

Florida's and Other Areas Initiatives Recent Responses to Energy and Climate Change

Both Governor Crist and the Florida Legislature have acknowledged the related greenhouse gases and energy issues and have set Florida on a new path to begin addressing them. For example, in 2006, the Legislature passed Florida's first comprehensive energy plan. More recently, in 2007, Governor Crist signed three Executive Orders (below) that propelled Florida to the forefront of states actively working to address climate change.

Further, the 2008 Florida Legislature adopted two significant pieces of legislation to help implement Governor Crist's climate change initiatives, HB 7135 and HB 697. Both bills add new requirements affecting energy efficiency, land use planning, and building standards.

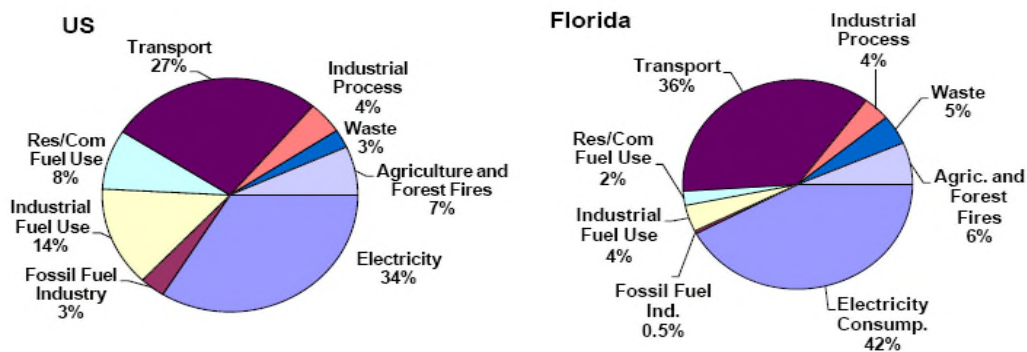
1.) Florida's Energy and Climate Change Action Plan - Phase 1 Report

In November 2007, the Governor Crist's Action Team on Energy and Climate Change issued its first report. The report's 35 findings and 30 recommendations addressed the requirements outlined in Executive Order 07-128, and were organized into the following key categories: 1. The power generation sector; 2. The transportation sector; 3. The government sector; 4. Organizing state government for Florida's energy future; and 5. A blueprint for development of actions.

In order, the sectors with the greatest potential for emissions reductions are:

- energy supply and demand at 56 percent of total reductions and a total net cost savings of \$19 per ton;
- agriculture, forestry, and waste management at 27 percent of total reductions and a net cost of \$13 per ton; and,
- transportation and land use at about 15 percent of total potential emissions reductions and a net cost savings of \$86 per ton.

Figure EX-2. Gross greenhouse gas emissions by sector, 2005: Florida and U.S.



2.) Executive Order 07-126 directed state government to “lead by example” by quantifying operational emissions and meeting specific reduction targets by implementing a range of GHG emission reduction efforts that impact state government facilities and vehicle fleets, and by using the purchasing power of state government to promote energy efficiency and reduced emissions.

3.) Executive Order 07-127 established reduction targets for utility sector GHG emissions in Florida. Specifically, the Executive Order established the following emission reduction targets: by 2017, reduce GHG emissions to 2000 levels; by 2025, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the Florida Department of Environmental Protection (DEP) to set maximum allowable GHG emissions levels for electric utilities, adopt the California motor vehicle emission standards upon the U.S. Environmental Protection Agency’s approval of the pending waiver, and adopt a statewide diesel engine idling reduction standard.

The Executive Order directed that modifications to the 2007 Florida Energy Code for Building Construction include a 15 percent increase in energy efficiency performance as well as a 15 percent increase in the energy efficiency of certain appliances sold in Florida by 2009.

The Executive Order also requested that the Florida Public Service Commission (PSC) adopt a 20 percent Renewable Portfolio Standard with a strong focus on solar and wind energy, adopt the Institute of Electrical and Electronics Engineers Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems, and require net metering for on site renewable technologies of up to one megawatt (MW) in capacity.

4.) Executive Order 07-128 established the Governor’s Action Team on Energy and Climate Change and tasked it with creating a comprehensive Florida Energy and Climate Change Action Plan to achieve or surpass the statewide targets for GHG reduction specified in Executive Order 07-127. Executive Order 07-128 provided the Action Team with a two phase process for submitting recommendations. The Action Team was directed to submit its Phase 1 Report to the Governor by November 1, 2007, and its Phase 2 report in October 2008. Each has been accomplished.

