

American Planning Association

**POLICY GUIDE ON PLANNING &
CLIMATE CHANGE**

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Policy Guide on Planning and Climate Change

TABLE OF CONTENTS

1.0 Introduction	3
1.1 The Role of Planning	4
1.2 General Scientific Findings	5
1.3 Core Principles	6
1.4 Policy Guide Overview	7
1.5 Climate Change Policy Findings	8
2.0 Planning to Reduce Climate Change	11
2.1 Emission Reduction Goals & Planning	11
2.2 Regions and Communities	17
2.3 Natural Assets & Open Space	23
2.4 Agricultural Activities	24
2.5 Transportation System	25
2.6 Water & Energy Systems	30
2.7 Research, Education & Communications	33
3.0 Mitigating Climate Change	34
3.1 Greenhouse Gas Emissions	34
3.2 Land Use	36
3.3 Vehicles	36
3.4 Renewable Energy	39
3.5 Green Buildings	40
4.0 Adapting to Climate Change	42
4.1 Preparing for Climate Change Impacts	42
4.2 Responding to Climate Change Impacts	44
5.0 Sources	46
6.0 Definition of Key Terms	tba
7.0 Appendix A – Implementing Policies in Planning Practice	tba

American Planning Association Policy Guide on Planning and Climate Change

REVIEW DRAFT

INTRODUCTION

Today, planners have the opportunity and obligation to address the historic challenge of global climate change. The planning profession and the process of planning are uniquely suited to help communities make the changes needed to rise to this challenge and achieve the outcomes needed to create communities of lasting value. This Climate Change Policy Guide recommends a policy framework to assist communities in dealing with climate change and its implications. Success will require new policies and a bold new approach to planning.

The earth is getting warmer and it will continue to do so as far into the future as we can see. The only question is how warm, how fast and how severe the impacts from this climate change. Climatologists reporting for the United Nations Intergovernmental Panel on Climate Change (IPCC) see global warming caused by human activities and express growing fears that warming will accelerate in the coming years. Although there have been cold periods alternating with hot periods throughout history, as well as year-to-year fluctuations, these fluctuations occurred over many centuries. However, the rate of change has never been as rapid as it has been in the past few years. “The five warmest years since the late 1880’s according to NASA scientists, are 2005, 1998, 2002, 2003 and 2006.”(NASA 2006) On January 9, 2007, NOAA reported that 2006 was the warmest year on record for the contiguous U.S. with a temperature of 55 degrees above the 20th Century mean and 0.07 degrees F warmer than 1998, the previously warmest year on record.

In the last three years, a variety of new conditions and certain extreme experiences have brought the issue of climate change into the forefront for planners, lawmakers and the public:

1. The earth’s temperature may have reached a tipping point. The issue now becomes a question of how quickly the climate will change and subsequently how significant the impacts will be;
2. The hurricane season of 2005, specifically Hurricanes Katrina and Rita, were more severe due to warmer ocean temperatures;
3. Evidence of ocean ice packs melting at alarming rates;
4. Evidence of sea rise due to the rapid melting of the ice fields over land in places such as Greenland, South America and Antarctica;
5. Changes in seasonal climate affecting the growing season;
6. Extended drought and resultant brush and forest fires;
7. Increased frequency of flooding and strong storms;
8. Evidence from the United Nations IPCC that the earth is warming and human beings are responsible for this because of increased carbon-based energy systems and the resulting increased greenhouse gas emissions.

Although scientists believe that the effects of human induced global warming cannot be eliminated because of the volume of greenhouse gases already emitted into the atmosphere, the risks of dangerous impacts on ecosystems and human health can be mitigated through two major strategies: 1) reduce the amount of greenhouse gases that are released into the atmosphere and 2) sequester greater amounts of carbon in biomass or by injecting carbon emissions into the ground. The built environment is a primary contributor to climate change and GHG emissions. This makes planning central to any policy solution. Planners must play a key role in changing development patterns, transportation systems, and regulations in ways that reduce greenhouse gases emissions. This policy guide provides planners, engaged citizens and elected officials with strategies to slow the pace of climate change and adapt to its impacts.

1.1 The Role of Planners

A dramatic new response to climate change is required. Business as usual or small, marginal reforms will not suffice. The nation and our communities must commit to a thorough, comprehensive new approach to physical, social and economic planning. Planners must promote a major shift in the public policies that drive development decisions, growth and infrastructure investment.

Until recently, most planners have not been directly involved in climate change policy. This has been an area that was largely left to scientists. Although some planners were concerned with climate change issues in the 1980's and 90's, most did not focus on this as an area of interest and practice and were not pushed to do so by elected officials. Physical change has been so gradual that the global warming crisis was not taken seriously by many and was considered primarily a debatable political issue by policymakers.

For the last decade, planners have focused on smart growth and sustainability and have not always seen them as directly connected to climate change. The American Planning Association ratified policy guides on both topics. Innovation in these areas have been important, however the recent rapid physical changes and the emerging policies and politics have made it essential for planners to respond to climate change issues now. For example, the majority of states now have special commissions, strategic plans on climate change and new legislation which planners will be called upon to implement. States like California and its Action Team stress the importance of planning strategies in implementing new climate policies. Planners will increasingly be required to respond to new climate-related emissions targets.

Planning can play an important role in changing societal actions that can slow the pace of climate change, mitigate the changes that do occur and allow adaptation to the ultimate effects of climate change. Change that planners bring to the table will be more fundamental than making sure everyone drives a hybrid or uses biofuels. The planner's role will be extremely important because it will deal with such basic issues as community design and increasing development density. We all recognize that planning for and implementing this type of change requires significant time. As such, there is an urgent need for the adoption of these policies, in order to provide guidance for professional planners, engaged citizens and elected officials.

Four ideas form a framework for this guide. First, planners' responses to climate change need to be based on the best possible science. Because climate change is bringing about previously

unrecorded conditions, projections based on new scientific modeling are the best way to anticipate and respond. Planners have to have access to vital data, information and resources to help them interpret these unprecedented changes.

Second, current science indicates that the specific impacts of climate change are highly regional and even local in nature. Therefore, climate change policies cannot be based on a one-size-fits-all approach. Planners must be aware of what the future holds for their particular geographic region and formulate their strategies accordingly.

Third, planners need to understand that adapting to climate change is just as important as mitigating it. Planners can certainly have a significant effect on climate change mitigation through encouraging higher density development patterns, reduction of vehicle miles traveled (VMT), use of green building techniques, and similar measures. However, due to the extent of climate change that is projected under even the most aggressive mitigation scenarios, planners will still need to address rising sea levels, greater drought conditions and new flooding circumstances in adaptation planning efforts.

Finally, planners need to communicate about climate change in different ways than they do for shorter-term planning issues. Policies that we develop now must have a timeframe that will span generations. Given how hard it is to keep people engaged over even the short-term, planners will need new communication tools to explain climate change issues and maintain the focus on long-term adaptation and mitigation responses.

This policy guide seeks to strengthen connections between traditional planning and the emerging field of community and regional climate change planning. Planning is vital because of its comprehensive approach to the built environment, but traditional approaches are not enough to mitigate climate change. A new type of planning and public policy has to be developed. Through these policies planners can mitigate the effects of climate change and adapt to existing conditions caused by warming of the earth.

1.2 General Scientific Findings

Finding 1: The scientific consensus is that warming of the earth largely results from a buildup of carbon dioxide and other greenhouse gas concentrations in the atmosphere and human activities, including fossil fuel burning for industrial processes and transportation, changes in development, and deforestation is the principal cause. People are creating this change by burning nature's vast stores of coal, oil and natural gas. Global GHG emissions created by human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004.

Finding 2: Warmer winters with related earlier snow melts will create higher sea levels. The impacts of rising sea levels will be flooding in lowland areas and submersion of coastal beaches. In addition, submersion will allow saltwater intrusion into groundwater and freshwater estuaries, as well as upstream from where rivers now empty into oceans. In the arid West, reduced snow pack will result in the loss of scarce water supplies. The loss of habitat caused by these changes will affect many species of plants and animals. Because of increased urbanization and the speed

with which climate changes are expected to occur, many, if not most, species will be adversely affected and threatened.

Finding 3: Empirical evidence from all continents and most oceans shows that many natural systems are already being affected by regional climate changes. This is particularly evident in temperature increases.

Finding 4: Advances in scientific analysis show that discernible human influences extend beyond average temperature to other aspects of climate such as: (1) sea level rise during the last half of the 20th century. (2) changes in wind patterns, affecting extra-tropical storm tracks and temperature patterns. (3) increased extreme temperatures both hot and cold. (4) increased risk of heat waves, area affected by drought since 1970's and frequency of heavy precipitation events.

Finding 5: There is much evidence that even with current climate change mitigation policies and related sustainable development practices, global GHG emissions will continue to grow over the next few decades.

Finding 6: Human induced warming and sea level rise will continue for centuries due to the time scales associated with climate processes and how they respond to changes. Even if GHG concentrations were to be stabilized the response will be slow.

Finding 7: Human induced warming is likely to create impacts that are abrupt or irreversible, such as the elimination of certain animal species.

Finding 8: The ability of populations to adapt to the effects of climate change is intimately connected to social and economic development but is unevenly distributed across and within societies.

Finding 9: A wide variety of policies and instruments are available to governments to create the incentives for taking action to mitigate climate change. Their applicability depends on national circumstances and regional context.

Finding 10: Neither adaptation nor mitigation alone can eliminate all climate change impacts; however, they can complement each other and together can significantly reduce the risks of climate change.

Finding 11: Many of the impacts of climate change can be reduced, delayed or avoided by implementation of mitigation strategies. Mitigation efforts and investments over the next two to three decades will have a large impact on opportunities to achieve lower stabilization levels.

1.3 Core Principles

The following are core principles which have been developed based on the abovementioned findings and which serve as the foundation of the policies herein. The Core Principles of planning for climate change are:

- Reduce greenhouse gas emissions (GHG) primarily through the reduction of fossil fuel use. This is critical to slowing the pace of climate change. As one of the largest contributors to this problem, the United States must adopt an overall goal or target for GHG reduction. The policies and actions included in each of the following policy guide sections are intended to help reach that goal.
- Coordinate the actions of units of government – Because it is both a global and local issue, climate change policy must be coordinated among all levels of government. Patterns of behavior, development and policy must change.
- Promote interdisciplinary action among professional areas of expertise and among the public, private and non-profit sectors.
- Choose strategies that are economical as determined through a comprehensive assessment of community energy resources and use.
- Establish a balanced approach - Recognize that action on climate change must include a mix of education (providing more complete information so decision-makers make better choices), incentives (whether through funding or other means) and regulation (at federal, state and local levels).
- Assist people and places that need it - Recognize that special assistance may be needed for the people and places that are most impacted by the effects of climate change, but least able to change on their own. Consider issues of social justice, environmental equity or special attention to critical sites.

1.4 Policy Guide Overview

The policy recommendations of the guide are divided into 3 sections. Section 2 presents policies which recommend ways to use **Planning to Reduce Climate Change**. Included in this section are policies dealing with planning practice, as well as raising awareness and education. These policies promote planning outcomes that reduce vehicle miles traveled and lead to lower GHG emissions, such as mixed use development, high density development near transit, infill and redevelopment to utilize existing utilities and services. Section 2 presents planning policies related to various transportation modes and systems that can be used to reduce greenhouse gas emissions. It also presents policies on mitigating climate change in all sizes of communities, agricultural and rural areas.

