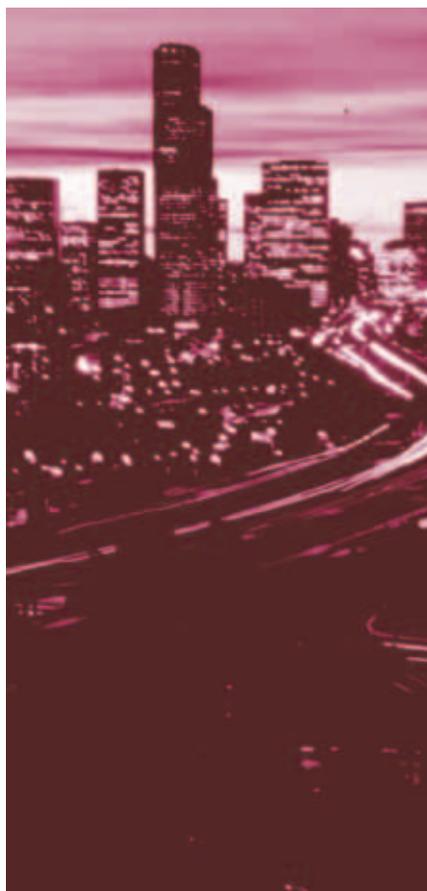


Leading the Way on Climate Change: The Challenge of Our Time



Interim Report



Washington State Department of Ecology
Washington State Department of Community, Trade and Economic Development



STATE OF WASHINGTON

February 6, 2008

The Honorable Christine O. Gregoire, Governor
PO Box 40002
Olympia, WA 98504-0002

Dear Governor Gregoire:

A year ago in your Climate Change Challenge Executive Order, you directed us to consult with a broad range of stakeholders to develop a climate change initiative. In response, we are pleased to present to you *Leading the Way on Climate Change: The Challenge of Our Time*.

Your Executive Order set ambitious goals for reducing and preparing for climate change impacts. Not only will Washington meet those goals, we will lead the way for other states and for the nation. Washington will lead the way on reducing greenhouse gas emissions, growing the clean energy economy, and reducing our state's reliance on imported fuel. We will lead the way on preparing for unavoidable impacts of climate change. And our citizens will be engaged in helping us reach our goals.

We took your charge seriously and brought together some of the greatest minds to help guide the state to a cleaner, greener, and prosperous future. This report includes the work of many dedicated people from across the state who volunteered their time to meet your Climate Change Challenge. More than 200 committed stakeholders worked hard to deliver on your charge. Environmental organizations, business leaders, academia, tribal leaders, labor representatives, and the faith community all participated. Hundreds of Washingtonians provided formal comment on the work and the recommendations contained in this report.

The Climate Advisory Team developed 12 recommendations and 31 strategies to reduce greenhouse gas emissions, increase clean energy jobs and in-state fuel supplies. While some strategies will result in a net cost, most will result in a net savings. An analysis of the recommendations done by the Center for Climate Strategies estimates a net benefit throughout Washington's economy of \$1 billion by 2020.

The Preparation and Adaptation Working Groups created extensive recommendations to help Washington prepare for climate change impacts to human health, agriculture, forestry, our coasts and infrastructure, and water quality and storage. This report also contains updates on local, state and regional efforts to combat the effects of climate change.

The Climate Advisory Team members as well as the Preparation and Adaptation Working Groups were clear that their work needs to continue. In some form, both groups will continue to prioritize their recommendations and to flesh out the most urgent and promising of the strategies. They will come back to you with refined recommendations and plans for action before the 2009 legislative session.

The Honorable Christine O. Gregoire
February 6, 2008
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As you have directed, Washington will continue to participate and provide leadership to the Western Climate Initiative. The initial recommendations for the regional design will be ready by late summer and we will continue to work with our stakeholders and regional partners so the design can be presented to the 2009 Legislature.

It was an honor to serve you as co-chairs of this ambitious and challenging endeavor.

