

Maryland Smart Energy Communities: Guidelines and Resources for Transportation Petroleum Reduction Policy



Maryland Energy

ADMINISTRATION

Powering Maryland's Future

Transportation Petroleum Reduction Policy:

Establish a petroleum consumption baseline for all local government vehicles, and put in place a comprehensive program designed to reduce the baseline by 20 percent within five years of the baseline year.

Purpose

The purpose of this document is to help Maryland Smart Energy Communities (MSEC) better understand the program and ultimately meet the three program deliverables required to receive MSEC funding. This document is an excellent starting place for completing the deliverables, but should be supplemented by asking MEA staff and/or resources on the MSEC website at:

<http://energy.maryland.gov/Govt/smartenergycommunities/>.

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Transportation Petroleum Reduction Policy Guidelines

Establish a petroleum consumption baseline for all local government vehicles, and put in place a comprehensive program designed to reduce the baseline by 20 percent within five years of the baseline year.

INTRODUCTION

The transportation sector is responsible for 32 percent of Maryland's greenhouse gas emissions. Reducing emissions from this sector is critical to achieving reductions in greenhouse gas emissions. Existing and emerging technologies will allow us to meet our transportation needs with fewer carbon dioxide emissions.

Additionally, decreasing oil supplies worldwide and increasing energy prices throughout the U.S. will impact the security and stability of Maryland's transportation system in the years ahead. The mission of this policy is to address these critical issues facing Maryland transportation systems to ensure mobility for all State residents, making Maryland an attractive place to work, live, and visit.

GOAL

Becoming a Maryland Smart Energy Community requires that a local government (city, town or county) sets the goal of reducing **on-road** petroleum (gasoline and diesel fuel) consumption by 20%. Petroleum consumption will be measured as gallons of gasoline equivalent (GGE) where one diesel fuel equal 1.13 gallons of gasoline.

DELIVERABLES

By applying to become a Maryland Smart Energy Community, the local government agrees to the following, to be completed by October 31, 2014:

- (1) Develop a baseline of fuel consumption.** Local governments must define their fleet accounting for both local government-owned and contracted service vehicles. The following resolution of data should be included in a vehicle inventory list, which must be updated on an annual basis.

- (2) Pass a policy committing the local government to reducing on-road petroleum consumption of the local government fleet by 20% within 5 years.** MEA provides sample policy language below, which local governments can modify to suit their specific needs. MEA will provide local governments with technical support as they work through the policy development process.

(3) Put in place a Petroleum Consumption Reduction Plan.

The local government shall develop a plan to reduce on-road petroleum consumption 20% from the baseline year. The plan shall outline the process by which the local government will implement this policy, set goals for when the existing fleet will meet a 20% reduction and review said plan on an annual basis.

The baseline year should consist of the most recent year of complete data. For applications due in December 2013, this should be Calendar Year 2013. However, to allow communities to take credit for petroleum reduction measures completed in recent years, a municipality may provide a baseline that goes back as far as 2010, and provide a reduction plan that begins in 2011.

Examples of petroleum reduction technologies/strategies include but are not limited to: Electric vehicles, Idle Reduction, Propane, Natural Gas, Ethanol, Biodiesel and downsizing engines.

Additional information on petroleum reduction technologies and strategies can be found on the Alternative Fuels Data Center website: <http://www.afdc.energy.gov/>.

The Alternative Fuels Data Center also offers a Petroleum Reduction Planning Tool, which is located at: <http://www.afdc.energy.gov/prep/>.

ANNUAL REPORTING

The local government will submit annual reports to MEA documenting the progress made during that year. Participants must show that they are making a good-faith effort to achieve the transportation petroleum reduction goal. Local governments who earn the Smart Energy Community designation and are up-to-date on their annual reporting may be eligible for grant funding in future years.

PROGRAM SUPPORT

The Maryland Energy Administration will provide technical assistance to all participating local governments to help with (1) developing an initial estimate fleet efficiency, (2) developing and passing the proper policies/ordinances to commit to reducing on-road petroleum (gasoline and diesel fuel) consumption by 20%, and (3) developing a plan to reduce petroleum usage. Participants may also use 30% of their grant award to pay for the administrative costs, indirect costs, and pre-project activities including, but not limited to, staff time, project design, feasibility studies, and energy audits.