5.) HB 7135 - The Energy, Climate Change, and Economic Security Act of 2008

This comprehensive energy bill codified many of the provisions contained in Governor Crist’s 2007 Executive Orders. HB 7135 authorizes the following actions:

- Created the Florida Energy and Climate Commission within the Executive Office of the Governor to centralize energy and climate change policy development and program implementation;
- Authorized the DEP to develop cap and trade regulations for GHG emissions for sources in Florida, subject to legislative ratification in the 2010 Regular Session (see separate paper summarizing cap and trade);

- Expanded key economic development programs to attract specific investments in the renewable energy sector to Florida;
- Adopted a “10 by 10” Renewable Fuel Standard requiring that all gasoline sold for motor vehicles in Florida contain 10 percent ethanol by 2010;
- Required the PSC to develop rules for a renewable portfolio standard subject to legislative ratification in the 2009 Regular Session and provided cost recovery guidance to the PSC for renewable energy projects developed in advance of the final rule;
- Required major emitters to report GHG emissions via The Climate Registry (Florida has joined national climate registry with 20+other states);
- Required the reduction of energy consumption and associated GHG emissions from local and state government operations by requiring that public buildings be constructed to meet recognized green building standards;
- Promoting active energy management among state agencies; and by increasing energy and water efficiencies from government facilities by streamlining existing statutes governing guaranteed performance savings contracts;
- Increased the role of energy efficiency in Florida’s energy policy through revisions to the Florida Energy Efficiency and Conservation Act,
- Provided goals for the Florida Building Commission to increase efficiency standards by 10 percent in each triennial review and achieve a 50 percent increase by 2019, and increased efficiency requirements for certain appliances; and,
- Created the Florida Energy Systems Consortium within the State University System to better coordinate energy related research in support of Florida’s energy and climate change policy objectives.

6.) HB 697 establishes new local planning requirements relating to energy efficient land use patterns, transportation strategies to address greenhouse gas reductions, energy conservation, and energy efficient housing. These new requirements became effective on July 1, 2008. HB 697 presents the State, through the DCA, MPOs and local governments, with new challenges and opportunities to begin to mold greenhouse gas reduction strategies that discourage of urban sprawl and promote energy-efficient land use patterns accounting for existing and future electric power generation and transmission systems. Specifically it requires local governments to:

- revise the requirements for the future land use element of a local comprehensive plan to include energy-efficient land use patterns and greenhouse gas reduction strategies; require that the traffic circulation element of a local comprehensive plan incorporate transportation strategies to reduce greenhouse gas emissions;
- require that the land use map or map series contained in the future land use element of a local comprehensive plan identify and depict energy conservation;
- require the Conservation Element of the LGCP to include factors that affect energy conservation;
- require each unit of local government within an urbanized area (designated for purposes of s. 339.175, F.S – MPO Act) to amend the transportation element of a local comprehensive plan to incorporate transportation strategies addressing reduction in greenhouse gas emissions from the transportation sector; and,

- require that the home (housing) element of a local comprehensive plan include energy efficiency in the design and construction of new housing and use of renewable energy resources.

7.) Phase 2 Report—Florida’s Energy and Climate Change Action Plan

Pursuant to Executive Order 07-128, the Action Team focused on six specific issues and sectors of the economy: Energy Supply and Demand; Cap and trade; Transportation and Land Use; Agriculture, Forestry, and Waste Management; Government Policy and Coordination; and, Adaptation Strategies.

Table EX-2. Summary by sector of estimated impacts of implementing all of the Action Team recommendations (cumulative reductions and costs/savings)

Sector	Greenhouse Gas Reductions (MMtCO ₂ e)			Net Present Value 2009–2025 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)
	2017	2025	Total 2009–2025		
Energy Supply	44.4	106	841	–\$16,143	–\$19
Transportation and Land Use	12.7	25.1	214	–\$18,400	–\$86
Agriculture, Forestry, and Waste Management	25.4	58.2	469	\$5,974	\$13
Government Policy and Coordination	<i>Non-quantified, enabling options</i>				
Adaptation Strategies	<i>Non-quantified</i>				
Cap-and-Trade	<i>Results not included in cross-sector totals</i>				
TOTAL (includes all adjustments for overlaps and recent actions)	82.6	190	1,548	–\$28,569	–\$18

MMtCO₂e = million metric tons of carbon dioxide equivalent; \$/tCO₂e = dollars per metric ton of carbon dioxide equivalent.
 Negative values in the Net Present Value and the Cost-Effectiveness columns represent direct net *cost savings* associated with the options. Within each sector, values have been adjusted to eliminate double counting and other interactions for options or elements of options that overlap.

8.) Transportation and Land Use Sectors - Overview of Greenhouse Gas Emissions

The transportation sector is the second largest contributor to Florida’s gross greenhouse gas (GHG) emissions. In 2005, the sector accounted for 36 percent, or about 122 million metric tons of carbon dioxide equivalents of Florida’s gross GHG emissions. GHG emissions from the sector increased by 34 metric tons of carbon dioxide equivalents between 1990 and 2005. Transportation’s share of total GHG emissions has increased slightly over this period, accounting for about 41 percent of the state’s net growth in gross GHG emissions.

