Local Governments and Sustainability: Examples from King County, Washington
地方政府与持续性：来自于华盛顿州金郡的实例

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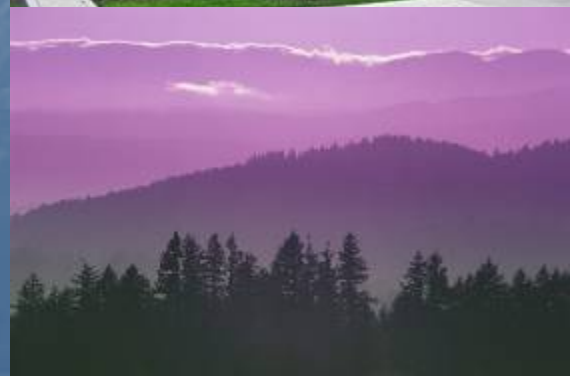
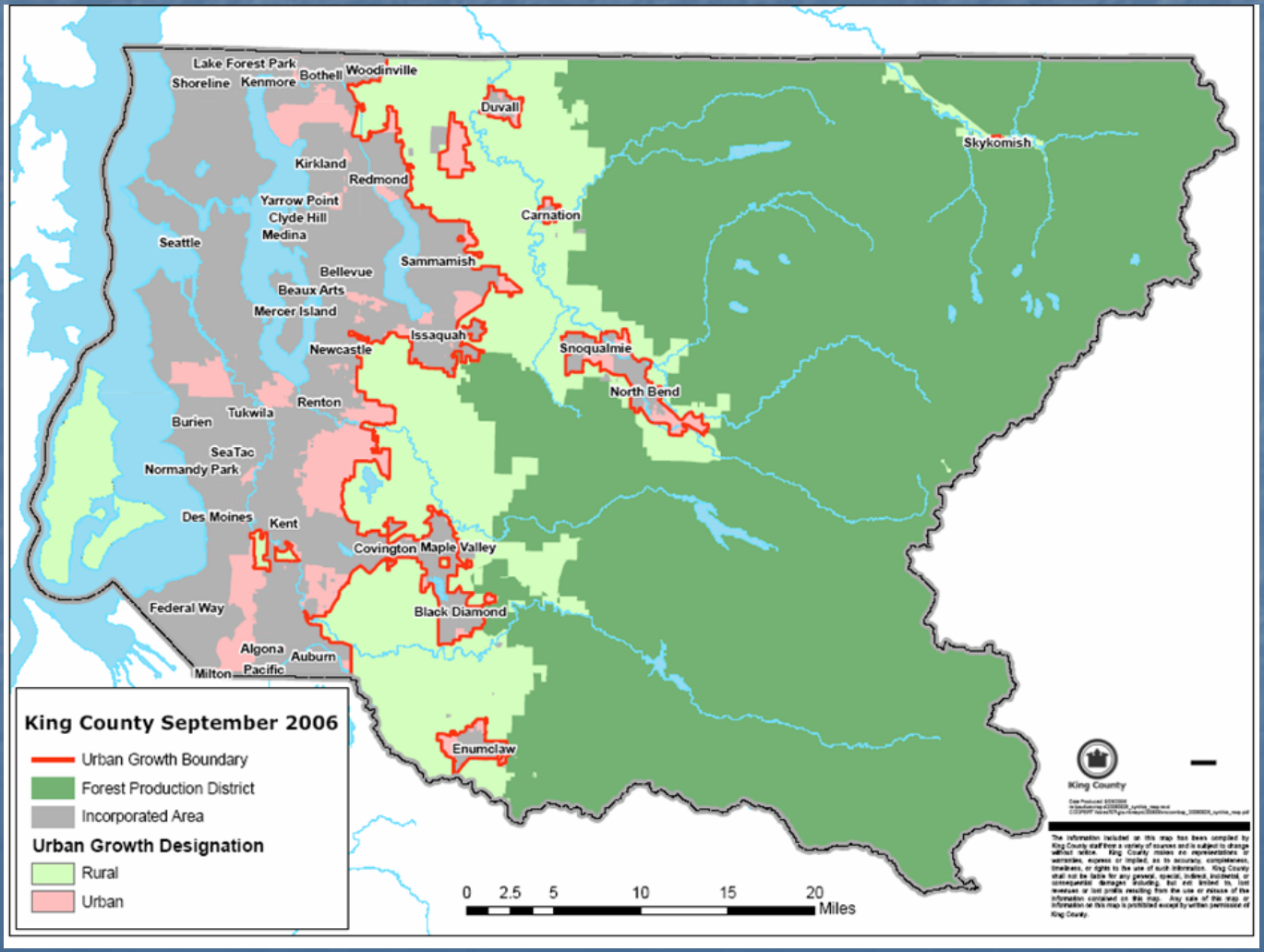


