

Toward the Low-Carbon City 低碳城市

Integrated Approach of Seoul 首尔综合分析方法

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1. Seoul 首尔

Global City after 70 years' modernization
经过70年的现代化发展后，成为世界城市

Start from ruin in 1953

开始于1953的废墟

Experienced the fastest population growth : 1 million(1953) $\Rightarrow$ 10 million(1988)

人口快速增长：1百万(1953) $\Rightarrow$ 1千万(1988)



2. Process 过程

Mostly dependent on Redevelopment Projects by private sector
大部分依赖私营部门的重建项目

Gain : modernized function / Lose : identity and sustainability

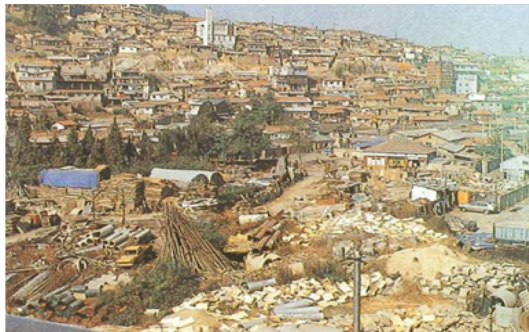
收获 : 现代化功能 / 损失 : 身份认同和可持续性

Housing : demolish 140,000 → construct 290,000

住房 : 拆除140,000→建造290,000

Office : 260 zones were redeveloped(size : average 50,800m²/zone)

办公室 : 重建了260个区域 (面积 : 平均50,800平方米/区)



Conflicts and alienation in the process of development
在发展过程中的冲突和疏离



3. Seoul at 2000 2000年的首尔

Urban Sprawl 城市扩张

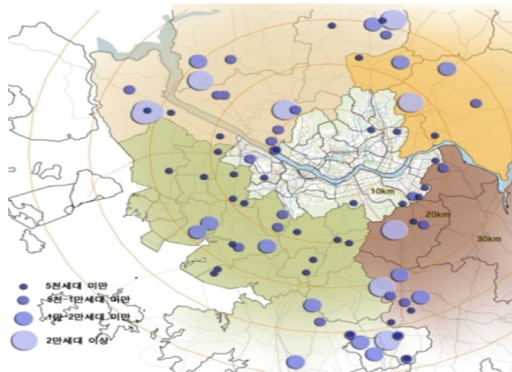
- Commuting distance(2000 – 2015) : 10km $\Rightarrow$ 30km 通勤距离 (2000-2015) : 10公里 $\Rightarrow$ 30公里
- Congestion cost(2005 – 2015) : 6 billion $\Rightarrow$ 9.4 billion USD 拥堵花费(2005-2015) : 60亿 $\Rightarrow$ 94亿美元

Unsustainable Future 不可持续的未来

- CO_2 emission(2005) : 50 million ton 二氧化碳排放量 : 5000万吨
- Air pollution(2002) : $PM_{10}(76 \mu g/m^3)$ / $PM_{2.5}(40 \mu g/m^3)$ 空气污染(2002) PM_{10} (76微克/立方米) / $PM_{2.5}$ (40微克/立方米)

Policy Change for sustainable required

需要改变政策，实现可持续发展



4. Policy Synchronization 政策整合

Harmonize urban plan with other policies
协调城市规划与其他政策

Urban Plan : Redevelopment $\Rightarrow$ Regeneration oriented
城市规划：重新开发 $\Rightarrow$ 以城市更新为导向



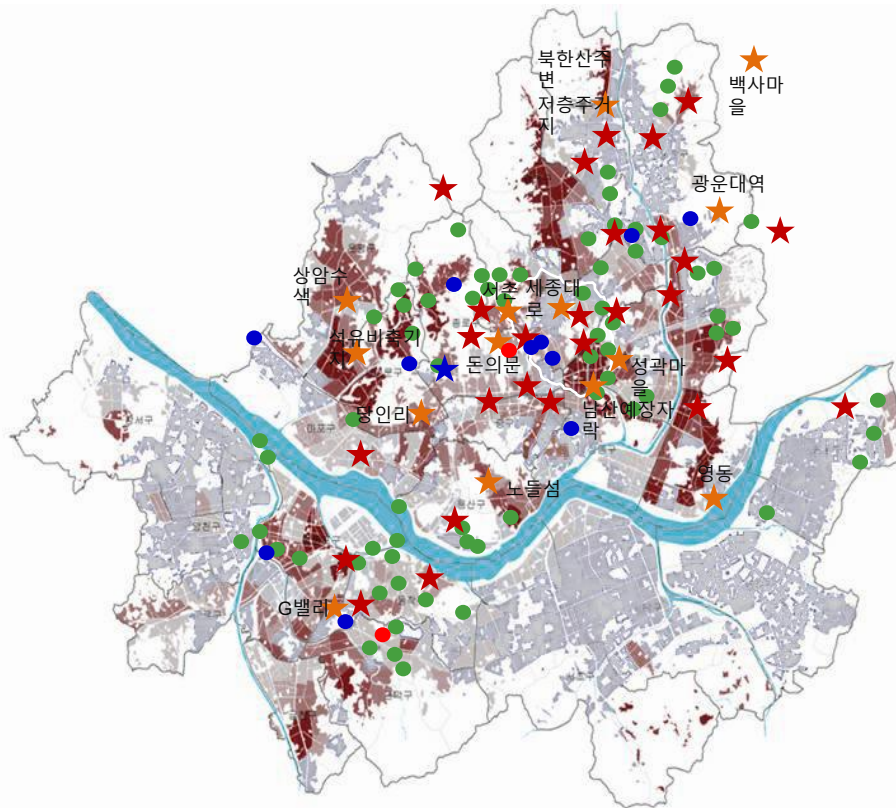
Industrial regeneration
(Again Sewoon Project)
工业更新



