

CITY OF PORTLAND AND MULTNOMAH COUNTY

# CLIMATE ACTION PLAN 2009

**EXECUTIVE  
SUMMARY**



City of Portland Bureau of  
**Planning and Sustainability**  
Sam Adams, Mayor | Susan Anderson, Director



Sustainability Program  
Jeff Cogen, County Commissioner

# ACKNOWLEDGEMENTS

*The City of Portland and Multnomah County wish to thank the following community members, organizations and staff for their contributions in developing this Climate Action Plan.*

## **CLIMATE ACTION PLAN STEERING COMMITTEE**

*(Affiliations of the Steering Committee members are provided for identification purposes only and are not intended to represent the endorsement of their organizations.)*

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Lesla Dixon-Gray, Oregon Department of Human Services and Peak Oil Task Force

Christine Ervin, Christine Ervin Co., and Sustainable Development Commission

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Mike Hoglund, Metro

Matt Korot, Metro

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Suzanne Veaudry Casaus, Oregon Environmental Council

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October 2009

Dear Friends,

Less than a decade into the 21st century, it is clear that climate change may well represent the greatest challenge to our future well-being. Residents of Portland and Multnomah County have been addressing climate change for many years now and our efforts have achieved real results, differentiating us significantly from the national trend. We have received accolades for our work, but it is high praise on a low standard. Perhaps the most important lesson learned from local climate protection work to date is the frank recognition that our good work to date is not nearly enough.

Our region's leadership is built on a long tradition of excellence in planning and a heritage of conservation and stewardship of our natural environment. The bold decisions made decades ago have given this region a head start over other cities and regions across the country. It is in this context that we must look to the bold actions needed in the coming decades. We have reduced local carbon emissions to one percent below 1990 levels, but we know we need to reduce our emissions by eighty percent. What is required is nothing short of the transformation of both our economy and our community, while strengthening the quality of life that makes the Portland area so exceptional.

Portland area residents also have a strong tradition of unparalleled public participation and engagement – actively working to find innovative solutions and taking inspiring action to improve our community. Our history prepares us well to take on the unparalleled challenge of climate change, but it will not be easy. Mounting scientific evidence of the increasingly rapid rate of climatic change demands that the City and County draw on our decades of experience and innovation, and act with a renewed sense of urgency.

However, the severity and magnitude of this problem are matched only by the opportunity – unprecedented in modern history – to rethink and improve upon every aspect of our community.

In the coming years, we must:

- Build a new generation of buildings, industry infrastructure and energy systems that both embrace and mimic nature, consuming and producing resources in a closed loop. They will be as much a part of the landscape as our rivers, mountains, and forests.
- Transform all our neighborhoods into places that provide a safe and healthy environment where all residents can meet their needs by foot, bike and public transit.
- Develop a new economy to generate thousands of local green jobs, and bring opportunity and prosperity to every part of our community.
- Ensure that natural systems are healthy, diverse and resilient in the face of a changing climate.
- Help our friends and neighbors prepare to adapt to climate change – ensuring that the most vulnerable among us are equipped to cope with rising energy prices, as well as extreme weather events.

Successfully tackling this challenge will require an unwavering commitment to the effort over the course of decades. We look forward to what our community can accomplish together.



Sam Adams  
Mayor

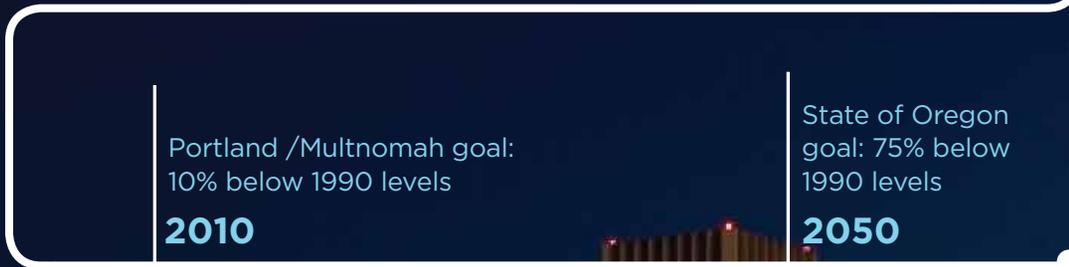


Jeff Cogen  
County Commissioner

# TIMELINE AND GOALS



2008 – 2012 Kyoto Protocol compliance period (United States target: 7% below 1990 levels)