Section 3 provides policies on **Reducing Climate Change**. This section includes policies that address standards, regulations and incentives to lower VMT and the production of greenhouse gases. To address the planning challenge of global warming, planners will need to reconsider and in some cases revise or add to the many standards and regulations used in planning practice. For example, specific regulatory revisions or additions may be needed to reduce greenhouse gas emissions related to transportation, building energy use, electricity generation, industry, landfills, and agriculture. Similar regulatory changes may also be needed to adapt to the effects of a changed climate, for example to protect against floods, to conserve water in the face of drought, and to reduce the risk or reality of environmental injustice related to climate change.

Section 4 presents policies on **Adapting to Climate Change**. These policies address the idea that no matter what we do today and in the near future in terms of mitigation, some level of

climate change is already occurring and will continue and we need to adapt our lifestyle and communities to prepare for the impacts. Policies include planning communities to avoid development in hazardous areas like flood plains or fire prone dry areas.

Adaptation and mitigation are two sides of the same coin. We must address both activities which exacerbate climate change as well as make plans to respond to the changes that are occurring and will continue into the future.

1.5 Climate Change Policy Findings

Finding 1: Land use patterns play a significant role in reducing Vehicle Miles Traveled (VMT) and thus in reducing energy consumption and its associated greenhouse gas emissions. VMT can be reduced by promoting strategies such as compact development in close proximity to existing development, high density land uses arranged to encourage pedestrians, bicycle use and transit use by promoting higher densities, transit oriented and development of mixed use and clustering of uses.

“When viewed in total, the evidence on land use and driving shows that compact development will reduce the need to drive between 20 and 40 percent, as compared with development on the outer suburban edge with isolated homes, workplaces, and other destinations. It is realistic to assume a 30 percent cut in VMT with compact development. Making reasonable assumptions about growth rates, the market share of compact development and the relationship between CO₂ reduction and VMT reduction, smart growth could, by itself, reduce total transportation related CO₂ emissions from current trends by 7 to 10 percent as of 2050.”

Finding 2: Parking and transportation policies can be employed to discourage private auto use and therefore reduce VMT and its associated CO₂ emissions.

Current policies encourage auto use, and particularly individual auto use, through indirect subsidies. The cost to drivers is virtually the same whether they occupy road space at peak traffic hours or at off hours. The road use fees charged to truckers are far below the actual cost of their wear and tear on the road system. Parking fees are paid, at least in part, by employers, merchants and public agencies. Congestion-based pricing for road use has been shown to reduce traffic and related CO₂ emissions. Eliminating free/subsidized parking has been shown to result in an increase in carpooling and use of public transportation .

Finding 3: Local programs that encourage the preservation of historic buildings and their adaptive reuse result in energy conservation. These buildings are typically closer to population centers and adaptive reuse generally involves lower impacts on natural resources(e.g. tree cutting for lumber), than new construction. In addition the maintenance, restoration and adaptive reuse of existing urban areas (including their buildings, infrastructure and other assets) also reduces energy use and VMT.

Finding 4: Use of “green” building standards such as the LEED Rating System and similar systems result in energy conservation compared to conventional codes.

About 75% of the electricity used in the country goes toward heating, cooling, and lighting buildings. Since over 70% of electrical energy is generated by conventional electrical power sources such as coal- and gas-fired generation plants, reducing the amount of power consumed by buildings is as important to addressing climate change as reduction of auto emissions. Research indicates that sufficient energy falls on the roof and south face of buildings to satisfy the power demands of those buildings.

Finding 5: Providing a range of housing opportunities within a community decreases commuting and its associated greenhouse gas emissions. It also reduces the need for private vehicle trips associated with job commutes.

Finding 6: Communities can encourage the production and use of energy generated from renewable resources by changing land use, building and site design standards.

Finding 7: Changing the source of fuel used for electrical power generation from fossil fuels to renewable energy will significantly reduce greenhouse gas emissions. While renewables must be pursued and made economically available, technologies to cleanse emissions from traditional sources should be expanded. Coal generation of electricity produces the bulk of greenhouse gases. Steps should be taken to reduce the generation of greenhouse gas emissions from coal fired power plants.

Finding 8: Communities can be made more resilient and defensible to the effects of climate change through land use policies that encourage development in areas away from hazards such as wildfires, land erosion and floods. This is also true in areas that have an appropriate level and mix of resources to allow sustainable lifestyles.

Finding 9: Protecting and enhancing green spaces in and near communities provides opportunities to protect and enhance carbon sinks in soils, vegetation, and streambeds to mitigate a warming climate. Greenspace protection programs should not only be sensitive to natural ecological processes and habitat needs, but should also include a fair calculation of fair greenhouse gas mitigation. For example, native old-growth forests outperform landscaped lawns, farms and gardens.

Finding 10: Promoting water conservation, and the use of nearby water sources reduces the amount of energy necessary to transport it, and therefore lowers greenhouse gas emissions.

Finding 11: Land use and urban design that retain natural areas and assets and incorporate indigenous plants or others that are appropriate to the community's climate reduce energy and water consumption.

Finding 12: Growing food for local consumption lowers transportation costs thereby lowering the use of fossil-based fuels.

Finding 13: Centralized facilities equipped with communications technologies such as videoconferencing allow community residents and businesses to conduct business and share information in ways that minimize travel thereby reducing VMT.

Finding 14: Planning and development policies to address climate change may have a different focus in major metropolitan areas, micropolitan areas and rural communities. Policies may also vary in response to the ecosystem in which a community is located (such as coastal areas, river floodplain, desert or hillside). While all of these places can play a role in addressing climate change, the specific role may vary

Finding 15: Planning is a tool that can assist decision-makers including regional agencies and collaborations; individual local governments; neighborhood or other small area organizations; individual property owners; and state and federal regulatory and funding agencies to make better decisions and positively impact climate change.

Finding 16: Nationally, the transportation sector is responsible for 33 percent of CO₂ emissions, and if current trends continue, those emissions are projected to increase rapidly. The transportation sector's CO₂ emissions are a function of vehicle fuel efficiency, fuel carbon content, and vehicle miles traveled (VMT). Significantly reducing emissions in the future requires improvements in all three areas.

Finding 17: Federal and state laws and regulations addressing vehicle fuel efficiency and fuel carbon content are critically important in helping to meet national climate change goals in the transportation sector. However, these laws and regulations can only succeed if VMT is reduced significantly at the same time.

Current policy proposals to improve vehicle fuel efficiency and reduce fuel carbon content in the transportation sector would leave passenger vehicle CO₂ emissions well above 1990 levels in 2030, significantly off-course for meeting 2050 targets. This is due, in large part, to the fact that VMT is projected to continue growing over time. Therefore, it is important to develop planning strategies to reduce travel demand, and shift travel demand to transportation modes that have the lowest carbon output.

Findings 18: Economic strategies that reduce GHG emissions such as a nationwide and economy-wide cap and trade system for carbon emissions are needed to promote reduction in greenhouse gas emissions in an amount necessary to slow climate change.

Finding 19: Currently there are few communities regulating development in a way that accounts for or reduces greenhouse gas emissions.

Finding 20: There is a need for new standards, regulations, and technologies that can help reduce GHG and prepare communities to adapt to the effects of climate change. Revision of many existing standards and regulations should be undertaken to reduce emissions and better prepare communities to adapt to climate change.

Finding 21: Clearer definitions of the concepts and issues of climate change are needed to facilitate more effective public discussions of climate change and establish a greater willingness among the public and elected officials to make changes needed to mitigate climate change and prepare communities for adaptation.

Finding 22: Sea level is rising and the long-term impact of this phenomenon requires a systemic change in thinking. Traditional strategies that have been used and worked in the past such as shore protection and hardening, levees and sea gates will probably be inadequate. New options including natural retreat, shoreline nourishment and land elevation should be incorporated. The highest priority for new regulatory or technological initiatives should be placed on those areas in which the most immediate and substantial risk exists and in which the impacts can be significantly reduced or avoided.

Finding 23: Drought and wildfire areas are intensifying and threatening more populations. This is due to a combination of the growth of new development into wilderness areas and changing rainfall patterns initiated by climate change.

Finding 24: Climate change and its impact on arable land will reduce the amount of land available for agriculture production or future development of any kind.

Finding 25: Planning for climate change should include anticipating the new opportunities and problems that may arise from moving to alternative energy sources and making other societal changes recommended to slow climate change.

Finding 26: Climate models are an important planning tool that can help communities anticipate and respond to changes. For example, models that predict changing paths for ocean currents will impact different areas in different ways. Planning based on these models can allow the appropriate response at the appropriate location.

2. Planning to Reduce Climate Change

The essential ingredients of a successful planning process are vital to successfully addressing climate change. First, there must be agreement on the vision or goal that is the desired result of planning and implementation. Second, there must be a collaborative approach that includes all levels of government, the diverse interests that will be affected by climate change and the various professional disciplines that can contribute to solutions. Third, the action plan must include a balance among educational efforts, creation of incentives and regulatory tools. Finally, the people and places that are most impacted but least able to address change on their own must receive special attention to provide social justice and appropriate action for critical sites.

Planners use this approach in a wide range of settings and are well suited to play leadership roles in preparing for and acting on the effects of climate change. Planning is an essential part of climate change solutions, but planning policy and practice must lead change in communities and development patterns to reduce GHG emissions and climate change impacts.

2.1 Emission Reduction Goals & Plans

General Policy #1: The American Planning Association, its Chapters and Divisions, and planners support the adoption of greenhouse gas emission reduction goals that limit increases in global average temperature to 2°C (3.6°F) above pre-industrial levels.

Specific Policy #1.1: Emissions Reduction Goals

Planners support emission reduction goals and policies at federal, state, and local levels that will result in reducing greenhouse gas emissions at least 80% below 1990 levels by 2050, with appropriate near-term goals to reach that target and minimize cumulative emissions, such as reductions of 25-40% of 1990 levels by 2020.

Reasons to support:

Emission reductions at this level, in conjunction with similar actions worldwide, have a 50% chance of stabilizing global average temperatures at 2°C (3.6°F) above pre-industrial levels.¹

- The United Nations and European Union have both adopted the goal of stabilizing global temperature at no more than 2°C (3.6°F) above pre-industrial levels. (By comparison, 'best estimates' based on the continuation of current trends indicate an increase of 1.8°C to 4°C by 2100.)
- Failure to reduce emissions to this level increases the likelihood of catastrophic impacts of climate change such as: melting ice sheets and rising sea levels, widespread land and marine species extinction, intensified natural disasters, and threatened water drinking supplies.
- Global reduction of emissions to levels stabilizing temperatures at 2°C (3.6°F) above pre-industrial levels can be achieved using existing technology and technology anticipated to be available in coming decades.
- Reducing greenhouse gas emissions to this level is estimated to reduce global GDP growth no more than 0.12% per year.
- Near-term action is particularly important given the cumulative nature of greenhouse gas emissions (reductions in the near term result in a lower eventual atmospheric concentration than the same reductions delayed several decades into the future).
- Continuing scientific research suggests that smaller increases in temperature may exceed critical ecosystem thresholds, resulting in more dramatic short-term effects than previously projected. The prospect of such abrupt ecosystem changes makes it even more important to stabilize global temperatures at or below these goals.

Specific Policy #1.2: National Action on Climate Change

Planners support strong leadership by the federal government in establishing policies, programs, national standards, and funding prioritization that mitigate greenhouse gas emissions and prepare communities to adapt to climate change.

Reasons to support:

The Federal government can provide funding, produce research and establish baseline regulation and policy on many topics related to climate change, such as motor vehicle fuel efficiency standards and energy policy. Also, action at the federal level can establish larger and more predictable markets for cap-and-trade emissions reduction systems than can state or regional actions. Providing for such action at the federal level will result in a consistent approach nationwide and greater potential for successfully achieving emission reduction goals.

¹ Sources: IPCC, Union of Concerned Scientists.