GHG emissions from transportation fuel use have risen steadily from 1990 to 2005, at an average annual rate of 2.2 percent. In 2005, gasoline powered on road vehicles accounted for about 63 percent of transportation GHG emissions; on road diesel vehicles for 15 percent; marine vessels for 12 percent; aviation fuels for 9 percent; and rail and other sources (natural gas and liquefied petroleum gas fueled vehicles used in transport applications) accounted for the remaining 1 percent. As a result of Florida’s population

and economic growth and an increase in total vehicle miles traveled (VMT), emissions from on road gasoline use increased at an annual rate of 2.5 percent from 1990 to 2005.

Meanwhile, emissions from on road diesel use increased by 4.3 percent per year from 1990 to 2005 suggesting an even more rapid growth in freight movement within the state. Emissions from on road gasoline vehicles in 2025 are projected to increase by 2.6 percent annually from 2005 levels, and emissions from on road diesel vehicles are projected to increase by 4.1 percent annually from 2005 to 2025, with total transportation emissions expected to reach 200 metric tons of carbon dioxide equivalents by 2025.

As a result of Florida's population and economic growth and an increase in total vehicle miles traveled (VMT), on road gasoline consumption grew by 44 percent between 1990 and 2005. Meanwhile, on road diesel use rose by 88 percent during that period, suggesting an even more rapid growth in freight movement within or across the state boundaries. In Florida, vehicle fuel efficiency has improved little since the late 1980s. In the absence of significant increases in vehicle fuel economy, on road gasoline and diesel emissions are expected to continue to grow at roughly historical rates through 2025. Further, substituting gasoline and diesel with lower emission fuels, like vehicle efficiency improvements, relies on evolving technology and its incorporation into industry mass produced vehicles.

Reducing VMT, on the other hand, is something each community within Florida and the state and regional agencies can address. Developing smarter and more integrated and cross-connected land use and transportation development patterns that reduce trip length and support transit, ridesharing, biking, and walking can contribute substantially to this goal. A variety of policies and incentive packages can help to reduce VMT.

The transportation-related policies recommended by Florida's Energy and Climate Change Action Plan are described briefly here. The recommendations not only could result in significant GHG emission reductions, but offer a host of additional benefits as well. These benefits include reduced local air pollution, more livable/healthier communities, and economic development and job growth.

9.) Smart Growth Planning and Increasing Choices in Modes of Transportation and Factoring GHG Emissions into the land use Planning Processes.

Smart Growth planning and improving transportation system management are inextricably linked in local and Regional Transportation Plans, taken in concert with other aggressive transportation and land use policy actions, could result in significant reductions to VMT on the order of 7-10 percent in urban areas by 2020. Transportation investments that serve compact rather than sprawl development typically include different kinds of roads (e.g. complete streets), less investment in new freeway capacity, and more investment in transit, pedestrian and bicycle facilities. For the most part the savings in one category cannot be achieved without the other. (Reid and Nelson, 2003)

Through Smart Growth planning and improving transportation system management vehicle hours of travel (VHT) can be reduced by amounts that are associated with these

VMT reductions. VHT reduction is recognized as a means of reducing driver delay while reducing fuel consumption in congested traffic. Several other policies work to further reduce VMT such as increasing the viability of multiple modes of travel and providing incentives to use modes other than single occupant vehicles (SOVs).

Smart growth policies are being considered and implemented around the country in a wide range of communities. Because most policies are deregulatory in nature, this significantly lowers political barriers. However, these policies will face several challenges. They require closer coordination between state government, local government, and businesses in many cases. The availability of funding for the provision of additional transit services is uncertain.

Also, patterns of development are subject to economic cycles and many private investment decisions. Yet implementation of these policies is essential to make travel by walking, biking, and transit more feasible. Together these policies address the built environment, transportation infrastructure, and the behavior of individuals to reduce per capita VMT.

10.) Transportation and Land Use Policy

The policy recommendations could not only result in significant GHG emission reductions and cost savings but also offer a host of additional benefits, such as reduced local air pollution; more livable/healthier communities; and increased transportation choices.

a. Policy TLU-3: Smart-Growth Planning

Smart growth planning looks at how land use planning, site planning, and urban design at the community level can help achieve carbon and GHG emission reduction goals. The essence and intention of smart growth within the context of climate change is to establish a policy framework, clear guidelines, and measurement parameters for the development of new (and the redevelopment of older) communities that will have a net zero carbon effect and reduce overall GHG emissions. Steps in this direction include:

- Construction energy and building lifetime energy use as measured by the protocols of Leadership in Energy and Environmental Design (LEEDTM) Green Building Rating System, Green Globes, or the Florida Green Building Coalition (FGBC);
- Reducing individual VMT and other transportation energy use (such as deliveries, maintenance, buses, security, health, fire, and safety) necessary to support human communities; and
- The reduction of developmental impacts that change or favor extensive land use alteration from carbon sequestering land uses (such as forests, agriculture, parks, and wetlands) to carbon releasing land uses (such as building sites and roadways) and development patterns.

