Draft Goal: Climate Protection: Reduce CO2 emissions 80 percent by 2050. Promote the efficient use of energy and plan for the County’s long-term energy needs.

Draft Indicators: Greenhouse Gas Emissions, Electricity Use, Natural Gas Use, Total Waste Generated, Total Recycled Waste

Major Theme of Discussion on the Goal:
1. There needs to be meaningful short-term and interim targets as part of the description of the goal

Comments Related to Major Theme #1:
- Interim goals such as 2012, 2030, 2050 for measurement and accountability on progress are needed.
- The goal should be an 80% reduction by 2050 from 1990 levels.
- There could be short interim goals such as every ten years to achieve an 8% reduction in carbon emissions from the base year or a 10% reduction in 8 years to match the political systems.
- What happens after 2050 should also be addressed.
- There needs to be an 80% reduction from a determined base year. Right now, it could be understood as being a reduction from the year 2006 or the projected emissions in 2050.
- Short term goals are needed to ensure the feasibility of achieving the long term goal.
• An interim goal that is meaningful to the public, politicians and staff is needed. The interim goals should coordinate with the four year political terms.

Additional comments on the Goal:
• Reducing the carbon footprint of Montgomery County residents is needed. The solution is to have only one criterion in the code: evidence of a threat to public health.
• The use of total reduction versus an average reduction (per capita, per household, per business, etc.) is questionable. If reduction of emissions by 80% in Montgomery County is achieved by dropping our current activity into an adjacent county, and if emissions increase by 80% in the adjacent county, is that an acceptable outcome?
• Reviewing the impacts of the changing climate on the lifestyle of the public is needed.
• The goal needs to mention renewable energy

Draft Indicators: Greenhouse Gas Emissions, Electricity Use, Natural Gas Use, Total Waste Generated, Total Recycled Waste

Major Themes of Indicators Discussion:
1. Greenhouse Gas Emissions is the most important indicator.
2. Vehicle Miles Traveled and Commuting Patterns should also be considered as indicators for Climate Protection (currently under “Clean Air”).

Comments Related to Major Theme #1:
• Define “community” in Community Greenhouse Gas Emissions indicator. Specificity on which emissions are counted is needed.
• Indicators should be included that measure petroleum use and the sources of electricity production (e.g. nuclear, solar, wind, coal, etc.).
• Community Greenhouse Gas Emissions is a good indicator to umbrella the rest of the indicators (energy use, VMT and transportation)
• There are reservations on Community Greenhouse Gas Emissions because of the data and how it is derived. For the indicator to be meaningful, the sources of the emissions need to be measured.
• Coal-fired electricity usage is a better indicator than Community GHG Emissions.
• The formula for how the indicator was calculated and what was included or excluded should be made clearer.
• Limiting the indicator for this goal to Greenhouse Gas Emissions may limit accuracy of knowing whether progress towards the goal is being made. Multiple indicators are needed to have checks and balances and enforced controls.

Comments Related to Major Theme #2:
• Vehicle emissions need to be measured.

Additional Comments on the Indicators:
• Measuring the use of renewable energy is important.
• Breaking down electricity use by sectors, e.g. residence, commercial, and industrial would be helpful.
• Evaluation of indicators with respect to the factors we can control and those we cannot control should be done.
• The statement that “measurement practices are improving” should be questioned. Funding for most government statistic programs is declining, and as a result, the quantity and quality of available data is declining.
• The waste management indicator should be removed from consideration.
• Energy efficiency should be used as an indicator.
• Electricity use is too generic to be an effective indicator. It needs to be coupled with vehicle emissions. Also, measuring the use of “electricity” can be misleading. Measuring polluting electricity versus renewable electricity is a better indicator.

Prioritized Factors, Action Strategies, and Partners

Factor #1: Inefficient buildings (commercial and residential)
Potential Strategies/Actions:
• Change building codes (higher energy efficiency standards)
• Incentives for consumers (tax incentives) & utility companies (decoupling)
Partners:
• Utility companies serving Montgomery County
• Residents of Montgomery County
• Building Management
• Home Owner Associations & Home Builder Associations
• County Government
• Legislators
• Montgomery county residents who work in federal government
• Media

Factor #2: Lack of specific awareness & sense of urgency about energy use
Potential Strategies/Actions:
• Broad based education and outreach programs
• Disseminate information about individual energy use
• Energy auditing
Partners:
• Educational institutions
• Local & state governments
• HOAs
• Utility companies
• Senior Advocates (targeted populations)

Factor #3: Lack of efficient, accessible, low cost (good) public transportation system
Potential Strategies/Actions:
• Improved public transit options
Partners:
• Ride-On
• WMATA
• MTA
**Private Sector**