**2009**  
Climate Action Plan

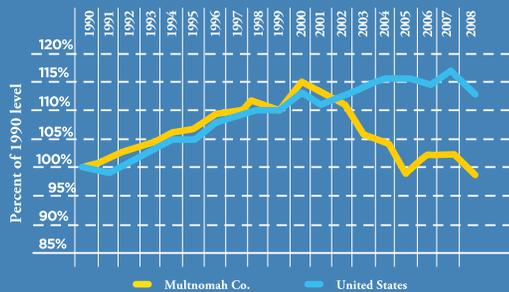
**2030**  
Portland/Multnomah target: 40% below 1990 levels

**2050**  
Portland/Multnomah goal: 80% below 1990 levels



# EXECUTIVE SUMMARY

## CARBON EMISSIONS TREND



Bureau of Planning and Sustainability,  
U.S. Energy Information Administration

Climate change is the defining challenge of the 21st century. The world's leading scientists report that carbon emissions<sup>1</sup> from human activities have begun to destabilize the Earth's climate. Billions of people will experience these changes through threats to public health, national and local economies, and supplies of food, water and power.

The challenge of climate change is more urgent than ever, but it is not new. Nor is our region's response. For more than 15 years Portland has sought to reduce carbon emissions, starting with the City of Portland's 1993 Carbon Dioxide Reduction Strategy and followed eight years later by the joint Multnomah County-City of Portland Local Action Plan on Global Warming. These plans supported ambitious carbon-reduction efforts, like public transit expansions and new green building policies, that promise to benefit the region's long-term economic, social and environmental prosperity.

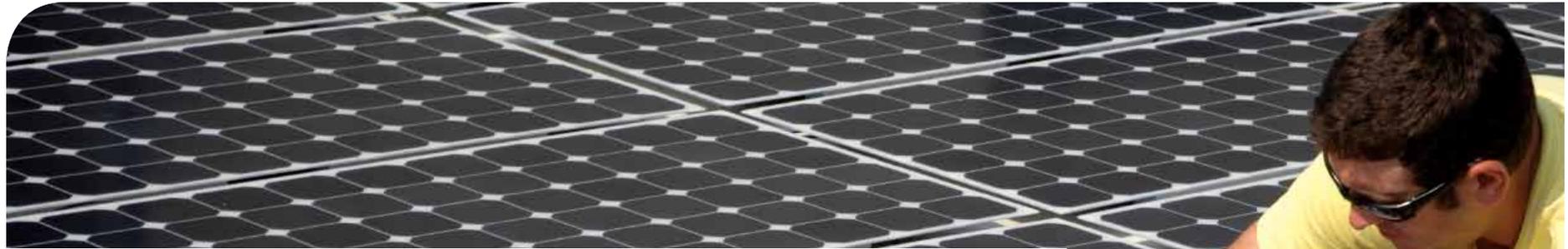
These actions helped achieve impressive results, including a reduction in local carbon emissions in 2008 to one percent below 1990 levels, despite rapid population growth. Over the same period, emissions in the United States as a whole increased 13 percent. Clearly Portland and Multnomah County are bucking the trend and heading in the right direction (see figure to the left).

While the early achievements of the Portland region are notable, the latest science suggests that dramatically more ambitious actions are required to mitigate the most extreme impacts of the changing climate. At the same time, efforts to reduce emissions must be coupled with preparations for a changing climate. The physical impacts of climate change are already in evidence and will expand and intensify in the decades ahead. Because of the long time lag between changes in emissions and global climate patterns, the future climate will first reflect the past century of emissions, while ultimately reflecting our choices today.

The physical impacts of a changing climate are matched by social challenges and compounded by rising energy prices. Low-income and vulnerable citizens face disproportionate impacts of climate change — exposure to heat stroke in their homes, for example — while having fewer resources to respond to these changes. Climate change and rising energy prices have the potential to exacerbate social inequities.

In addition, the rivers, streams, wetlands, and vegetation across the Portland region's watersheds will be affected by climate change. Changes in weather and moisture patterns will affect streamflow, groundwater recharge and flooding, and may increase risks of wildfire, drought, and invasive plant and animal species. Evolving weather, air and water temperature, humidity and soil moisture will affect resident and migratory fish and wildlife species and their habitats, and may increase risks to their survival.

<sup>1</sup> Throughout this document, the term "carbon emissions" refers to all greenhouse gas emissions.



To respond to these intertwined problems — climate change, social inequity, rising energy prices, and degraded natural systems — requires an integrated response that goes far beyond reducing carbon emissions. Climate protection must be inextricably linked with actions to create and maintain jobs, improve community livability and public health, address social equity and foster strong, resilient natural systems.