State, regions and local governments have cooperative parts to play to achieve progress in these areas this by providing incentives and promoting development and redevelopment projects and community design that establish more energy

efficient land use patterns and strive to improve transportation system management features.

Consider principles of smart growth:

- 1) Create a range of housing opportunities and choices;
- 2) Create walkable/bikable neighborhoods and communities;
- 3) Encourage community and stakeholder collaboration and cooperation;
- 4) Foster distinctive and attractive communities with a strong sense of place;
- 5) Make development decisions that are predictable, fair, and cost effective;
- 6) Mix and link the land uses (ensure a thoughtful transportation system with the mix of land uses well integrated to each other);
- 7) Design communities to provide accessible open space with paths and trails
- 8) Preserve working rural landscapes, areas of natural beauty, and sensitive environment areas;
- 9) Provide a variety of transportation choices well designed for use by the members of the community;
- 10) Strengthen and direct development toward existing communities (i.e., avoid and limit the tendency to sprawl); and,
- 11) Take advantage of compact building and community design.

b. Policy TLU-4: Improving Transportation System Management (TSM)

Transportation System Management (TSM) is the concept of pairing transportation demand with transportation supply to help transportation networks serve the demand in an effective and efficient manner. Effective system management may utilize a variety of strategies based on advanced technologies, market based incentives, regulations, and design standards. Each strategy provides a relatively small benefit to GHG reduction, but when applied in concert, substantial gains can be achieved. TSM strategies attempt to:

- reduce the number of trips being taken by SOVs,
- shorten trip lengths,

The goal of TSM is to reduce the daily VMT per capita on the existing transportation network. Effective TSM also will reduce VHT per capita, which measures the amount of traffic congestion delay. Reduction of either VMT or VHT is highly correlated with a reduction in GHG emission. VHT reduction is recognized as a means of reducing driver delay while reducing fuel consumption in congested traffic.

The State, MPO's and local governments must cooperate to develop and implement a variety of policies and strategies to reduce GHG emissions through TSM.

These policies and strategies could include program funding, financial and development incentives, infrastructure investment, and regulatory requirements to promote transportation system management improvements that result in reduced VMT and/or VHT which, in turn, result in reduced GHG emissions. These

actions, taken in concert with other aggressive transportation and land use policy actions, should be designed to reduce urban area VMT by 7-10 percent by 2020 and by 9 - 12 percent by 2050.

c. Policy TLU-5 & 6: Land Use Planning Processes and Increasing Choices in Modes of Transportation

The Action Plan concluded that transit and rail are important GHG reduction strategies that should be implemented despite high infrastructure costs. This policy seeks to ensure that local, MPO and state land use and transportation planning consider the impact of land use and transportation decisions on the reduction of GHG emissions. This policy also aims to double transit ridership; to increase the percentage of people that walk, bicycle, carpool, vanpool, or telecommute; and to develop and implement policies and strategies that include program funding and financial incentives that expand non automobile infrastructure and provide modal alternatives to SOV travel.

d. Policy TLU – 8: Increasing Freight Movement Efficiencies

The Action Plan concluded that efforts should be directed to reduce the trucking industry's carbon footprint and GHG emissions, while maintaining the current level of service to the state and nation, and encouraging the development and expansion of intermodal and long distance rail capacity to support both local and transcontinental rail service into and out of Florida. The U.S. Department of Transportation's Federal Highway Administration) lists two major categories of emissions reducing strategies that Florida can utilize in these goals:

- Technical strategies, which modify a piece of equipment or its fuel to reduce emissions; and,
- Operational strategies, which change how a piece of equipment is used, resulting in lower emissions.

11.) Changes to State Laws Addressed in the 2008 Session

a. 186.007, F.S. - State comprehensive plan. Amended to read:

3) In the state comprehensive plan, the Executive Office of the Governor may include goals, objectives, and policies related to the following program areas: economic opportunities; agriculture; employment; public safety; education; health concerns; social welfare concerns; housing and community development; natural resources and environmental management; energy; global climate change; recreational and cultural opportunities; historic preservation; transportation; and governmental direction and support services.

b. Section 377.601, F.S. - State Energy Policy is amended to read:

377.601 Legislative intent.

(1) The Legislature finds that the state's energy security can be increased by lessening dependence on foreign oil; that the impacts of global climate change can be reduced through the reduction of greenhouse gas emissions; and that the implementation of alternative energy technologies can be a source of new jobs

and employment opportunities for many Floridians. The Legislature further finds that the state is positioned at the front line against potential impacts of global climate change. Human and economic costs of those impacts can be averted by global actions and, where necessary, adapted to by a concerted effort to make Florida's communities more resilient and less vulnerable to these impacts. In focusing the government's policy and efforts to benefit and protect our state, its citizens, and its resources, the Legislature believes that a single government entity with a specific focus on energy and climate change is both desirable and advantageous. Further, the Legislature finds that energy infrastructure provides the foundation for secure and reliable access to the energy supplies and services on which Florida depends. Therefore, there is significant value to Florida consumers that comes from investment in Florida's energy infrastructure that increases system reliability, enhances energy independence and diversification, stabilizes energy costs, and reduces greenhouse gas emissions.