Specific Policy #1.3: State, Regional and Local Action on Climate Change

Planners support action by state, regional and local governments to set greenhouse gas emission goals, develop and implement plans to address climate change, and include climate impacts in plans and development reviews.

Reasons to support:

Regardless of federal policy on climate change, there is a need to act at the state, regional and local level. Impacts of climate change will be felt in different ways in different parts of the U.S., so state or regional plans are necessary to provide the appropriate guidance for specific areas and communities. In addition, decisions about development patterns and infrastructure investments will have an important impact on the nation's ability to reach greenhouse gas emission goals. These decisions are usually the responsibility of local governments so they should play an active role in planning for, and taking action on climate change.

Specific Policy #1.4: Planning to address uncertainty

Planners support policies requiring climate change plans that provide a framework for decision-making and actions and which prepare communities to mitigate and adapt to climate change, but which are flexible enough to address the continuing uncertainties of pace and degree. These plans should include a longer planning horizon, multiple scenarios, and indicators and triggers to guide action.

Reasons to support:

Planning to address climate change is particularly subject to uncertainties: there may be a long time horizon before impacts are felt, there is uncertainty about the changes occurring in the global systems, and there are many unknowns about the costs and benefits of local action. However, this is also an issue where action must begin now. So the planning processes for climate change mitigation and adaptation must build consensus on direction and on ways to respond to future uncertainties while taking action in the short run based on the best available assessments.

A three-step planning approach enables states, regions and communities to address climate change and build agreement about actions at three different levels of impact. First, seek to avoid the impacts of climate change on communities by locating development outside areas with the highest potential for climate change-related risk (such as areas that will be inundated by sea level rise). Second, mitigate the potential effects of climate change by planning for and taking action to reduce greenhouse gas emission in the state, region or community. Third, include policies and actions that enable the community to adapt to climate change effects that have a high probability of occurring.

Suggested techniques for planning include: the use of a longer planning time horizon, such as 100 to 500 years; the use of scenarios to evaluate alternative outcomes; and the use of indicators and 'triggers' that will enable the community to react to actual experience and refine the plan's direction over time, and periodic monitoring and evaluation to ensure that changing scenarios are addressed.

Specific Policy #1.5 Reporting Greenhouse Gas Impacts at All Levels of Planning

All regional, urban and neighborhood plans should seek to quantify and report estimated greenhouse gas emissions, and compare this to the community and regional averages. Where emissions cannot be precisely quantified, plans should discuss the impacts of recommendations on greenhouse gas emissions on a qualitative basis. Climate planning elements should be incorporated in comprehensive plans and considered in environmental and other development review processes.

Reasons to support:

Understanding the impacts of plan recommendations and development proposals on greenhouse gas emissions is an essential first step. Allowing planners, elected officials and the public to judge the impact of a plan on emissions will help them evaluate the extent to which it contributes to greenhouse gas reduction goals and the long term consequences of climate change.

Specific Policy #1.6: U.S. International Leadership on Climate Change

Planners support U.S. leadership in international efforts to create the next international framework for achieving appropriate greenhouse gas emissions reductions.

Reasons to support:

The Kyoto Protocol, which established an international framework for addressing climate change, was adopted in 1997 and went into effect in 2005. It will expire in 2012. Before its expiration, a new international framework will be needed that incorporates more recent scientific findings and the experienced gained through implementation of the Kyoto Protocol. Since the United States is and will remain one of the world's top greenhouse gas emitters, it should participate in creating and implementing this new framework. U.S. involvement also brings extensive scientific expertise and other resources to this effort. U.S. leadership is vital to bringing emerging economies, especially China and India, into an international climate change regime.

An Inclusive and Interdisciplinary Approach

General Policy #2: The American Planning Association, its Chapters and Divisions, and planners support programs to address climate change that involve all levels of government and that rely on interdisciplinary collaboration and coordination.

Specific Policy #2.1: Federal Support for Intergovernmental Climate Change Planning

Establish new federal assistance programs for planning for climate change and expand eligible activities under existing federal community development, transportation and energy programs to promote the integration of climate change and greenhouse gas emissions into local and regional planning.

Reasons to support:

Among the best ways to address climate change at the local and regional level is by adapting and improving planning, policy priorities and capital funding that already direct public and private investment and development. Changing planning to address climate change will require in new analysis and implementation techniques that many communities have not undertaken or used in the past. Federal funding, such as a 'climate change planning grant' administered by the Environmental Protection Agency, the Department of Energy, or the Department of Housing and

Urban Development, could provide needed resources to help communities adopt plans and policies changes to address the issue. In addition to direct funding of local and regional comprehensive planning, these resources could also fund pilot programs and research into best practices. Expanding existing grant, research and pilot programs to include new discretionary funding and policies that support investments to address climate change would further enhance the ability of local communities to confront climate impacts in planning and development.

Specific Policy #2.2: Regional Coordination

Encourage coordination and collaboration in multi-jurisdictional planning initiatives to address climate change and its implications at a regional level, including adopting new requirements and structures for collective action on climate-related planning and projects.

Reasons to support:

Action to address climate change involves decisions at all levels, including choices made by individual local jurisdictions. However, collaborations among jurisdictions can make it easier for each community to act because research, programs and facilities can be shared. Regional coordination will be necessary in order to meet aggressive targets for reduction of GHG emissions. Reaching these targets will not be possible based on the actions of individual jurisdictions or communities. In addition, action that affects regional investments or assets will be more effective if it is the result of regional initiatives and partnerships. Regional visioning programs and blueprint plans create excellent opportunities to build action agreements to address climate change and to set goals in conjunction with coordinated planning for regional development and infrastructure investment.

Specific Policy #2.3: Intergovernmental Transportation Planning

Develop improved systems for integrating transportation planning at the federal, state, regional and local levels to ensure a consistent approach towards developing transportation systems that reduce vehicle miles traveled by ensuring transportation choice. This will likely include shifting funding into transit, promoting enhancements and “complete streets”, ensuring the interconnection of local, regional and national transportation systems and discouraging single occupancy vehicles as the primary source to transportation. Project funding should be linked to GHG reduction metrics and performance standards.

Reasons to support:

The successful functioning of a transportation system has deep and long-term consequences for the quality of both the built and natural environments and the people who inhabit them. Transportation represents a significant area of concern for professional planners as one of the largest and fastest growing sources of GHG emissions, and should be a major focus of interest in policy options to improve planning processes so they address climate change.

Specific Policy #2.4: Federal Surface Transportation Authorization

Support new authorization of the federal surface transportation programs with increased priority for funding public transit and integrated regional and metropolitan planning as a means to reduce the greenhouse gas emissions from the transportation sector. The federal program needs to explicitly incorporate climate change and shift priorities toward programs that encourage reinvestment in existing infrastructure and communities, supports public transportation and transit oriented development, and improves and empowers metropolitan planning.

Reasons to support:

The reauthorization of the federal surface transportation program presents an opportunity to direct federal funding decisions and priorities to help address climate change. The reauthorization should establish goals for reduction of transportation-related greenhouse gas emissions. Coordination of transportation networks with comprehensive planning and urban design is critical to this effort, and should be a top priority in the way funding is allocated. Funding for public transit and for alternatives (such as walking and biking) that reduce the need for automobile travel within metropolitan areas should receive high priority. Restructuring of the program is needed so metropolitan areas can set their own investment priorities and allocate funds across all transportation modes. In these ways, the nation's investments in transportation can make a positive and significant impact on its efforts to address climate change.

Specific Policy #2.5: Multi-Disciplinary Approach

Establish opportunities for collaboration among design professionals, scientists, social scientists, economists and other key professions to develop and carry out plans that reduce generation of greenhouse gas.

Reasons to support:

Effective action to address climate change will rely on expertise, analysis and recommendations from many different disciplines. Climate Change cannot be solved by a single discipline or by actions affecting only one area of expertise. Since planners often are responsible for programs that engage stakeholders from diverse backgrounds, they are particularly well-positioned for leadership in convening and conducting the interdisciplinary processes needed to address various aspects of climate change.

Specific Policy #2.6: Climate-Related Performance and Location Efficiency Standards for Federal Infrastructure and Community Assistance

Establish evaluation criteria and requirements for new and existing federal and state grant, loan, and tax credit programs supporting infrastructure investment and community development that take into account performance standards and measures of efficiency supporting key climate goals, including reduction of greenhouse gas emissions and adaptation to the impacts of climate change.

Reasons to Support:

Federal funding is one of the single most important catalysts for and determinants of key infrastructure investments and development decisions. Federal policy should recognize this role and incorporate climate-related criteria into decisions about the allocation of federal assistance. In addition, infrastructure and community development programs should explicitly expand eligibility to cover climate and energy efficiency activities. As noted elsewhere in this guide, available funding for such programs should be increased. These necessary increases in funding should be linked to specific standards of performance and carbon-reducing outcomes.

Balance Among Interests and Impacts

General Policy #3: The American Planning Association, its Chapters and Divisions, and planners support actions to address climate change that strike an appropriate balance

between stakeholder costs and the benefits they receive from climate change mitigation or adaptation.

Specific Policy #3.1: Stakeholder Interests

Engage affected stakeholder groups in initiatives to create and implement climate change plans and incorporate public participation into climate planning.

Reasons to support:

Success in addressing climate change will require many groups to change their current behaviors, business practices and investment decisions. These stakeholders should be part of the processes that create climate change goals, plans and implementation measures. An inclusive process allows diverse concerns to be considered and increases the potential that these stakeholders will support the plans and actions that result.

Climate change plans should reflect the adage that one should think globally and act locally. As with many environmental issues small incremental impacts may have broad cumulative impacts. Local initiatives and participation encourage a greater sense of ownership and consequently greater buy in to responsibility. The work of planners should encourage personal responsibility in the daily actions of local communities and the individuals who live in them.

Specific Policy #3.2: Action Toolkit

Use the full complement of planning and implementation tools – including educational efforts, incentive programs and regulatory measures – to address climate change in ways that are appropriate and successful in diverse local settings.

Reasons to support:

Every community, large or small, has a role to play in addressing climate change. Individual households, businesses and organizations can each contribute to success. Successful climate change plans should be tailored to include the mix of tools and techniques that are most appropriate to a community’s location, characteristics, institutional structure and culture. This mix of tools is most likely to be implemented and is thus most likely to be effective in reducing greenhouse gas emissions.

Specific Policy #3.3: Equity Assistance and Environmental Justice

Support standards and regulation to reduce the impacts of climate change on those least able to manage the impacts.

Reasons to support:

Like other environmental justice issues, climate change is likely to hit populations hardest who are least able to adapt, such as low-income communities in flood prone areas or families who cannot afford adequate home insurance or higher energy prices if GHG mitigation measures substantially raise those prices. Action to address climate change should seek to reduce impacts on these communities, both of climate change itself and of the programs to address it.

2.2 Regions and Communities

Creation of Sustainable Green Communities

General Policy #4: The American Planning Association, its Chapters and Divisions, and planners support green communities – places that are sustainable, resilient and neutral in their contribution to climate change.

Specific Policy #4.1: Communities with Reduced Greenhouse Gas Emissions

Create (whether new or existing) neighborhoods, communities and regions that enable the nation and the world to reach global carbon reduction targets. Restructure policies and public incentives to encourage investment and development decisions that support GHG emission reduction goals.

Reasons to support:

Reduction of greenhouse gas emissions in the U.S. requires different patterns of development and community design than those that have been common in the past 50 years. Action to address climate change begins with neighborhood planning that alters these patterns, giving residents the ability to reduce their own greenhouse gas emissions. Similarly, area plans and plans for major developments should reduce greenhouse gas emissions from the activities that occur within their area and as a result of travel to and from destinations within the area covered by the plan. Neighborhood and area plans that are ‘carbon-neutral’ or achieve other greenhouse gas emission goals form the building blocks for communities and regions that can achieve their overall climate change goals.