Transportation Petroleum Consumption Baseline Template

(Ask contacts at Environmental Finance Center to provide .xls version of the Baseline Template)

The transportation petroleum consumption baseline may be calculated using the table below. The transportation petroleum reduction goal is assessed against the baseline gallons of gasoline equivalent (GGE) consumed. See the language in the guidelines above about defining a fleet and determining what vehicles should be included in the baseline. An Excel version of the petroleum consumption baseline template is available at the Maryland Smart Energy Communities website. Please visit the MSEC website for sample baselines or contact MEA staff for help.

| Vehicle Make | Model | Model Year | Transmission Type | Owned or Leased | Purchase Date | Fuel Type Used | Gallons (gas, diesel, etc.) | Gallons (GGE) | Miles Driven (Base year) | Total Vehicle Miles | Vehicle Purpose |
|-------------------------|-------|------------|-------------------|-----------------|---------------|----------------|-----------------------------|---------------|--------------------------|---------------------|-----------------|
| <i>Example:</i> Ford | F-350 | 2005 | automatic | Owned | 2005 | Diesel | 577 | 652.01 | 4728 | 60571 | DPW |
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| TOTAL | | | | | | | | | | | |

Rules of Thumb:

- Include only on-road vehicles (exclude backhoes, lawnmowers, etc.).
- Define your baseline fleet with an eye towards (1) including the biggest fuel consuming vehicles (least fuel efficient), and (2) being able to consistently track fuel consumption over a 5-year period within that pool of vehicles (and new vehicles that would be categorized similarly).
- Convert diesel fuel consumption to gallons of gasoline equivalent (GGE) by multiplying by 1.13.
- Higher resolution data including vehicle-by-vehicle characteristics is ideal because it allows for more precise planning. However, high quality data is not always available.
- School buses should be excluded from the baseline petroleum consumption inventory.

Transportation Petroleum Reduction Model Policy

(Ask contacts at Environmental Finance Center to provide .doc version of the model policies)

POLICY NAME _____

Disclaimer – This model policy was prepared to assist Maryland Smart Energy Communities adopt a policy related to transportation petroleum reduction. The policy is for illustrative purposes and may be modified.

A POLICY DECLARING THE CITY OF (COMMUNITY NAME)'S INTENT TO TAKE A LEADERSHIP ROLE IN REDUCING TRANSPORTATION PETROLEUM CONSUMPTION IN AND BY THE CITY OF (COMMUNITY NAME), BY PARTNERING WITH THE MARYLAND ENERGY ADMINISTRATION AND ENROLLING AS A SMART ENERGY COMMUNITY.

WHEREAS, by adhering to the Maryland Energy Administration's Smart Energy Community Program the town/city/county of (COMMUNITY NAME) has committed to being a socially responsible leader by reducing their local impact by better managing its transportation petroleum consumption; and

WHEREAS, the town/city/county of (COMMUNITY NAME) recognizes that by smartly investing in alternative transportation uses, it can have significant monetary savings and create environmental benefits.

NOW, THEREFORE, THE (COMMUNITY NAME) TOWN/CITY/COUNTY COUNCIL RESOLVES TO ADOPT THE FOLLOWING GOALS AND COMPLETE THE FOLLOWING INITIATIVES LISTED BELOW:

Section 1: PURPOSE. The purpose of this policy is:

- To become a Maryland Energy Administration Smart Energy Community by enrolling within the program and following the instructions provided by the State of Maryland.
- To reduce on-road vehicle petroleum consumption by (COMMUNITY NAME)'s fleet vehicles by 20% within five years of the established baseline year.
- To report petroleum consumption and reduction progress annually to the Maryland Energy Administration in order to assure that the town/city/county of (COMMUNITY NAME) accomplishes said goals in a timely fashion.

Section 2: DEFINITION. For the purpose of this policy, the following terms shall have the meaning given:

- a) **Fleet Vehicles** – A vehicle designed to legally carry people or cargo on public roads and/or highways owned or leased by (COMMUNITY NAME). Such vehicles include, but are not limited to: buses, cars, trucks, and vans. This would not include motor driven

vehicles not approved for use on the road, such as lawnmowers, forklifts, or marine vehicles.

