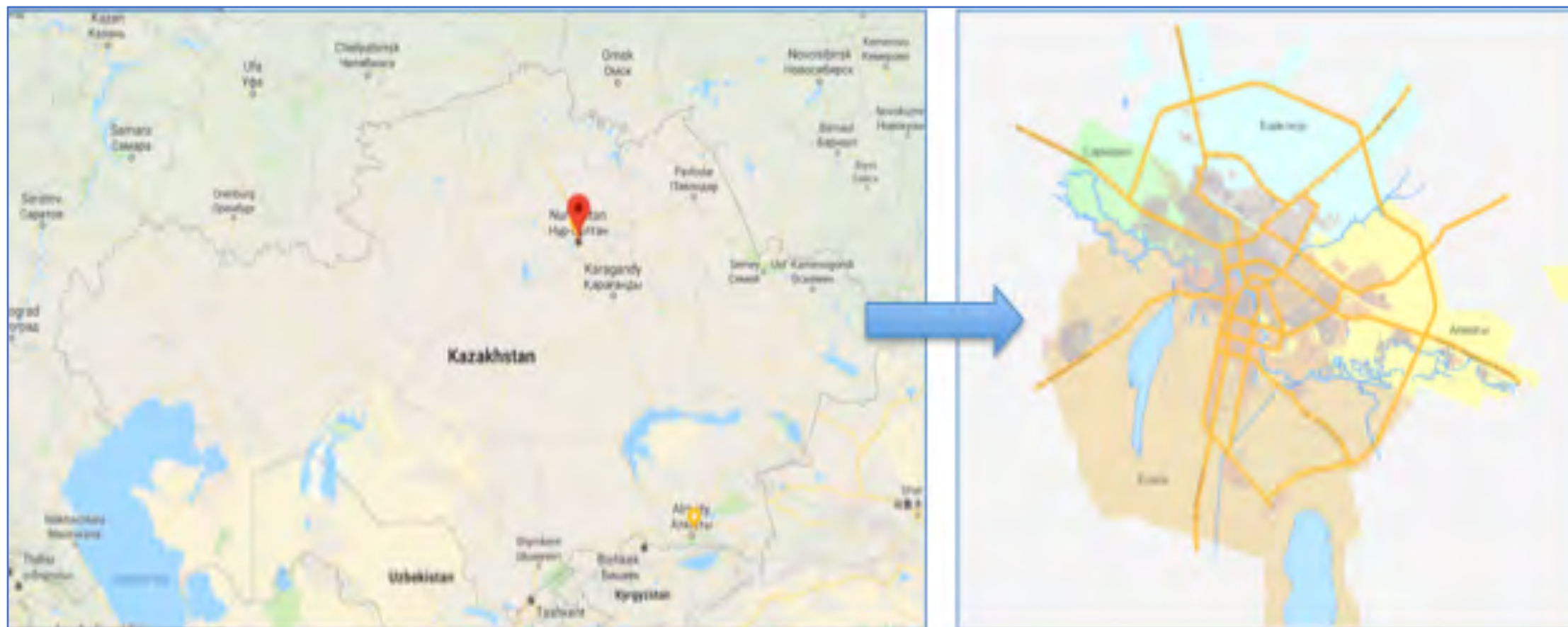
## 努尔苏丹为低碳发展做出的努力

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亚洲开发银行的气候变化和项目管理顾问



# Kazakhstan and Nur-Sultan location 哈萨克斯坦和努尔苏丹的位置



Source: Google maps (2019) and Mapping data of the State Institution "Department of Architecture, Urban Development and Land Relations of Nur-Sultan". 资料来源：谷歌地图（2019年）和国家机构“努尔苏丹建筑，城市发展和土地关系部”的测绘数据。