Specific Policy #4.2: Land Use and Transportation

Integrate spatial planning and transportation planning so that the development patterns support mobility choices and reduced trip lengths to meet basic needs thereby allowing the transportation facilities to help achieve community climate change goals.

Reasons to support:

A community’s ability to achieve climate change goals will depend on whether its residents can make choices that reduce greenhouse gas emissions. Since trip choices and lengths – whether to travel in a single-occupancy auto or take transit, whether to walk or drive to local shopping and restaurant areas, how long a route is required from home to work – all affect transportation-related greenhouse gas emission, it is important that residents be able to choose trips that lower these impacts. By closely integrating the planning for land uses and all forms of transportation, communities can make these choices more realistic and desirable for their residents.

Specific Policy #4.3: Sustainability

Build communities (whether new or existing) that are sustainable, resilient and regenerative. Incorporate new standards and regulations that promote sustainable practices and measure both performance and outcomes.

Reasons to support:

Addressing climate change requires a dramatic departure from ‘business as usual’ for community design and development. While traditional measures of success are still important (such as adding jobs, building new subdivisions or increasing the tax base), reducing greenhouse gas emissions requires that communities consider additional criteria for success.

Sustainable communities manage their resources to meet today's needs while retaining resources for future generations to use. They help address climate change because they use resources like energy and water more efficiently, and thus reduce greenhouse gas generation from carbon-based fuel consumption.

Resilient communities respond to changes in the environment, the economy, technology and other areas in a way that continues their appeal as places to live and work. They help address climate change because they accommodate future residents in existing places, reducing greenhouse gas emissions because they decrease the pressure to expand urban areas outward and use carbon-based resources to pave new areas, build new structures and extend vehicle trip lengths.

Regenerative communities are designed so they do not just minimize damage to the natural environment, but actually restore the natural systems of the community and the connections of people to community. This evolving design approach helps address climate change because it restores natural 'green infrastructure' instead of relying on engineered systems that require higher energy and carbon inputs. By strengthening the connections between people, a particular community and its unique natural setting, these communities may help build the political will and civic engagement that are essential to modify lifestyles and expectations enough to have an impact on climate change trends.

Development Patterns that Reduce Transportation-Related Greenhouse Gas Emissions

General Policy #5: The American Planning Association, its Chapters and Divisions, and planners support development patterns in new development and redevelopment that minimize the emission of greenhouse gas from transportation and travel.

Specific Policy #5.1: Mixed Use Development

Plan for development patterns that mix land uses so jobs, services, schools, shopping and other destinations are near residents' homes and neighborhoods. Adopt specific incentives and requirements that promote mixed-use development, including removing barriers to mixed use project financing. Federal and state housing, transportation and infrastructure programs should incorporate specific standards for mixed-use development.

Reasons to support:

Mixed-use development reduces climate change impacts in several ways. By locating diverse uses close to one another, it reduces the volume of daily vehicle trips, as well the need for private vehicles and parking facilities. Reducing travel distances reduces greenhouse gas emissions, even if the trips are taken in gasoline-powered vehicles. Shorter distances also make alternative travel modes – such as biking or walking – more feasible and likely, further reducing the emission of greenhouse gases.

Specific Policy #5.2: Development Centers with Higher Density

Plan for local and regional development with higher density mixed-use development centers near transit stops and stations, and in other key locations such as historic town squares. Regulatory and other incentives should be adopted to encourage higher density development, particularly near transit. Development reviews policies and processes should acknowledge the GHG emission

reduction impacts of higher density development and the negative climate impacts of sprawling, low density projects.

Reasons to support:

Pollution generated from transportation constitutes a major portion of GHG emissions worldwide. Development patterns that reduce the number and length of trips in single-occupant motor vehicles will reduce these emissions. Higher intensity centers accomplish this objective in several ways. Higher intensity development itself means that more desired destinations are close by, making walking or biking feasible choices, and making it easier to take care of several tasks in a single trip. Town centers, historic or newly-created, illustrate these advantages. If these higher intensity centers are located near transit stops and stations, then more people will be able to use transit for more trips.

Specific Policy #5.3: Transit-Ready Locations

Use comprehensive planning efforts and policy incentives to create and encourage ‘transit-ready’ development patterns in major metropolitan regions (or parts of metropolitan regions) that do not yet have public transit. Change federal transit investment review criteria to better acknowledge climate impacts, economic development impacts, and supportive comprehensive planning.

Reasons to support:

It is very difficult to justify transit in areas that have already developed at very low densities. At the same time, many growing communities are not served by transit, so they are reluctant to plan for a development pattern that may never be served or have market support. ‘Transit-ready’ development patterns create centers with more intense, mixed use development compared to their surrounding development pattern. Before public transportation (bus, BRT, or fixed rail) is available, these areas can give residents the ability to reduce VMT by allowing each vehicle trip to serve multiple purposes, or by making trips on foot or by bicycle easier. If or when the community or region decides to invest in public transportation, those facilities will serve a development pattern that has already been designed to support public transportation.

Specific Policy #5.4: Jobs-Housing Proximity

Plan for jobs and appropriately priced housing located close to one other so people at all income levels can live near their places of work. Adopt policies that incentivize mixed-income development near job centers and recognize the positive fiscal impacts on households in transit-accessible, high density locations.

Reasons to support:

In many places, the cost of housing prevents people from living in the community where they work. These workers must find more affordable housing in locations that are distant from their jobs and may be accessible only by automobile. This development pattern results in increased vehicle miles traveled and increases in greenhouse gas emissions.

Specific Policy #5.5: Location of Public Facilities

Ensure that schools and public facilities are centrally located in communities and are accessible by walking, biking or transit; these facilities should be jointly located whenever feasible. GHG

emission impacts, particularly through potential for VMT reduction, should be considered in all location and investment decisions for public facilities.

Reasons to support:

Schools and other public facilities are major trip generators, and planners have great influence over their siting. Planners should seek to locate schools in areas with good transit, pedestrian and bicycle connections to their attendance areas, helping to make Safe Routes to School programs feasible and reducing the emissions from dedicated school transportation and parents driving children to school. Similarly, public facilities with significant customer traffic should be located where there is good transit, pedestrian or bike access. Co-location of public facilities, and location near town centers, further helps to reduce greenhouse gas emissions by reducing the number and length of trips needed to use public services.

Specific Policy #5.6: Compact, Higher Density Communities

Support community design and public investment decisions that create compact development patterns and higher densities that reduce vehicle miles traveled within a community. Policies should also prioritize the modernization of infrastructure supporting such development.

Reasons to support:

More compact communities make it easier for people and goods to move within a community by walking, bicycling or utilizing mass transportation instead of using an automobile. With average residential densities of 10 to 12 units per acre, compact development can support public transit systems, further reducing travel by private automobile. Conversely, by minimizing sprawling development (lots between 1 and 5 acres) on the edges of urban areas, a region can reduce greenhouse gas emissions from vehicles and retain natural areas that provide carbon sinks.

Specific Policy #5.7: Compact Regions

Use planning policies regarding infrastructure investments, extension of urban services and utilities and preservation of natural or agricultural areas to create compact regional development patterns that reduce vehicle miles traveled within the region.

Reasons to support:

Compact development patterns, particularly when in close proximity to existing development, encourage the use of alternative transportation modes by reducing the distance between uses. Compact regions can support lower levels of motor vehicle use and resource consumption than lower density, sprawling development. Policy tools that can support compact regional development include establishment of urban growth boundaries, decisions to invest infrastructure funds in already-developed areas, policies regarding extension of urban services, and initiatives that create greenbelts around urban development.

Specific Policy #5.8: Infill Development and Redevelopment

Promote infill development, redevelopment of existing neighborhoods, preservation of historic structures and the adaptive reuse of buildings within the currently-developed areas of communities and regions. Create new incentives and policies that promote infill investment. Prioritize infill development in state and federal housing, transportation and infrastructure

programs. Tax credits and other incentives and assistance should target the reuse and rehab of vacant properties.

Reasons to support:

Existing neighborhoods and communities are an important asset in efforts to address climate change. Public and private sector investments have created infrastructure and amenities to serve homes and businesses in these areas. Reinvestment in these sites allows a community (or a region) to accommodate new residents and businesses within its existing fabric. Such reinvestment maximizes the use of existing infrastructure, encourages the preservation and continued use of historic buildings and supports existing businesses and services. It reduces the need for new roads and infrastructure, and can encourage walking, biking and use of transit. It preserves open space and greenfields, thus reducing sprawl and retaining areas that serve as carbon sinks.

Specific Policy #5.9: Brownfields

Advocate the reuse of remediated brownfield sites to reduce distances between destinations and relieve pressures for greenfield development. Expand and improve current state and federal brownfields programs to further encourage development, continue addressing liability issues, increase project funding, and improve coordination with comprehensive planning.

Reasons to support:

Open, undeveloped land provides valuable resources and ecosystem services such as the local provision of food and fiber, carbon sequestration, habitat, and flood protection. The use of remediated brownfield sites returns land to productive use and increases the supply of land necessary to meet the demands of growing populations. This, in turn, reduces the demands on undeveloped open lands. Brownfield sites are typically within developed areas connected to existing infrastructure networks, reducing demands on communities to provide new infrastructure and reducing the need for travel outside of the community to equivalent greenfield sites. It helps address climate change because it reduces vehicle miles traveled and retains land for vegetation that can serve as a carbon sink.

Land Use Patterns that Support Green Business

General Policy #6: The American Planning Association, its Chapters and Divisions, and planners support planning efforts that incorporate and promote new technologies and sustainable businesses to further economic growth.

Specific Policy #6.1: Technology and Communications

Support technology and business practices that enable people to reduce vehicle miles traveled from home to work. These include the use of home offices and technology such as wireless communications and videoconferencing.

Reasons to support:

Evolving communications and computer technology allow people to work together without being in the same physical location. These changes allow effective collaboration with fewer vehicle miles traveled, and thus lower greenhouse gas emissions. They provide for more efficient use of space (i.e. building materials, parking, roads) when home offices are combined with “hot

desking” (one desk shared by many people at the main office). They also can provide social and economic benefits by offering more flexibility to accommodate full-time parents, the handicapped, and part-time workers.

Changes to development patterns that support these trends include increased flexibility for home office uses, the potential for satellite offices within residential neighborhoods with wireless communication to main office when some collaboration is desirable, and business support centers in neighborhood commercial areas.

Specific Policy #6.2: Green-Collar Jobs

Use comprehensive planning and shift economic development and working training programs to support local jobs in sustainable businesses.

Reasons to support:

Businesses in ‘green’ industries (or businesses that use ‘green’ approaches to traditional industries) will become increasingly important to greenhouse gas reduction and to sustainable economies. As companies and individuals seek to reduce their ‘carbon footprints’, they will look for more sustainable materials, technologies and services. Support for the businesses that are using green practices will make it possible for local climate change goals to be met. These businesses can also form the foundation for ‘green’ economic growth that can reduce reliance on fossil-fuel-based economies.

2.3 Natural Assets and Open Spaces

General Policy #7: The American Planning Association, its Chapters and Divisions, and planners support actions that enable natural assets and green spaces to contribute to the health of communities and regions, and to reduce their regions’ overall contributions to climate change.

Specific Policy #7.1: Natural Asset Protection

Protect important natural assets and areas of communities and regions to maintain their roles as ‘carbon sinks’. Federal and state programs should help communities identify and map these assets.

Reasons to support:

Throughout much of the 20th century, urban development relied on engineering methods and construction to modify the natural environments surrounding growing communities. The need to reduce greenhouse gas emissions adds another reason to support a different approach to natural assets – one in which they provide valuable benefits to the community and the world.