- b) Petroleum – Gasoline and diesel fuel used for on-road fleet vehicle consumption.
- c) Gallons of Gasoline Equivalent (GGE) – A conversion factor for equating different fuel sources to gasoline, for example, one gallon of gasoline is equal to 1.13 gallons of diesel.
- d) Baseline – Measurement of gallons of gasoline, diesel, and other fuels consumed by all fleet vehicles in the baseline year.
- e) Baseline Year – The 12-month period selected by the (City/Town) as the baseline.
- f) Petroleum Consumption Reduction Plan – Provides details on the current fleet vehicle petroleum consumption, characteristics of the fleet including the make, model, year, purchase date, fuel type used, gallons consumed, and miles driven, estimates the required amount of petroleum needed to meet the minimum of a 20 percent reduction, and designs plans with detailed measures and timetables for reaching the reduction goal within five years.

Section 3: BASELINE DOCUMENTATION

The baseline including data related to the specific time period, fuel consumption, vehicle specs, and results will be completed by October 31, 2014 and can be found as an appendix to later be attached to this document titled, “MSEC_Fleet_Baseline_(COMMUNITY NAME).”

Section 4: GUIDELINES

The town/city/county of (COMMUNITY NAME) will maintain an annual petroleum consumption inventory for all local-government-owned vehicles and contracted-service vehicles. This annual inventory will include at a minimum the information presented in the table below. The results of which will be presented to the Maryland Energy Administration by no later than April 1st of each year until the completion of said goals are accomplished.

Plans and Implementation

The town/city/county will additionally establish a Petroleum Consumption Reduction Plan. The plan will outline the process and include a timetable of execution by which the town/city/county of (COMMUNITY NAME) will accomplish designated tasks in order to reach their goal. The town/city/county will update/amend Petroleum Consumption Reduction Plans on an on-going basis when necessary in order to meet the policy goals in the most efficient cost effective manner.

Finally, the city will implement the necessary projects laid out in their Petroleum Consumption Reduction Plan in order to ensure that a minimum of 20 percent reduction of local government petroleum consumption is met within five years of the established baseline.

Questions/Enforcement

All inquiries should be directed to the person responsible for implementing this policy. The (COMMUNITY NAME) Fleet Manager and/or their designee will implement this policy.

Applicability

This policy applies to all departments of the (Town/County/City) with the exception of the exclusions outlined in the definitions above.

Section 5: EFFECTIVE DATE

This policy shall be effective immediately.

_____ Date

_____ (Mayor's/County Executive's Name)

| Town/City/County Energy Efficiency Policy | |
|--|--|
| Original Proposal Date | |
| Revision Date | |
| Adoption Date | |
| Effective Date | |

Petroleum Consumption Reduction Plan (PCRP) Instructions and Outline

Disclaimer – This outline was prepared to assist Maryland Smart Energy Communities as they assemble a petroleum consumption reduction plan (PCRP). The outline is for illustrative purposes and may be modified to suit the community. Contact MEA for completed samples from previous Maryland Smart Energy Communities.

A comprehensive PCRP consists of a number of key components that enable a local government to establish transportation petroleum reduction goals and develop a structure to realistically meet those goals over a specific period of time. The outline below presents the format for the PCRP and addresses its key components. *The information contained in the outline below is the **recommended** information that a local government is expected to provide in its PCRP.* Please use the sample tables/spreadsheets provided or equivalent tables to complete the PCRP. Note that it is important to also provide a brief supporting narrative.

Resource permitting, MEA will provide support for participants as they develop the PCRP, including webinars, in-person trainings, and on-site technical assistance.

Why Does MEA Want This Level of Detail?

This information will be used by MEA to:

- Confirm that a local government has a well thought-out and documented pathway to fulfill their commitment to reducing transportation petroleum consumption 20% within 5 years relative to their baseline.
- Ensure that all Smart Energy Communities have met similar criteria in order to be designated.
- Measure progress towards statewide transportation-related GHG mitigation goals.