# Outline 目录

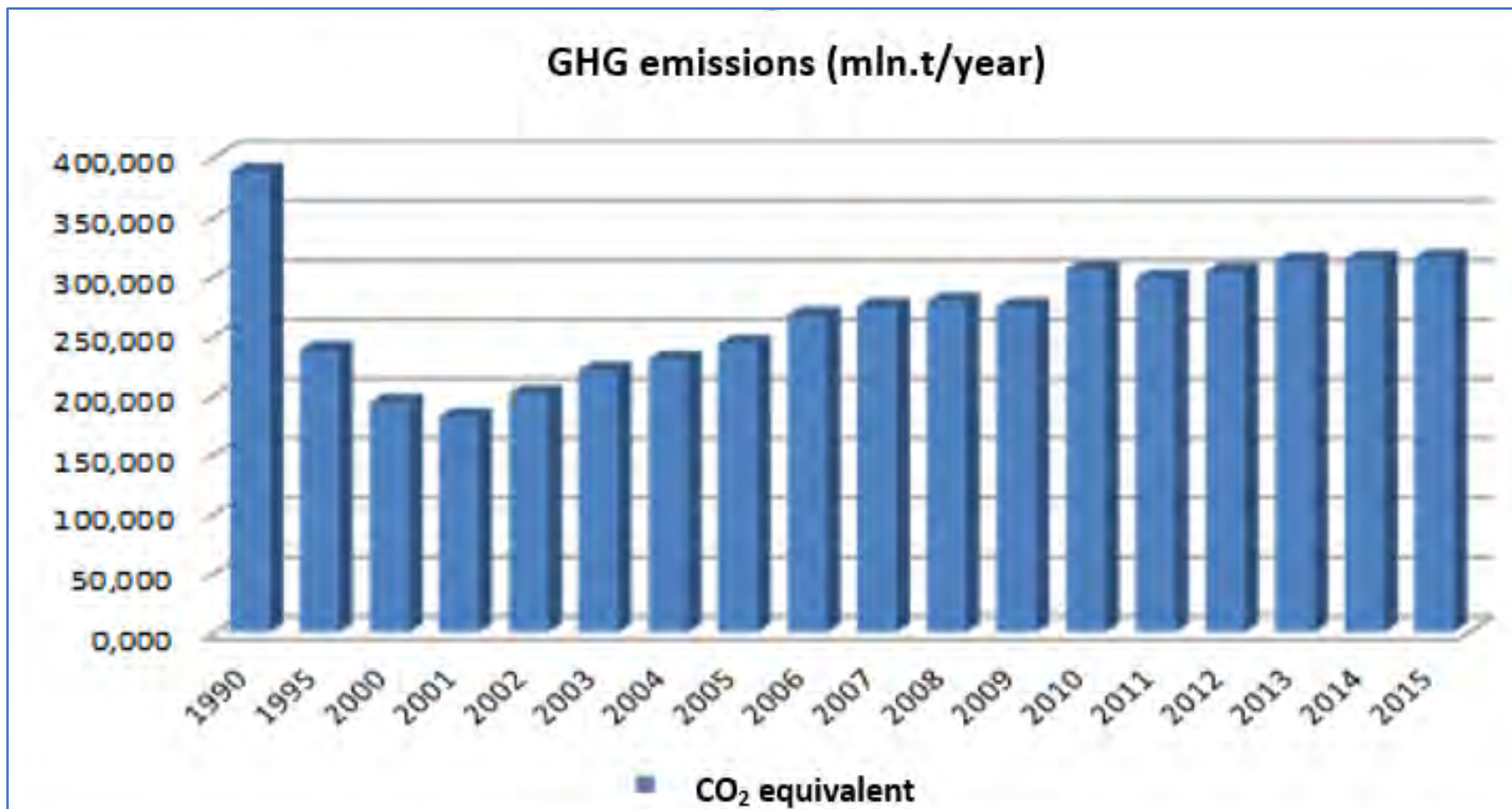
- Kazakhstan profile 哈萨克斯坦概况
- Nur-Sultan profile 努尔苏丹概况
- National and city-level policies 国家和城市政策
- Low Carbon Activities 低碳行动
- ADB RETA summary 亚洲开发银行摘要

