



DEPARTMENT OF ENVIRONMENTAL PROTECTION

Isiah Leggett
County Executive


Robert G. Hoyt
Director


MEMORANDUM

June 2, 2011

TO: Isiah Leggett
County Executive

Valerie Ervin, President
Montgomery County Council

FROM: Robert G. Hoyt, Director 
Department of Environmental Protection

Jane Nishida, Co-Chair 
Sustainability Working Group

SUBJECT: Annual Report of the Sustainability Working Group

Pursuant to Section 18A-14(e) of the Montgomery County Code, the Sustainability Working Group (SWG) is pleased to submit an annual report to the County Executive and County Council that specifies:

1. the actions taken to implement the Climate Protection Plan in the preceding fiscal year; and
2. whether the County is meeting the goals identified in the Climate Protection Plan.

As noted in the 2010 update, following the transmission of the County's first comprehensive Climate Protection Plan (CPP) in January 2009, the focus of the SWG and its member departments and agencies shifted to implementation. The attached matrix reflects continued progress on many of the efforts that began in 2010. Significant progress has occurred on several initiatives that were highlighted in the 2010 update.

Energy Efficiency and Conservation Block Grant Program

Montgomery County received \$7.6 million in stimulus funding as part of the Energy Efficiency and Conservation Block Grant (EECBG) program funded by the American Recovery and Reinvestment Act of 2009 (ARRA). Under the management of the Department of Environmental Protection (DEP), the County is using EECBG funds for several programs to

accelerate the adoption of energy efficiency and renewable energy in county, commercial, and residential buildings. The overall objectives of these programs are to reduce energy consumption, drive job creation, and expand the market for energy-related services and products.

Below is an outline of some of the more significant programs being developed through the EECBG program.

- Commercial and Multi-Family Building Energy Efficiency Rebate Program – This program will assist businesses, non-profit organizations, and multi-family properties overcome the initial financial barrier of implementing energy improvements. The program will cover a percentage of the cost of qualified energy efficiency improvements with a maximum rebate amount of 50 percent of project costs or \$75,000, whichever is less. Eligible improvements may include cost-effective energy conservation measures such as lighting upgrades, heating and cooling upgrades, cool roofing materials, energy management systems and ENERGY STAR qualified equipment. The total funding available for rebates is \$1,741,578. Applications have been received and are currently being reviewed.
- Energy Conservation and Renewable Energy in County Buildings – This program will fund energy efficient and renewable energy upgrades to County government buildings, as well as buildings owned by the Montgomery County Public Schools, the Maryland-National Capital Park and Planning Commission and Montgomery College. Projects totaling \$2,500,000 will be funded.
- Commercial and Multi-Family Building Study – One of the most significant recommendations in the Climate Protection Plan calls for the development of specific energy performance requirements and timelines to benchmark, commission and improve existing commercial buildings and reduce energy consumption in this sector by 25 percent by 2020. The recommendation calls for a study as the first step in developing prospective policies and programs that can be adopted by Montgomery County in order to reach the 25 percent energy reduction target. A contractor retained by DEP has prepared the scope of work for the study, and is preparing a preliminary baseline of the commercial and multi-family building sector and identifying appropriate stakeholders to engage in the study process.
- Residential Rebate Program – This program will provide incentives for comprehensive home improvement projects using the Home Performance with ENERGY STAR model. The program has been developed in the wake of the suspension of the County's Home Energy Loan Program (HELP) due to concerns raised by the Federal Housing Finance Agency about Property Assessed Clean Energy programs like HELP. Rebate amounts and eligibility requirements are being finalized, but it is expected that each rebate will

require an energy audit, and funds will be available for measures identified in the audit. Approximately \$1,145,000 will be available for rebates. DEP is currently working with a contractor to finalize the program requirements and develop the rebate application process.