**Additional Factors, Strategies and Partners (as handed in on participant notes forms)**

**The Story Behind the Indicator Trend Line of Greenhouse Gas Emissions**

<table>
<thead>
<tr>
<th>Factors that POSITIVELY influence the trend</th>
<th>Factors that NEGATIVELY influence the trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of renewable energy</td>
<td>Affordability</td>
</tr>
<tr>
<td>Transit-oriented commuters</td>
<td>ICC, highway transportation project</td>
</tr>
<tr>
<td>Better fuel efficiency of cars</td>
<td>Transportation funding – emphasis on highway travel</td>
</tr>
<tr>
<td>LEED building standards</td>
<td>Commercial building growth</td>
</tr>
<tr>
<td>More efficient lighting in residential homes</td>
<td>Building the ICC</td>
</tr>
<tr>
<td>Efficiency innovations in homes and businesses</td>
<td>Inefficient land use</td>
</tr>
<tr>
<td>Price of gasoline</td>
<td>Dispersed living &amp; commerce</td>
</tr>
<tr>
<td>Price of electricity</td>
<td>Inadequate public transportation</td>
</tr>
<tr>
<td>Higher efficiency cars &amp; houses</td>
<td>Developers have too much influence on regions and laws</td>
</tr>
<tr>
<td>More subways</td>
<td>Transportation</td>
</tr>
<tr>
<td>Clean energy use</td>
<td>The Montgomery County housing code imposes frequent mowing of yards/lawns, chemicals and monocultures. (I was forced to mow my rain garden by the county housing office code governing lawns and yards.)</td>
</tr>
<tr>
<td>New county goals</td>
<td>Movement of businesses out of MC to other counties has no impact!</td>
</tr>
<tr>
<td>New energy sources</td>
<td></td>
</tr>
</tbody>
</table>

**What are the most important Factors to address? What works?**

<table>
<thead>
<tr>
<th>Priority Factors</th>
<th>What Works (to do better)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of energy (coal, gas, nuclear)</td>
<td>Increase renewable energy sources</td>
</tr>
<tr>
<td>Inefficient land use</td>
<td>Transit-oriented commute &amp; development</td>
</tr>
<tr>
<td>ICC/Carbon Emissions from transportation project</td>
<td>Mass transit ridership</td>
</tr>
<tr>
<td>Reduce vehicle miles traveled</td>
<td>Require greenhouse gas assessment for all road construction</td>
</tr>
<tr>
<td>Lower VMT</td>
<td>Education of Public</td>
</tr>
<tr>
<td>Too much transportation</td>
<td>Tax incentives for reduction</td>
</tr>
<tr>
<td>Commercial buildings</td>
<td>Implement new technology</td>
</tr>
<tr>
<td>New building renovation/improving efficiency</td>
<td>Employers subsidize public transportation</td>
</tr>
<tr>
<td>Give cost of not solving CO₂ problem</td>
<td>Compact communities</td>
</tr>
<tr>
<td>Efficiency/technology</td>
<td>Keep systems clean and adjust thermostat</td>
</tr>
</tbody>
</table>
Break down CO₂ by area | Require higher efficiency  
|----------------------|--------------------------  
Technology and age of buildings | Require sidewalks  
Retrofit | Require links to mass transit and bikeways  
Population increase-more drivers | Require Smart growth  
Inadequate bikeways/walkways | Code requirements  
Distance too far between home & work  
Technology for producing electricity  
Inefficient energy use in commercial & residential buildings  
Low number of trees  
Electricity  
Gas  
Certain funding multiyear for Metro  

**Partners who can contribute and assets they can bring to the table**  
Business, industry groups, home builders associations  
Utility companies  
State government  
County residents (HOAs, activist groups, etc.)  
Universities/researchers  
Industry (e.g. car manufacturers)  
Departments of transportation  
Ghost Currents  
Cool Counties  
ICLEI  
US Conference of Mayors  
European “sister cities” (Totnes, England)  
Faith institutions  
RGHG Initiative Carbon Credits  
Surrounding jurisdictions  
Public education-county programs on energy  
Elderly representatives  
Minority neighborhoods  
Public health community  
MCPS & Environmental Education Committees  
Cyber Communities – Montgomery County listservs  
Small businesses in county, especially green business  
Montgomery County employees  
Volunteers and students  
Politicians and major corporations  

**Three best ideas on what works (one no cost)**  
Energy audits  
Energy performance contracting  
Bike paths
<table>
<thead>
<tr>
<th>Climate Protection Session Notes (Draft 07-02-08)</th>
</tr>
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<tbody>
<tr>
<td>Require greenhouse gas assessment for all road construction</td>
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<tr>
<td>Efficiency in energy production</td>
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<tr>
<td>Lower Vehicle Miles Traveled</td>
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<tr>
<td>Increase awareness by educating citizens</td>
</tr>
<tr>
<td>Existing and new renovations</td>
</tr>
<tr>
<td>Managements BOMA companies – Train building managers</td>
</tr>
<tr>
<td>Montgomery County should adopt new building standards immediately</td>
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<tr>
<td>Public relations campaign/competition (sector based)/recognition/awards</td>
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<tr>
<td>Require new homes after 2009 to use energy star</td>
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<tr>
<td>Improved public transit – more light rails</td>
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<td>Develop hydrogen/solar efficiency public transportation</td>
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<tr>
<td>Give tax incentives to all for more efficient energy use</td>
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<tr>
<td>Individual Habits – turn off all power in all buildings every night</td>
</tr>
<tr>
<td>Switch from coal and natural gas and other fossil fuels to renewable energy</td>
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<tr>
<td>Include more appropriations for county facilities</td>
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</tbody>
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