King County Facts
金郡概况

- Population of 1.8 million; 14th most populous county in the nation 180万人口；美国第十四大人口稠密的郡
- 39 cities 39个城市
- 2,130 square miles **2,130 平方英里(1平方英里约等于2.590平方公里)**
- Most population/population growth focused in the western third 大部分人口/人口增长集中于西部的三分之一。
- Land uses: mix of urban, suburban, rural, agriculture, forest 土地使用：城市、郊区、农村、农业、森林的混合

Land Use Map of King County
金郡的土地使用图



DNRP Mission自然资源与公园部使命

- Foster environmental stewardship and strengthen communities by 培养环境管理和加强社区的举措:
  - providing regional parks 提供区域公园;
  - protecting the region's water, air, land and natural habitats; and 保护区域的水、空气、土地、自然栖息地
  - reducing, safely disposing of and creating resources from wastewater and solid waste.减少、安全处理废水和固体垃圾并利用其创造资源

Local governments have a major role to play in sustainability
地方政府在持续性方面扮演重要角色:

- **Creating the "template" for future development patterns and transportation 为未来的发展结构和运输系统创建了"模板"**
- **Designing and building major infrastructure, like wastewater treatment plants 设计和建设大型基础设施,如污水处理厂**
- **Developing local building standards 制定地方建筑标准**
- **Providing technical assistance to builders 为开发商提供技术协助**
- **Managing essential services like wastewater treatment and solid waste disposal标管理基本服务，如废水和固体废物的处理**
- **Educating the public 教育公众**

Local governments can influence:
地方政府可以影响:

交通方式的选择 建筑方式及土地使用 环境质量及健康 节能及清洁能源

Transportation Choices

What We Want to Do:
- Use less fossil fuel and reduce greenhouse gas emissions from travel
- Promote alternatives to driving alone

What We've Done:
- Expanded and promoted public transportation alternatives
- Expanding regional parks and trails systems
- First mass transit system in the U.S. to join Chicago Climate Exchange, a voluntary market committed to reducing global warming emissions

What's Next:
- Expand Metro Transit bus service and bring new bus rapid transit service to five busy corridors in King County
- Continue to promote public transit, through programs like inMotion, Partners in Transit and Commute Trip Reduction, as well as employee transportation benefits
- Charting a path to reduce greenhouse gas emissions 80 percent by 2050

Buildings and Land Use

What We Want to Do:
- Reduce fossil fuel use and greenhouse gas emissions from buildings and land use
- Support creation of new green jobs in the building industry

What We've Done:
- Protected more than 125,000 acres of open space, including 100,000 in the last eight years, and slowed suburban sprawl
- Expanded and linked regional trail system
- Developed a worksheet tool for evaluation of greenhouse gas emissions from development
- Promoted green building and released a municipal green building toolkit, GreenTools

What's Next:
- Continue to promote healthy, climate-friendly buildings and landuse
- Update King County Comprehensive Plan with focus on reducing emissions and preparing for climate change impacts

Environmental Quality and Health

What We Want to Do:
- Protect public health, property and natural resources from climate change impacts
- Reduce greenhouse emissions from landfills, forests and agriculture

What We've Done:
- Created countywide Flood Control Zone District to fund critical capital projects that prevent flood hazards
- Continued safe use of reclaimed water
- Published *Preparing for Climate Change: A Guidebook for Local, Regional and State Governments* with the Climate Impacts Group and the International Council for Local Environmental Initiatives (ICLEI) - Local Governments for Sustainability

- Approved conversion of landfill methane emissions to energy

What's Next:
- Continue to work with emergency management and public health officials to prepare for climate change impacts to health and property
- Offer a training series for other government officials on *Preparing for Climate Change* guidebook
- Opening in 2010, Brightwater Treatment Plant will produce up to 21 million gallons of reclaimed water per day for irrigation and industry, saving fresh water for people and fish

