

## **Session: Planning for Climate Change in the Interior West**

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### **Presentation Summary**

#### **Introduction**

Land use planners have long had a hand in determining the future of the Interior Western U.S. – particularly in recent decades, as the region’s population has exploded, the economy has changed, and limited resources such as water, energy and open space have had to be shared among more residents. A new challenge, global climate change, is adding another dimension to the role of land use planners in shaping the West. Land use-related climate change practices and policies have the potential to be among the most cost effective and efficient ways of reducing greenhouse gas emissions, are essential in adapting to existing and inevitable climate change, and often provide additional economic, environmental, and quality of life benefits as well.

Climate change is among the most daunting issues that the world, including the Intermountain West, faces today. The region stands to be hard hit by global warming’s impacts, particularly in terms of making already scarce water supplies even more limited, but also by stretching power supplies, degrading wildlife habitat, increasing wildfires, and potentially decreasing the quality of life that accounts for much of the region’s economic vitality.

Increasing the ability of land use planners to begin to act on climate change immediately is crucial – especially in the Interior West, a region that has not embraced voluntary measures to the same degree as other U.S. regions. The form that the explosive growth and development now occurring in the West takes, be it sprawling or compact, will in large part determine the region’s future ability to reduce greenhouse gas emissions and adapt to climate change.

Western states are leading the way in enacting policies to reduce greenhouse gas emissions. Eight of the eleven Western states have produced climate action plans that quantify the potential greenhouse gas emissions potential and cost effectiveness of a range of policies, and two more states will release similar documents in 2008.

Many of the policies within these plans relate to land use planning, and whether and when they can be effectively implemented depends on the action and initiative of local land use planners. Despite barriers to local climate action that appear more prevalent in the Interior West, planners can use the information in the state climate action plans to better understand which policies make the most sense in their specific context. They can begin or continue to advocate for policies that have the greatest potential to reduce greenhouse gas emissions and promote adaptation. Even if

local politics prevent them from overtly advocating for such policies in response to climate change, the data in these plans indicate which policies may also save their communities money and provide additional benefits, so planners can advocate for them on those grounds.

While the role of land use planners in confronting climate change is becoming increasingly clear, planners face a range of challenges in engaging in effective action. Exactly what these barriers are and how they can most effectively be addressed are crucial questions to answer if land use planners are to successfully integrate climate change mitigation and adaptation into their work.

The land use-related policies described in the state climate action plans relate to several different areas:

- Transportation and Land Use
- Green and Energy Efficient Building Practices
- Energy planning
- Forestry and Wildfire Planning
- Local Agriculture and Open Space Preservation
- Water Use Efficiency

### **The Potential Impact of Land Use Planning Responses to Climate Change**

In the Western U.S., land use planners work in a wide range of contexts: as specialists on a narrow range of issues within large planning and zoning teams in major cities, to “lone rangers” or members of very small planning staffs responsible for all aspects of land use planning, including zoning and codes, in smaller communities. Planners also confront a broad range of planning challenges in the changing West, from high demand for building permits in rapidly growing areas, to rural issues of declining populations and tax bases. The degree of concern about climate change in Western communities also varies widely, from broad support for immediate action to a marked reluctance to prioritize the issue.

Wherever they work, planners at least influence, if not determine the use of, a distinct set of potential actions that can help mitigate and adapt to climate change. While some of these topics may at first glance seem outside of the scope of land use planning, they do have some connection to the work of planners, and planners may be in a position to influence their implementation.

These include:

- Green and other energy efficient features of municipal, industrial, commercial, residential buildings
- Urban form that reduces vehicle miles traveled, such as walkable and transit-oriented community design that features mixed use, high density development (Smart Growth)
- Increases in mass transit and alternative modes of transportation
- Facilitating the integration of distributed renewable energy sources into urban areas
- Integration of urban forestry and local food systems into planning and zoning
- Wild land – urban interface building or zoning regulations
- Water efficiency building or landscaping codes