(2) It is the policy of the State of Florida to:

- (a) Develop and promote the effective use of energy in the state, discourage all forms of energy waste, and recognize and address the potential of global climate change wherever possible.*
- (b) Play a leading role in developing and instituting energy management programs aimed at promoting energy conservation, energy security, and the reduction of greenhouse gas emissions.*
- (c) Include energy considerations in all state, regional, and local planning.*
- (d) Utilize and manage effectively energy resources used within state agencies.*
- (e) Encourage local governments to include energy considerations in all planning and to support their work in promoting energy management programs.*
- (f) Include the full participation of citizens in the development and implementation of energy programs.*
- (g) Consider in its decisions the energy needs of each economic sector, including residential, industrial, commercial, agricultural, and governmental uses, and reduce those needs whenever possible.*
- (h) Promote energy education and the public dissemination of information on energy and its environmental, economic, and social impact.*
- (i) Encourage the research, development, demonstration, and application of alternative energy resources, particularly renewable energy resources.*
- (j) Consider, in its decision making, the social, economic, and environmental impacts of energy-related activities, including the whole-life-cycle impacts of any potential energy use choices, so that detrimental effects of these activities are understood and minimized.*
- (k) Develop and maintain energy emergency preparedness plans to minimize the effects of an energy shortage within Florida.*

c. 339.175, F.S. - Metropolitan planning organization

Section 30. Subsections (1) and (7) of section 339.175, Florida Statutes, are amended to read:

(1) PURPOSE. It is the intent of the Legislature to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and through urbanized areas of this state while minimizing transportation related fuel consumption, air pollution, and greenhouse gas emissions through metropolitan transportation planning processes identified in this section.

To accomplish these objectives, metropolitan planning organizations, referred to in this section as M.P.O.'s, shall develop, in cooperation with the state and public transit operators, transportation plans and programs for metropolitan areas. The plans and programs for each metropolitan area must provide for the development and integrated management and operation of transportation systems and facilities, including pedestrian walkways and bicycle transportation facilities that will function as an intermodal transportation system for the metropolitan area, based upon the prevailing principles provided in s. 334.046(1). The process for developing such plans and programs shall provide for consideration of all modes of transportation and shall be continuing, cooperative, and comprehensive, to the degree appropriate, based on the complexity of the transportation problems to be addressed. To ensure that the process is integrated with the statewide planning process, M.P.O.'s shall develop plans and programs that identify transportation facilities that should function as an integrated metropolitan transportation system, giving emphasis to facilities that serve important national, state, and regional transportation functions. For the purposes of this section, those facilities include the facilities on the Strategic Intermodal System designated under s. 339.63 and facilities for which projects have been identified pursuant to s. 339.2819(4). ...

(7) LONG-RANGE TRANSPORTATION PLAN. Each M.P.O. must develop a long-range transportation plan that addresses at least a 20-year planning horizon. The plan must include both long range and short-range strategies and must comply with all other state and federal requirements. The prevailing principles to be considered in the long-range transportation plan are: preserving the existing transportation infrastructure; enhancing Florida's economic competitiveness; and improving travel choices to ensure mobility. The long-range transportation plan must be consistent, to the maximum extent feasible, with future land use elements and the goals, objectives, and policies of the approved local government comprehensive plans of the units of local government located within the jurisdiction of the M.P.O. Each M.P.O. is

encouraged to consider strategies that integrate transportation and land use planning to provide for sustainable development and reduce greenhouse gas emissions. The approved long-range transportation plan must be considered by local governments in the development of the transportation elements in local government comprehensive plans and any amendments thereto.