Conservation and Clean Energy

What We Want to Do:
- Achieve 50% of non-transit energy use from renewable resources by 2012
- Achieve 50% of transit fueled by renewable resources by 2020
- Be a market catalyst for increased use and availability of renewable energy resources
- Use less fossil fuel and reduce greenhouse gas emissions
- Promote the creation of new green jobs in the clean fuel and technology industry

What We've Done:
- Developed Renton hydrogen fuel cell demonstration
- Converted waste to energy at wastewater treatment facilities
- Built a green vehicle fleet of buses, cars, and trucks using plug-in hybrid electric technology, biofuel and other clean fuels and technology
- Led a regional consortium to purchase heavy-duty hybrid trucks
- Hosted the Clean Vehicles Now! conference and launched the Puget Sound Regional Green Fleet Initiative to develop a green fleet standard

What's Next:
- Maximize waste-to-energy projects
- Maximize energy efficiency in all King County facilities
- Buy electricity from renewable sources
- Explore green jobs pilot programs in county government and the region

King County

Land Use, Transportation and Sustainability
土地使用，交通运输系统以及可持续性

- **Development patterns and practices greatly influence transportation choices, access to parks and open space, habitat, air quality, climate change, public health, and risks from natural hazards.**
  制定开发模式和操作规程能在很大程度上影响交通选择,公园和开放空间的使用、栖息地、空气质量、气候变化、公共健康、以及自然灾害带来的风险。

- **Smart Growth 明智增长:**
  - Focuses new population growth in urban areas 注重城市地区新的人口增长
  - Limits sprawl into rural and agricultural areas 限制对农村和农业地区的扩张
  - Provides a wide variety of transportation and housing choices close to employment 提供多样化的交通和靠近工作地点的住房选择
  - Protects agriculture, forest, and open space 保护农业、森林和开放空间

Land Use, Transportation and Sustainability
土地使用，交通运输系统以及可持续性

Public benefits of well integrated land use and transportation policy:
合理的土地综合利用和交通政策的有利公众

- Reduced Carbon Emissions 减少碳排放
- Improved Air Quality 改善空气质量
- Improved Health 促进的健康

Growth in King County金郡的增长

- **More than 90% of population growth takes place within designated urban areas.**
  90%以上的人口增长发生在指定的城市地区。

- **More than 137,000 acres rural and forest land protected through transfer of development rights.**
  超过137,000英亩的农地、林地通过发展权利的转移得到保护。

- **More than 13,000 acres for farmland protected through purchase of development rights.**
  超过13,000英亩耕地通过购买开发权得到保护。

King County Green Building
金郡绿色建筑

- Goals：目标
  - Use Leadership in Energy and Environmental Design (LEED™) rating system使用绿色建筑标准 评估系统(LEED)
  - Establish “Green Building Team ” 建立“绿色建筑团队”
  - Encourage green building practices in all King County Building projects 鼓励金郡所有建筑项目成为绿色建筑

King County Green Building
金郡绿色建筑

- Example: Shoreline Recycling Station例证:Shoreline回收站
  - Rainwater collection system reduces municipal drinking water use by 57% 雨水收集系统减少城市饮用水使用的**57%**
  - Using daylight as primary source of light reduces energy use by 50% 利用太阳能为主要的光源降低大约**50%**的能源消耗
  - Rainwater collection reduces municipal water use 雨水收集减少城市用水
  - Natural ventilation saves additional energy 自然通风节省额外的能源
  - Green building reduces emissions 绿色建筑减少排放
  - Landscaping filters stormwater runoff庭园环境设计过滤雨水径流

King County Green Building
金郡绿色建筑

- **Example: King Street Center Building**
  例证:金郡街中心大厦
  - 80% of construction waste recycled
    80%的建筑废料得以回收
  - Rainwater collected for flushing toilets; saves 1.4 million gallons of drinking water per year.
    雨水收集冲洗厕所;每年节约140万加仑的饮用水
  - Bicycle facilities and easy access to transit reduce employee reliance on cars自行车设施以及便利的交通换乘,减少上班族对汽车的依赖
  - Energy-efficient lighting (includes occupancy sensors)节能照明(包括感应开关)
  - Largest installation of reused/renewed carpet tile in U.S.
    是美国使用再利用/回收地毯安装面积最大的楼房