Sincerely,



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Appendices are available at Ecology's website
<http://www.ecy.wa.gov/climatechange/interimreport.htm>

Introduction

Recognizing that climate change presents both tremendous challenges and tremendous opportunities for Washington, Governor Gregoire and the state Legislature issued the Climate Change Challenge through Executive Order 07-02. The Order tasks the directors of Ecology and of Community, Trade and Economic Development (CTED) to lead efforts to reduce Washington's contribution to global climate change, increase clean energy jobs, and reduce the state's reliance on imported fuels.

In response, Directors Jay Manning of Ecology and Juli Wilkerson of CTED brought together leaders from business, agriculture, forestry, energy suppliers, labor, tribes, faith and environmental communities, and all levels of government to thoughtfully develop recommendations on how every sector of the state will help reach ambitious goals set forth in the Executive Order.

This interim report, developed over the course of ten months, is not meant to provide specific direction at the field level. Rather, it provides some of the state's best thinking on what areas, now and over the long term, require the greatest focus and how best to position Washington as a leader in the emerging low carbon economy.

Climate Change is of Particular Concern in Washington

While climate change is of worldwide concern, Washington is particularly vulnerable to its impacts. As a Pacific Rim state, sea level rise associated with temperature rise is a concern. Many of Washington's most populous cities are located on the shores of Puget Sound, as are ports that do brisk trade with countries overseas.

Washington depends heavily on snow pack. Snow melt feeds rivers and streams, providing essential support to a wide array of ecosystems, salmon and other wildlife. It supplies water for hydroelectricity, an important source of clean energy in the Pacific Northwest. It fills irrigation reservoirs to support Washington's rich farmlands and vineyards. Many of Washington's prime recreational areas and tourism destinations, such as ski resorts, rely on adequate snow levels.

Temperature rise has been linked to outbreaks in bark beetles and other pestilent insects, which threaten Washington's forest industry. More than 2 million acres of forests on the east side of the state are diseased. Dead and dying trees, coupled with higher average temperatures, set the stage for catastrophic wildfires.

While available science does not make a direct link between global climate change and specific weather events, it is worth noting that, in her first three years as governor, Chris Gregoire made more emergency declarations than any time in history, for droughts, floods, and catastrophic forest fires.

(For more info on how climate change affects Washington, see

<http://www.ecy.wa.gov/climatechange/index.htm>)

Washington is particularly vulnerable to climate change impacts.

Challenges and Opportunities

While climate change is a tremendous challenge, it also may be the source of tremendous opportunities. Washington is poised to be a leader in the emerging low carbon economy. It is home to world-class business and research facilities. Its unique geography lends itself to advancing alternative energy solutions and reducing and capturing greenhouse gasses. The state's 3,000 miles of coastal waters offer prospects for harnessing renewable energy from the tides and waves.

The Governor and Legislature Take Action

In recognition of the climate change challenges and opportunities, Governor Gregoire and the Legislature directed the departments of Ecology and Community, Trade and Economic Development (CTED) to develop recommendations for reducing Washington's contribution to global climate change, increasing clean energy jobs, and reducing the state's reliance on imported fuels.

In a move not seen in many other states, the Governor's Executive Order 07-02 also asked for recommendations on actions the state should take to prepare and adapt to the unavoidable impacts of climate change that we are already seeing and those that are expected to occur.

And, because the public will play a critical role in both reducing the state's greenhouse gas emissions and being prepared for climate impacts, the Governor also asked for recommendations for public engagement and outreach.

Excerpts from Executive Order 07-02

The Governor's Executive Order declared the state's commitment to address climate change by:

1. Establishing the following greenhouse gas emissions reduction and clean energy economy goals for Washington:

- By 2020, reduce greenhouse gas emissions to 1990 levels
- By 2035, reduce greenhouse gas emissions to 25 percent below 1990 levels
- By 2050, reduce emissions to 50 percent below 1990 levels
- By 2020, increase the number of clean energy jobs from 8,400 to 25,000
- By 2020, reduce expenditures on imported fuel by 20 percent and develop in-state resources

2. Implementing the significant policy actions taken in 2005 and 2006 to reduce greenhouse gas emissions to move the state to 60 percent of the 2020 goal and grow the clean energy economy.