# Country profile - Kazakhstan国家概况 - 哈萨克斯坦

Geographical location地理位置	Central Asia 中亚
Land area 土地面积	2.725 million km <sup>2</sup> 2725.5万平方公里
Population 人口	18 543 295 people 18 543 295人
Type of climate 气候类型	Sharply continental with large temperature amplitudes and relatively dry 尖锐的大陆，温度幅度大，相对干燥
GHG emissions profile (CO2 eq.) 温室气体排放情况（CO2当量）	300.9 mln. t. (2015 year inventory) 300.9万吨（2015年库存）
Key emitter sectors 关键发射器扇区	Energy intensive industries, transport sector, housing-utility services能源密集型企业，交通，住房工业事业服务

# Kazakhstan GHG emissions dynamics (1990-2015)

哈萨克斯坦动态温室气体排放 (1990-2015)



# Intended Nationally Determined Contribution - Kazakhstan

## 国家预期的自主贡献 - 哈萨克斯坦

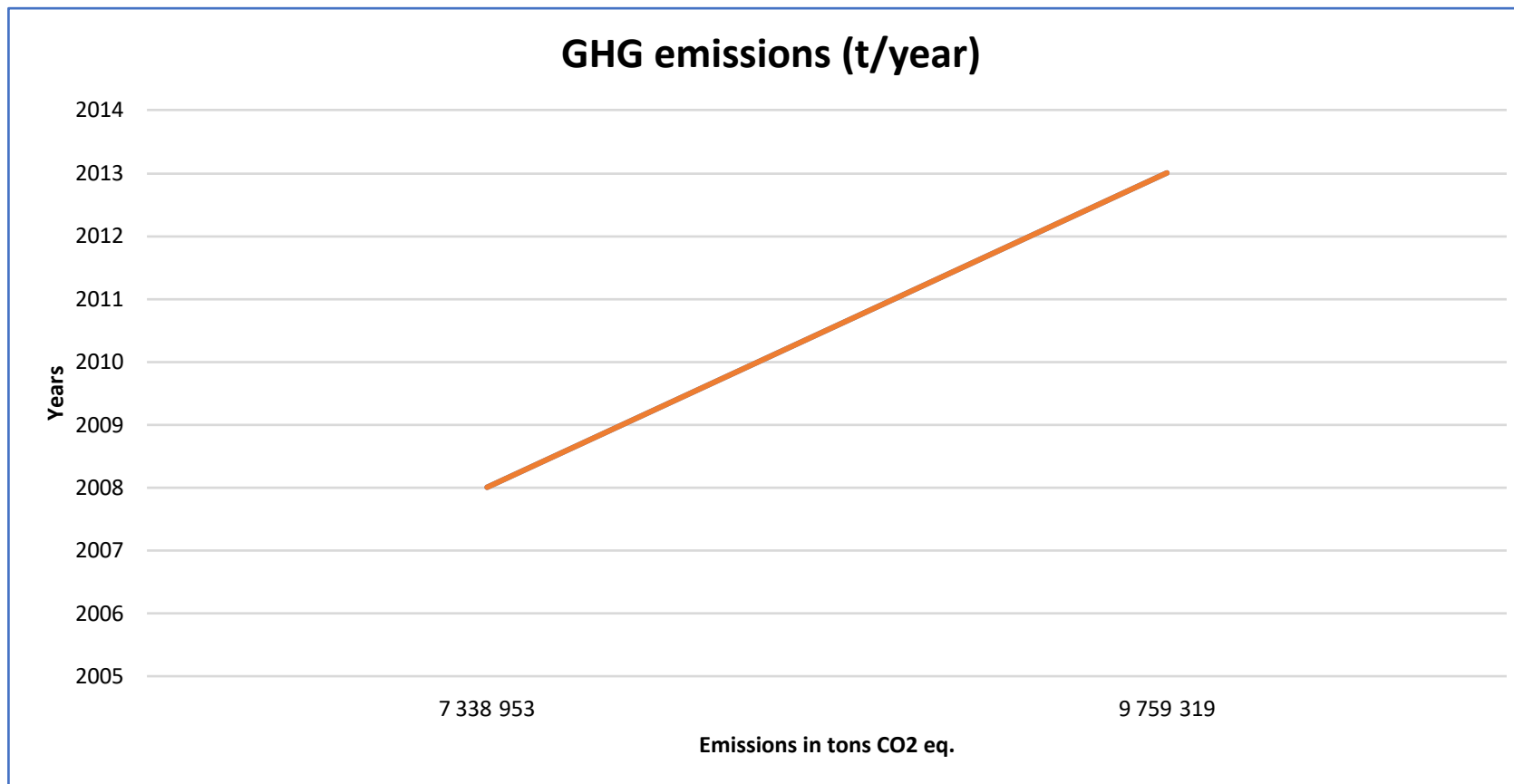
- Kazakhstan submitted its INDC in UNFCCC Paris Conference in December 2015 with the ultimate goal to ensure the global temperature rise does not exceed 2C. 哈萨克斯坦于2015年12月在UNFCCC巴黎会议上提交了其INDC, 其最终目标是确保全球气温上升不超过2C。
- The unconditional target is to reduce GHG emissions by 15% by 31st December 2030 relative to the base year. 无条件目标是到2030年12月31日相对于基准年减少15%的温室气体排放量
- The conditional target is to decrease GHG emissions by 25% by 31st of December 2030 compared to the base year, in case there are additional international investments involved. 如果涉及额外的国际投资, 有条件的目标是在2030年12月31日之前将温室气体排放量与基准年相比减少25%。