By integrating these elements, Portland and Multnomah County will:

**Create Local Jobs.** The past decade has proven that many of the technologies, products and services required for the shift to a low-carbon future can be provided by Portland-area companies. Dollars currently spent on fossil fuels will no longer leave our economy and will stay here to pay for home insulation, lighting retrofits, solar panels, bicycles, engineering, design and construction. City Council has adopted an economic development strategy that prioritizes sustainability as the key economic engine of the Portland region.

**Improve Social Equity.** Disparities among our residents can be reduced by ensuring that the communities most vulnerable to climate change are given priority for green jobs, healthy local food, energy-efficient homes and affordable, efficient transportation. We can also improve equity if we ensure that impacted communities are included in the implementation of the Climate Action Plan items in a meaningful and engaging way.

**Create Healthier Residents.** Walkable neighborhoods, fresh foods and clean air means healthier, more active residents. The “health dividend” is potentially vast in financial terms and invaluable in its contribution to quality of life.

**Become More Energy Self-Sufficient.** Every action in this Plan will reduce reliance on fossil fuels. As prices continue to increase in the long run and supplies become more uncertain, a reduced reliance on volatile oil supplies will diminish the risks faced by everyone.

**Protect and Enhance Air Quality and Natural Systems.** Sustaining the values and functions of our tree canopy, rivers, streams and wetlands is an essential strategy that can simultaneously reduce emissions, sequester carbon and strengthen our ability to adapt to a changing climate. Healthy watersheds, forests and ecosystems are an integral part of this plan.

**Save Money.** Using less energy in our homes, buildings and vehicles means lower energy and transportation bills for residents, business and government. Likewise, home-grown food saves on grocery bills. The savings from reduced health-care costs of a healthy, active community are potentially most significant of all.





In 2007, Portland City Council and the Multnomah County Board of Commissioners adopted resolutions directing staff to design a strategy to reduce local carbon emissions 80 percent by 2050. This document responds to that directive. The 2009 Climate Action Plan will guide future efforts by the City and County and provide an innovative framework for the region's transition to a more prosperous, sustainable and climate-stable future. In doing so, it will strengthen local economies, create more jobs, improve health, and maintain the high quality of life for which this region is known.

The broad-scale coordination and planning required to achieve the 80-percent carbon reduction goal will demand that governments, businesses, civic organizations and residents collaborate extensively and take the lead in their own activities.

Fossil fuels are a finite and costly resource, as disruptive swings in oil and natural gas prices make clear. A "low-carbon" society — one markedly less reliant on fossil fuels — will be more stable, prosperous and healthy.

Reducing carbon emissions dramatically is a global challenge that local governments cannot solve alone. The federal government must make fundamental shifts in its energy policy and align its vast research and development resources with climate protection. The State of Oregon has an invaluable role to play in transportation investments, strengthening building codes, regulating utilities, managing forest lands, reducing waste and guiding local land use policies.

Local governments have an indispensable role to play as well; with their important roles both in developing the fundamental shape of the community, transportation systems and buildings, and in helping individuals make informed choices about everyday business and personal choices.

Guided by this Climate Action Plan, Portland and Multnomah County will carry out policies and programs to minimize household, business and government emissions and prepare for the coming environmental and economic challenges. These efforts will help the entire community thrive now and in the future.



### BUDGET FOR A LOW-CARBON FUTURE

	1990	2008	2030	Percent change from 2008	2050	Percent change from 2008
Total carbon emissions (metric tons)	8,599,508	8,495,319	5,134,000	-40%	1,704,000	-80%
Population	584,000	715,000	999,000	+40%	1,355,000	+90%
Per person carbon emissions (metric tons)	14.7	11.9	5.1	-57%	1.3	-89%
Passenger miles per day per person	17.4	18.5	13.4	-28%	6.8	-63%
Electricity (kWh per person)	13,049	12,081	7,869	-35%	3,815	-68%
Natural gas (Therms per person)	391	382	302	-21%	98	-74%

The table and graphs show carbon emissions and related energy use and miles driven in Multnomah County in 1990 and 2008.

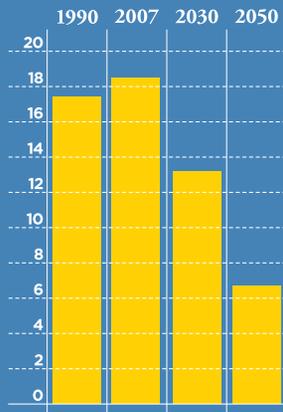
The 2030 column depicts a scenario that puts Portland and Multnomah County on track to meet the 2050 goal.