3. Achieving at least the remaining 40 percent toward the 2020 goal for Washington state and planning for the future. To achieve this goal the directors of Ecology and Community, Trade and Economic Development will:

- Consult with a broad range of stakeholders to develop a climate change initiative that considers the full range of policies and strategies to ensure the economic and emission reductions goals are achieved, including policy options that can maximize the efficiency of emission reductions, including market-based systems, allowance trading and incentives.
- Determine specific steps to take to prepare for the impact of global warming.
- Coordinate with British Columbia on regional and national climate policies and coordination.
- Recommend how state government can reduce its own generation of greenhouse gas emissions.
- Work with local governments to maximize coordination and effectiveness.

Extraordinary Teams Formed

Director of Ecology Jay Manning and Director of Community, Trade and Economic Development Juli Wilkerson immediately engaged a broad coalition of leaders to form the Climate Advisory Team (CAT).

The group included the heads of highly respected environmental organizations, captains of industry, presidents of universities, policy makers, tribal leaders, labor representatives, and pillars of the faith community to craft recommendations on reducing the state's greenhouse gas emissions, growing the clean energy economy, and reducing reliance on imported fuel. (See *A Comprehensive Approach to Reducing Greenhouse Gases in Washington State*, page 15, for a full list of members.)

Process and Structure

The Climate Advisory Team was supported by Technical Working Groups (TWGs) structured around different segments of Washington's economy: agriculture; energy supply; residential, commercial and industrial buildings; forestry; and transportation. (See CAT Appendix E for full list of TWG members.) The TWGs had assistance from the Center for Climate Strategies, a national non-profit helping states develop climate change action plans. The TWGs suggested actions that fit the unique characteristics of Washington's economy, institutions, and environment for CAT consideration.

Simultaneously, five Preparation and Adaptation Working Groups (PAWGs) formed to develop recommendations on how the state can prepare for and adapt to the impacts of climate change. (See *Preparing for the Impacts of Climate Change in Washington*, page 87, for a full list of members.) With scientific support from the University of Washington's Climate Impacts Group, the PAWGs examined preparation actions in agriculture, forestry, coasts and infrastructures, water quality, and human health.

In fall 2007, three climate education and citizen engagement summits were held in western and eastern Washington. More than 70 leaders in climate change education – representing energy utilities, business, formal education, non-profits, tribes, and government – created recommendations for engaging citizens in reducing and preparing for the impacts of climate change, and participating in the new green economy. (For complete list of participants, see *Citizen Engagement Appendix T*)

All groups worked together the Washington Way – actively seeking input from a wide array of stakeholders, working toward consensus, and making certain the poor and disadvantaged do not disproportionately bear the impacts of climate change or of actions taken to address climate change. Another value shared by all was to engage the public in every step along the way.

All meetings were announced in advance and open to the public; phone lines were available for those unable to attend in person. A list serve was set up for those wanting current updates, and people were encouraged to post comments on the climate change website. All materials and meeting minutes were posted for three weeks in a timely fashion on the website. Public comment was part of every CAT agenda. In December, the draft recommendations of the Climate Advisory Team, the Preparation and Adaptation Working Groups, and the citizen engagement stakeholders were posted for public review and comment. In response to

Climate Advisory Team's Objectives

Reducing Climate Pollution. By 2020, we will reduce our emissions to what they were in 1990, and then reduce them by another 25 percent by 2035. By 2050, emissions from Washington will be fully 50 percent below our 1990 levels. Goals like these not only inspire, they offer all of us incentives for the future.

Growing the Clean Energy Economy. The steps we take to reduce our impact on the climate are also an opportunity to grow the economy. There are good, family wage jobs in the next Washington, jobs from cleaner energy, smarter use of natural resources and adoption of advanced technology. This sector of our economy is growing rapidly – in fact, it grew 45 percent between 1998 and 2004. Governor Gregoire believes Washington will continue to be a leader in the clean energy economy, with 25,000 jobs in this sector by 2020, a three-fold increase.

