

# Proposed Endorsement of Goals and High-Level Actions for Reducing Maplewood's Carbon Footprint

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## Relevance:

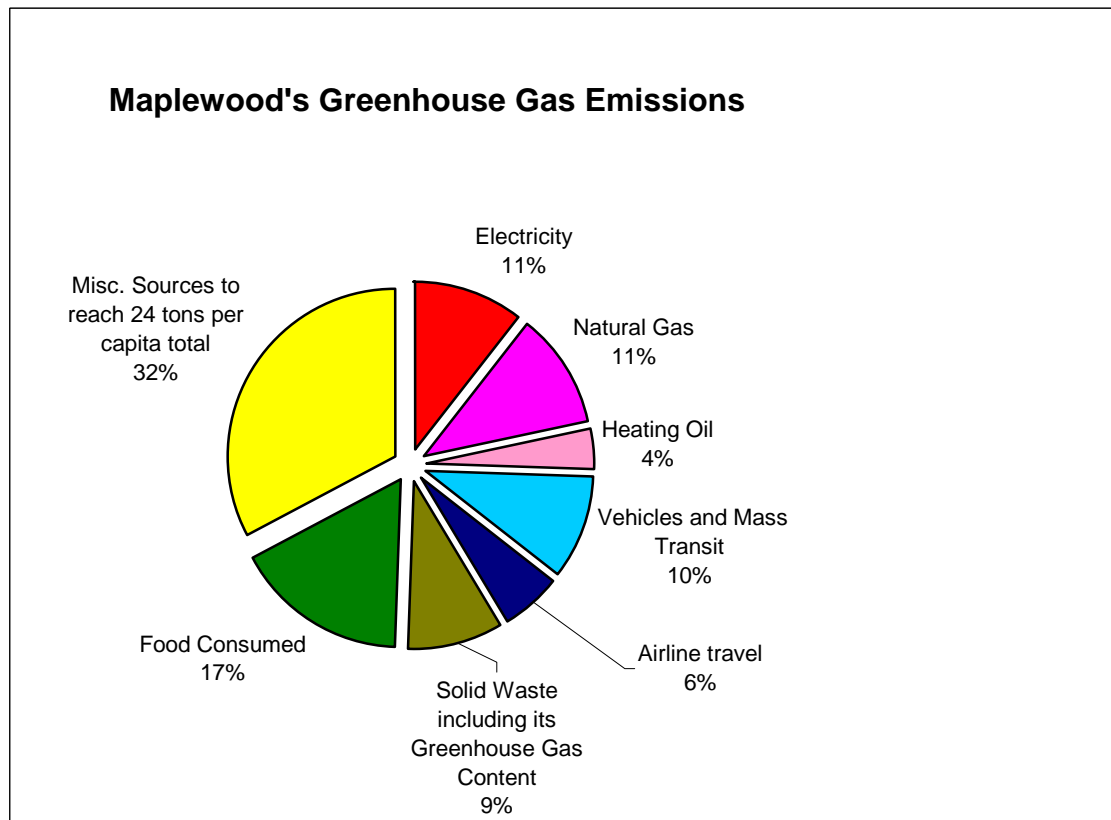
Amid increasing public awareness to the potential implications of increasing concentrations of Greenhouse Gases in the atmosphere, the Intergovernmental Panel on Climate Change's (IPCC) report "Climate Change 2007" established the fact that there is nearly uniform agreement among the world's leading scientists that the threats of climate change are real and are being caused by human activities. The effects of global climate change include; rising sea levels, erratic / intense weather, water shortages, reduced agricultural yields, species extinction as well as famine and an increasing number of refugees, some of which will harm us locally, while others will occur with even greater intensity in other regions of the world.

There has been considerable interest in Maplewood in the issue, recognition of our major role as Americans in contributing to the problem, and a desire on the part of many residents to be part of its solution. At a town meeting last June about a hundred residents came together and gave an enthusiastic endorsement to the development of local plans to reduce our climate impact.

It is in this context that we propose that the Township Committee endorse the following goals and high-level actions for reducing Maplewood's carbon footprint.

## Maplewood's Current Greenhouse Gas Emissions by Source:

Based on the still evolving indexing exercise that was conducted by the Environmental Advisory Committee this year, we estimate that Maplewood's aggregate carbon footprint is roughly 580 kilotons of CO<sub>2</sub> equivalent greenhouse gases annually. The chart below breaks these emissions down by source.



**Maplewood’s Goal:**

In February 2007 Governor Jon Corzine signed an executive order to adopt proactive and ambitious goals for the reduction of greenhouse gas emissions in NJ as follows:

1. To reduce NJ’s greenhouse gas emissions to 1990 levels by 2020; approximately a 20% reduction
2. To further reduce NJ’s greenhouse gas emissions to 80% below 2006 levels by 2050

During the summer 2007 these goals were ratified as the “Global Warming Response Act” by the New Jersey Legislature and signed into law by Gov. Corzine on July 6<sup>th</sup>. The NJ Department of Environmental Protection is required to formulate plans and regulations to meet the governor’s targets. New Jersey is one of the first states in the nation to adopt such aggressive goals and we are encouraged by its progressive stance on this issue.