Nature preserves and other areas that remain in a natural state – such as grasslands, wetlands or forest –serve as carbon sinks, trapping carbon from the atmosphere. Disturbance of these areas releases carbon into the atmosphere; protecting them prevents this release and additional plantings in these areas may trap additional carbon and reduce its levels in the atmosphere.

These natural areas may become the basis for a community’s receipt of ‘carbon credits’ if the carbon trading system recommended in this policy guide is established.

Specific Policy #7.2: Green Infrastructure

Create, protect and manage systems of green infrastructure (i.e., urban forests, parks and open spaces, natural drainage systems) in regions and communities. Fully fund programs that support the development, identification, and maintenance of green infrastructure. Support new research and training for design professionals on the development, incorporation and preservation of green infrastructure.

Reasons to support:

When a community uses and enhances its natural environmental assets as an integral part of its infrastructure, that community also reduces its impact on climate change and increases its ability to adapt to changes that may occur. For example, shade from the urban forest reduces the need for air conditioning in the summer, thus reducing electrical demand and the greenhouse gas emissions caused by electrical generation and transmission. Preservation of urban forests found in floodplain or other low-lying areas also enables a community to adapt should future changes in global climate increase the intensity of flooding or raise sea levels. Programs to plant new trees in urban areas, and other green systems provide similar opportunities.

These systems should form an important part of the infrastructure framework upon which a region's climate change planning is based. Since many green infrastructure systems extend beyond the boundaries of individual communities, they should be addressed at a watershed or other appropriate regional level. Smaller cities and towns should take this approach with natural systems that provide their green infrastructure as well.

2.4 Agricultural Activities

Modern industrial agriculture is responsible for approximately 25 percent of the world's CO₂ emissions, 60% of the methane, and 80% of the nitrous oxide. Modern industrial agriculture uses 6-10 times more energy than alternative sustainable technologies to produce the same amount of cereal or vegetable.

General Policy #8: The American Planning Association, its Chapters and Divisions, and planners support action to reduce greenhouse gas emissions from agriculture, food production and transport.

Specific Policy #8.1: Greenhouse Gas Emissions through Agricultural Practices.

Establish educational programs and incentives to promote agricultural cultivation and livestock management practices that reduce greenhouse gas emissions. Local, state and federal standards and regulations should be reformed to support agricultural practices that reduce emissions and curtail practices that increase GHG emissions.

Reasons to support:

Today's agricultural practices contribute to climate change in several ways: through fossil fuel combustion by farm machinery and vehicles; through the use of nitrogen fertilizers; through the release of carbon stored in plants and soils; and through methane gas production in livestock and other operations. County and rural area plans that include agricultural preservation can include policies that promote sustainable agriculture. Development incentives (such as density bonuses

for clustered development) can be increased for agricultural properties that meet greenhouse gas reduction targets. Plan implementation can include education and training programs.

Specific Policy #8.2: Methane Emissions from Landfills

Support policies that result in the design, retrofitting, operation, and management of landfills (both existing and closed) so that methane emissions are controlled and, where feasible, used for energy production.

Reasons to support:

Methane is the second most common GHG, after CO². Methane is produced in landfills as the result of the anaerobic decomposition of waste. Landfills are a major contributor of methane emissions, accounting for approximately 34% of all methane emission in the U.S. Methane is readily usable for the production of energy since it is a major component (95%) of natural gas. Land use planning and public facility siting policies should locate and design landfills so they provide energy resources and minimize methane emissions.

Specific Policy #8.3: Local Food Production

Include the local production of food and energy among the uses addressed in comprehensive plans and local regulations. Reform federal agricultural policy to shift resources and funding priorities toward support of locally produced food distribution and access. Remove regulatory barriers to the distribution, consumption and purchase of locally produced food.

Reasons to support:

Local food production can reduce “food miles” – the distance that food must travel – and consequently greenhouse gas emissions. Food in a grocery store typically travels 1,000 miles or more while the typical food in a farmers market travels 1/10th of that distance. Planning for land used for community farming can help protect and ensure the retention of these properties for local food and commodity production. The result will help minimize VMT by limiting food transport and avoiding regional imports of consumer goods that can be produced locally.

Specific Policy #8.4: Agricultural Lands

Establish strategies to promote redevelopment and compact new development that will minimize the conversion of farmland and woodland for urban use. Fully fund programs to help farmers incorporate environmental protection practices. Increase funding for open space preservation initiatives.

Reasons to support:

Reducing our conversion of agricultural and woodlands to an urban use is important not only for food production, but the vegetation not destroyed is important to convert carbon dioxide to oxygen.

2.5 Transportation Systems

General Policy #9: The American Planning Association, its Chapters and Divisions, and planners support the planning and development of interregional transportation systems that can reduce greenhouse gas emissions.

Specific Policy #9.1: Airport Planning and Air / Rail Network Planning

Support development of transit access to airports and long-distance rail networks to increase national connectivity and reduce vehicle use for freight and long-distance passenger trips.

Reasons to support:

Congestion and energy consumption can be reduced through a more integrated multimodal intercity transit system. Enhanced intercity rail service will take both passenger vehicles and heavy-duty trucks off the highway. Planning airports so that they connect with a variety of transit options including rail and bus networks will create alternatives to short-haul flights as well as reduce the number of vehicle trips to and from airports.

Specific Policy #9.2: High Speed Rail Planning

Evaluate the use of high speed rail to connect urban areas within 500 miles of each other, and create programs to foster implementation. Fully fund intercity rail and encourage the design, development and funding of regional rail initiatives. Establish a new national rail corridor initiative.

Reasons to support:

Mobility between major urban areas is vital to American society. Americans travel a total of 1.3 trillion person-miles of long distance trips a year or about 2.6 billion long-distance² trips, or 7.2 million trips per day. Currently³ almost 90 percent of these long-distance trips are by personal vehicle. High speed rail offers an alternative that reduces vehicle miles traveled and greenhouse gas emissions.

Existing railroad routes provide an attractive, practical location for high speed rail service that meets present and future mobility demands⁴, in an environmentally-sustainable manner. Planning should begin on the next generation of truly high-speed trains to serve U.S. travelers.

Specific Policy #9.3: Goods Movement and Freight Systems Planning

Support integrated multi-modal goods movement networks that minimize financial and environmental costs by making choices about operational methods and transportation modes that minimize greenhouse gas emissions.

Reasons to support:

The U.S. is part of a vibrant global economy, with goods sourced, produced, and marketed around the globe. Goods movement is a complex issue and is comprised of several discrete but inter-related components. While it affects every community differently, every community faces some measure of each of these components:

- port, inter-modal and transfer facilities
- long-haul movements
- short-haul and local market movements
- transformation and value-added facilities

² Over 50 miles one way.

³ Per the National Household Travel Survey Findings, survey from 2001-2002, released 2006, "Long Distance Transportation Patterns: Mode Choice", Tables 1 and 4.

⁴ Federal Railroad Administration Next Generation High-Speed Rail Program (NGHSR)

- end user distribution services, and
- support facilities such as weigh stations, inspection facilities and staging areas.

At each step in the process, choices about operational methods and transportation mode will affect the amount of greenhouse gas emission associated with the transport of a particular shipment. Local comprehensive and metropolitan transportation plans should support goods movement and operations that reduce greenhouse gas emissions.

Transportation within Regions

General Policy #10: The American Planning Association, its Chapters and Divisions, and planners support the planning and development of multi-modal regional and local transportation systems that reduce greenhouse gas emissions by reducing vehicle miles traveled.

Specific Policy #10.1: Coordination with Land Use Planning

Incorporate planning for transit, bicycle and pedestrian networks within local and regional comprehensive planning. Encourage development patterns that support transit and multi-modal transportation networks. Restructure state and federal funding to incentivize projects that demonstrate coordination and provide demonstrable impacts on reducing GHG emissions through supportive land use-transportation decisions.

Reasons to support:

Transit, bicycle and pedestrian facilities give people the ability to choose non-automobile travel modes for their trips and thus reduce the amount of greenhouse gas emissions from cars. In areas where transit, pedestrian and bicycle networks have not yet been defined, identification of potential future networks through land use and comprehensive planning projects can help preserve the opportunity to create these travel options in the future. Planning for such facilities establishes the policy basis to require their extension during the review of new development as provided by Specific Policy 10.2 below.

Specific Policy #10.2: Transportation Facility Siting and Community Design

Use community design and development review processes to secure rights-of-way and require provision of facilities needed to provide highly-connected street, transit, bicycle and pedestrian networks in neighborhoods, communities and regions.

Reasons to support:

If transit, bicycle and pedestrian routes are not available from a resident's neighborhood to a desired destination, travel to that destination will involve a car. Routes for these alternative transportation modes should be located and provided for through the planning and subdivision processes in the same way as roadways are. Highly-connected street patterns facilitate travel by all modes, but are especially beneficial for walking and biking, since they eliminate the need to walk or bike on a busy arterial or collector street.

Specific Policy #10.3: Transportation Investment Priorities

Give higher priority to funding for transportation infrastructure, programs and services that will reduce greenhouse gas emissions. Performance standards should be incorporated into

infrastructure assistance programs. Performance standards for climate and related metrics, such as reduced growth in VMT, should be incorporated in federal and state transportation and infrastructure programs. This should include investigating ways to reduce the amount of freight hauled by truck.

Reasons to support:

Most communities do not have enough funding to build the transportation infrastructure they need. Their processes for establishing funding priorities consider a variety of factors, such as project traffic volumes, connectivity to other facilities, safety enhancement and local support. Investments that support an appropriate land use pattern and alternative transportation modes will help the community reduce its greenhouse gas emissions. These factors should be considered when transportation funding priorities are being set. This policy would apply to capital investments and also to investment in programs and services (such as transportation demand management or operation of a joint parking district) that enable residents to reduce vehicles miles traveled.

Specific Policy #10.4: Invest in Transit

Transportation programs and policies should support substantially increased investment in transit, including commuter rail, light rail, bus rapid transit, and bus service. Transit has demonstrated significant GHG reduction capacity. Investment should support both the development of new systems and the expansion/maintenance of existing systems.

Reasons to support:

Rail transit reduces greenhouse gas emissions because it reduces the vehicle miles traveled by auto. Providing transportation choice on a local and regional level allows growing metropolitan regions to shape their growth around transit stops, maximizing open space and multimodal connections to activity hubs. Congestion, an impediment to the flow of people and goods, is reduced via rail transit. BRT systems reduce emissions and can be less expensive to develop and implement in many cases than traditional rail transit. Local bus service fills network gaps by serving less densely populated neighborhoods, providing not only access to local destinations but connections to the larger transportation network. In smaller communities, local bus service is the only practical way to provide transit services throughout the community. In rural areas, local bus service provides low-cost transit to people with limited mobility options.

Specific Policy #10.5 Local Street Network & Design

Support local street network connectivity and complete streets designed to accommodate all users and multiple transportation modes through context sensitive solutions. Adopt complete streets policies at the federal, state and regional levels. Support continuing training and research in new techniques for transportation design professionals.

Reasons to support:

Local street networks with easy connections to a variety of uses enable transportation choice and increased mobility. Street design that includes right-of-way for existing or future fixed guideway transit, pedestrian-friendly sidewalks and street wall environments, bicycle lanes, and safe crossings encourages the reduced use of automobiles for short and long trips, and increases

multimodal traffic capacity. By reducing the number and length of automobile trips, greenhouse gas emissions are also reduced.

Specific Policy #10.6: Multi-Modal Transportation Corridor Improvements

Develop major transportation corridors for multi-modal operation to minimize transportation-related greenhouse gas emissions associated with travel in the corridor.