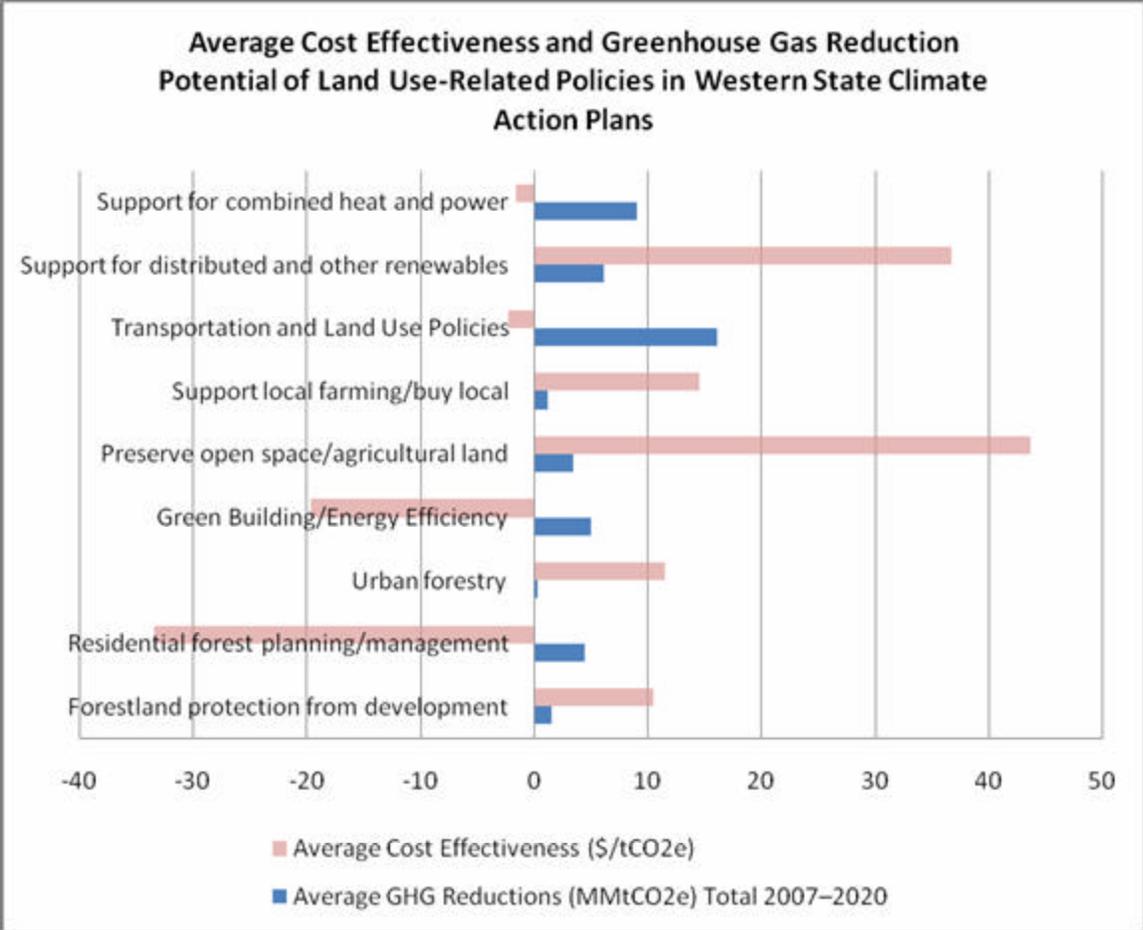
Many of these potential actions are guided by policies established at the federal, regional, state, county or community level. Regardless of where such policies are established, they must be implemented at the local level if they are to effectively accomplish the purposes for which they were intended – in this case, reducing greenhouse gas emissions and facilitating adaptation to climate change.

The state climate action plans analyzed typically contain 30-60 quantified policy options for reducing greenhouse gas emissions. Of those, perhaps a dozen will relate to land use planning in some way. The table below contains data from five of the eight Western climate action plans that most thoroughly quantify potential greenhouse gas emissions reductions (Arizona, California, Washington, Montana, and New Mexico). The table illustrates the total number of climate action policies found in the plans and the potential greenhouse gas reduction potential if all policies were implemented.

