



Executive Summary

Sustainable Washington 2009:

Planning for Climate Change

November 2009

SUSTAINABILITY
ACTION



American Planning Association
Washington Chapter

Making Great Communities Happen

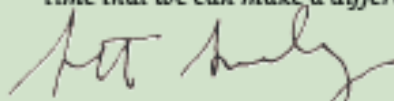
A letter from Chapter President Scott Greenberg

Climate Change is now emerging as the transformational challenge of the twenty-first century. A publication of the Washington Chapter of the American Planning Association (APA Washington), this latest edition in the Livable Washington series is issued under a new name, reflecting both our increased understanding of livability in terms of sustainability and the critical issue of climate change. Sustainable Washington 2009: Planning for Climate Change is intended as a resource for Washington planners as they work to better understand the environmental consequences of climate change, take measures to help our communities adapt to the change, and reshape our built environment in ways that can mitigate the emissions of greenhouse gases. This Executive Summary provides highlights from an extensive 80-page web-based document which is posted on the APA Washington website at:

www.washington-apa.org/sustainable_washington

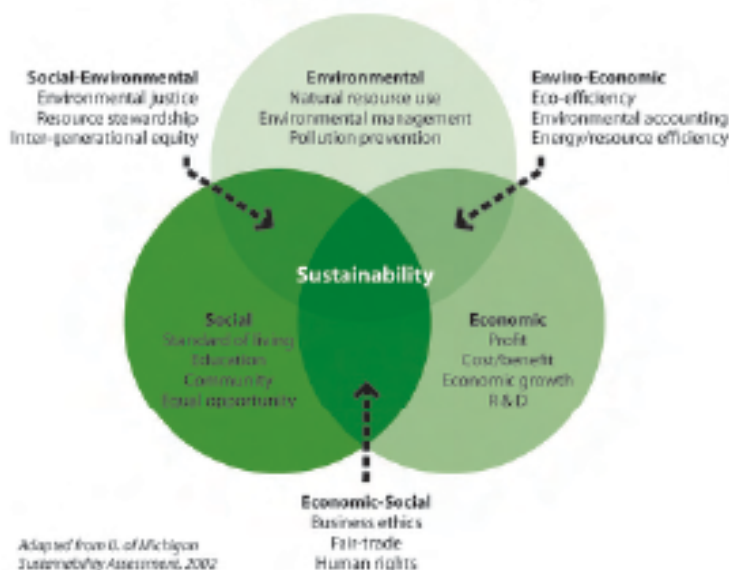
When it began in 2008, a major goal of Sustainable Washington was to identify what planners can do to address climate change. As professionals, students and citizens, we all have different levels of knowledge and commitment relating to climate change. The full report provides specific suggested actions at three different levels: Getting Started, Making a Commitment and Expanding the Commitment. I encourage you to read the larger report and then commit yourself to take appropriate actions.

A 2009 APA report stated "Climate change may be the defining issue of our time. This monumental challenge is daunting and global in scale, but the responses are ultimately local and regional. Planners are uniquely positioned to lead individual communities in finding new ways to meet energy needs, cut greenhouse gas (GHG) emissions, and face the impacts that climate change may bring." We need not just to plan, but to lead. Now is the time that we can make a difference.



Scott Greenberg, AICP
President, APA Washington

Three Spheres of Sustainability



"In the course of history, there comes a time when humanity is called to shift to a new level of consciousness, to reach a higher moral ground. A time when we have to shed our fear and give hope to each other. That time is now."

– Wangari Maathai, Founder of the Green Belt Movement and 2004 Nobel Peace Prize Winner

Key Definitions

Sustainability – The foundational definition of sustainability was established by the 1987 report from the World Commission on Environment and Development, *Our Common Future* (the 'Brundtland' report): "Development that meets the needs of the present without compromising the ability of future generations to meet their own need."

Climate change – Climate change refers to the alteration of the global atmosphere attributed to human activity compared to natural climate variability. Climate change effects are not limited to global warming (increases in surface temperatures), but also include sea-level rise, ocean and ice sheet dynamics, ocean acidification, and extreme weather events.