► **Moving Toward Energy Independence.** Washingtonians spent more than \$9 billion, almost \$25 million each day, on imported fuel last year – that's more than we spend on K-12 education. Governor Gregoire believes we should keep some of that money in our own economy by growing our renewable fuel industry and becoming more efficient. To help us move toward energy independence, Governor Gregoire's goal is to reduce the amount we spend on imported fuel by 20 percent by 2020.

*This framework
lays the foundation
to help Washington
lead the way to a
cleaner, greener,
healthier and
prosperous future.*

public requests, the comment period was extended an additional two weeks to allow sufficient time for input.

In addressing the challenges and opportunities presented by climate change, nearly 300 stakeholders offered their thoughts on the recommendations found in this report and more than 20,000 sent supportive postcards.

In less than a year, hundreds of people worked together to address the challenges presented in Governor Gregoire's Executive Order. The recommendations contained here provide a framework for a path to the future. This framework lays the foundation to help Washington lead the way to a cleaner, greener, healthier and prosperous future.

What this Report Does and What it Doesn't Do

Leading the Way on Climate Change is an interim report in response to the Governor's Climate Change Challenge. It does not provide specific direction at the field level. Rather, it provides policy makers and others with the best thinking on areas that need attention, now and over the long term, and where opportunities exist to make meaningful, measurable differences.

This report also contains updates on current actions taken to reduce the state's greenhouse gas emissions and creating good paying clean energy jobs. The regional efforts of the Western Climate Initiative to develop market-based mechanisms are highlighted. Local government efforts to reduce their carbon footprint are showcased.

The recommendations from the CAT, the PAWGs, and the citizen engagement stakeholders represent the best thinking of a wide variety of Washingtonians. These recommendations can be used by state leaders to develop clear paths to reducing our greenhouse gas emissions, growing the clean economy, and preparing for unavoidable impacts of climate change.

Recommendations

Climate Advisory Team

The Climate Advisory Team developed 12 recommendations that provide direction for Washington to help meet its emissions and economic goals. Together, these recommendations provide a framework for further action. Acting on them would set in motion Washington's transition to a clean economy, sending signals that motivate entrepreneurs, investors, businesses and individuals to pursue opportunities, technologies, and choices that reduce carbon.

- › **Build market-based mechanisms to unleash the creativity and innovation that will deliver cost-effective emission reductions.**
 - ◆ A market-based approach will allow different segments of society to work together and offer more choices for reducing greenhouse gas emissions.
 - ◆ Establishing a price for continued emissions can support innovative and efficient ways to cost-effectively reduce emissions or increase carbon storage.
 - ◆ Washington should continue participating in the Western Climate Initiative and other national efforts to develop market mechanisms and establish binding limits on emissions consistent with the state's goals.

- › **Set up reporting systems to measure, track and acknowledge progress in emission reductions.**
 - ◆ Washington should establish mandatory greenhouse gas emissions reporting by appropriate sources, in addition to current required reports to Ecology and CTED.

- › **Analyze greenhouse gas emissions and mitigation options early in decision-making, planning processes, and development projects.**
 - ◆ Fully incorporate climate change considerations into governmental decision-making, resource and development planning, permitting and approval.
 - ◆ The State Environmental Policy Act (SEPA) should be used to support the early identification of greenhouse gas reduction opportunities, evaluate emissions, and ensure mitigation options are considered early in the planning phases for significant private and public development activities, regulatory plans and decisions, and transportation projects.

- › **Invest in worker training for the emerging clean economy to ensure having a skilled workforce and meaningful employment opportunities throughout the state.**
 - ◆ Washington should invest in worker training and provide appropriate education and worker training at all levels.

- > **Build and continue to redesign communities that offer real and reliable alternatives to single occupancy vehicles.**
 - ◆ The most promising strategies include:
 - promoting compact and transit-oriented development;
 - expanding transit, ridesharing and commuter choice programs;
 - establishing state, regional, and local Vehicle Miles Traveled reduction goals and standards;
 - promoting and providing incentives for improved community planning and improved building design and construction in the private and non-state public sectors;
 - establishing transportation pricing mechanisms that raise the cost of single-occupant vehicle travel;
 - improving freight and intercity passenger railroads; and
 - identifying new flexible and reliable long-term funding sources, as well as making better use of existing revenue sources, to fund these strategies.