# City Profile – Nur-Sultan 城市简介 - 努尔苏丹

Geographical location地理位置	Northern part of Kazakhstan on the bank river of Ishym哈萨克斯坦的北部在Ishym银行河的
Land area土地面积	797.33 km2 797.33平方公里
Population人口	1 104 100 people 1 104 100人
Type of climate气候类型	Sharply continental. The summer is hot and dry and the winter is cold and long. The 2nd coldest capital in the world. 尖锐的大陆。夏天炎热干燥，冬天又冷又长。世界上第二大最冷的首都。
Temperature温度	Average summer temperature = 20C Average winter temperature = – 15C Summer temperature might reach up to 40C and winter temperature to -50C. 夏季平均温度= 20°C 冬季平均温度= - 15°C 夏季温度可达40°C，冬季温度可达-50°C。
Districts地区	4 districts (Almaty, Saryarka, Yesil, Baikonur) 4个区（阿拉木图，萨雅克，耶希尔，拜科努尔）
GHG emissions profile温室气体排放情况	9.8 mln. t. (2013 year inventory). 8百万吨（2013年库存）
Key emitter sectors	

# GHG emissions dynamics of Nur-Sultan (2008-2013)

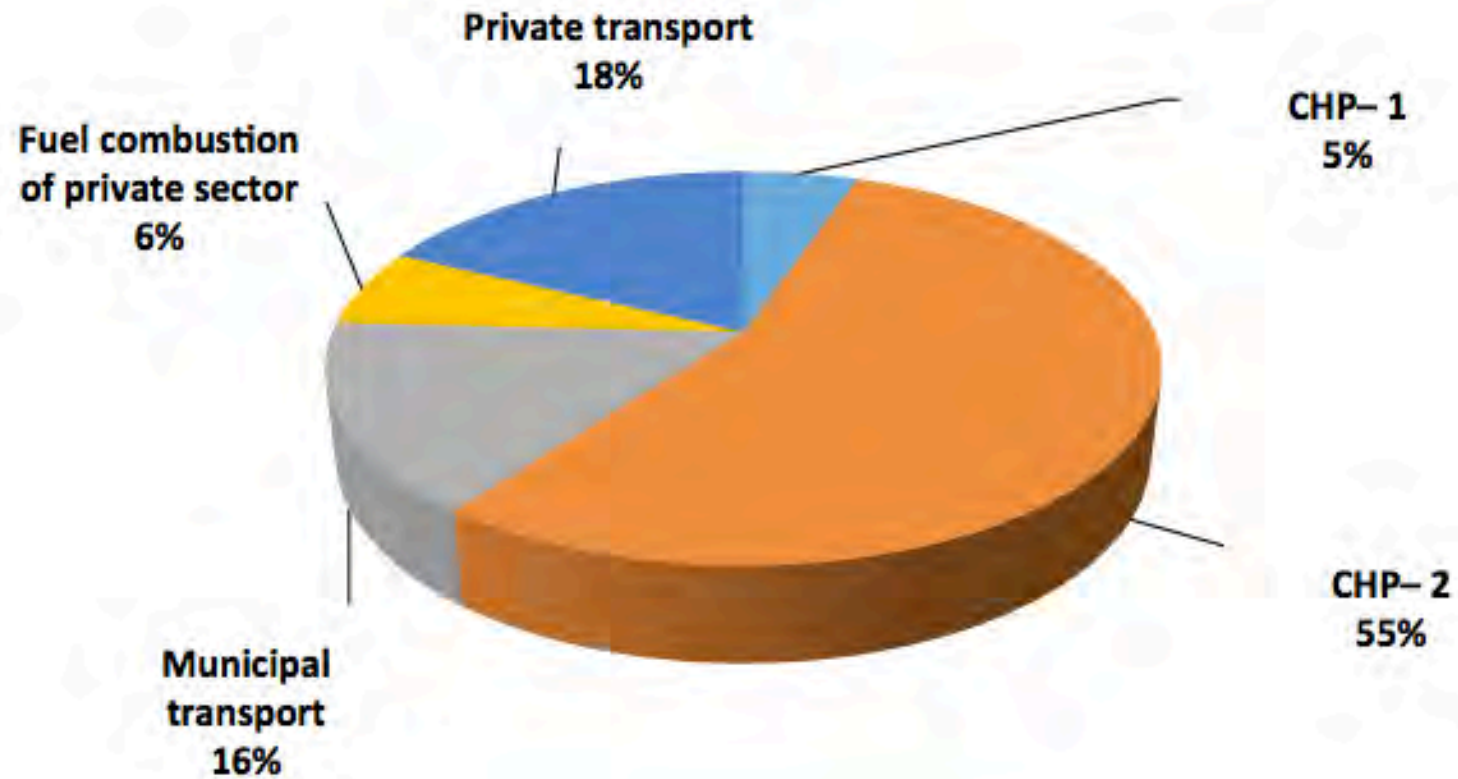
## 努尔苏丹的温室气体排放动态 (2008-2013)





# Total GHG emissions from heat and power generation in Nur-Sultan (2017)

努尔苏丹的热量和发电温室气体排放总量（2017年）



# Kazakhstan's policy documents in improving the environment conditions

## 哈萨克斯坦在改善环境条件方面的政策文件

- **Green concept economy绿色概念经济**
  - Increasing the efficiency of resources use (water, land, biological, etc.) and their management 提高资源利用效率（水，土地，生物等）及其管理
  - Modernization of existing and construction of new infrastructure 现有的现代化和新基础设施的建设
  - Improving the well-being of the population and the quality of the environment through cost-effective ways to mitigate the pressure on the environmen 通过经济有效的方式减轻环境压力，改善人口福祉和环境质量