Eight Principles for Meeting the Climate Change Challenge

As we engage in this call to action, we remind planners of the principles underlying this effort:

- 1) **Reduce Greenhouse Gas Emissions** – both from vehicles through land use planning approaches and buildings through incentives and development regulations.
- 2) **Integrate Issues** – develop policies and programs that include issues beyond land use – food systems, hazards, local economy, and social equity.
- 3) **Think Holistically** – connect across government departments, special districts, agencies, and professions to identify and integrate holistic solutions.
- 4) **Engage & Educate** – protect the public interest and involve citizens in climate change decision-making and actions.
- 5) **Plan & Act Strategically** – use the full array of planning tools strategically to incorporate climate change issues.
- 6) **Create benchmarks** – set benchmarks over the necessary long time frames to monitor progress.
- 7) **Be Adaptive** – assure adaptation to climate change is well-planned and equitable, as well as flexible and adaptive as our understanding of climate change impacts evolves.
- 8) **Be Leaders** – Planners are trained to be inclusive, holistic and integrative – the characteristics needed of leaders as we face this challenge.

Reasons to be Proactive:

- 1) We need to act **now** because climate change is already in motion.
- 2) Significant reduction of greenhouse gas emissions is possible, but it is unlikely that greenhouse gas emissions will be stabilized or reversed in the near term.
- 3) Climate change is expected to continue long after greenhouse gases are stabilized.
- 4) Climate change will likely lead to irreversible losses in some areas.
- 5) Climate change will have largely negative economic consequences, but may also create economic opportunities.
- 6) Preparing for climate change is "good government."
- 7) Localities, regions and states are on the front lines of climate change impacts, and have a responsibility to respond.
- 8) Proactive planning is more effective and less costly than responding reactively to climate change impacts as they happen.
- 9) Thinking strategically can reduce future risks and increase future benefits.
- 10) Anticipating future changes can add value to today's investments at low additional cost.

Source: *Preparing for Climate Change*, guidebook prepared by UW-CIG / King County / ICLC, 2007

Commitments from the APA

The APA Washington Board of Directors is committed to following up on the recommendations of *Sustainable Washington* through its legislative agenda. APA Washington's active and extensive Legislative Committee has defined a number of actions needed at the State level to address climate change and will support legislation to enact these changes.

APA Washington is committed to an outreach effort to connect with regional and state planning entities, allied professions, and relevant non-profit organizations to share the information included in *Sustainable Washington*.

Additionally, we know that both the science of climate change and the range and effectiveness of responses will advance. APA Washington commits to future editions of *Sustainable Washington* and/or changes to the resource base on the APA Washington website to capture those advancements and to stay current and effective as a useful tool.

A Call to Action

Climate change is no longer a speculation by scientists looking to predict the future with limited evidence. To our great concern, the largest uncertainty remains not about if it will occur, but only how quickly it will come and how much our actions can slow or reduce its impact.

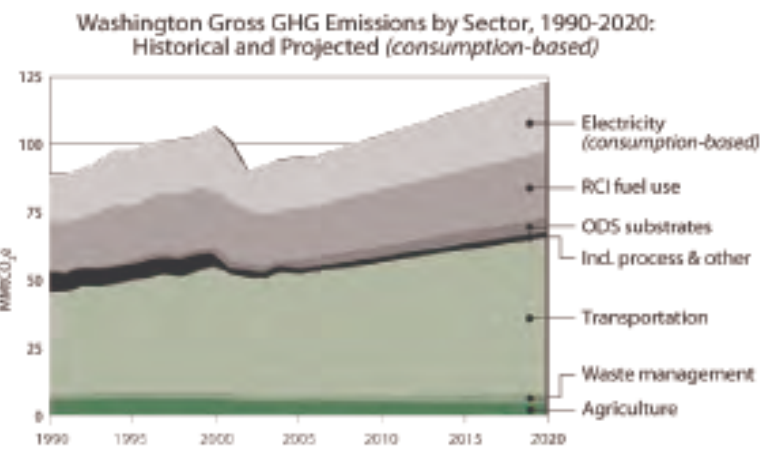
Climate change is a unique and unprecedented challenge. It is one that planners cannot solve alone, but neither can it be solved by any single profession, invention, or innovation. It will take the combined efforts and the combined expertise of many planners, architects, engineers, inventors, investors, politicians, scientists and citizens to make a real and lasting difference. Planners, by virtue of their holistic, long-term, and integrative approach, can take a leadership role in developing and implementing lasting solutions.