12.) What Other Areas are Doing to Reduce GHG's - Transportation and Community Design and VMT Reductions

a. California SB 375

Requires metropolitan planning organizations (MPOs) to include sustainable communities strategies (SCS) to reduce the amount of vehicle miles travelled (VMT), as defined, in their regional transportation plans (RTPs) for the purpose of reducing greenhouse gas emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

“The basic idea of California SB 375 is straightforward: to encourage dense, mixed use development near public transit. The author, state senator Darrell Steinberg, portrays the legislation as a major shift in policy and process that will move the state toward smart growth and transit-oriented development practices. At the heart of this effort,” Steinberg says, “is the need to integrate our housing and transportation plans to create sustainable communities” To achieve the objectives the law requires the State’s MPO’s to prepare regional reduction plans for greenhouse gas emissions based on targets set by the state air quality regulators.” The law initiates in 2010. Editorial comments below from California help to describe the intent:

Bakersfield Californian: "Creatively Applied, Attractively Rendered Urban Density Built Around Mass Transit Lends Itself To Job Growth, Affordable Housing And Protection Of Farmland, Never Mind Cleaner Air." "Steinberg's bill would not eliminate the suburbs or the big, ranch-style homes that some people prefer, but rather create an environment that would give homebuyers more responsible and affordable options. Creatively applied, attractively rendered urban density built around mass transit lends itself to job growth, affordable housing and protection of farmland, never mind cleaner air. The time to take bold strides in that direction is now." (Editorial, "We Must Change The Way We Think About Growth," *Bakersfield Californian*, 8/30/08)

The Fresno Bee: "A Carefully Crafted Effort To Rein In Sprawl, Cut Greenhouse Gas Emissions, Boost Mass Transit." "... The measure, Senate Bill 375, by Sen. Darrell Steinberg, D-Sacramento, is a carefully crafted effort to rein in sprawl, cut greenhouse gas emissions, boost mass transit and increase the amount of affordable housing in the state. It deserves the governor's signature." (Editorial, "Bill To Reward Smart Growth; Bipartisan Effort Addresses Several Of State's Biggest Problems," *The Fresno Bee*, 8/31/08)

b. Greenbelt Alliance – Bay Area Smart Growth Scorecard (San Francisco Bay Area, California) [Bay Area Smart Growth Scorecard](#)

The Smart Growth Scorecard is a landmark assessment of the planning policies of all 101 cities and nine counties of California's San Francisco Bay Area.

This report found that the region could be doing much more to prepare for the growing population. Greenbelt Alliance surveyed the entire region to find out. The result, the Bay Area Smart Growth Scorecard measures how well each of the region's 101 cities and nine counties are doing at creating policies to meet smart growth goals.

On average, cities score 34%, with only one-third of the needed policies to achieve smart growth. Counties are doing somewhat better than cities, scoring 51% on average, meaning they are doing half of what they could do to prepare for the region's growth. The *Smart Growth Scorecard* measured cities' support for smart growth in seven policy areas:

1. Preventing Sprawl with Urban Growth Boundaries
2. Making Sure Parks Are Nearby
3. Creating Homes People Can Afford
4. Encouraging A Mix of Uses
5. Encouraging Density in the Right Places
6. Requiring Less Land for Parking
7. Defining Standards for Good Development

c. **San Francisco, CA.** The Metropolitan Transportation Commission (MTC) entered into a partnership in 2006 with three other regional agencies to study and promote joint action on the issue of climate change. The MTC already has several programs in place that encourage the use of transit, walking, and biking, as well as programs that reduce emissions through application of intelligent transportation systems.

<http://www.mtc.ca.gov/planning/climate/>

In addition, to aid in the development of MTC's new 2035 Regional Transportation Plan, MTC staff were authorized to proceed with a performance-based approach assessing investment scenarios relative to specific performance targets including a target of 40 percent below 1990 levels for CO2 emissions.

http://www.mtc.ca.gov/planning/2035_plan/

d. **Sacramento, CA.** The Sacramento Area Council of Governments released a *Preferred Blueprint Scenario* as part of the Metropolitan Transportation Plan for 2035. The document depicts a way for the region to grow through the year 2050 promoting climate-friendly strategies such as compact, mixed-use development and more transit choices.

- <http://www.sacregionblueprint.org/sacregionblueprint/home.cfm>
- <http://www.sacog.org/mtp/2035/>

downloadable in part:

- <http://sacog.org/mtp/2035/final-mtp/>

e. **Seattle, WA.** The Puget Sound Regional Council draft 2007 long-range plan (*VISION 2040*) includes the following goal: “The region will reduce its overall production of harmful elements that contribute to climate change.” It commits the region to a policy to “Reduce the rate of energy consumption use per capita, both in building use and in transportation, even as the region grows.” The final version of *VISION 2040* is scheduled to be released in winter 2008. More information can be found at:
<http://www.psrc.org/projects/vision/index.htm>

f. **King County, WA.** In August 2007, the Executive Director of King County issued an executive order requiring county agencies to consider climate change impacts as part of their project review under Washington’s State Environmental Policy Act. The order, which went into effect in October 2007, directed all public and private development projects (including transportation projects), where King County is the permitting agency, to quantify greenhouse gas emissions.
<http://www.kingcounty.gov/operations/policies/executive/utilitiesaeo/put7101aeo.aspxXX>

g. **Maryland Enacts Ambitious Climate Protection Law, May 12, 2009.** A bill has been signed that commits the state to reduce greenhouse gases 25 percent below 2006 levels by 2020, making Maryland one of the leading states in the country to take such action.