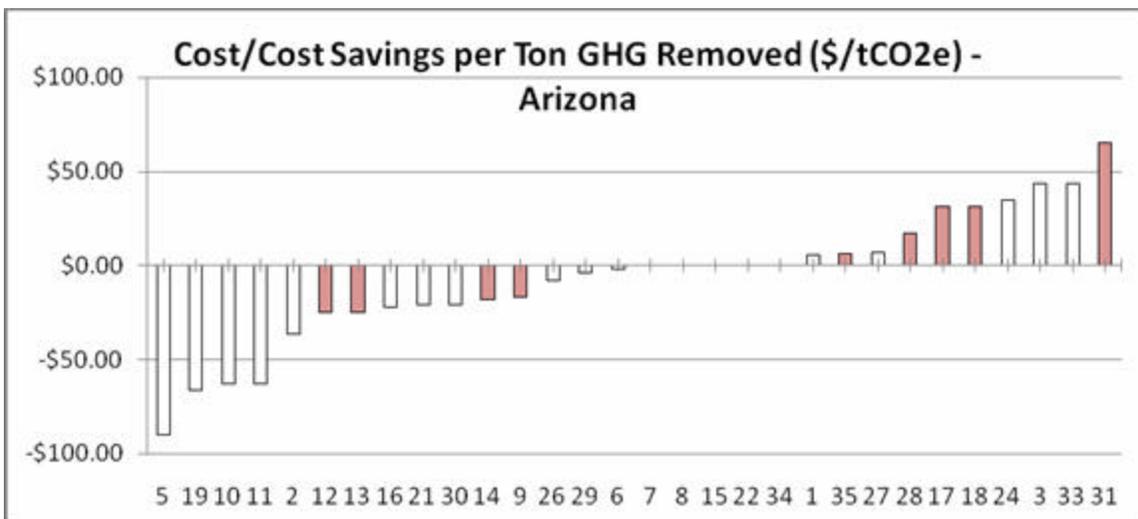
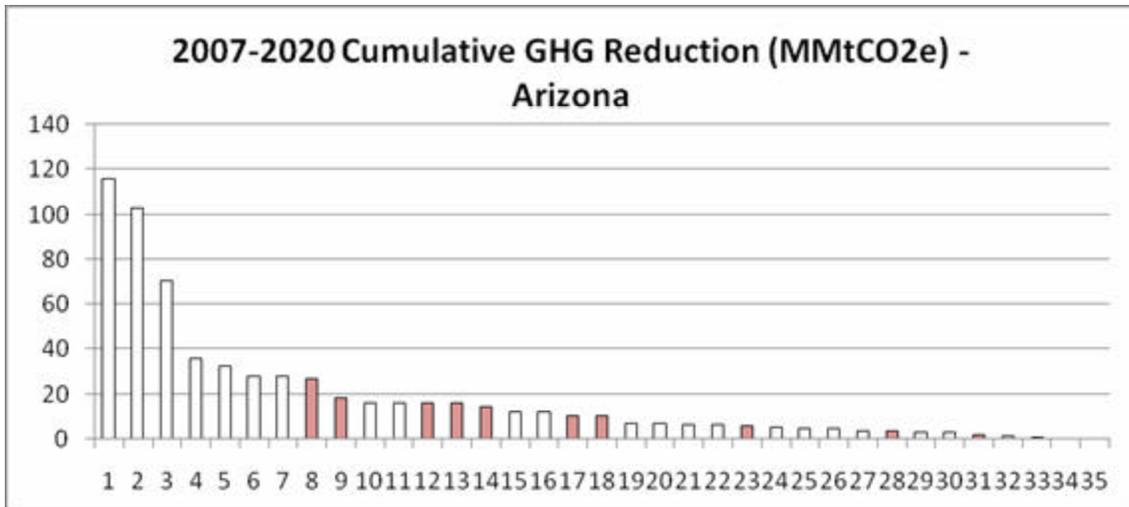
Note that this figure may be different than the reduction goal stated in each plan, because the goals are often to reduce emissions by a percentage of the current total, rather than by the sum of all possible reductions. It may also differ from the reduction totals provided in the plans because those totals are typically adjusted to avoid double-counting reductions from related or overlapping policies. Since it is impossible to tell how those overlaps are related to specific policies, the raw figures were added up here. When combined, the land use-related policies typically account for about one-fifth of total greenhouse gas reductions – a significant proportion.

State	Arizona	California	Montana	New Mexico	Washington
Total Number of Climate Action Policies	35	39	48	64	58
Total Potential GHG Emissions (MMTCO <sub>2</sub> e)	645.3	138.5	125.5	322.9	104.6
Total Land Use Planning-Related Policies	11	8	10	19	13
Percentage of Total GHG Reductions Possible from Land Use Planning-Related Policies	19.9	18.3	10.2	17.5	24.7

Land use planning-related climate change mitigation policies also tend to be relatively cost-effective. The figure below compares the average cost effectiveness and greenhouse gas reduction potential among land use-related policies commonly found in the climate action plans of the Western states. This figure was created by averaging the data included in state policies.