  - Improving national security, including water security 改善国家安全，包括水安全
- **Strategy of Development “Kazakhstan – 2050”发展战略 “哈萨克斯坦 - 2050年”**
  - Global energy security全球能源安全
  - Proper management of resources, accumulation of income, development of new technologies适当管理资源，积累收入，开发新技术
- **100 concrete steps 100个具体步骤**
  - **Step 50.** Reorganization of the electric power industry. Introduction of the "single buyer" model. This step will benefit by smoothing differences in electricity tariffs between regions. **步骤50.**重组电力行业。介绍“单一买家”模式。这一步将通过平滑地区之间的电价差异而受益。
  - **Step 51.** Strengthening regional electricity companies will improve the reliability of energy supply, reduce the cost of electricity transmission in the regions and reduce the cost of electricity for consumers. **步骤51.**加强区域电力公司将提高能源供应的可靠性，降低区域的电力传输成本，降低消费者的电力成本。
  - **Step 52.** Introduction of new tariff policies in electrical power industry, which will stimulate investments in the industry. **步骤52.**在电力工业中引入新的关税政策，这将刺激对该行业的投资。
  - **Step 59.** Attracting strategic investors in the sphere of energy saving through the internationally recognized mechanism of energy-service contracts . **步骤59.**通过国际公认的能源服务合同机制吸引战略投资者参与节能领域

# Nur-Sultan's policy documents in improving the environment conditions 努尔苏丹在改善环境条件方面的政策文件

- **Development program of Nur-Sultan city for the period of 2016 – 2020**

## 努尔苏丹市2016 - 2020年发展计划

➤ Goal 5. City of a favorable ecological environment. The overall objective of the policy document in terms of the GHG reduction measures is to maintain clean environment.