Maryland passed *The Greenhouse Gas Emissions Reduction Act and Smart, Green and Growing* legislative package to protect Maryland's environment and natural resources and to promote sustainable growth in Maryland. "Even in this tough economy, we have not wavered from our commitment to put Maryland families first by taking action to protect the public health and build a more sustainable environment for future generations of Marylanders," said Governor O'Malley.

The Smart, Green, and Growing legislation agenda promotes rapid transit-oriented development, reliable local planning choices, and a clear understanding of the impact of development on the natural environment. The Greenhouse Gas Emissions Reduction Act, SB 278/HB 315, mandates the strongest economy-wide reduction in global warming pollution of any climate bill in the country. The new law requires the state to cut greenhouse gas emissions 25 percent below 2006 levels by 2020 and directs the Maryland Department of the Environment to craft a plan and a timeline to achieve that goal. Maryland joins six states in enacting a legally binding goal for emissions reductions. Maryland, emits 109 million tons of global warming pollution every year, and is particularly vulnerable to rising sea levels and more severe storms because of a lot of coastline and low-lying land.

<http://www.ens-newswire.com/ens/may2009/2009-05-12-092.asp>

13. Quick U.S. policy overview

Mass. vs. EPA decision: April 2, 2007

- EPA regulate GHG emissions from motor vehicles, based on Clean Air Act Regional Greenhouse Gas Initiative

- Cap-and-trade for CO2 from electric power starting in 2009
- Involves ten New England and Mid-Atlantic states

Midwest Climate Initiative

- Nine states plus Manitoba, announced process November 2007

Western Climate Initiative

- Six states plus B.C. and Manitoba, led by California
- Launched February 2007
- California AB32, passed 2006
 - Cap 2020 emissions at 1990 levels

The Climate Registry

- Multi-State emissions registry – launches in early 2008

Post-Kyoto negotiations - As of November 6, 2007, 720 cities had signed the U.S. Mayors Climate Protection Agreement, in which they agree to strive to meet greenhouse gas emission reduction goals set forth in the Kyoto Protocol (7 percent below 1990 levels by 2012).

- Poland 2008
- New protocol in Copenhagen in 2009?

Federal legislation cap-&-trade legislation

EPA mandatory reporting registry

Quick voluntary carbon market overview

- California Climate Action Registry (CCAR)
- Voluntary Carbon Standard (VCS)
- Chicago Climate Exchange (CCX)
- Gold Standard VER

References

1. ***The Transportation and Climate Change Clearinghouse***, US Department of Transportation. <http://climate.dot.gov/index.html>
2. ***BLUEPRINT AMERICA, Road to the Future, Video: Preview*** -Wednesday, May 20, 2009 on PBS. The latest program in the PBS multi-platform initiative on America's aging infrastructure, examines the growth and development of the American city, and how the country will continue to grow and develop in the future. <http://www.pbs.org/wnet/blueprintamerica/reports/rode-to-the-future/preview-documentary/549/>
3. ***Mobility Management Strategies: Land Use Planning*** - This is the EPA website that has a couple of papers specifically targeted to improving air quality through land use strategies. Some of the case studies although targeted to air quality have climate change benefits. http://www.epa.gov/otaq/stateresources/rellinks/mms_landuse.htm.
4. ***Transportation and Global Climate Change: a Review and Analysis of the Literature*** – Federal Highway Administration. Chapter 5, provides a very thorough review of the literature and strategies to reduce GHG emissions <http://www.fhwa.dot.gov/environment/lit.htm>
5. ***Tool Kit for Integrating Land Use and Transportation Decision-Making*** – Federal Highway Administration. This website has good information and case studies on integrating transportation and land use decision making. <http://www.fhwa.dot.gov/planning/landuse/index.htm>.
6. ***Cool Counties: Policies and Programs*** - National Association of Counties, 2007. The “Cool Counties” Initiative consists of two parts: A pledge on our part to take action and a plan to carry that out. The Cool Counties Policies and Programs Template provides a menu of policies and actions that local governments can use to help achieve the goals identified in the Cool Counties Declaration. http://www.tpl.org/content_documents/florida_climate_workshop/fl_cool_counties_policies_and_programs.pdf.
7. ***Agenda for a Sustainable America*** by John Dernbach . Published, 01/15/2009 by the Environmental Law Institute Environmental Law Institute. ISBN: 9781585761333.
8. ***California's Climate Action Team. Climate Action Team's Proposed Early Actions to Mitigate Climate Change in California—Draft for Public Review.*** Sacramento: California Department of Environmental Quality, April 30, 2007.
9. ***CO₂ Reductions Attributable to Smart Growth in California***, 2003. Ewing, Reid Ph.D. Research Professor National Center for Smart Growth, University of Maryland & Arthur C. Nelson, Ph.D. FAICP, Presidential Professor of City Metropolitan Planning, Director of Metropolitan Research, University of Utah.
10. ***Effects of Gasoline Prices on Driving Behavior and Vehicle Markets***, Congressional Budget Office, January 2008. <http://www.cbo.gov/ftpdocs/88xx/doc8893/01-14-GasolinePrices.pdf>
11. ***Leadership in a New Era***, Nelson, A.C., Journal of the American Planning Association, Vol. 72, no. 4, 2006, pp. 393-409.