- > **Ensure Washington has vehicles that are as efficient as possible and use non-carbon or lower carbon intensity fuels developed sustainably from regional resources.**
 - ◆ The best strategies to accomplish cleaner fuels include:
 - setting a low carbon fuel standard for transportation fuels sold in Washington;
 - maximizing in-state production of sustainable biofuels and biofuel feedstocks;
 - and improving the commercialization of advanced lignocellulosic processes.
 - ◆ Strategies to promote cleaner vehicles include:
 - diesel engine emission reductions and fuel efficiency improvements;
 - accelerating and integrating plug-in hybrid electric vehicle use;
 - improving freight and intercity passenger railroads;
 - and identifying and instituting new flexible and reliable long-term funding sources, as well as making better use of existing revenue sources to fund these strategies.

- > **Focus investments in Washington’s transportation infrastructure to prioritize moving people and goods cleanly and efficiently.**
 - ◆ Most promising strategies include:
 - transportation pricing mechanisms to reduce single occupancy vehicle travel;
 - transportation system management to increase operational efficiency;
 - transit, ridesharing and commuter choice programs to increase the efficiency of existing infrastructure;
 - improvements to freight and intercity passenger railroads;
 - identifying and implementing new funding mechanisms and making better use of existing revenue sources in order to build and operate our transportation infrastructure.

- > **Design, build, upgrade, and operate new and existing buildings and equipment to maximize energy efficiency.**
 - ◆ Key strategies include:
 - funding for efficiency improvements;
 - encouraging energy efficiency gains across the residential, commercial and industrial sectors, and focusing on efficiency considerations during the initial design of communities and new construction;
 - demand-side management including energy efficiency programs, funds, or goals

for natural gas, propane, and fuel oil;

- targeted financial incentives and instruments to encourage energy efficiency improvements in the development, design, and construction of new and existing energy-using buildings and building systems;
- promoting and providing incentives for improved community planning and improved building design and construction in the private and non-state public sectors;
- energy efficiency improvements in existing buildings, with an emphasis on building operations; and
- combined heat and power and thermal energy recovery and use.

› **Deliver energy from lower or non-carbon sources and more efficient use of fuels.**

◆ Strategies to increase the level of renewable generation delivered to the state's electric grid include:

- grid-based renewable energy incentives and/or removal of barriers and incentives for distributed renewable energy and/or removal of barriers.

◆ Additional strategies include:

- improved commercialization of advanced lignocellulosic processes and regional sustainable production of biofuels and biofuels feedstocks.

◆ Incentives to invest in energy efficiency include:

- rate structures and technologies that promote reduced greenhouse gas emissions;
- transmission system capacity, access, efficiency and smart grid technologies to integrate potential incentives and/or barrier removal to expanding transmission capacity;
- efficiency improvements at existing renewable and power plants; and promotion of and incentives for combined heat and power and thermal energy recovery and use to capture both the efficiency and emissions benefits.

› **Restore and retain the health and vitality of Washington's farms and forest lands to increase carbon sequestration and storage in forests and forest products, reduce the releases of greenhouse gas emissions, and support the provision of biomass fuels and energy.**

◆ Washington needs to keep its forests and farms working, healthy, and productive in storing carbon, and producing biofuels and products that store carbon.

› **Reduce waste and Washington's emissions of greenhouse gasses through improved product choices and resource stewardship.**

◆ Strategies include:

- expanding source reduction, reuse, recycling and composting;
- engaging the public in combating global warming at the household level;
- providing consumer education programs, including labeling of embodied life-cycle energy and carbon content of products and buildings;
- developing and implementing educational programs for professionals involved in delivering services in support of residential, commercial, industrial, and other policy strategies considered by the CAT;
- improving product choices through more stringent appliance/equipment/lighting efficiency standards, appliance and lighting product recycling and design, availability of climate-friendly products, and increased use of waste through in-state production of biofuels from waste biomass.