Across Seoul 首尔全市范围内

Urban regeneration projects in 131 locations are now underway

目前131个地点正在实施城市更新项目



★ Revitalization Area Urban Regeneration | **27** locations
(14.6km²)

★ Seoul-style Urban Regeneration | **14** locations
(7.6km²)

● Residential Environment Management | **77** locations
(4.2km²)

● Urban Revitalization Project | **11** locations
(2km²)

● Settlement Village Project | **2** locations
(0.1km²)

5. Integration with ICT 与ICT整合

Integrated Mass Transit System

综合公共运输系统

Smart Card 智能卡

TOPIS : monitor and control traffics 监测和控制流量

Big Data : developed routes of night bus service

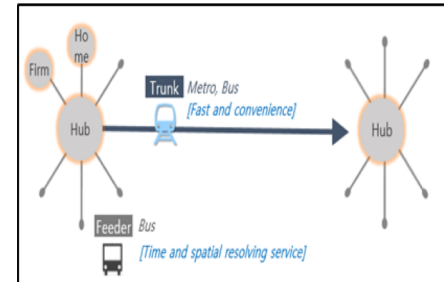
大数据：夜间公交服务线路

※ Analyzed 3 billion taxi-call data

※ 分析了30亿的出租车呼叫数据

Modal Share of Mass Transit : 60.6% $\Rightarrow$ 65%

公交分担率：60.6% $\Rightarrow$ 65%



6. Vertical Integration : One Less Nuclear Plant 纵向一体化

April 2012 : Declaration 2012年4月 : 宣布

Target: reduce energy consumption by 6 million TOE
achieve 20% of energy independence

目标 : 减少600万吨标准油的能源消耗 实现20%的能源独立

Strategy : Save, Efficient Use and Production

策略 : 节约, 高效使用和生产

Efforts integration with citizens and NGOs
与公民和非政府组织合作

Major Program : Energy Independent Village 能源独立村
主要项目 : Mileage Incentive Program 里程激励计划
Retrofit Program 改造计划
Solar Energy Production 太阳能生产

Achievement (2017) : 4.7million TOE 470万吨标准油
成就 (2017) : equivalent to 2.35 Nuclear Plants
相当于2.35个核电厂