We need our planners, not just to plan, but to lead. There is no time left to wait for others in this effort.

The time to act is now.

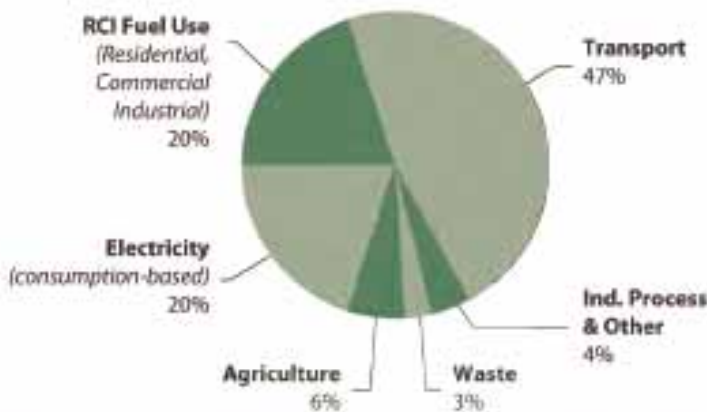
Why is climate change a planning issue?

The more we understand climate change, the more we see how planning can help. The growing consensus in the worldwide scientific community is that manmade (anthropogenic) greenhouse gases (GHG) are a significant cause of climate change. That consensus reached a critical milestone in February 2007 with the release of the Intergovernmental Panel on Climate Change¹ (IPCC) Fourth Assessment Report (IPCC4). That report concluded that "warming of the climate system is unequivocal"² and that "most of the global average warming over the past 50 years is very likely due to anthropogenic increases."^{3,4} As shown in the charts on this page, GHG emissions are produced by electricity production, transportation, industrial processes, waste management, agriculture and other activities. Simply stated, climate change is a planning issue because the activities that planners regulate and the transportation/land use systems we create are significant sources of greenhouse gases.



"Washington State Greenhouse Gas Inventory and Reference Case Projections, 1990-2020" December 2007, Center for Climate Strategies for Washington Department of Ecology and Department of Community, Trade, and Economic Development

Gross GHG Emissions by Sector, 2005 Washington State



"Washington State Greenhouse Gas Inventory and Reference Case Projections, 1990-2020" December 2007, Center for Climate Strategies for Washington Department of Ecology and Department of Community, Trade, and Economic Development

- 1 The Intergovernmental Panel on Climate Change was established in 1988 by the United Nations Environment Program (UNEP) and the World Meteorological Organization (WMO) to "provide the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences."
- 2 http://www.ipcc.ch/pdf/assessment-report/ar4/ar4_01_01.pdf, p.1
- 3 In IPCC terminology, "very likely" means at least a 90% probability.
- 4 http://www.ipcc.ch/pdf/assessment-report/ar4/ar4_01_01.pdf, p. 5
- 5 University of Washington Climate Impacts Group, "Evaluating Washington's Future in a Changing Climate," February 2008.

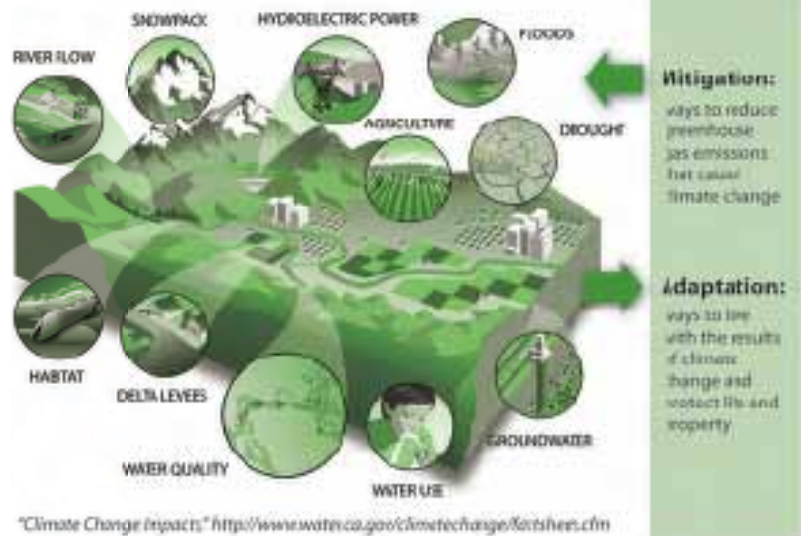
What are the predicted effects of climate change in Washington?