Green Building: Tools for Developers and Landowners
绿色建筑：开发商和土地拥有者的工具

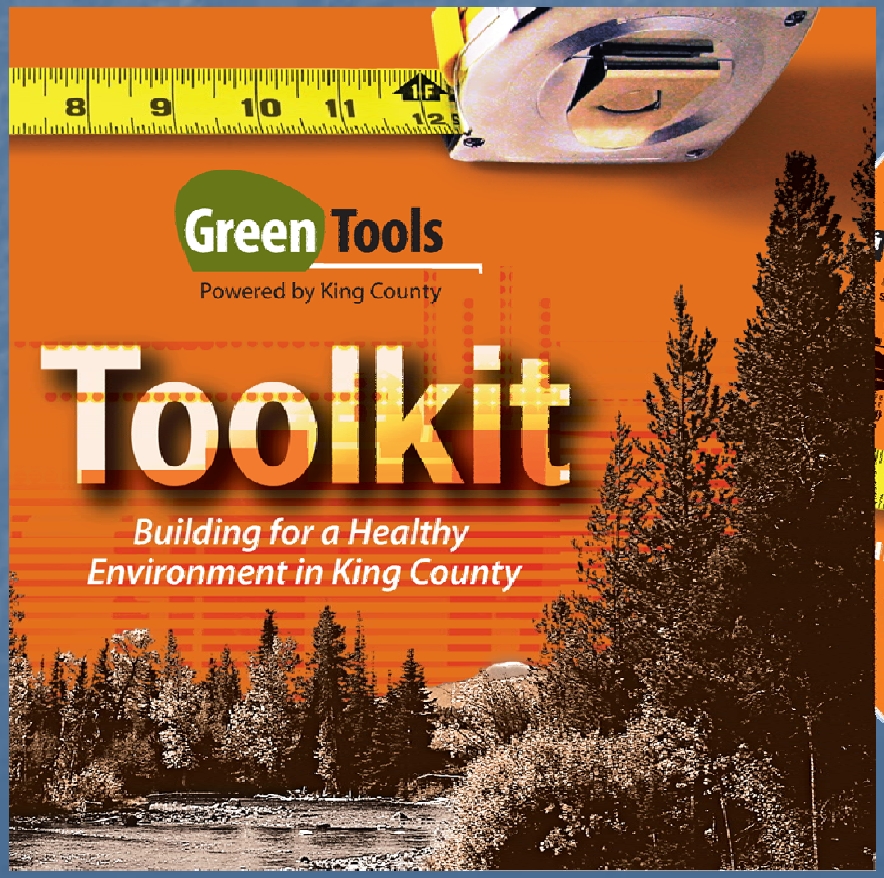
- **The Built Green™ Program: Provides builders, developers and consumers with easy-to-understand rating systems that quantify environmentally preferable building practices.**
  绿色建设计划:提供给建设者、开发商和消费者的建设者简单易懂的评价体系，这种评价体系能够量化环保的建筑实践

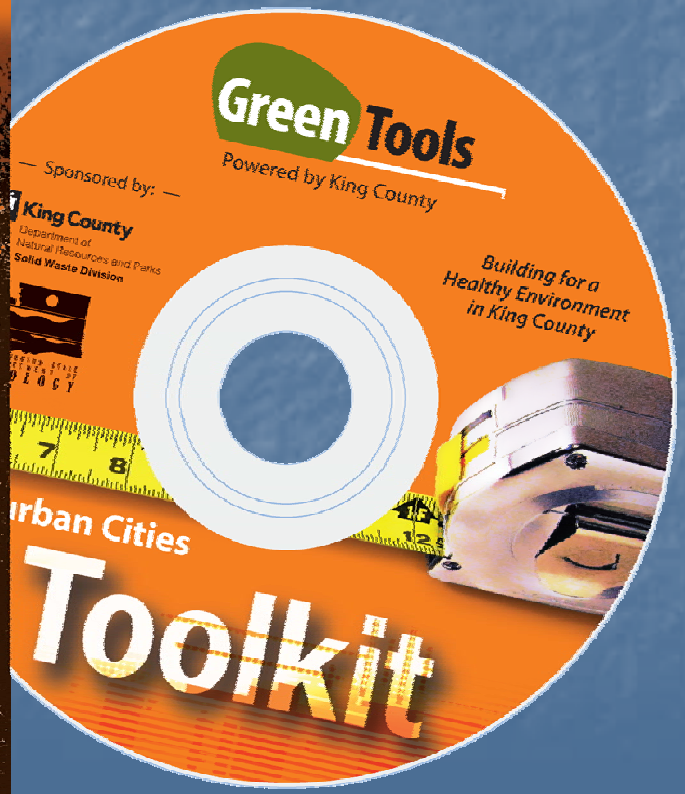
- **Residential Remodeling Guides: Home energy audits and green building guide**
  住宅装修指南：住宅能源审计和绿色建筑指南