Reasons to support:

Historically transportation routes have served a single travel mode, and improvements over time generally replaced one mode with another instead of creating multi-modal corridors (as, for example, when trails for travel by horseback were replaced with train tracks, which were then replaced with interstate highways). Planning and construction of multi-modal transportation corridors create alternatives for travelers, allowing them more efficient use of their time and money resources and providing travel choices that have lower greenhouse gas emissions. For the region, multi-modal design builds in flexibility. Pricing and other tools can be used to encourage people to switch to modes that reduce congestion and greenhouse gas emissions. Over time, technological advances may lead to new, 'greener' travel choices. A multi-modal corridor design will be most able to take advantage of these changes while continuing to serve established travel routes.

Specific Policy #10.7: Transition between Transportation Modes

Support coordination and seamless transitions between transportation modes to increase the use of modes with lower emissions for the movement of people and freight.

Reasons to support:

Transferring between modes of transport is costly. For commuters, connections between buses, trains or airplanes can be disrupted by network congestion, weather or equipment failure. Frequently, schedules of different modes are not coordinated. In other cases, physical distance between routes and stops make transfers impossible. If someone is not confident about simple things, like knowing when a bus will arrive at the stop near her home and whether she'll make the connection to the rail system, she may simply forego a mode choice that will emit lower levels of greenhouse gases. The use of bus circulators and shuttles can provide greater transit options, "door-to-door" mobility, and low-cost options to decrease automobile dependence.

In the realm of goods movement, transferring goods from one mode to another is time consuming and labor intensive, thus costly. Seamless inter-modality for freight means bringing a range of appropriate modes directly to transfer points, so that goods do not have to be transferred more than once. Efficient goods movement also involves providing adequate and appropriately located and equipped staging facilities for trucks near major facilities such as ports. Goods movement is a 24-hour activity and moving goods during off-peak hours provides considerable energy savings, but many facilities, especially at the retail end of the chain, are poorly equipped for 24-hour operation. By reducing congestion at transfer points, smooth goods transfer also reduces greenhouse gas emissions from idling motor vehicles.

Transportation System & Demand Management

General Policy #11: The American Planning Association, its Chapters and Divisions, and planners support the management of transportation demand and systems to reduce greenhouse gas emissions by reducing vehicle miles traveled.

Specific Policy #11.1: Transportation Demand Management

Create and implement local and regional Transportation Demand Management Strategies that result in more efficient use of transportation resources and reduce vehicle miles traveled (VMT).

Reasons to support:

Transportation demand management (TDM) strategies focus on changing travel behavior – trip rates, trip length, travel mode, time-of-day, etc. – to reduce the number of vehicle trips and increase mobility options. Most TDM projects and programs reduce emissions through trip or VMT reductions or by shifting trips from peak periods to less congested periods. TDM strategies can achieve public goals such as reduced traffic congestion, improved air quality, and decreased reliance on non-renewable energy consumption, in addition to reducing greenhouse gas emissions.

Specific Policy #11.2: Transportation Systems Management Strategies

Create and implement local and regional Transportation Systems Management strategies that reduce greenhouse gas emissions associated with the use and operation of transportation systems.

Reasons to support:

Transportation system management (TSM) improves vehicle flow on the roadway system by focusing on changing the operation of the transportation system. Tools to reduce traffic congestion include HOV lanes, synchronized signals, incident management, variable message signs, and other forms of intelligent transportation systems (ITS). In addition, some strategies focus directly on encouraging changes in driving behavior through educational information, incentives, or restrictions on driving speeds, operating patterns, and idling. TSM techniques can help reduce greenhouse gas emissions by discouraging driving during peak periods, when congestion and slow traffic speeds reduce fuel efficiency and increase emissions.

2.6 Water and Energy Systems

General Policy #12: The American Planning Association, its Chapters and Divisions, and planners support efforts to reduce greenhouse gas emission related to the distribution and use of water.

Specific Policy #12.1: Community Locations and Water Availability

Direct development that connects to and sustains available water supply capacity. Water availability and quality should be considered in development reviews, planning decisions, and infrastructure investments.

Reasons to support:

Communities that are developed in areas without adequate water supplies must transport water to meet their needs, requiring the use of energy to build infrastructure and to deliver water to the

community. Failure to take into account availability of adequate water supplies to serve new development results in overburdening limited supplies in many localities and in expending large quantities of energy to transport water from other locations. Transporting water over long distances requires systems of pumps, pipelines and canals, operated by electricity, currently provided mostly by greenhouse gas generating power plants. Greenhouse gas emissions from water treatment, supply and distribution can be reduced by locating development and redevelopment in areas where water is available nearby.

Specific Policy #12.2: Water Conservation

Support planning and design that reduces water consumption per capita and support implementation of water conservation practices. State and federal efforts must support improved water planning and watershed-level decision making.

Reasons to support:

More efficient use of limited water supplies helps address climate change because it reduces energy consumption in the operation of the water system. It can reduce the need for extensions of these systems to bring water from more distant sources, further reducing greenhouse gas emissions related to construction and energy consumption in distribution.

General Policy #13: The American Planning Association, its Chapters and Divisions, and planners support efforts to reduce greenhouse gas emission related to the production and use of energy in the built environment.

Specific Policy #13.1: Energy Sources to Reduce Climate Change

Encourage and prioritize in policy, regulation and investment decisions the use of energy sources that contribute less greenhouse gas through their production, distribution and consumption, and discourage less efficient energy sources.

Reasons to support:

While coal is currently the cheapest energy source available for large-scale electricity generation, it also is the most damaging in its climate impacts. New coal-fired plants in particular, but also other power plants relying on non-renewable energy sources, will overwhelm any reductions in greenhouse gas emissions mandated by the various domestic and international programs to reduce global warming.

Bio-fuels, often touted as an alternative to petroleum fuels, also are highly destructive to the environment, taking large land areas out of food production, consuming large quantities of water and using large amounts of energy in the production process. Investment in the development of renewable energy and more efficient energy sources would reduce climate change impacts, minimize reliance on large energy-producing facilities, and drive new areas of economic development.

Changes in energy generation technology over time may mean that the energy source with the lowest level of greenhouse gas emission may change. Planning for energy supply and consumption should evaluate greenhouse gas emissions of alternative sources, and should support those sources that lower greenhouse gas emissions per unit of energy delivered.

Specific Policy #13.2: Local Energy Generation from Renewable Sources

Support initiatives that generate energy from local renewable sources as a part of economic development efforts.

Reasons to support:

Electricity generation is responsible for 32% of U.S. greenhouse gas emissions. Local generation of energy meets community needs without the costs – and greenhouse gas emissions – related to long-distance transmission. In addition, the use of renewable sources reduces greenhouse gas emissions from carbon-based fuel sources. Not only does this approach help address climate change, it can form the basis for new economic opportunity as well.

Specific Policy #13.3: Facilitating Renewable Energy Sources

Plan for and establish strategies to facilitate the use of energy sources that generate lower levels of greenhouse gas emissions. Establish incentives, including expanded tax credits, for research and implementation of renewable energy generation, distribution, and deployment. Support minimum Renewable Portfolio Standards for utility companies.

Reasons to support:

Fossil-fuel based energy sources and long-distance transmission of energy are significant contributors to climate change. Planning and development of communities must include efforts to reduce the need for these energy sources and systems. In the past, land use planning in many communities included delineation of transmission line routes, but it did not identify sites where energy could be generated locally. Since rapid development of large-scale renewable energy systems on such sites can help reduce U.S. dependence on carbon-based energy sources, planning for cities and regions should include identification of sites for local energy generation.

Some sites are of particular value for wind or geothermal energy. Other sites may also be desirable for alternative energy projects because of their unique characteristics (for example, sites that have ample sunshine, few other development constraints, and proximity to transmission facilities). By including energy production sites in comprehensive planning processes, their impacts on the environment and adjacent uses can be evaluated and those sites that have particular value can be planned and zoned for these uses.

Specific Policy #13.4: Design for Solar Energy

Support urban design strategies that maximize use of alternative energy sources and passive solar architecture in buildings. Maintain and extend tax credits for the use of solar energy in design and construction practices.

Reasons to support:

Site planning and building design have a significant effect on the amount of energy needed to heat, cool and light buildings to meet the needs of their occupants. Site and building design techniques can reduce energy consumption on-site, thus reducing demand for energy generated elsewhere and its related greenhouse gas emissions. Planning and design should encourage the use of passive solar energy and other on-site alternatives.

Specific Policy #13.5: Funding for Energy Efficiency and Conservation

Fully fund federal energy efficiency and conservation block grants to communities.

Reasons to support:

Even though energy conservation and the use of renewable energy may save money in the long term, higher up-front costs often prevent their use. The federal Energy Bill would provide resources to localities (through block grants) that could be used to reduce or offset these initial costs. This funding can play an important role in reducing reliance on fossil-fuel based energy and the greenhouse gas emissions from these energy sources.

2.7 Research, Education and Communications

General Policy #14: The American Planning Association, its Chapters and Divisions, and planners support continuing research and education to understand the causes of climate change and to develop strategies to reduce climate change and to mitigate and adapt to its impacts.

Specific Policy #14.1: Education for the Community and for Decision-Makers

Include education about climate change in community outreach efforts undertaken for long-range planning programs. Explicitly recognize and discuss climate impact and considerations in public review and participation process related to comprehensive plans and regional plans.

Reasons to support:

Success in addressing climate change requires different choices in the way communities are planned, developed and maintained. Yet many public and private sector decision-makers are not informed about the current status of climate change research and the potential communities have to affect this global issue. Members of the general public may have even less information about what their daily choices mean for the future of the planet. Most planning processes include public involvement, interaction and education. Whenever appropriate, information about climate change and strategies for mitigation and adaptation should be incorporated into these public outreach campaigns. The effort to create a community climate change action plan will clearly include this educational component. Other planning efforts where these issues should be incorporated include the creation or update of local or regional, comprehensive and general plans; planning for regional transportation improvements and other capital improvement programming; and plans to address air quality issues. Climate change may also be an appropriate part of public education and outreach for the review of master planned projects, changes to form-based zoning, updates to building codes and other efforts.

Specific Policy #14.2: Communities and Climate Change

Support research that improves the ability of communities to reduce their carbon footprint by quantifying their impacts on climate change and the effect of their actions to address this issue. Support the research and development of new modeling and scenario planning techniques that incorporate climate change measurement.

Reasons to support:

Global research on climate change is rapidly increasing scientific knowledge about this issue and making more specific connections between climate change and human activities. As this research builds the knowledge base, it is important that people gain information about the ways they affect climate change. Continuing research is needed so communities, neighborhoods and individual residents or businesses can take action in ways that will help to mitigate or adapt to climate change.

Specific Policy #14.3: Carbon Sequestration

Support continued research into biological and geological carbon sequestration technologies.

Reasons to support:

Global warming can potentially be mitigated through technologies to sequester carbon – that is, to keep it out of atmospheric circulation for long periods of time. However, the benefits and best practices for various sequestration methods are not yet clear. Some sequestration methods would rely on vegetation to sequester carbon. These approaches could lead to community preservation of wetlands, grasslands and forests as ‘carbon sinks’ and potential beneficiaries of future carbon credit systems. Additional research is needed to determine the exact technical feasibility, costs, and benefits of these strategies and the best way for communities to contribute to carbon sequestration.

Specific Policy #14.4: Effects on the Local Communities and Conditions

Support research to better understand the effects of global warming on regions, communities and local agriculture and open spaces. Expand and fund state and federal programs that supply vital data related to climate change and its impacts to local and regional planning agencies. Require new reporting and measurement of climate impacts in planning and development processes and reviews.

