

Prologue

The **1990 Plan of Conservation and Development** begins with a discussion about the need to coordinate planning efforts and strive for consistency among state, regional and local plans of development. This remains a valid objective for the City of Middletown and it will help coordinate development within the State of Connecticut.

In 2008 there is now a need to recognize that Middletown contributes to global climate change and the need for responsible and sustainable planning and development are even higher.

After a long period of denial, there is now almost universal agreement among the world's scientists that the impacts of global warming will be significant and in some areas devastating. In Massachusetts vs. EPA the United States Supreme Court recognized the impacts of greenhouse gas emissions as "serious and well recognized". If greenhouse gas emissions are not controlled and eventually reduced the effects will be devastating.

In the absence of leadership at the federal level, many states are independently working to address the lowering of greenhouse gas emissions. California, Washington and Massachusetts have done the most. Connecticut's legislature has just passed a landmark emissions bill, which requires the state to reduce its greenhouse gas emissions to 10 % below 1990 levels by 2020 and 80% below 2001 levels by 2050.

Understanding that global warming and greenhouse gas emissions are issues that transcend state boundaries, the Regional Greenhouse Gas Initiative (REGGI) was established. This regional initiative, which includes Connecticut, has the goal of reducing greenhouse gas emissions from the region's electric power plants, a significant source of greenhouse gases.

The federal government has just begun to accept global warming and the need to reduce greenhouse gas emissions. Congress approved and the President signed into law the "Energy Independence and Security Act of 2007. This bill increases fuel economy standards, encourages alternate sources of energy and energy efficiency.

In the most recent 110th Congress there were twenty-seven (27) Senate bills and twenty-five (25) House bills introduced and forty-five (45) hearings were held. There are currently sixty-two cases in state and federal courts relating to greenhouse gas emissions and the impacts of global warming. These cases have been brought to the courts under many federal acts including the Endangered Species Act, the Clean Water Act and the Energy Policy Act, to name a few.

While these state, regional and federal efforts can deal with power plants and other large stationary emitters of greenhouse gases, more can and should be done at the local level. The City of Middletown needs to integrate the concept of sustainability into its future planning and development. More stringent building and energy codes, requiring LEED certification for public buildings, energy efficiency in the municipal automobile fleet, promotion of local agriculture, grants and loans to support investments in alternate energy sources, tying economic development grants and tax abatements to LEED certification and even planting trees will have a gradual and cumulative positive impact on the community, quality of life and the environment.

As the State of Connecticut Plan of Conservation and Development indicates - the transportation sector is the greatest source of greenhouse gas emissions. Transportation is related to land use, which in Connecticut, is clearly a local issue. Never before has the term "Think globally, Act locally" been more relevant.

So what can the Planning and Zoning Commission do to promote less greenhouse gas emissions?

Regulations that allow for a development pattern that encourages driving results in increases in the per capita vehicle miles traveled (VMT) this in turn increases greenhouse gas emissions. Connecticut's Climate Action Plan indirectly documents the existence of sprawl with the evidence that, "since 1970 Connecticut's population has increased by a modest 12 percent, but vehicle miles to travel has increased by 78 percent".

It is widely accepted that residents in higher density cities have per capita vehicle miles traveled counts of up to 90% less than their suburban counterparts.

The Plan of Conservation and Development determines where and to what extent future growth will occur. By developing plans and regulations which contain growth within the area of existing infrastructure, reduce vehicle miles traveled and preserve land as open space, the Planning and Zoning Commission can ensure that Middletown is encouraging responsible and sustainable development and doing its part to address global warming.

The Planning Principals found in Chapter 11 clearly promote a pattern of development, which would preserve and enhance the quality of life in Middletown and reduce greenhouse gas emissions.

Figure A is a map of Middletown which displays the city's urban, suburban and rural areas and lists the various planning tools which can be used to promote sustainable development and smart growth.

Other recommendations include:

Encourage LEED neighborhood standards. Neighborhood design standards, patterned after the LEED system, are also being developed by the U.S. Green Building Council, in partnership with the Natural Resources Defense Council and the Congress for the New Urbanism. In this approach site design strategies encourage new development to take better advantage of solar orientation, wind direction, topography, established vegetation, and other factors that can lower energy usage.

Municipal codes and ordinance revisions that take into account energy efficiency standards will become increasingly important to communities and should be developed now.

Require a carbon footprint analysis. Applicants of large developments should be required to provide an estimate of the greenhouse gas emissions for various site plan configurations as part of an alternatives analysis.

Alternative analyses are already employed to evaluate different options for developing a property. The carbon footprint analysis has been recently mandated in Massachusetts through their state EPA regulations.

Better control of outdoor lighting. Communities can gain significant energy savings through more efficient outdoor lighting. Key features include the use of new technology (i.e., LED, Mesopic lighting) and requirement that municipal street lighting use full cutoff fixtures thereby preventing light from being emitted above the 90-degree plane. Shining shielded light straight down onto the target that needs lighting can often reduce lamp wattage [of lamp] by 30 to 40 percent. The budget for street lighting in Middletown is approaching \$1 million, annually.

Encourage and allow mixed land uses. A very important factor affecting in the relationship between development and energy consumption is the physical separation of activities. This is determined by both density and the degree to which mixing of land uses are permitted.

In other words, the density allowed by local land use regulations, coupled with the degree to which the intermixing of selected land uses is permitted, are prime determinants of how much energy their community uses.