- **Green Building for Rural Residents: Guidance for on-site planning and sustainable design practices。**
  郊区居民的绿色建筑:现场规划与可持续设计实践的指导

Green Building: Sharing tools with other local governments

绿色建筑：与其它地方政府共享的工具





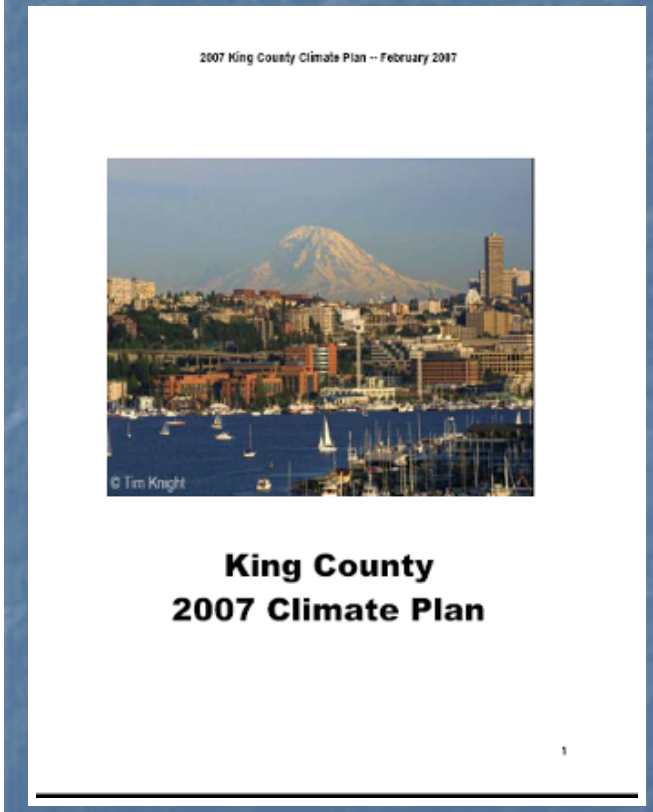
Environmental Management, Conservation, and Clean Energy
环境管理，保护，与洁净能源

- Guided by受指导于：
  - King County Energy Plan金郡能源计划
  - King County Climate Plan金郡气候计划
  - King County Comprehensive Plan金郡综合计划

- Integrated into *all* aspects of county operations整合于金郡运作的各个方面

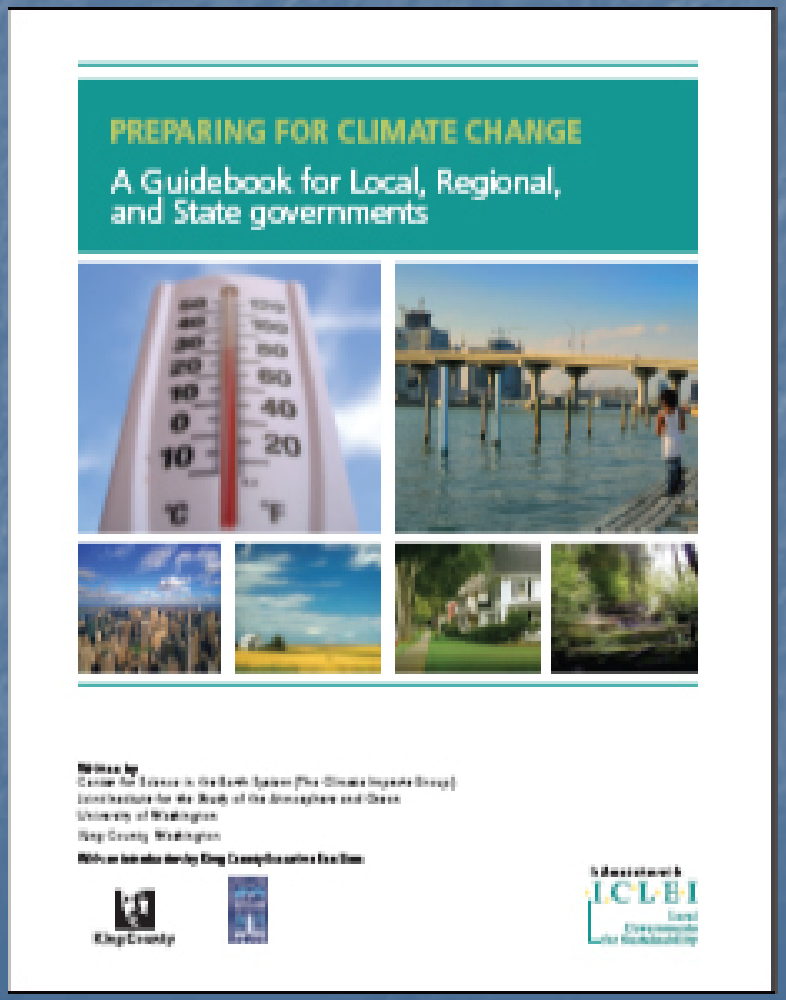
Metro has more than 200 hybrid buses in its fleet