Reasons to support:

Changes in climate due to global warming ultimately will be local in their effects. Changes can occur in the availability of arable land, length of the growing season, amounts of rainfall, temperature changes, levels of disruptive weather, and ecological balance, just to name a few. In addition to research about the implications of climate change for communities and urban areas in general, research is needed that will enable specific places to develop appropriate plans for action to mitigate and adapt to climate change. This research will help regions and communities plan for future urban development locations and patterns, identify and protect natural assets, and develop strategies to support local agriculture as it deals with changing climate.

3. Actions to Reduce Climate Change

3.1 Greenhouse Gas Emissions

General Policy #15: The American Planning Association, its Chapters and Divisions, and planners support economic strategies that reduce greenhouse gas emissions.

Specific Policy #15.1: Cap and Trade System

Implement a nationwide and economy-wide cap and trade system for carbon emissions that reduces greenhouse gas emissions to the amount necessary to achieve an 80% reduction below 2000 levels by 2050. Provide funding for local, regional, and metropolitan planning agencies from cap and trade auction and allocation revenues to fund planning reforms that demonstrably reduce greenhouse gas emissions. Any cap-and-trade bill passed in the U.S. Congress should return a minimum of 5% of allowance revenue to states, regions, and localities to invest in development, infrastructure and transportation measures that reduce emissions. Revenue should be allocated based on performance in achieving reductions in per-capita emissions.

Reason to support:

Cap and trade systems combine the force of regulation with the power of the private market to achieve public policy goals in a cost-effective manner. The United States is well-positioned to implement such a system, given its own successful efforts to reduce acid rain, and given the lessons it can learn from Europe's implementation of a carbon cap and trade system. Allocating revenues from a cap and trade system to fund local transportation and land use planning efforts that reduce greenhouse gas emissions is an effective means to build in lasting mitigation of climate change. This provides an opportunity to return a portion of this revenue to invest in local strategies to reduce VMT and emissions from buildings, such as those described elsewhere in this guide. Some of the bills currently being considered would return 1% of allowances to states to invest in transit. This proportion should be expanded, along with the types of eligible projects.

Specific Policy #15.2: Carbon Pricing

In the absence of a comprehensive cap and trade system, federal legislation should establish a carbon tax for the purpose of achieving at least an 80% reduction in greenhouse gas emissions below 1990 levels by 2050. Set aside funds generated from such action to support local, regional, or state efforts related to planning that reduces greenhouse gas emissions.

Reason to support:

Pricing carbon would reduce distortions in existing spending patterns. Research also indicates that the use of funds from a carbon tax (or the auction phase of a cap and trade system) to support low-carbon technologies, in transportation for example, substantially lowers the overall cost of reducing greenhouse gas emissions.

Specific Policy #15.3: Regulation of Products

Use regulation to reduce the use of products with high energy use or production of greenhouse gases, including fluorocarbons, when viable alternatives exist.

Reason to support:

Many energy-inefficient or high-carbon products, such as incandescent light bulbs, will continue to be used indefinitely unless they are banned or tightly regulated. In such cases voluntary action or market mechanisms by themselves are insufficient to bring about change, and regulation is needed. Many fluorocarbons, including CFCs, HCFCs, and HFCs, are potent greenhouse gas chemicals many times stronger than CO₂. (CFCs are also responsible for depletion of the ozone layer.) Substitutes to most fluorocarbons (used primarily as coolants) are available.

3.2 Land Use

General Policy #16: The American Planning Association, its Chapters and Divisions, and planners support the elimination of barriers, the reform of zoning and development standards, and the creation of incentives to lower energy use and greenhouse gas emissions.

Specific Policy #16.1: Zoning and Development Standards Reform

Implement significant changes in zoning and development standards. New policies and regulations should be developed that promote mixed use development, transit-oriented design, and greater development intensity to create communities with land use patterns with reduced energy consumption, fewer vehicle miles traveled and reduced greenhouse gases. New zoning and development standards should incorporate climate change impacts and implications in required environmental reviews and decision-making. Climate change should be incorporated into comprehensive planning that meets new emission goals and targets.

Reason to support: Zoning and other development standards should be made more flexible to allow for the creation of developments, neighborhoods, and communities that allow for more pedestrian, bicycle, and transit use, thereby lowering transportation energy consumption. Changes need to be made from traditional zoning laws that are based on separating land uses and creating single-use communities. If designed improperly, standards such as parking requirements, building height limits and building setbacks may impede development that reduces sprawl and facilitates transit use.

Specific Policy # 16.2: Developer Incentives

Create developer incentives, including tax credits and regulatory reforms, to encourage development that reduces energy consumption and lowers greenhouse gas emissions. Encourage demonstration projects with evaluation mechanisms.

Reason to support: Development incentives give developers a direct benefit for some concession on their parts. New regulations and standards should be paired with developer incentives. This is among the most effective, fiscally neutral strategies that can be used. Specific development incentives can include, among others, density bonuses, one-stop permitting, expedited zoning relief procedures and permitting, fee reductions and waivers, and reduced parking requirements.

3.3 Motor Vehicles

General Policy #17: The American Planning Association, its Chapters and Divisions, and planners support improving standards for new vehicles to lower fuel use, use cleaner fuels, and lower greenhouse gas emissions.

Specific Policy #17.1: Increase CAFE Standards

Establish stronger Corporate Average Fuel Economy (CAFE) Standards than included in recently enacted federal energy legislation.

Reason to support: Increasing fuel economy is one of the fastest, cleanest and lowest cost options for immediate reduction in greenhouse gas emissions and oil dependence. The National Academy of Sciences found that improved fuel economy benefits the nation's economy and trade, reduces dependence on oil (much of which comes from instable regions and decreases our national security), and reduces carbon dioxide emissions. CAFE standards were increased for the first time since the 1970s when Congress passed the 2007 Energy Bill. Several states have urged even stronger regulation. APA supported the recent increase and encourages Congress to further strengthen fuel efficiency standards.

Specific Policy #17.2: Promote Clean Fuel Technology and Standards

Establish low carbon fuel standards for autos, light trucks, heavy trucks, rail, air, bus, water, and off-road transportation modes and encourage research into clean fuel options and system-wide implementation.

Reason to support: Today, planning focuses significant attention on reducing single-occupancy vehicle use, and increasing the use of non-auto transportation, including rail, air, bus, and water. However, since fuel-efficiency standards are sometimes weaker, sporadically enforced, or non-existent for these modes, clean fuel standards for all transportation modes are vital to a comprehensive transportation solution. Federal policy should actively promote new research into the development of cleaner fuels and the ability to make new fuels readily available to consumers.

Specific Policy 17.3: Federal Action on Vehicle Emissions

Pass federal legislation setting standards for greenhouse gas emissions from vehicles at levels consistent with nationwide and economy-wide greenhouse gas reduction targets.

Reasons to support:

Reducing greenhouse gas emissions from vehicles is one of the largest steps the U.S. can take to reduce overall greenhouse gas emissions. The transportation sector accounts for about 28% of gross U.S. greenhouse gas emissions. Standards for greenhouse gas emissions are more closely linked to global warming, and therefore are preferred to fuel economy standards, which are only indirectly linked to greenhouse gas emissions. (Source: EPA)

Specific Policy 17.4: Enabling State Action on Vehicle Emissions

Absent federal action on vehicle emissions, support the State of California's request to U.S. Environmental Protection Agency to implement vehicle emission standards that would reduce greenhouse gas emissions, and thereby encourage other states to do the same.

Reasons to support:

Allowing states to develop and implement alternative greenhouse gas emission standards encourages technological and regulatory innovation, and can reduce emissions and the impacts associated with global warming. Similar innovation at the state level, in particular the adoption of standards by states such as California that were stricter than federal standards, helped reduce local air pollution in the past.

Specific Policy # 17.5: Monitor Greenhouse Gas Emissions from Transportation

Secure federal funding to develop reliable methods to quantify greenhouse gas emissions from transportation to accurately monitor progress in meeting goals. Monitoring should include gasoline consumption, VMT and CO₂ emissions disaggregated to the county or regional level. These efforts should result in new models for use in planning and related environmental or development reviews and analysis.

Reason to support: There is a need to be able to demonstrate, tangibly and separately from other factors, the impacts of greenhouse gas emissions from transportation. Establishing baseline conditions and identifying the possible impacts of proposed improvements provides critical input to plan evaluation and the setting of priorities. There is a corresponding need to be able to monitor progress over time; show the co-benefits with air quality and other similar initiatives; and – potentially – establish quantifiable benefits for use in cap and trade or similar programs.

General Policy #18: The American Planning Association, its Chapters and Divisions, and planners support economic strategies that provide incentives to manufacturers and users of vehicles to lower fuel use, use cleaner fuels, and lower greenhouse gas emissions.

Specific Policy #18.1: Economic Incentives for Fuel Efficient Vehicles

Enact a system of fees and rebates that encourages the purchase or manufacture of fuel-efficient vehicles and discourages the purchase or manufacture of fuel-inefficient vehicles.

Reason to support:

Fees and rebates that encourage the purchase of fuel-efficient vehicles are more likely to be effective than fuel taxes in modifying behavior. Fee and rebate systems can also be designed to be revenue neutral, thus costing taxpayers little or nothing in the aggregate while conveying the benefits of reduced impacts of climate change.

Specific Policy #18.2: Efficient Use of Existing Transportation Infrastructure

Promote low-carbon commute alternatives by ensuring that the cost of the daily commute by individuals reflects the actual cost of the trip, including its environmental and greenhouse gas impacts. Support the expansion of congestion pricing systems, particularly for urban expressways. Use the funds generated from such a system to advance low-carbon transportation technologies and to reform existing transportation taxes. Incorporate performance standards and GHG emission-related metrics into funding, budget and investment decisions.

Reason to support:

The transportation sector accounts for 28% of gross U.S. greenhouse gas emissions. Actions that prompt changes in behavior in the realm of transportation can have a commensurate impact on reducing greenhouse gas emissions. Congestion pricing allocates scarce infrastructure resources more efficiently than the first-come, first-serve system that prevails today. Actions such as mandatory parking cash-out programs, funding for transit incentives, congestion pricing and parking pricing are particularly useful because they help reveal the total environmental costs/benefits associated with particular modes of travel.

3.4 Renewable Energy

General Policy #19: The American Planning Association, its Chapters and Divisions, and planners support policies that encourage the use of renewable energy.

Specific Policy #19.1: Policy to Support a Transition to Renewable Energy

Adopt state, regional, and national policies that accelerate the transition to renewable energy sources.

Reason to support:

Greenhouse gas emissions from energy (including for transportation) amount to about 70% of worldwide greenhouse gas emissions. Policies such as feed-in tariffs (the minimum price a utility must pay to an independent renewable energy producer), tradable green energy certificates (proof that a unit of electricity was generated from an eligible renewable energy source to be sold to entities that produce too much greenhouse gas), and renewable energy portfolio standards (minimum annual amounts of electricity to be generated by renewable energy sources), and similar schemes have been shown to be effective in accelerating the transition to a low-carbon economy, though no single policy direction is appropriate for all situations. (Source: IPCC)

Specific Policy #19.2: Incentives for the Small-Scale Use of Renewable Energy Systems

Establish incentives to encourage installation of renewable energy systems by homeowners and small business operators.

Reason to support:

Given the artificially low price of coal and other fossil fuels, since environmental externalities are not included, it is often not cost-effective for individual homeowners or small business operators to install alternative energy systems. Such installation may also require up-front investment that these individuals do not have. Incentives for installation of small-scale renewable energy may include a per-watt rebate for newly installed electrical capacity, loans or grants for installation, and net metering in which the property owner is paid for electricity fed back into the grid.

Specific Policies #19.3: Integration of Solar Design into Codes

Revise building codes and architectural design guidelines to allow for, encourage, or require integration of passive solar design, green roofs, active solar and other renewable energy sources.