Climate change will have specific local effects that scientists can predict and to which local cities should be prepared to respond. A report released by the University of Washington's Climate Impacts Group (UW-CIG) identified a range of probable impacts on climate in the Northwest⁵ including:

- **Less Water** – April snowpack, a major source of Washington's water supply, is projected to decrease by nearly 30% across the state by 2020, 40% by 2040, and 65% by 2080. This increases the likelihood of stresses on summer water supplies.
- **Declining Energy** – Hydropower, which is 70% of the Pacific Northwest's energy production, is expected to see substantial declines during summer seasons due to reduced stream flow: 9-11% by 2020, 13-16% by 2040, and 18-21% by 2080.
- **Fewer Salmon** – Rising stream temperatures will likely reduce the quality and extent of freshwater habitat for salmon.
- **Increased Forest Fires** – Due to increased summer temperature and decreased summer precipitation, the regional area burned by fire is projected to double by 2040 and triple by 2080.
- **Increased Flood Potential** – Regional climate simulations predict increases in extreme high precipitation events in the next half-century, likely increasing localized flooding.

A Unique Challenge

How do planners relate to these global challenges? Action intended to reduce the amount of greenhouse (GHG) gases produced by industrial society can be described by the collective label of **mitigation**. Many measures that planners can influence – energy conservation, compact urban development, green construction practices – are forms of mitigation. Planners also have an essential role in **adaptation** – planning for the consequences of climate change – through measures that protect life and property from climate produced impacts such as flooding and forest fires and climate-induced environmental changes such as sea level rise and reduced water supplies.



What Can Planners Do?

The full *Sustainable Washington: Planning for Climate Change* document is posted on the APA Washington website at: www.washington-apa.org/sustainable_washington. This web-based document lists nearly 200 actions that planners can take to provide both mitigation and adaptation to climate change. The sampling below provides a few highlights from each of the eleven topic areas addressed in the extensive web-based document.

Impacts and Hazards

★ Acknowledge and include longer term planning.

Expand your planning horizons beyond short (one to five-year) and medium (five to 20-year) time frames to include longer (50-plus year) plan horizons. The cumulative impacts and hazards associated with climate change extend well beyond the traditional planning time frames used in state, regional, and local planning, even under GMA.

APA Washington's six principles to guide a Smart Growth strategy:

- 1) *Build on strong public support for environmental protection*
- 2) *Create statutory clarity*
- 3) *Promote efficient governance*
- 4) *Focus state investments*
- 5) *Promote housing affordability*
- 6) *Provide resources for planning*



Water and Ecosystems

★ Realign shorelines and critical areas protections.

Clarify in state regulations and local codes that the science behind both shoreline master programs and critical areas regulations should apply comprehensively and consistently to these important ecosystems.

★ Reuse water.

Encourage and remove barriers to the use of rainwater, gray water and wastewater on-site for non-potable water needs. Use reclaimed water for landscape irrigation in new developments and on public property.

Energy Use in the Built Environment

★ Conduct an audit of municipal buildings.

Recently passed energy efficiency legislation (SB 5854) mandates strengthening energy codes in Washington State during the next four through 22 years and requires an Energy Star Building Operations audit of municipal buildings by 2010.

Land Use

★ Amend regulations to support smart growth.

Amend local regulations – including zoning and subdivision ordinances, parking standards, annexation rules, adequate public facilities requirements, and design guidelines – to facilitate smart growth through normal approval processes.

★ Promote adaptation and infill over greenfield development.

Create incentive programs that foster infill in existing districts over new development on greenfield sites; and establish impact fees that encompass the true costs of extending infrastructure to greenfield sites.



Spokane's Samac Building is one of only five LEED-platinum® certified structures in the State and the only one of its kind east of the Cascades. Originally a hotel built in 1908, the Samac now features a rooftop garden and a large solar panel array seen here that helped reduce building power consumption by 86%. (Washington State Department of Ecology)

Food Security and Agriculture

- ★ Provide planning support for farmland preservation.