2007 King County Climate Plan
2007年金郡气候计划



- Mitigation and Adaptation Strategies 缓和与适应策略
- Establishes carbon emission reduction targets 确立碳减排目标
- Public transit and transportation choices 公共交通设施及交通选择
- Land use, built environment and sustainable materials 土地使用、建筑环境和可持续发展的材料
- Waste-to-energy费物变能源
- Clean fuel and technology purchases 购买洁净的燃料和技术

Preparing for Climate Change
为气候变化做准备



King County Energy Plan
金郡能源计划

- Conserve 10% of our energy use
  节省10%的能源消耗
- 50% of County energy use from renewable resources 金郡所消耗能量的50%来自可再生资源
- Maximize waste to resource efforts
  为费物变资源做出最大的努力

Environmental Management, Conservation, and Clean Energy
环境管理，保护，与洁净能源

- Example: Production and use of biosolids from Wastewater Treatment Plants
  例证:城市污水处理厂有机固体的生产和使用
  - Biosolids are the nutrient rich organic product of wastewater treatment.
    有机固体产物是废水处理过程中的富有养分的有机产品。
  - Biosolids are recycled as a fertilizer and soil conditioner in agriculture and forestry, and also composted for use in landscaping and gardening.
    有机固体是农业和林业的肥料与土壤改良剂，也可做为景观和园艺用肥.

Environmental Management, Conservation, and Clean Energy
环境管理，保护，与洁净能源

- Example: Landfill Gas Project
  例证：垃圾掩埋处沼气项目
  - Capture, scrub, and sell methane gas 采集、提取、出售沼气
  - Reduces greenhouse gas emissions from landfill by approximately 63%; roughly equal to annual CO2 emissions from 22,000 passenger cars
    减少大约63%,的温室气体排放；大致相当于每年22,000辆轿车的二氧化碳排放量
  - The County will receive revenue from the sale of the gas.
    金郡也会从沼气的销售中获得经济收益。