PETROLEUM CONSUMPTION REDUCTION PLAN OUTLINE

I. LETTERS FROM THE LOCAL GOVERNMENT VERIFYING ADOPTION OF THE PCRP

- The local government should provide a letter from the Chief Executive Officer of the city or town stating that it has adopted the Petroleum Consumption Reduction Plan. The Chief Executive Officer is defined as the city/town manager, the Mayor, the County Executive, the County Commissioners, or equivalent.
- Include a copy of the enabling legislation or policy.

II. EXECUTIVE SUMMARY

A. Narrative Summary of the Town - including population, relevant history, Energy Star® ratings (from Portfolio Manager, if applicable), EPA Community Energy Challenge participant, DHCD Sustainable Communities participant, Sustainable Maryland Certified participant, etc.

- *Summary of Municipal Energy Uses* – Describe the total amount of petroleum consumed (GGE), the amount and type of vehicles, and any relevant context related to recent or forecasted changes in the defined fleet.

B. Summary of Energy Use Baseline and Plans for Reductions – use sample Table 1 provided below. This should be a summary, consistent with the data in the “Transportation Petroleum Consumption Baseline” Excel spreadsheet (download at <http://energy.maryland.gov/Govt/smartenergycommunities>).

Table 1 Baseline Table

| Vehicle Make | Model | Model Year | Transmission Type | Owned or Leased | Purchase Date | Fuel Type Used | Gallons (gas, diesel, etc.) | Gallons (GGE) | Miles Driven (Base year) | Total Vehicle Miles | Vehicle Purpose |
|--------------------------|--------------|-------------|-------------------|-----------------|---------------|----------------|-----------------------------|---------------|--------------------------|---------------------|-----------------|
| <i>Example: Ford</i> | <i>F-350</i> | <i>2005</i> | <i>automatic</i> | <i>Owned</i> | <i>2005</i> | <i>Diesel</i> | <i>577</i> | <i>652.01</i> | <i>4728</i> | <i>60571</i> | <i>DPW</i> |
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| TOTAL | | | | | | | | | | | |

III. PETROLEUM CONSUMPTION BASELINE INVENTORY

A. Identification of the Baseline Year. A year back to 2010 may be selected to account for recent changes in petroleum consumption.

B. Local Government Energy Consumption for the Baseline Year How much transportation fuel did your local government buildings use in the baseline year? See the baseline template and rules of thumb above.

IV. PETROLEUM CONSUMPTION REDUCTION PLAN

A. Narrative Summary –

1. *Overview of Goals for Years 1-3*
2. *Overview of Goals for Years 4-5*
3. *Identify Vehicles and Classes of Least Efficiency/Greatest Waste*

B. Getting to a 20% Transportation Petroleum Reduction Within the 5 Year Period Following the Baseline Year - This section should include the petroleum reductions anticipated from all vehicles defined in your baseline fleet.

1. *Program Management Plan for Implementation, Monitoring and Oversight* – Identify the personnel responsible both for oversight of the Petroleum Consumption Reduction Plan implementation. Also identify personnel responsible for the Annual Reporting requirements.

2. *Petroleum Consumption Reduction Measures* – List details related to measures to reduce petroleum consumption (see Table 2). References for each measure should be included in the spreadsheet and references should be included as appendices to PCRP. Please subtotal projected annual GGE savings.

For each measure, provide (see Table 2):

- Project type,
- Status,
- Projected annual petroleum savings,
- Total installed cost,
- External incentives,
- Net cost,
- Funding source,
- Source for project savings.

Table 2. Implementation Table (Example)

| Project Type | Status | Projected Annual Petroleum Savings (GGE) | Total Installed Cost (\$) | External Incentives (\$) | Net Cost (\$) | Funding Source | Source for Projected Savings |
|--------------|--------|--|---------------------------|--------------------------|---------------|----------------|------------------------------|
| | | | | | | | |

C. Summary of Long-Term Fuel Reduction Goals – Beyond 5 years

1. *Perpetuating Fuel Savings* – Has the local government considered alternative fuel technologies, partnerships with other communities (e.g., for fueling stations), or how to reinvest savings from reduced fuel consumption?
2. *Identifying off-road petroleum saving opportunities*

V. LIST OF RESOURCES

Identify resources that the local government used to create its PCRP (websites, documents, tools).