Evaluate options for maintaining viable agricultural land as appropriate. Options may include down-zoning of farm lands, developing a county-wide Transfer of Development Rights (TDR) program, and conservation easements. At the state level, develop and implement carbon credit trading from urban to agricultural areas.

Mobility

- ★ Require GHG reduction goals in local, regional and State plans.

Establish GHG emission reduction goals to be adopted as part of local, regional, and state transportation plans. Ensure consistency between regional goals and local goals in the local comprehensive plan certification processes.

Social Equity

- ★ Plan for affordable housing near transit.

Provide height bonuses, reduction in minimum lot sizes, and other incentives to encourage affordable housing within walkable distances to public transit.

Public Health

- ★ Minimize heat impacts through design.

In project design, recognize and avoid the creation of "heat islands"; develop strategies for cooling in both urban and rural environments – including cool roofs, urban forestry, natural or radiant heating and cooling.

Construction and Green Building

- ★ Promote district or neighborhood scale efficiencies.

Establish code provisions and incentives for neighborhood scale improvements that capture green building benefits, such as infill development, cottage housing, district heating and cooling, distributed generation grids, and pedestrian-friendly mixed-use communities.

Waste

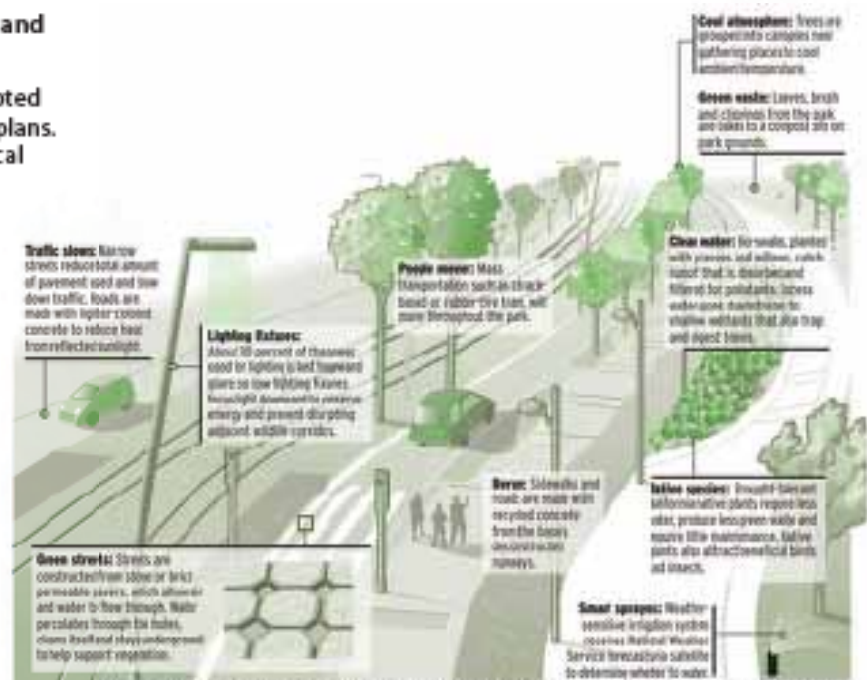
- ★ Implement waste-to-energy technologies.

Investigate and implement feasible technologies for waste-to-energy in municipal utilities, such as the capture of methane gas emissions from solid waste landfills and wastewater treatment plants for conversion to heat and/or energy. Explore opportunities to turn non-recyclable organic waste into energy by using Anaerobic Digester systems.

Economy

- ★ Encourage economic resiliency.

Encourage resilience in the local economy through economic diversification and locating businesses and industry outside of areas of known – and anticipated – natural hazards.



Reprinted with permission, The Orange County Register (OCRegister.com), Molly Zisk/Charis J. Lerner, May 17, 2007. Source: Pucos Engineering

Washington's GMA and Climate Change

Washington's Growth Management Act (GMA) is among the nation's most forward-thinking planning-enabling legislation. GMA's broad reach and spectrum of issues addressed make it central to planners' response to climate change.