The figures below use the Arizona Climate Action Plan as an example illustrate how land use-related several land use-related policies stack up against other types of policies, first in terms of both greenhouse gas reduction potential and then for cost effectiveness. In both graphs, the bars correspond to particular policies included in the plans, and those that are related to land use planning are shaded.



The figures show that building standards and codes for smart growth (policies 8, 9, and 14) are some of the most effective policy options by both measures. Forest ecosystem management for residential lands, which includes measures to reduce wildfire risks, is an even more cost effective policy, although its potential greenhouse gas reductions are not as high. Energy-related land use policies such as distributed generation and renewable energy applications, which seeks in part to expand the integration of energy sources such as solar and wind power into the built environment, and direct renewable energy support, which includes zoning changes to increase its integration into the built environment, are expected to yield significant greenhouse gas reductions, although it will come at a higher cost than some other policies. Policies to slow the conversion of forest or agricultural land into developed uses are also expected to reduce

greenhouse gas emissions, but they come at a higher cost; however, they provide additional benefits as well, such as wildlife habitat and increased quality of life.

## **How is the Interior West Responding to Climate Change? The Challenge for Planners**

Answering the question above depends on where one looks for answers, particularly whether one focuses on the state or local level. The Interior West is engaging proactively on climate change mitigation at the state level: of the eleven states that comprise the region, eight have completed formal climate action plans, two (Idaho and Nevada) are in the process of developing them, and one (Wyoming) has yet to start. As the previous section describes in greater detail, the completed state-level plans were for the most part developed through an inclusive, iterative process that engaged diverse groups in the process. They are generally well-developed and quantify both the greenhouse gas emissions reduction potential and the cost effectiveness of a range of policy actions, including several that are within the purview of land use planners.

However, there seems to be a disconnect between state- and local-level action on climate change in the Intermountain West. While Western states have advanced some of the most innovative and potentially effective policies, the region appears to be lagging in terms of climate action at the local level. This could have significant impacts on the states' ability to implement the policies in their plans, especially those that relate to land use planning, since they must be realized at the local level.

Examining Western communities' participation in two voluntary climate action agreements provides some insight into this disconnect. The first agreement, the U.S. Mayor's Climate Change Agreement, was initiated in Seattle by Mayor Greg Nickels in 2005. Signatory communities commit to strive to meet the Kyoto Protocol goals of reducing greenhouse gas emissions to by 7 percent of 1990 levels by 2012. As of November 30, 2007, a total of 740 U.S. communities had signed on to the voluntary agreement. However, only 45 of them, or just over 6 percent of the total, are in the Intermountain West - a region that constitutes nearly one-third of the nation's land mass and is home to nearly one-quarter of its citizens.

A second voluntary, community-level climate action initiative is spearheaded by ICLEI Local Governments for Sustainability. The organization assists communities to enact a process to inventory, measure, and track their greenhouse gas emissions, and guides them in establishing an action plan to reduce those emissions. It also provides guidance in to communities in climate change adaptation. Approximately 259 communities in the U.S., representing about 22percent of the population, are currently participating in the ICLEI community climate action planning process. However, similar to the U.S. Mayor's Agreement, the Interior West appears to be under-represented: only 28, or about 11 percent of the total, are in the Intermountain West.

With both agreements, participating communities in the Intermountain West tend to fall into two groups, major urban areas and ski resort communities, although they do include smaller towns with non-resort economies among their members. Even so, the Intermountain West appears to be

behind much of the nation (with the exception of the Midwest) in taking voluntary action to confront the challenge of climate change.

Why is the Intermountain West seemingly behind the curve on taking action at the local level? And what can planners do about it? Our next speaker will address this question from the perspective of her own community, and then we'll expand the discussion and hope to hear your perspectives on this issue.

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Plans analyzed and dates released:

- Arizona Climate Action Plan – August 6, 2006
- California Climate Action Team Report – March 2006; and
  - Updated Macroeconomic Analysis of Climate Strategies Presented in the March 2006 Climate Action Team Report - October 15, 2007
- Colorado Climate Action Plan – November 2007
- Montana Climate Action Plan – November 2007
- New Mexico Climate Change Advisory Group Final Report – December 2006
- Oregon Strategy for Greenhouse Gas Reductions – December 2004
- Utah Blue Ribbon Advisory Council on Climate Change Report to Governor John Huntsman Jr. – October 3, 2007
- Washington Climate Advisory Group Technical Working Group (Agriculture; Energy Supply; Forestry; Residential, Commercial, and Industrial; and Transportation) Final Draft Priority Documents – December 21, 2007.

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