The 2050 column represents a scenario that achieves the 80 percent carbon-reduction goal. For example, residents in 2050 must be able to meet all of their needs while using only one-third of the electricity and driving only one-third of the miles they drive today.

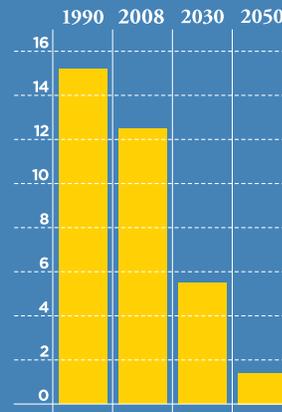
Any number of scenarios could hypothetically achieve the 2050 goal; the one described here reflects the technical committees' judgment about a probable scenario.

Key assumptions are described in Appendix 2.

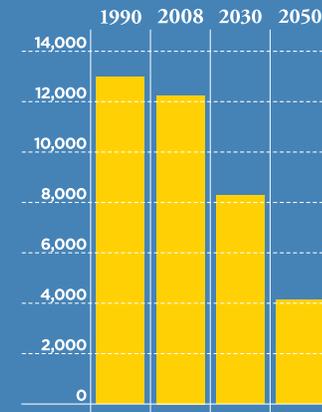
**PER PERSON PASSENGER MILES PER DAY**



**PER PERSON CARBON EMISSIONS (METRIC TONS)**



**PER PERSON ELECTRICITY USAGE (KWH)**



# GOALS AND ACTION AREAS

This Climate Action Plan identifies objectives and actions in eight categories to put Portland and Multnomah County on a path to reduce carbon emissions 80 percent from 1990 levels by 2050.

## The Climate Action Plan:

- Proposes an interim goal of a 40 percent reduction in emissions by 2030.
- Establishes objectives to achieve the interim goal.
- Focuses principally on major actions to be taken in the next three years to shift Portland and Multnomah County's emissions trajectory.

To draft this Climate Action Plan, City and County staff worked with a steering committee and working groups to identify the objectives and actions most likely to foster the long-term changes necessary to achieve such ambitious goals.

Key criteria in developing the actions were the magnitude of emissions reductions, the scale of economic and community benefits, and the ability of local governments to facilitate their implementation.

Portland and Multnomah County are committed to acting decisively to implement these actions and constantly evaluate progress—adapting and revising as necessary. The City and County will report on community carbon emissions annually, evaluate progress and identify new actions every three years, and re-examine the objectives every ten years.

The 2030 Objectives and corresponding Action Areas of the Climate Action Plan are outlined on the following pages. **See the full Climate Action Plan document (available at: [www.portlandonline.com/bps/climate](http://www.portlandonline.com/bps/climate)) for more detailed information and the comprehensive listing of Actions to be taken by 2012.**

## 1

### BUILDINGS AND ENERGY

#### 2030 OBJECTIVES

1. Reduce the total energy use of all buildings built before 2010 by 25 percent.
2. Achieve zero net greenhouse gas emissions in all new buildings and homes.
3. Produce 10 percent of the total energy used within Multnomah County from on-site renewable sources and clean district energy systems.
4. Ensure that new buildings and major remodels can adapt to the changing climate.

## 2

### URBAN FORM AND MOBILITY

#### 2030 OBJECTIVES

5. Create vibrant neighborhoods where 90 percent of Portland residents and 80 percent of Multnomah County residents can easily walk or bicycle to meet all basic daily, non-work needs and have safe pedestrian or bicycle access to transit.
6. Reduce per capita daily vehicle-miles traveled (VMT) by 30 percent from 2008 levels.
7. Improve the efficiency of freight movement within and through the Portland metropolitan area.
8. Increase the average fuel efficiency of passenger vehicles to 40 miles per gallon and improve performance of the road system.
9. Reduce the lifecycle green-house gas emissions of transportation fuels by 20 percent.

# 3

## CONSUMPTION AND SOLID WASTE

### 2030 OBJECTIVES

10. Reduce total solid waste generated by 25 percent.
11. Recover 90 percent of all waste generated.
12. Reduce the greenhouse gas impacts of the waste collection system by 40 percent.

# 4

## URBAN FORESTRY AND NATURAL SYSTEMS

### 2030 OBJECTIVES

13. Expand the urban forest canopy to cover one-third of Portland, and at least 50 percent of total stream and river length in the city meet urban water temperature goals as an indicator of watershed health.

# 5

## FOOD AND AGRICULTURE

### 2030 OBJECTIVES

14. Reduce consumption of carbon-intensive foods.
15. Significantly increase the consumption of local food.

# 6

## COMMUNITY ENGAGEMENT

### 2030 OBJECTIVES

16. Motivate all Multnomah County residents and businesses to change their behavior in ways that reduce carbon emissions.