As a municipality within the state of New Jersey, we recognize that the onus falls on us to help establish a plan to realize these goals. While we wholly endorse these goals and believe that they are technically achievable in the allotted time, we also recognize that they will require significant changes to the way live our lives, purchase products and conduct routine affairs.

Given the extent of the changes required and the fact Maplewood is on a short list of communities pioneering such efforts, we feel that it is prudent to move as aggressively as possible so as to set an example for other communities and provide them with a window of time to follow our example and achieve the goals themselves. As such, we recommend that the Township Committee adopt a goal to reach the 20% reduction in locally addressable greenhouse gas emissions by 2015. We feel that by doing this we will not only demonstrate that the goals are achievable, but also set forth an example of how to achieve them. The following table articulates how this 20% reduction could be achieved within our community.

Source of Emissions	Kilotons CO <sub>2</sub> e	Source Reduction Goal	Reduction-Kilotons CO <sub>2</sub> e
Electricity	61	Reduce fossil-sourced electricity consumption in homes and buildings 35%	21
Vehicles / Mass Transit	57	Improve overall avg. fuel economy by 7 mpg	14
Solid Waste	53	Double weight of recycling collections	13
Natural Gas	64	Improve average home and building efficiency (space and water heating) 15%	10
Oil	22	Switch 50% of oil homes to gas or 50% biodiesel	4
Air travel	34	Offset 20% of air travel through carbon offsets	7
Food Consumed	96	Reduce impact of food consumption by 10% through switching to more plant-based and more local diet	10
<i>Subtotal:</i>	<i>387</i>	<i>Locally Addressable</i>	<i>79 (-20%)</i>
Estimate of Maplewood’s share of Federal and State Government, Freight, Construction, Commercial and Retail, and Industrial Emissions	189	Support state and federal legislative efforts to reduce emissions 20%	38
Total	576		117 (-20%)

**Financial Considerations:**

In 2006, Maplewood consumed a community-wide total of 120.8 million kilowatt hours of electricity and 11.4 million therms of natural gas. At current prices, that amounts to more than \$30 million paid for electricity and gas plus an estimated 1.9 million gallons of fuel oil costing

another \$4 million for a total of about \$35 million. The community-wide dollar savings potential from even small reductions are very significant. Even a one-percent reduction would amount to \$350,000 in savings per year and every three percent reduction would be worth \$1,000,000 per year. The annual savings from a seven mpg increase in fuel mileage would come to another \$3.5 million.

### **High-Level Actions:**

In order to achieve this goal we further propose that the Township Committee endorse the following high-level actions and request that the Environmental Advisory Committee and its subcommittees develop an implementation plan to achieve them.

- Reduce the energy we consume in our homes and buildings through better insulation and sealing (windows, doors, walls and roofs), upgrading appliances and fixtures to EnergyStar models when they are replaced, more efficient lighting, and adopting prudent energy saving behaviors
- Switching to renewable electricity directly through solar energy or through programs such as the NJ Clean Power Choice Program
- Upgrade the vehicle population with more efficient vehicles, including hybrids and clean diesels as current vehicles are replaced, and change citizen's behaviors around transportation including driving less and more efficiently, more use of mass transit, taking the train or bus rather than flying for short trips, and buying carbon offsets when flying is necessary
- Reducing the impact of consumption by increasing the 3 R's (reduce, reuse and recycle) and switching to a lower energy diet (less meat, more local produce)
- Switch from oil to natural gas or biofuels for heat in our homes and buildings
- Reduce energy consumption for heating water by changing behavior (turning temperatures down, taking shorter showers etc...), upgrading to solar and tankless water heaters and upgrading other appliances (ex: front loading clothes washers and EnergyStar dishwashers)

### **Next Steps:**

Achieving these goals will require significant changes in the way we live and work in Maplewood and even how we think about energy use. While we believe these changes are achievable given current technology and with minimal economic impact, we recognize that specific programs need to be put in place in order to achieve them.

These programs will take several forms. Some will be mostly community education: informing residents of beneficial changes and their relative priorities. Others will come about through formal and informal groups of citizens who leverage their individual knowledge and research to collectively find ways to make desirable changes. The third set of changes will best be achieved through government action, through regulations and incentives and by providing cost-effective resources that are beyond the means of individual households.

A few of these programs have begun since the June meeting including our Block Captain effort to drive participation in the New Jersey Clean Power Choice Program and the first annual Maplewood Green Day event being planned for October 6<sup>th</sup> 2007 that aims to educate residents on how they can reduce the impact of homes, consumption and transportation.

These efforts are an important first step to raising awareness and driving change; however, additional programs such as a comprehensive and extensive home and building energy audit program and a Green Home and Business certification program need to be developed and implemented. Therefore, we recommend that the Township Committee request that the Environmental Advisory Committee continue to evaluate these and other options and develop a recommended implementation plan.