- "Green Guide" Web site – DEP is developing a one-stop-shop for information on energy and environmental programs and resources available to Montgomery County residents. This Web site will be action-oriented allowing users to create their own plan to reduce energy consumption, water use and household waste. The site will include social media features, opening up another communication channel with the community focused on promoting energy efficiency and environmental sustainability.

Smart Growth Implementation Assistance

The U.S. Environmental Protection Agency (EPA) is assisting the Montgomery County Planning Department and DEP in the development of a model to estimate transportation-related greenhouse gas (GHG) emissions and assess the effectiveness of various planning and policy strategies. The technical assistance study entered Phase 2 in the fall of 2010 with the selection of the INDEX model to incorporate refined trip generation and distribution algorithms with increased sensitivity to density, diversity, and design variables. Staff from the Planning Department will use data focused on the East County Science Center (ECSC) Master Plan area to develop a "test case" that estimates GHG emissions associated with the Plan's recommendations. Potentially, this tool could be applied in support of other master plans, as well as on a county-wide basis. The Statement of Work for this effort is attached.

Meeting the Goals of the Climate Protection Plan

Montgomery County's CPP sets an ambitious goal of reducing the County's GHG emissions (relative to the fiscal year 2005 baseline) by 10 percent every five years between 2010 and 2050. This translates to an 80 percent reduction by 2050. This also means that GHG emissions in 2010 should be equivalent to emissions in the FY05 base year.

The GHG emissions data in the CPP was compiled through the use of a model developed by the International Council for Local Environmental Initiatives (ICLEI). In order to make the GHG emissions modeling process more transparent, DEP, with the assistance of a contractor, is developing an Excel-based model following the widely accepted protocols of ICLEI and the World Resources Institute. While work continues on this model, data collected as part of the County's energy tax process provide an indication of whether the County is on track to meet the goals of the CPP. Because the energy tax is levied only against "building" electricity and fuels (i.e. electricity and fuels used to light, heat/cool, and power equipment in residential and non-residential buildings and ancillary structures), the data do not provide any information

on energy use in the transportation sector. Nonetheless, it is a good surrogate for approximately two-thirds of the measured GHG emissions in the county.

As shown in the table below, the news is mixed. Building energy use in the non-residential sector has steadily increased since FY05. In the residential sector, there was a significant drop in energy use from FY05 to FY06, as well as from FY06 to FY07, with a lesser decline from FY07 to FY08. However, there was a significant increase from FY08 to FY09, to the point where FY09 residential building energy use almost equaled FY05. The reason for this increase is unclear and because energy use is the result of many different factors, including the weather, energy prices, and overall economic conditions, it will be difficult to pinpoint the causes of this increase without a significant analytical effort.

**Montgomery County Building Energy Use
 Based on Energy Tax Data
 (MMBTU)**

	FY 2005	FY2006	FY 2007	FY 2008	FY 2009
Non-Residential Energy Consumption	31,715,213	32,169,926	32,553,612	33,101,269	33,553,255
Difference from Prior Year		454,713	383,685	547,657	451,987
Residential Energy Consumption	38,880,724	37,391,906	36,164,942	35,979,624	38,733,162
Difference from Prior Year		(1,488,817)	(1,226,965)	(185,317)	2,753,537
Total Energy Consumption	70,595,937	69,561,833	68,718,554	69,080,893	72,286,417
Difference from Prior Year		(1,034,104)	(843,279)	362,339	3,205,524

While the EECBG programs and other ongoing efforts will have a positive effect, it is clear that significant additional actions will be required if the County is to meet its stated long-term goals. The ramifications of specific measures, such as new federal fuel economy standards in 2016 and potential policies emanating from the Commercial and Multi-Family Building Study, will have to be closely monitored. The County will face some difficult challenges. One significant issue that will have to be addressed is the County's ability to analyze and understand the contribution of specific actions to reductions (or increases) in GHG emissions. An aggressive complement of additional programs and policies should be accompanied by increased capacity to reasonably analyze their effect.

We would be pleased to meet with you to discuss this information in greater detail. Thank you for your consideration.