



Climate Change

Objective:

Reduce climate pollution and prepare for the effects of climate change on the environment, human health, and the economy

What is happening in King County?

Greenhouse Gas (GHG) Emissions

Geographic Based Emissions

In King County, GHG emissions from within our geographic boundary are primarily caused by fossil fuel use (gasoline and diesel) for transportation and to a lesser but significant extent to heat our buildings (natural gas and heating oil). Combusting fossil fuel (e.g. coal) to produce electricity is also a source of GHG emissions, although in King County, because of the prevalence of hydropower, this is less of a source than in many other regions. Other important sources include methane emissions from landfills, wastewater treatment, and livestock. King County is also responsible for emissions that occur outside of the region in production and transport of goods and services that are consumed in the region, but these are excluded from our geographic based emissions inventory.

Data from the 2010 GHG inventory for the King County region (all residents and businesses) show emissions increased roughly one percent since 2008 to 16.5 million metric tons of carbon dioxide equivalent (million MTCO₂e) annually, primarily due to population growth. While overall emissions increased, per person annual greenhouse gas emissions that are part of the core measurement framework decreased roughly two percent compared to 2008 and are down almost five percent compared to 2003. Significant declines in per-person vehicle travel and slight declines building energy use help to explain the decrease in emissions per person.

Consumption Based Emissions

Another way to measure emissions is by looking at the emissions created from the production of goods, foods, and services that we consume. Because most of the things we consume come from out of King County, the emissions that result from our consumption impact areas outside of King County as opposed to within King County. In fact, total emissions associated with local consumption by residents, governments and businesses, were more than twice as high as all the emissions that occurred inside the County's borders. This finding illustrates the complex challenge of addressing King County's global environmental footprint.

Producing goods, food, and services contributes more than half of the GHG emissions associated with consumption in King County. By buying goods, foods and services, King County residents, governments, and businesses are contributing to climate change through the emissions released to make these products. Data from 2008 showed that over 60 percent or 34 million MTCO₂e of King County's

Consumption-based emissions are associated with producing goods and services, more than 25 percent (15 million MTCO₂e) are associated with using them (for example, driving a car or using an appliance), and relatively small shares are associated with transporting, selling, and disposing them.

Climate Change Impacts

Environmental Impacts of Climate Change

Important climate change related shifts in King County's physical environment have been observed in recent years. King County is tracking these changes in the local environment to help assess the severity of local climate-influenced impacts. Increasing air and water temperatures, acidifying marine waters, increasing fall flooding, rising sea levels, decreasing snow pack, and decreasing summertime river flows are examples of changes that have been observed in King County; these trends are consistent with expected and projected local climate change impacts, and many other impacts are also occurring.

Human Health and Economic Impacts of Climate Change

Climate change will have long-term consequences for both public health and the economy in King County; some of these impacts are already occurring. King County is tracking human health and economic impact indicators that are showing improvements in air quality but also increasing natural disasters, decreasing salmon populations, and negative heat-related impacts to human health. These observed changes are consistent with the projected local impacts of climate change, and many other impacts are also likely.

What role does King County play?

King County has many opportunities to reduce greenhouse gas (GHG) emissions--the primary cause of recent climate change--from its own operations and at the community level. The County is reducing operational sources of GHG emissions by implementing the 2010 Energy Plan and the Green Building and Sustainable Development policy, among other efforts.

Please see Minimize King County's Footprint Objective for more information about how King County is reducing its operational environmental footprint.

At the community level, King County is helping reduce GHG emissions through its land-use policies and transportation planning and by providing services such as public transit, recycling, and support of sustainable forestry and agriculture. These efforts are yielding significant reductions in GHG emissions as well as environmental, economic, and health benefits.

King County is also collaborating with other regional partners on solutions, pooling technical expertise and sharing practical strategies for reducing GHG emissions through venues like the King County-Cities Climate Collaboration.

King County is helping minimize the local impacts and risks of climate change through programs and projects to reduce the risk of floods, help farm and forest owners address climate change impacts, and plan for the effects of climate change on stormwater, public health and emergency management.

What else influences these indicators?

In addition to actions focused on reducing greenhouse gas emissions, diverse additional factors influence progress in reducing community level greenhouse gas emissions. These include year to year variability in the weather, economic conditions, population growth. For example, heating requirements in King County were about 10 percent less in 2010 compared to 2008; this decreased energy consumption for heating in buildings. The climate change impacts being tracked by King County are affected by multiple factors in addition to climate change. For example, the frequency of natural disasters is also affected by where people live and work and how prepared they are for storms. However, climate change has been shown to be an important influence on each of the indicators presented.

What can you do?

It's Easy Being Green

"It's Easy Being Green" - Brochure

Localize Sustainability

Visit Forestry CPR to learn about forestry climate preparedness and response.