目标5.城市生态环境良好。在温室气体减排措施方面，政策文件的总目标是保持清洁的环境。

➤ In the framework of the Development Program, a comprehensive action plan of improving the environment has been created 在发展方案的框架内，已经制定了一项改善环境的综合行动计划

- **Strategy of Nur-Sultan Development until 2050 – in the process**

直到2050年努尔苏丹发展战略 -在此过程中

- **Strategy of Low Carbon Development until 2050 – in the process**

直到2050年努尔苏丹发展战略 -在此过程中

# Comprehensive action plan of improving the environment of Nur-Sultan for 2018-2020

## 改善2018 - 2020年努尔苏丹环境的综合行动计划

1. Reduction of pollutant emissions to the air from stationary sources 减少固定污染源排放到空气中的污染物
2. Reduction of pollutant emissions to the air from mobile sources 减少来自移动源的空气污染物排放
3. Development of the Green Belt and landscaping 发展绿化带和园林绿化
4. Management of waste production and recycling 废物生产和回收管理
5. Regulation of water resources 调节水资源
6. Public awareness campaigns 公众意识活动
7. Monitoring the state of city environment 监测城市环境状况
8. **Strategy of Low Carbon Development of Nur-Sultan until 2050** 到2050年，努尔苏丹的低碳发展战略

# Low Carbon activities in Nur-Sultan

## 努尔苏丹的低碳活动

- Gasification of the city until 2024 直到2024年该市的气化
- Introducing Electric Vehicles – 25 Evs 推出电动汽车--25 电动车
- Increasing the length of bike lanes and bikes sharing  
增加自行车道和自行车共享的长度
- Forests and carbon sinks (the total area of trees cover - 1 635,87 ha)  
森林和碳汇（树木总面积 - 1 635,87公顷）
- Pilot projects in improving the energy efficiency of residential apartments  
提高住宅公寓能效的试点项目
- Introducing pilot project of block heater technology  
引入块加热器技术试点项目
- EXPO-2017 legacy – introducing small-scale RES for lighting and bus stops  
EXPO-2017遗产 - 为照明和公共汽车站引入小型RES



# RETA: Promoting low-carbon development in CAREC Program cities

## 区域性技术援助：促进CAREC计划城市的低碳发展

- Nur-Sultan is the first pilot city of low-carbon development in Central Asia  
努尔苏丹是中亚第一个低碳发展试点城市
- RETA supports Nur-Sultan municipal government to develop the Strategy of Low Carbon development until 2050  
区域性技术援助支持努尔苏丹市政府制定低碳发展战略，直到2050年
- GHG inventory system is recommended to be established for monitoring and implementing effective GHG emissions reduction measures  
建立温室气体清单系统，以监测和实施有效的温室气体减排措施
- Within RETA, 7 projects in Nur-Sultan city will be developed under Clean Technology Fund (energy, waste, transport)  
区域性技术援助努尔苏市的7个项目：清洁技术基金（能源，废物，运输）

# CAREC RETA outputs 中亚区域合作援助输出

- 1.Sustainable data management systems for greenhouse gas data assessed and enhanced at city level  
在城市一级评估和加强温室气体数据的可持续数据管理系统
2. Recommended investment road maps for low-carbon economic growth at selected cities developed  
制定选定城市低碳经济增长的推荐投资路线图
3. A source book on successful practices and measures driving low-carbon economic development at city level developed and disseminated  
制定并传播了关于推动城市低碳经济发展的成功实践和措施的资料手册
- 4.Capacity building workshops for low-carbon city development among CAREC countries  
中亚区域经济国家低碳城市发展能力建设研讨会

**Thank you!感谢您的聆听**