Reason to Support: In many climates solar design and on-site solar systems have been shown to be effective in lowering overall building energy use. Design standards might include southern orientation of structures, extensive southern fenestration for winter heating, shielding of windows to prevent summer overheating, thermal mass to retain heat and coolness, and design for maximum natural summer ventilation, solar hot water heaters and photovoltaic electricity.

Specific Policy #19.4: Eliminate Regulatory Barriers to the Use of Renewable Energy Systems

Examine existing zoning laws and development standards and revise or eliminate provisions that act as a barrier to the use of renewable energy systems.

Reason to Support: Zoning and other development standards can act as a barrier to the use of renewable energy systems. Examples include height restrictions that limit the use of wind energy conversion systems and design requirements that limit the placement of solar energy panels.

Specific Policy #19.5: Renewable Energy Systems and Energy Efficiency in Public Facilities

Construct and renovate public facilities to serve as demonstrations of green building practices and include (where possible) renewable energy systems such as photovoltaic electricity or solar hot water panels.

Reason to support:

Public facilities can be visible examples of the benefits of renewable energy systems and act as models for the private sector to follow.

3.5 Green Building

General Policy #20: The American Planning Association, its Chapters and Divisions, and planners support the development and application of green building standards that reduce the carbon footprint of both new and existing buildings and developments.

Specific Policy #20.1: Green Building Standards

Support the continued development and application of green building standards. Develop and promote the means and standards to reach a 50% reduction in building-related carbon emissions by 2010 and carbon neutral buildings by 2030. Incorporate green building and energy efficiency standards for all public facilities.

Reason to support: A variety of organizations have developed green building standards. An example is the LEED (Leadership in Energy and Environmental Design) green building rating system of the U.S. Green Building Council. Such standards “raise the bar” on the energy efficiency of new building construction and renovation. These standards can be used as guidance to set local standards for new construction or to specify the level of energy efficiency desired in new public facilities, at the local, state, or federal level.

Specific Policy #20.2: State Adoption of Mandatory Building Energy Codes

Support and seek adoption and ensure enforcement of mandatory building energy codes for commercial and residential buildings in states that do not have them or do not actively enforce them. As an alternative, set minimum standards for energy efficiency in new buildings and ensure that all states are achieving them through adoption and enforcement of mandatory building energy codes.

Reason to support: Eleven states do not have residential building energy codes; 14 states have either no enforcement or voluntary enforcement. A like number of states do not have commercial building energy codes. This is a lost opportunity to set minimum expectations for energy efficiency in new buildings.

Specific Policy #20.3: Minimum Standards for Building Energy Codes

Support raising building energy code requirements to be at least as stringent as the most recent International Energy Conservation Code (U.S. DOE), or the most recent ASHRAE 90.1 code (American Society of Heating, Refrigerating and Air-Conditioning Engineers), or equivalent. Federal and state housing and infrastructure programs should incorporate green building standards and requirements.

Reasons to Support:

Building heating, cooling, ventilation, and lighting account for a very large percentage of greenhouse gas emissions in the United States (building contributions to GHG emissions are not aggregated as such by the U.S. EPA but are estimated at up to 48% by architect Ed Mazria, originator of the Architecture 2030 Challenge).

Specific Policy #20.4: Performance-based Code Alternatives

Support the addition of performance-based alternatives to energy codes and appropriate sections of the building code.

Reasons to Support:

Innovation in building techniques and construction is essential to raising the bar for energy efficiency standards. Unfortunately, prescriptive based building codes, which rely on tried-and-true measures, can stymie innovation. If it can be shown through energy modeling that a building using innovative techniques can achieve energy performance at least as good as an equivalent building using the prescriptive based measures, then that design should be allowed.

Specific Policy #20.5: Ongoing Private Investment in Building Energy Efficiency

Support the adoption of standards requiring existing buildings larger than a certain size threshold to periodically invest in energy-efficiency improvements that have a short payback period.

Reasons to Support:

As building energy efficiency technology becomes more cost-effective, ensuring that it is incorporated into existing buildings will benefit not only the building owner but also the larger community through lower greenhouse gas emissions.

General Policy #21: The American Planning Association, its Chapters and Divisions, and planners support the use of incentives and education to promote green building practices.

Specific Policy #21.1: Incentives and Education for Green Building

Support the creation of incentives, including appropriate tax credits, and education programs to encourage homeowners and developers to invest in energy-efficiency improvements.

Reasons to Support:

Many homeowners and developers want to improve the energy performance of their buildings, and may be concerned about climate change. Education programs and incentives such as expedited permit review and fee waivers can encourage early adoption.

Specific Policy #21.2: Performance Rating Standard

Support the adoption of a national building energy performance rating system.

Reasons to Support:

Such a system would allow potential buyers and tenants to make informed choices about the energy costs associated with buildings. It could be similar to gas mileage ratings for vehicles and would improve market awareness of the energy performance of buildings.

4.0 Adapting To Climate Change

4.1 Preparing For Climate Change Impacts

General Policy #22: The American Planning Association, its Chapters and Divisions, and planners support the development of plans, strategies, and standards to better anticipate and prepare for the impacts of climate change.

Specific Policy #22.1: Incorporate Climate Change Adaptation into Disaster Planning

Develop a comprehensive approach to disaster planning that integrates the variety of climate change scenarios and includes pre-disaster planning, post disaster redevelopment planning and adaptation to climate change. Expand federal and state support for climate-related hazard planning.

Reason to support:

Traditional disaster planning is often separated by hazard type and uses a short planning time horizon. The cycle for most disaster planning has normally been: event - warning - response – recovery - and back to event. It is only recently that pre-disaster planning has begun to enter the process. Planners should become more engaged in disaster planning in a comprehensive way and should include climate change adaptation in disaster mitigation plans.

Specific Policy#22.2: Climate Change Scenarios

Integrate climate change scenarios into local, state and federal planning efforts. Increase funding for hazard mitigation planning that incorporates and addresses climate change-related scenarios and potential impacts.

Reason to support:

Climate change adaptation scenarios should be incorporated into standard comprehensive planning practice. Creating a resilient community in the face of climate change represents a new paradigm for land use planning.

Specific Policy#22.3: Building and Life Safety Codes

Update building and life safety codes to increase safety from the variety of disaster scenarios that are likely to result from climate change.

Reason to support:

Building and life safety codes should be updated for increased safety from disasters. For example, wind load standards and emergency exit designs for flooding should be re-evaluated.

Specific Policy# 22.4: Reducing Risk to Development in Risk-Prone Areas

Improve the ability to identify areas prone to greater risk from climate change and restrict development in those areas. Increase support for mapping and data collection of high risk areas and changes associated with climate change.

Reason to support:

Improvements in our predictive capabilities relative to the impact of climate changes on land use should be made. Areas prone to significant risk from climate change should not be developed to minimize loss of human life and impacts to property. Place development in low-risk, low hazard areas. Restrict the development of buildings or infrastructure in flood prone areas and low-lying coast areas. Manage development in the urban/wildland interface area to minimize the risk from wildfire. Climate change is likely to bring increased risk of flooding to many areas, even those in which overall precipitation levels are less (due to greater storm severity, changes in the timing of precipitation, or changes in the proportion of precipitation that falls as rain versus snow).

Specific Policy #22.5: Coastal Zone Management Act Review

Reauthorize the Coastal Zone Management Act in light of increasing risks due to sea level rise and increasingly strong hurricanes and the need to improve planning for development in coastal areas.

Reason to support:

The national coastal zone management program should be re-evaluated based on the new understanding of climate change. With sea level rise and the potential for increasingly stronger hurricanes, the impact on coastal zone communities could be severe.

Specific Policy #22.6: Federal Assistance to State and Local Adaptation Activities

Increase federal funding for technical assistance and critical planning data to state and local governments from federal agencies responsible for climate, weather, and hazard mitigation.

Reason to support:

Many federal agencies have developed significant expertise and information regarding future climate change scenarios and potential measures to mitigate the effects of climate change. State and local governments are in need of these resources as they develop responses.

Specific Policy #22.7: Diversification of Land Uses & Economies

Diversify land uses to reduce risks that weather related disasters will overly impact particular land uses leaving communities without important services. Diversify and strengthen local economies to better respond after disasters.

Reason to support:

In financial portfolio management we are often told to diversify to reduce risk and optimize returns. A parallel dictum could be applied to land use. Where possible, land use should be diversified and mixed. Planners should adopt policies that anticipate potential post-disaster economic impacts and seek opportunities for self-reliance and economic resilience by developing local resources. Disasters tend to cut links to outside resources. Surpluses and supplies are needed to support the community until outside links are re-established. For basic needs there should be a local option even if it not exercised in normal times.

Specific Policy #22.8: Water Shortages

Establish standards, regulations and incentives to reduce water demand to be better prepared to respond to lower water supplies.

Reason to support:

Even in areas where average annual precipitation does not decrease due to climate change, global warming is expected to produce faster snow melt and changes in rainfall patterns that will disrupt fresh water supplies. Rising sea levels will threaten fresh water supplies in coastal areas, where a majority of the human population lives.

Specific Policy #22.9: Heat Island Effects

Design communities, neighborhoods and individual development projects using techniques that reduce heat absorption throughout the community and region.

Reason to support:

Heat island effects traditionally take place in urban areas where natural ground cover has been replaced with pavement, buildings, or other materials that tend to absorb and retain heat. While the resulting warmer temperatures may be benign or even welcome during colder times of the year, any such benefits are greatly outweighed by the negative impacts during hotter summer months when heat island effects significantly contribute to increased human health risk and increased use of air conditioning, resulting in greater energy use and greenhouse gas emissions.

4.2 Responding to Climate Change Impacts

General Policy #23: The American Planning Association, its Chapters and Divisions, and planners support policies that help communities better respond to the impacts of climate change related disasters.

Specific Policy #23.1: Reconstruction

Encourage local governments to develop post-disaster redevelopment plans that discourage the reconstruction of buildings and infrastructure in hazard zones following climate related disasters.

Reason to support:

After major disasters, restricting rebuilding in hazard zones should be seriously considered. Abandoning intensive land uses in the hazard zone should be strongly considered with the government looking at ways to mitigate the pain of relocation.

Specific Policy #23.2: Security after Disasters

Develop strategies to maintain energy, water, and food security during and after climate related disasters.

Reason to support:

A dependable source of energy is necessary to support essential services for surviving extreme weather events. This could include distributed location of electricity generating facilities that could operate independent of the utility grid. This plan would be integrated with emergency food

systems, medical services, police and fire protection, and infrastructure such as water, sewage and street lighting systems.

Specific Policy #23.4: Risk Analysis & Planning Horizons

Develop scenarios to help the general public and decision-makers understand the potential risks associated with climate change and to develop contingencies for catastrophic events. As with floodplain management, expand the planning timeframe associated with disasters related to climate change to 100 to 500 years.

Reason to support:

Conventional planning horizons should be extended. FEMA Flood Insurance Rate Maps (FIRM) assesses flood potential into the 100 year and 500 year probability areas. Other hazard maps should also be extended into the 100 to 500 year frame. While the FIRMs are probability maps not time horizon maps, it is an easy shift to a time perspective for flooding and other hazards. As with the FIRMs, the zones in these maps are not no-build zones but zones where the development is constructed with conditions and potential risk factors.

Specific Policy #23.5: Action Strategy

When considering climate change impacts, first seek to avoid impacts altogether, then minimize them, and finally, adapt to the unavoidable impacts as much as possible.

Reason to support:

The first decision choice on development in potential hazard areas should be avoidance. If avoidance is not possible or other requirements dictate a need to develop, evaluation should then move to minimization. This is akin to carbon footprints and the desire to minimize footprints. From a disaster planning standpoint it is minimization of areas at risk. The final decision step is mitigation to protect against the risk.

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