100 Energy Independent Villages
100个能源独立村

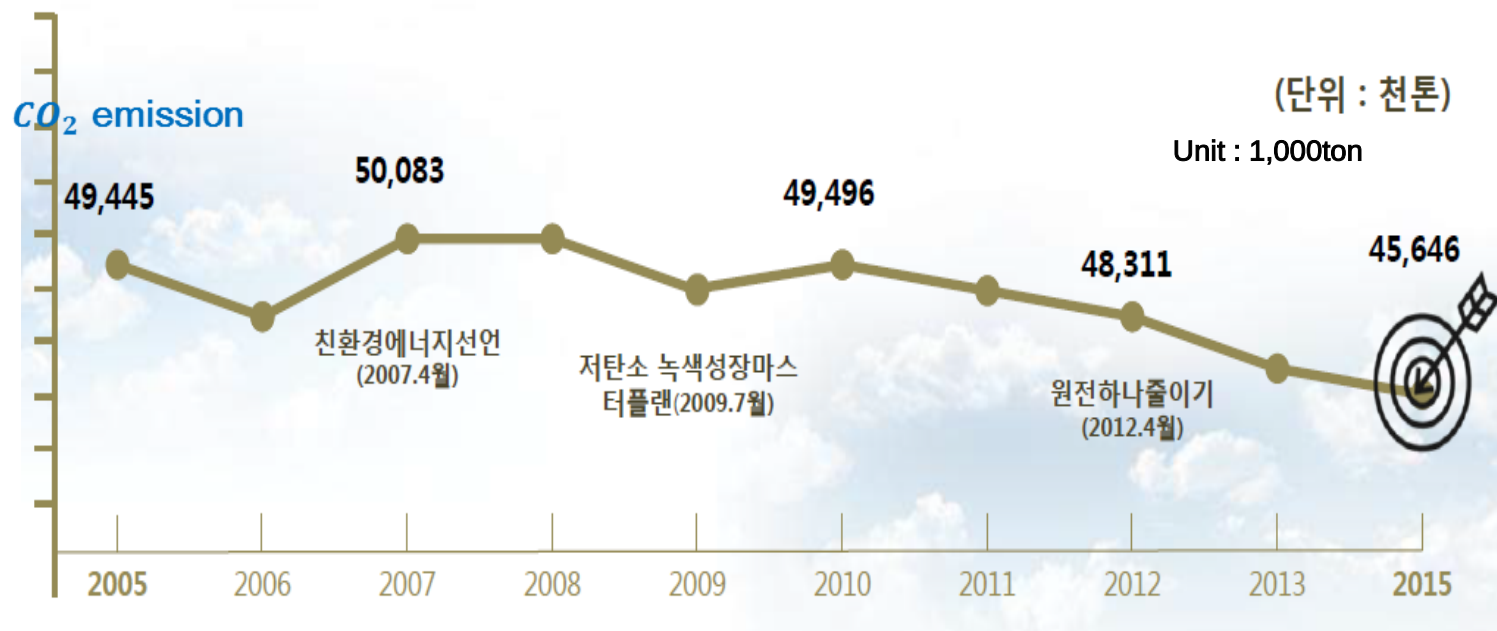


7. Achievement for Low Carbon 低碳发展成果

A. CO₂ emission A. 二氧化碳排放

Target : 20% reduction compared with 2005 by 2020 目标：到2020年，
较 2005年减少20%

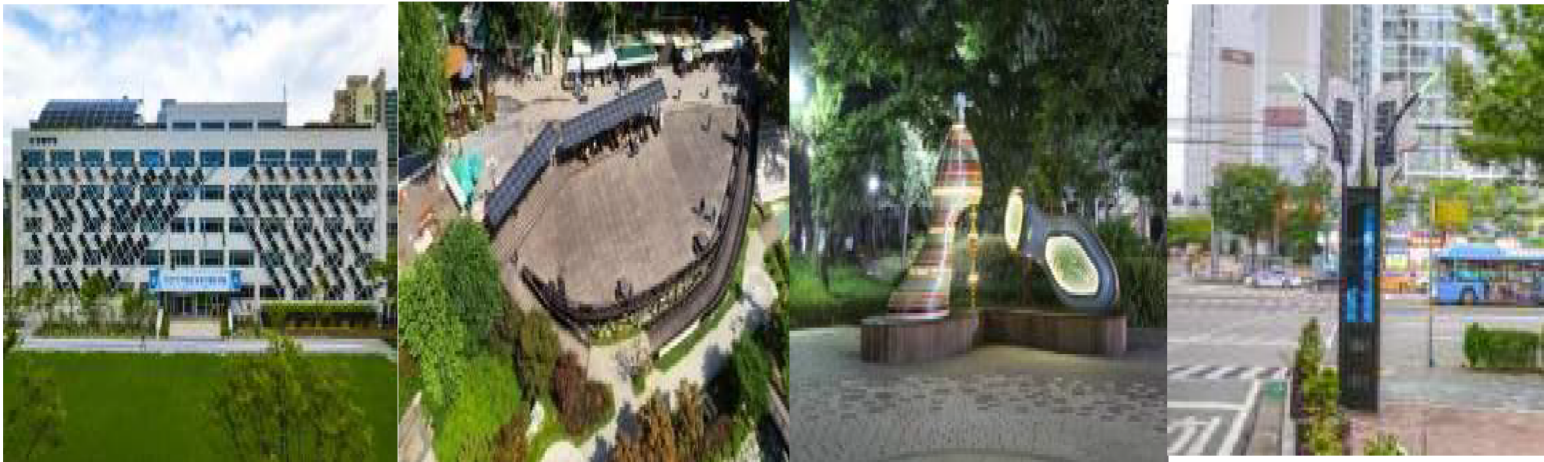
Performance : 10% reduction 业绩：减少10%



B. Production of Solar Energy for energy independence B. 太阳能生产, 实现能源独立

Target(2022) : produce 1GW solar energy / 1 million housings with solar cell
目标 (2022) : 生产十亿瓦太阳能 / 建造100万个装有太阳能电池的房屋

Performance(2018) : 233MW / 162 thousand housings
业绩 (2018年) : 233兆瓦 / 16.2万个专有太阳能电池的房屋



8. Future of Seoul 未来首尔

Smart City Approach : Low Carbon City through integrated solution

智慧城市方法：通过一体化方案打造低碳城市