› Allocate sufficient state resources to maintain Washington's leadership role regionally and nationally and to fulfill its responsibilities for structuring and guiding implementation of emission reduction strategies.

- ◆ The state should use incentives and standards to jump-start, accelerate, and sustain the changes needed to develop the clean economy;
 - commit sufficient resources to integrate regional and national carbon-control programs into the overall economy;
 - support capacity building for local and tribal governments to fulfill their responsibilities in assessing emissions, identifying emission reductions opportunities, and integrating adaptation and emissions reduction efforts in current development and transportation planning and/or natural resource systems restoration;
 - support research, technology transfer, and commercialization of promising technologies and applications.
- ◆ The state should commit sufficient resources to further develop these climate change challenge recommendations, including support for continued involvement with WCI; continued engagement by the CAT; education, workforce training and public outreach; and beginning to incorporate climate considerations into state operations.

Preparation and Adaptation Working Groups

Washington is leading the nation in looking at not only reducing our greenhouse gas emissions and growing a clean energy economy, but also in taking steps to prepare for the inevitable challenges of climate change.

Climate change creates circumstances in which planning and decision-making must be open to new ways of thinking and new possibilities. By focusing now on reducing greenhouse gas emissions while also taking steps to prepare the state for climate change impacts, Washington can increase the likelihood that the state's citizens will prosper in a time of unprecedented changes.

In formulating preparation and adaptation strategies and recommendations, the *Preparation and Adaptation Working Groups* identified several recurring and unifying themes:

- ◆ Action is needed now, while we improve scientific knowledge.
- ◆ Impact of climate change on water resources has broad economic, biological and social implications across all sectors.
- ◆ Restore and maintain ecosystems.
- ◆ Preparation and adaptation needs to recognize the variability of potential impacts of climate change on sectors and geographic areas within the state.
- ◆ Some populations are affected disproportionately.
- ◆ Preparation and adaptation are costly.

Preparation and adaptation can take many forms. Although these specific initial strategies were developed by different Preparation and Adaptation Working Groups, many of them reflect larger overarching concerns and are grouped together below.

› Enhance emergency preparedness and response.

- ◆ An Emergency Task Force should be convened to review emergency management planning requirements and guidelines for heat waves and emergency preparedness exercises. The Emergency Management Division should coordinate to improve the state's ability to respond to such emergencies.
- ◆ Collaboration across multiple jurisdictions, landowners, and stakeholders is needed to promote agreement on forest health and fire hazard response approaches.
- ◆ Appropriate statewide drought management strategies that account for evolving drought risks in a drier climate should be developed. Accounts for drought preparedness and emergency water supply projects should be funded and criteria for using funds should be modified.

› Incorporate climate change and its impacts into planning and decision-making processes.

- ◆ Revise state land use, shoreline, and flood control planning statutes and regulations, and clarify the State Environmental Policy Act (SEPA) to effectively address sea level rise and other climate change impacts.
- ◆ Incorporate climate change considerations into emergency planning.
- ◆ Incorporate best available sea level rise and other climate change data and information into state and local government planning to promote resiliency of ecological systems and communities.
- ◆ Incorporate future sea level rise concerns and other climate change impacts in prioritization for funding, design, and post-project operation and maintenance.

› Restore and protect natural systems and natural resources.

- ◆ Complete a vulnerability assessment to identify specific species, habitats, landscapes, ecosystem functions, and cultural resources that may be most sensitive to climate change.
- ◆ Develop a better understanding of likely impacts on tree species, evaluate strategies and begin to implement risk management strategies to ensure perpetuation of tree genetic resources.
- ◆ Identify and maintain protected forest areas that may be capable of sustaining at-risk species
- ◆ Improve and protect stream flows for environmental and resources values.
- ◆ Develop strategies to respond to potential increases in undesirable exotic and invasive species.
- ◆ Develop guidelines to address climate impacts in habitat restoration and protection projects, and direct state and local governments to use them.

› Develop and improve water supply and management.