- <http://law.du.edu/images/uploads/rmlui/conferencematerials/2007/Thursday/DrNelsonLunchPresentation/NelsonJAPA2006.pdf>.
12. ***Policy Guide on Planning and Climate Change***, American Planning Association, 2008. <http://www.planning.org/policy/guides/pdf/climatechange.pdf>
 13. ***Public Transportation's Contribution to Greenhouse Gas Reduction***, American Public Transportation Association. By Todd Davis and Monica Hale, September 2007. http://www.apta.com/research/info/online/documents/climate_change.pdf.
 14. ***Shrinking the Carbon Footprint of Metropolitan America***, Metropolitan Policy Program, Brookings. By Marilyn A. Brown, Frank Southworth and Andrea Sarzynski, 2008. [http://www.brookings.edu/reports/2008/~media/Files/rc/reports/2008/05_carbon_footprint_sarzynski/carbonfootprint_report.pdf](http://www.brookings.edu/reports/2008/~/media/Files/rc/reports/2008/05_carbon_footprint_sarzynski/carbonfootprint_report.pdf).
 15. ***The Broader Connection Between Public Transportation, Energy Conservation and Greenhouse Gas Reduction***, American Public Transportation Association, February 2008. Requested by: American Public Transportation Association, Submitted by: ICF International, Authors: Linda Bailey, Patricia L. Mokhtarian, Ph.D. and Andrew Little. http://www.apta.com/research/info/online/documents/land_use.pdf
 16. ***The Role of Local Land Use and Transportation Planning in Reducing Greenhouse Gas***, Secretary Tom Pelham, Esq., AICP, Florida Department of Community Affairs
 17. ***Policy Guide on Planning and Climate Change***, American Planning Association, April 27, 2008. <http://www.planning.org/policy/guides/pdf/climatechange.pdf>.
 18. ***The Role of Land Use in Meeting California's Energy and Climate Change Goals***, Draft Staff Paper, California Energy Commission. June 2007, CEC-600-2007-008-SD. <http://www.energy.ca.gov/2007publications/CEC-600-2007-008/CEC-600-2007-008-SD.PDF>.
 19. ***Sustainable Urban Redevelopment and Climate Change: The Dual Benefits of Energy-Efficient Buildings in Energy-Efficient Locations***, U.S. Congressional Briefing, July 2008. <http://www.nemw.org/SustainUrbanRedevClimateReport.pdf>.
 20. ***The Sustainable Future, On Common Ground***, Summer 2008 Issue. [National Association of Realtors - Smart Growth: Building Better Communities. http://www.realtor.org/smart_growth.nsf/pages/home?opendocument](http://www.realtor.org/smart_growth.nsf/pages/home?opendocument).
 21. ***The Governor's Action Team on Energy and Climate Change Final Report***, Florida, 2007. <http://www.flclimatechange.us/documents.cfm>.
 22. ***Growing Cooler: The Evidence on Urban Development and Climate Change***, Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. (Urban Land Institute), October 2007. This new book documents how key changes in land development patterns could help reduce vehicle greenhouse gas emissions. http://postcarboncities.net/files/SGA_GrowingCooler9-18-07small.pdf.
 23. ***Is Support for Traditionally Designed Communities Growing? Evidence From Two National Surveys***, Handy, S. J.F. Sallis, D. Weber, E. Maibach, and M. Hollander, Journal of the American Planning Association, Vol. 74, no. 3, 2008, pp. 209-221.

24. [*Impact of Urban Form on U.S. Residential Energy Use*](http://www.mi.vt.edu/data/files/hpd%2019.1/ewing_article.pdf), Housing Policy Debate Ewing, R. and F. Rong, Vol. 19, 2008, pp. 1-30.
25. [*FDOT Pocket Guide, Florida Transportation Trends and Conditions, 2008*](http://www.dot.state.fl.us/planning/trends/pg08.pdf)

In addition, there are several "Smart Growth" related websites, which may offer additional guidance, including:

1. [Smart Growth America](http://www.smartgrowthamerica.org/) - <http://www.smartgrowthamerica.org/>
2. [Smart Growth Online](http://www.smartgrowth.org/Default.asp?res=1280) - <http://www.smartgrowth.org/Default.asp?res=1280>
3. [Smart Growth/U.S. Environmental Protection Agency](http://www.epa.gov/dced/) - <http://www.epa.gov/dced/>