# 7

## CLIMATE CHANGE PREPARATION

### 2030 OBJECTIVES

17. Adapt successfully to a changing climate.

# 8

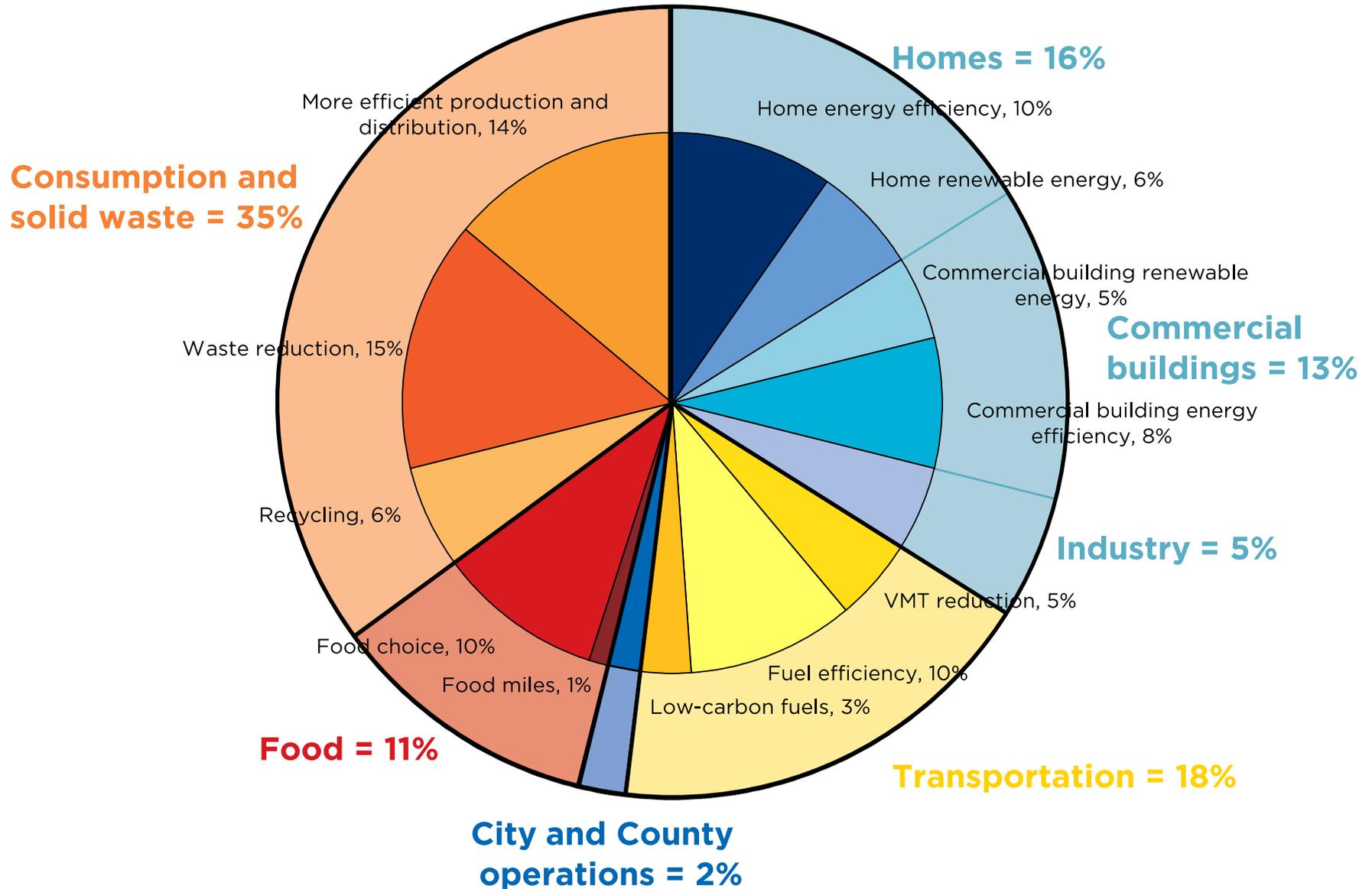
## LOCAL GOVERNMENT OPERATIONS

### 2030 OBJECTIVES

18. Reduce carbon emissions from City and County operations 50 percent from 1990 levels.

# CLIMATE ACTION PLAN

(APPROXIMATE CONTRIBUTION TO 2030 EMISSION-REDUCTION GOAL)



# CLIMATE ACTION PLAN 2009



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