Environmental Management, Conservation, and Clean Energy
环境管理，保护，以及洁净能源

- Example: Reclaimed Water 例证:再生水

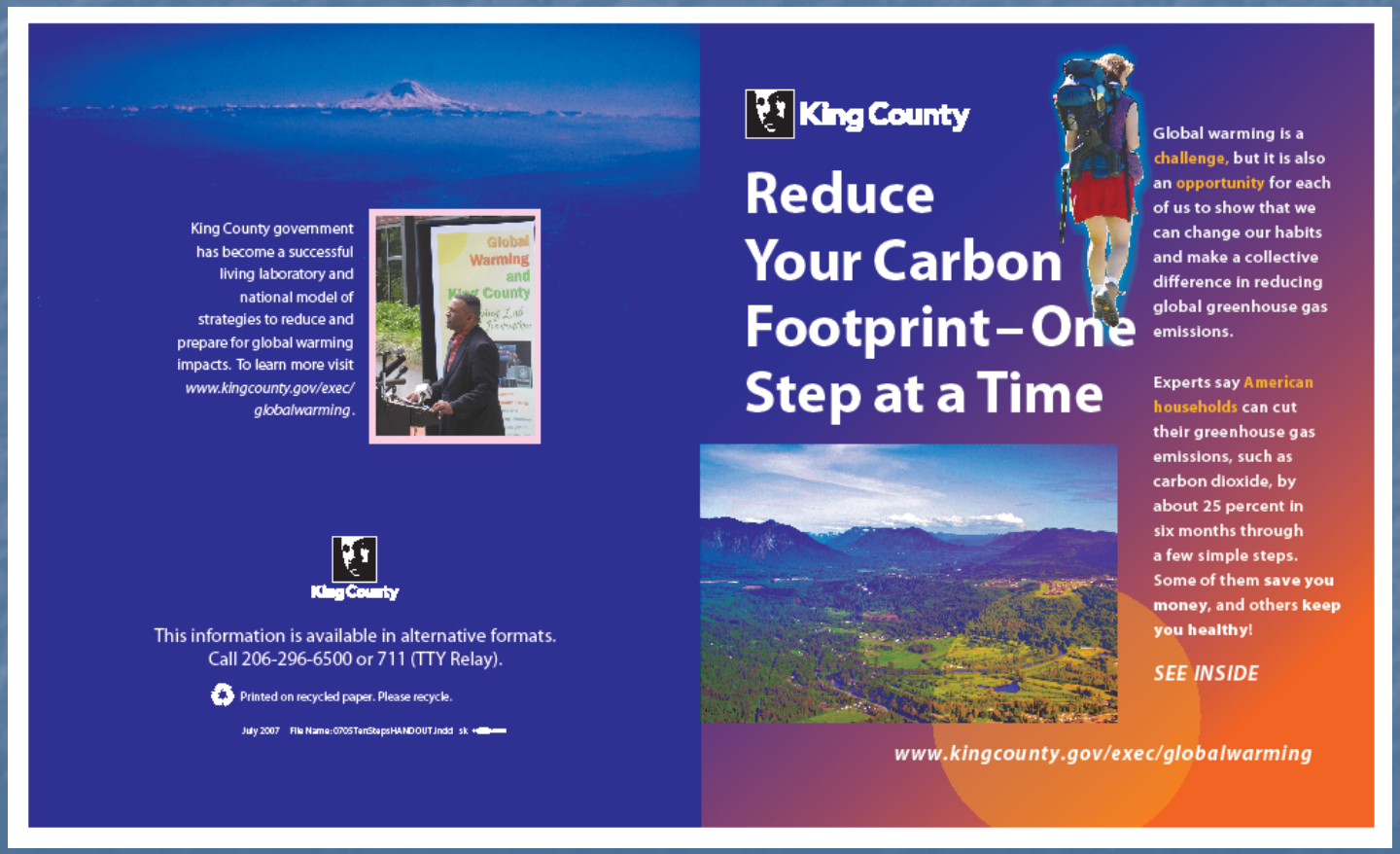
  King County uses treated wastewater for cooling, irrigation, and wetland enhancement

  金郡使用处理过的废水来冷却、灌溉、湿地增强

- The new Brightwater Treatment Plant will provide additional reclaimed water

  新的明水处理厂将提供额外的再生水

Education
教育



King County government has become a successful living laboratory and national model of strategies to reduce and prepare for global warming impacts. To learn more visit *www.kingcounty.gov/exec/globalwarming*.

King County

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King County

Reduce Your Carbon Footprint – One Step at a Time

Global warming is a challenge, but it is also an opportunity for each of us to show that we can change our habits and make a collective difference in reducing global greenhouse gas emissions.

Experts say American households can cut their greenhouse gas emissions, such as carbon dioxide, by about 25 percent in six months through a few simple steps. Some of them save you money, and others keep you healthy!

SEE INSIDE

www.kingcounty.gov/exec/globalwarming

Additional Resources
有用资料

- King County Green Tools Web-Site: http://your.kingcounty.gov/solidwaste/greenbuilding/program/index.asp
- King County Department of Natural Resources and Parks Annual Report: http://www.kingcounty.gov/environment/data-and-trends/indicators-and-performance/2008-annual-report.aspx
- LEED: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1988
- Case Study for King Street Center: https://www.usgbc.org/chapters/cascadia/king.pdf
- Bob Burns, Deputy Director, King County DNRP: bob.burns@kingcounty.gov