- ◆ Identify and change existing water resource policies, agreements and laws that limit the ability to manage water resource problems caused by climate change.
- ◆ Continue to investigate and invest in the development of large and small scale water storage, including ground water storage to replace snowpack losses.
- ◆ Evaluate options (reclaimed water, storage, water conservation and efficiency, desalinization) to meet water demand, considering climate change impacts.

- ◆ Fund additional research and monitoring programs to improve understanding of available water supplies, water use, and linkages to climate change.
- › **Build institutional capacity and knowledge to address impacts associated with climate change.**
 - ◆ Create scientific advisory committees to assist decision-makers in responding to extreme forest health and fire hazard problems.
 - ◆ Improve coordination of regulatory requirements to remove unneeded barriers to preparation and adaptation.
 - ◆ Engage the private sector as a partner through market and investment opportunities.
 - ◆ Create programs and incentives to encourage the consolidation or cooperative management of natural resources (e.g., water, forests, fish and wildlife).
 - ◆ Improve mapping and characterization of sea level rise vulnerability for all of Washington's coasts.
 - ◆ Departments of Health, Agriculture, Fish and Wildlife, and Ecology collaborate on monitoring and surveillance to better understand changing environmental, ecologic and health conditions due to climate change.
- › **More effectively manage and share best available data.**
 - ◆ Institutionalize ready access to best available science from regional to site-specific scales, relating science to climate change impacts on stream hydrology and aquatic resources.
 - ◆ Develop rapid technology transfer mechanisms to facilitate the use of modeling information in plans and prioritization.
 - ◆ Develop a clearinghouse for scientifically credible field-level best practices to address natural system responses to climate change.
- › **Educate, inform and engage landowners, public officials, citizens and others.**
 - ◆ Create incentives and programs to transfer knowledge and technologies to assist farmers with new production methods, drought tolerant species, etc.
 - ◆ Inform property purchasers and investors of the risk of sea level rise that may affect coastal property.
 - ◆ Provide comprehensive data and information to landowners, policy-makers, and the public about existing and developing forest health and fire hazard conditions.
 - ◆ Provide educational outreach on water use, water conservation and efficiency.
 - ◆ Provide outreach to the public and others to help them plan and prepare for climate change.

Citizen Engagement and Action Framework

The Governor's Executive Order asked for recommendations on how to engage and educate citizens in reducing greenhouse gas emissions and preparing for impacts of climate change. A representative group of climate change education stakeholders assisted in developing the following intended results as part of a draft Citizen Engagement and Action Framework:

- ◆ *Technical Assistance* - Consumers, homeowners, commuters, business owners, and others have the technical assistance they need to make choices that will reduce their greenhouse gas emissions.
- ◆ *Program Capacity* - Existing climate change educators coordinate to deliver effective programs in local communities; gaps are identified and filled.
- ◆ *Economic Advantage* - A trained and knowledgeable "green collar" work force helps place Washington in a competitive global economic position.
- ◆ *Education & Training* - A vocational/technological career pathway from high school to post-secondary institutions produces a workforce prepared to meet climate change challenges.
- ◆ *Access* - A climate change clearinghouse of information and resources is created and maintained.
- ◆ *Youth Grassroots Engagement* - A peer-to-peer network of youth is informed and motivated to reduce their GHG emissions, seek careers and business opportunities, and develop appropriate technology.
- ◆ *Media Informs Citizens* - The media consistently have the information they need, when they need it, to help citizens make informed decisions.
- ◆ *Preparing for Unavoidable Impacts* - Farmers, foresters, coastal landowners, homeowners and many others understand what actions they can take to prepare for and adapt to climate change.



Next Steps

Leading the Way on Climate Change is an interim report on the recommendations developed in response to the Governor's Climate Change Challenge. The process doesn't end here. As steps are taken to implement these recommendations, more will be learned. As we track the actions we take and the decisions we make, we need to have the political and economic will to make adjustments and in some cases, change course. That's what leadership entails – the willingness to take risks, to attempt to do the right thing with the best science, information and thinking available at the time.