In January 2009, APA Washington released a report entitled "Toward a Smart Growth Strategy for Washington." This report offered general guidelines and specific recommendations for statutory changes to the GMA to help address climate change and other important issues. Below are selected recommendations relevant to climate change:

- *Add climate change to the goals of GMA. The Chapter continues to support amending GMA planning goals to include climate change, either as a stand-alone goal or as part of the existing environment goal.*
- *Create a statewide GMA plan. In the Livable Washington 2005 update, the Chapter called on the State to develop a statewide plan addressing the environment, rural lands, governance, infrastructure funding, economic development, and more. The Chapter continues to believe that a comprehensive statewide plan is needed.*
- *Target State infrastructure funds (and local infrastructure assistance funds) on projects that reduce climate change emissions. HB 5560 is a step in this direction. The Chapter encourages the strong implementation of this legislation.*

- *Amend GMA to recognize the role of transit-oriented development and multi-modal transportation in concurrency. Encourage compact urban development and multimodal transportation via flexible concurrency requirements as an approach under GMA by amending the language in 36.70A.070(6).*
- *Require that reductions in vehicle miles traveled and greenhouse gas emissions be addressed regionally. The Chapter continues to believe that this is a regional issue that should be addressed in regional transportation plans. This would be accomplished by amending RCW 47.80.*
- *Require Special Purpose Districts to create plans consistent with local and regional GMA plans. It has been the long-standing position of the Chapter that these special districts should be brought under the planning requirements of the Act. The Chapter continues to believe this should be accomplished by amending RCW 36.70A.040 and .280.*
- *Provide financial resources and retain Department of Commerce technical assistance for local climate change planning. The state budget allocation for the Department of Commerce's technical assistance program should support a strong climate-change program.*

Beyond GMA: Sustainability

While the Growth Management Act provides a central framework for planning in Washington State, planning for climate change requires expanding the focus of GMA to embrace planning for sustainability. Ultimately, we need to plan for more people in ways that use even

fewer of our resources than we do now. Without a comprehensive reworking of the various planning, economic and environmental tools available in Washington State into a cohesive – and efficient – whole, it is likely that what we will see is a steady expansion of mandates, increase in complexity, and confusion of purpose. Rather than a layering of regulation, what we need is a simpler, more cohesive, and more sustainable approach.


Bellingham's Farmers' Market is an outstanding example of how such places can promote local economies, act as community gathering spaces, boost urban value and even exemplify recycling strategies - the open-air building was constructed of reclaimed steel sourced from a bridge that once spanned the nearby Skagit River. (Images: Bellingham Farmers' Market)



APA Washington Resources

This Sustainable Washington effort has generated these other resources for planners:

- An 80-page **web-based document** describing nearly 200 actions planners can take to address climate change mitigation and adaptation in their work at the municipal, regional, and state levels. This document is located at: www.washington-apa.org/sustainable_washington
- The 2008 **Survey of Planners**, including the responses of over 500 planners in Washington and their efforts toward addressing climate change and sustainability issues. This document is located at: www.washington-apa.org/news/article/2008_member_survey_results/
- An open-architecture **wiki of Planners' Stories**, describing the successes and challenges encountered by local jurisdictions in developing climate action plans or sustainability strategies. The wiki format will allow local planners to add their own accounts and to update existing listings, as new efforts are underway. This document is expected to be completed in November.
- The 2009 **Sustainability Policy Sampler** that include example policies from local Comprehensive Plans and other documents from 20 cities around the state. This document is expected to be completed in December.



"The earlier effective action is taken, the less costly it will be. At the same time, given that climate change is happening, measures to help people adapt to it are essential. And the less mitigation we do now, the greater the difficulty of continuing to adapt in the future."

– **Stern Review: The Economics of Climate Change, Executive Summary**

Above: The 120-acre High Point neighborhood in West Seattle is replacing WWII-era housing with Built Green™ three-star homes, town-homes, condominiums and apartments – 1,600 units in all – planned and built with sustainability in mind. From preserving existing trees on the site, to using porous concrete for sidewalks and roadways, to energy-conscious architecture, to full integration with existing transit, the High Point development is winning national recognition for sustainable design, all while proving popular with buyers. For more, visit: www.thehighpoint.com

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