Related Links

An Evaluation of County Farmland Protection Programs in the Puget Sound Basis, King County Results

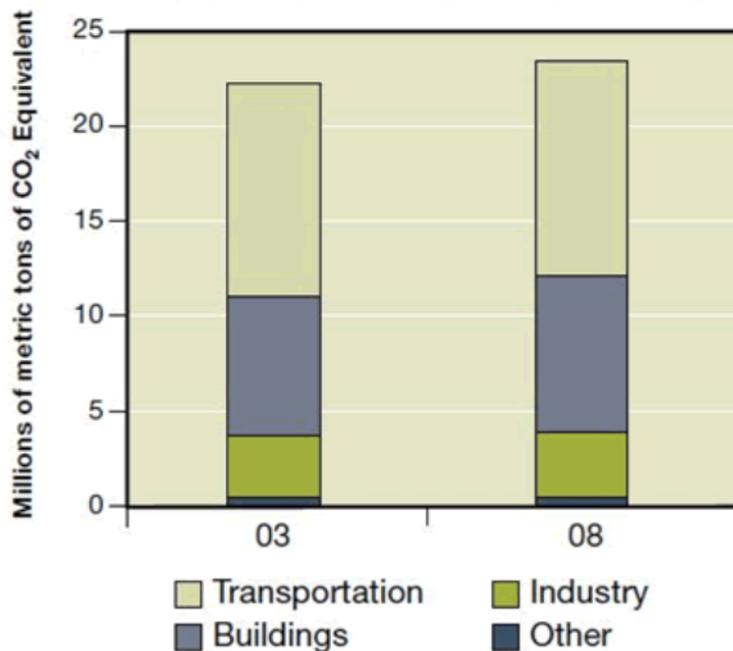
Farmland Programs in Washington

Technical Notes

Data provided by King County Department of Natural Resources and Parks

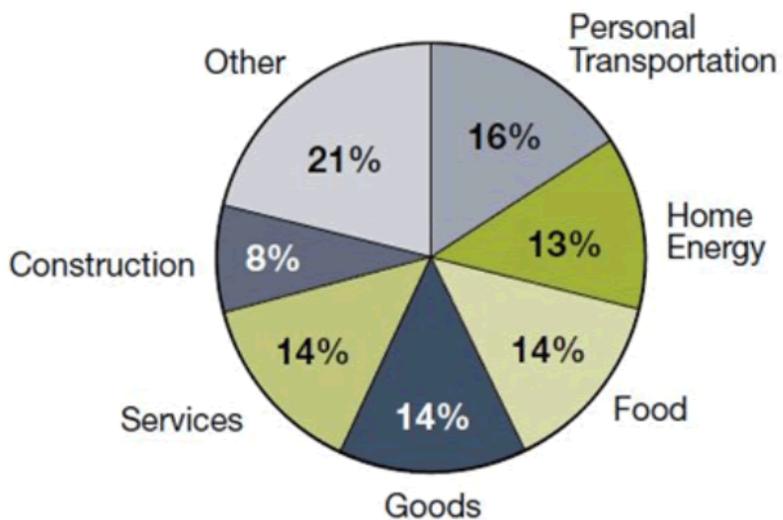
Charts and Maps

KING COUNTY COMMUNITY GEOGRAPHIC BASED GREENHOUSE GAS EMISSIONS

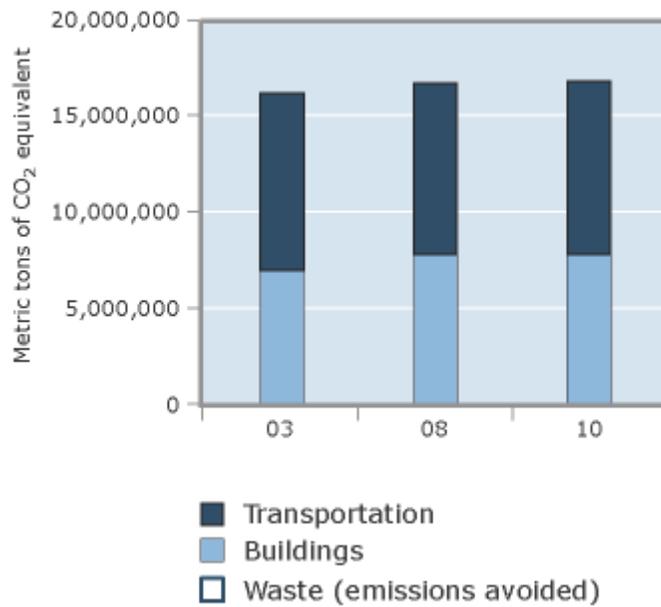


KING COUNTY COMMUNITY CONSUMPTION BASED GREENHOUSE GAS EMISSIONS

Total: 55 Million Metric Tons CO₂e



**King County
Core Greenhouse Gas Emissions**



**KING COUNTY FLOOD, SEVERE STORM AND COASTAL STORM
RELATED FEDERALLY DECLARED DISASTERS**