The following are next steps identified in this report. Taking these steps will help Washington achieve the goals identified in the Governor's Executive Order.

› Mitigation and Preparation

The Climate Advisory Team has identified the specific implementation pathways for some, but not all, of the policies and programs that it has recommended in this report. This interim report provides a strong foundation for the next phase of work, and it is likely that some version of the Climate Advisory Team will need to continue to identify and prioritize specific work needed in 2008 and beyond.

Decisions also need to be made on how the state will address adapting to the inevitable impacts of global warming, and how mitigation actions and preparation can best be linked together.

› Legislation

This 2008 legislative session sees many bills related to climate change being introduced. The Governor's climate change bill, Senate Bill 6516 and House Bill 2815, will reduce greenhouse gas emissions and create clean energy training, apprenticeships and jobs.

› Western Climate Initiative

Washington will continue to be actively involved through the Western Climate Initiative in designing a regional cap-and-trade market mechanism, which will be taken to the 2009 Legislature. The state needs to determine how best to support and work with local governments on climate change issues. More public involvement is necessary. The process to date has operated at an incredibly fast pace, and while all attempts were made to be inclusive and open, there still are many stakeholders who need to be engaged.

› Partnering with British Columbia

Washington and British Columbia will continue the collaboration outlined in the Memorandum of Understanding. They will expand on current research and work cooperatively to mitigate and prepare for the impacts of climate change that cross national boundaries.

› Citizen Engagement and Action

The goals, or results, for citizen engagement evolved from hundreds of actions identified by climate education stakeholders. The proposed framework included in this report contains examples of some of those actions. To fully develop a plan for engaging citizens, many more stakeholders need to be involved in identifying which actions should be taken now and which actions should be taken in the future. Actions need to be tied to programs and opportunities that currently exist,

and gaps need to be identified. The current actions developed by the citizen engagement stakeholders are most closely tied to the early work of the Technical Working Groups. Much more needs to be done to identify opportunities for citizen engagement in the Climate Advisory Team's and the Preparation and Adaptation Working Group's recommendations.

› Climate Impacts Group

The University of Washington's Climate Impacts Group provided up-to-date scientific support to the Preparation and Adaptation Working Groups. They issued an interim report in December 2007 outlining the work done to date. In 2008, the Climate Impacts Group will focus on the following areas:

- ◆ *Human Health* – study the health impacts of past and projected excessive heat events and air pollution on vulnerable human populations, especially children.
- ◆ *Agriculture* – select the most important agricultural systems in terms of economic value, assess the impacts of prescribed climate change on the systems, and develop budgets for current and future cropping systems.
- ◆ *Coastal* – develop inundation and flooding coastal hazards maps, as well as erosion vulnerability, for specific geographic areas.
- ◆ *Infrastructure* – identify aspects of the state's infrastructure that are most vulnerable to climate change and the potential for adaptation and preparation, as well as the vulnerability of urban infrastructure to increased stormwater runoff.
- ◆ *Forestry* – identify transition areas where productivity may significantly change under future scenarios.
- ◆ *Water resources* – develop a range of finer scale resolution data and understanding of the hydrology and water resources at the watershed scales.
- ◆ *Salmon* – assess vulnerability of key habitats and species.

In addition to the Climate Impacts Group work in 2008, there is potential for legislative action to require the development of a comprehensive adaptation and preparation program.

› Current State Actions

- ◆ Washington will continue to fully implement the actions mandated by the Legislature and Executive Order 07-02 that address clean cars, clean fuels, state fleet efficiency, green buildings, energy efficiency, renewable energy and the greenhouse gas emission performance standards.

› Carbon Footprint

The Department of Ecology conducted a pilot project to assess the "carbon footprint" of its Olympia headquarters. Other state agencies' sustainability teams could expand this pilot project to:

- ◆ Adopt greenhouse gas emissions reduction goal of zero net emissions by 2020, striving toward negative GHG emissions;
- ◆ Analyze their agency's carbon footprint;
- ◆ Develop a greenhouse gas emissions reduction plan for their agencies, with targets for reductions by 2010, 2015 and 2020.

